OAKLAND COUNTY PARKS AND RECREATION COMMISSION

Regular Monthly Meeting Agenda

Parks Commission Room - 2800 Watkins Lake Rd, Waterford, MI 48328

Wednesday, November 4, 2026 @ 2:00 pm

Ebony Bagley, Chair

Call Meeting to Order
Roll Call
Pledge of Allegiance
Approval of Agenda
Approval of Minutes - October 7, 2026 Regular Meeting and October 7, 2026 Closed Session
Public Comment

	PRESENTATIONS/RECOGNITIONS:	**ACTION**	**PRESENTER(S)**
A	Service Award: Jim Dunleavy	Informational	Chris Ward / 858-4944
B	Winter Park Presentation	Informational	Erin Watson / 947-276-7403

	COMMUNICATIONS/REPORTS:	**ACTION**	**PRESENTER(S)**
C	Monthly Financial Report	Informational	Kevin Syoen / 909-8764

	REGULAR AGENDA:	**ACTION**	**PRESENTER(S)**
1	Enterprise Business Planning Policy	Approval	Kate Baker / Lola Banks
2	Lifecycle Obligations and Public Value Policy	Approval	Kate Baker / Lola Banks
3	External Funding and Grant Authorization Policy	Approval	Kate Baker / Lola Banks
4	2027 Oakland County Parks and Recreation Commission Meeting Schedule	Approval	Jami Monte / 858-4603
5	Clinton River Oaks Construction License Agreement – Great Lakes Fisheries Commission	Approval	Simon Rivers / 421-9033
6	2023 Community Grant Program Agreement Extension – Village of Leonard, Polly Ann Trail Project	Approval & Fwd to BOC	Simon Rivers / 421-9034
7	2022 Community Grant Program Agreement Extension – City of South Lyon, Downtown South Lyon Park Project	Approval & Fwd to BOC	Simon Rivers / 421-9035
8	2026 Strategic Partnership Grant Amendment – City of Ferndale, Lennon Memorial Park Project	Approval & Fwd to BOC	Simon Rivers / 421-9036
9	Red Oaks Back Lot Purchase	Approval & Fwd to BOC	Simon Rivers / 421-9036
10	Springfield Oaks Residential Lease - Terry Foshia	Approval & Fwd to BOC	Tom Hughes / 343-1011
11	Groveland Oaks Residential Lease - Robert Hatt	Approval & Fwd to BOC	Tom Hughes / 343-1011
12	Waterford Oaks Residential Lease - Brad Lowe	Approval & Fwd to BOC	Tom Hughes / 343-1011
13	Waterford Oaks Residential Lease - Chris Rowland	Approval & Fwd to BOC	Tom Hughes / 343-1011
14	Highland Oaks Residential Lease - John Podina	Approval & Fwd to BOC	Tom Hughes / 343-1011
15	FY 2027 MDNR ORV Law Enforcement Grant Acceptance	Approval & Fwd to BOC	Tom Hughes / 343-1011
16	Bloomfield Oaks-Johnson Nature Center Integrated Park Plan	Approval	Alan Jaros / 424-7169
17	Discovery Oaks-Bowers Farm Integrated Park Plan	Approval	Alan Jaros / 424-7169

	UNFINISHED BUSINESS:	**ACTION**	**PRESENTER(S)**

	NEW & MISCELLANEOUS BUSINESS:	**ACTION**	**PRESENTER(S)**
18	Director's Report	Informational	Chris Ward / 858-4944
19	Executive Committee Update	Informational	Ebony Bagley / 497-7991

ANNOUNCEMENTS
ADJOURNMENT TO: December 2, 2026 at 2:00 p.m. or to the Call of the Chair

Public Access Information
If you require special accommodations because of a disability, please contact the Parks & Recreation Department at (248) 858-0906, Ext. 9, at least three (3) business days in advance of the meeting.
View Agenda Packets/Minutes Here: https://www.oakgov.com/community/oakland-county-parks/get-involved/parks-commission

RETURN TO AGENDA

OAKLAND COUNTY
PARKS AND RECREATION COMMISSION

2800 WATKINS LAKE ROAD, WATERFORD, MICHIGAN 48328
Telephone: (248) 858-0906

Yolanda Smith Charles
Vice Chair
Andrea LaFontaine
Secretary

REGULAR MEETING
Ebony Bagley, Chair

October 7, 2026

Kate Baker
Lola Banks
Ann Erickson Gault
Christine Long
Eric McPherson
Jim Nash
Shanell Weatherspoon

Chair Bagley called the meeting of the Oakland County Parks and Recreation Commission to order at 2:02 p.m. in the Parks Commission Room.

COMMISSION MEMBERS PRESENT:

Ebony Bagley, Yolanda Smith Charles, Andrea LaFontaine, Ann Erickson Gault, Kate Baker, Christine Long, Eric McPherson, Jim Nash, Shanell Weatherspoon

COMMISSION MEMBERS ABSENT WITH NOTICE:

Lola Banks

OTHERS PRESENT:

PARKS AND RECREATION	Chris Ward, Director Alan Jaros, Deputy Director Esther Jackson, Manager – Strategic Planning & Performance Zach Crane, Supervisor – Design, Engineering & Compliance Colin Gibbs, Chief – Facilities & Land Management Tom Hughes, Chief – Park Operations – North District Simon Rivers, Chief – Strategic Partnerships & Initiatives Bill Singleton, Chief – Business Systems Ashlie Smith, Chief – Nature & Outdoor Education Desiree Stanfield, Chief – Communications & Marketing Kevin Syoen, Chief – Budget & Procurement Zach Zuchowicz, DEI & Community Engagement Coordinator Andy Krumwiede, Strategic Sourcing Agent Jon Noyes, Planner Principal Jami Monte, Administrative Services Coordinator Aileen Matney, Project Advisor Louise Kavanaugh, Recreation Program Supervisor Haley Hansen, Community Liaison Kristian Alexander, Parks Naturalist Meghan Cleveland, Parks Naturalist Brad Wethy, Asst. Parks Supervisor – Waterford Oaks Shannon Kenny, Administrative Specialist
BOARD OF COMMISSIONERS	William Miller, Oakland County Commissioner, District 16
MSU EXTENSION	Kristi Evans, Director
WATER RESOURCES COMMISSIONER	Jack Barshaw, Administrative Assistant to Elected Official
PUBLIC	Rex Mathewson, Headwater Trails, Inc. Roman Wasylkovich, Waterford Greenways

APPROVAL OF AGENDA

LaFontaine moved to approve the agenda, as presented. Seconded by Long.

Motion carried on a voice vote with Smith Charles and Weatherspoon absent.

APPROVAL OF MINUTES

Erickson Gault moved to approve the minutes of the September 2, 2026 regular meeting, as presented. Seconded by Baker.

Motion carried on a voice vote with Smith Charles and Weatherspoon absent.

PUBLIC COMMENT

None.

PRESENTATIONS/RECOGNITIONS

A. Staff Introduction: Meghan Cleveland & Kristian Alexander

Ms. Smith introduced Meghan Cleveland and Kristian Alexander as new Parks Naturalists.

B. Arts, Beats & Eats 2026 Update

Ms. Jackson provided a brief presentation on Oakland County Parks' involvement in the 2026 Arts, Beats & Eats event.

COMMUNICATIONS/REPORTS

C. FY2026 Monthly Financial Report

Mr. Syoen provided an overview of the FY2026 Monthly Financial Report.

REGULAR AGENDA ITEMS

1. Residential Property Use and Leasing Policy

Commissioners Smith Charles and Weatherspoon arrived at 2:19 p.m.

LaFontaine moved to adopt the Residential Property Use and Leasing Policy, as presented, superseding Commission Policy C09-003, Residential Property Lease Policy. Seconded by Long.

Motion carried unanimously on a roll call vote.

2. FY26 Incentive Pay Adjustment

Smith Charles moved to approve the adjusted Incentive Hours Threshold for part-time positions at Red Oaks Waterpark for the completed 2026 season as follows:

- Employees who worked more than 250 hours and were available at least 9 of the Reduced Operation & Closure Dates will receive a $300 bonus, OR
- Employees who worked more than 350 hours and were available at least 9 of the Reduced Operation & Closure Dates will receive a $400 bonus.

Seconded by Erickson Gault.

Motion carried unanimously on a roll call vote.

3. FY2027 MDNR ORV Trail Improvement Fund Grant Acceptance

Smith Charles moved to accept the Michigan Department of Natural Resources (MDNR) Off-

Road Vehicle (ORV) Trail Improvement Fund grant award in the amount of $150,000 for improvements at Holly Oaks ORV Park, and to forward to the Oakland County Board of Commissioners for approval. Seconded by Long.

Motion carried unanimously on a roll call vote.

4. Waterford Oaks Sanitary Easement – Waterford Twp

Baker moved to approve the Waterford Township Sanitary Easement at Waterford Oaks County Park and forward to the Oakland County Board of Commissioners for approval. Seconded by Nash.

Motion carried unanimously on a roll call vote.

5. FY2027 Capital Equipment Budget Amendment

Baker moved to approve the FY2027 Capital Equipment Budget, as amended. Seconded by Smith Charles.

Motion carried unanimously on a roll call vote.

6. FY2027 Campground Fees

Baker moved to approve the proposed FY2027 campground fees for Addison Oaks and Groveland Oaks Campgrounds as presented, effective for the 2027 camping season. Seconded by Weatherspoon.

Motion carried unanimously on a roll call vote.

7. Independence Oaks – Alpha Towers PropCo III LLC Cell Tower Lease

McPherson moved to approve the lease agreement between the County of Oakland and Alpha Towers PropCo III LLC, for the right to use a portion of the property located at 9501 Sashabaw Road, Clarkston, Michigan. Seconded by Smith Charles.

Motion carried unanimously on a roll call vote.

8. Clinton River Oaks Park Maintenance Services Interlocal Agreement Extension

Erickson Gault moved to approve the Interlocal Agreement Extension between the City of Rochester Hills and Oakland County Parks and Recreation for park maintenance services at Clinton River Oaks County Park, and forward the agreement to the Board of Commissioners for final approval. Seconded by Baker.

Motion carried unanimously on a roll call vote.

UNFINISHED BUSINESS

None.

NEW & MISCELLANEOUS BUSINESS

9. Director's Report

Director Ward provided an overview of his report and reviewed a document entitled "BIG PICTURE – Building the Operating System for 2027," which was distributed to the Commissioners. He also

recognized Ashlie Smith for receiving a Recognition Award from the Michigan Alliance for Environmental and Outdoor Education.

10. Executive Committee Update

Chair Bagley stated that she attended the NRPA Annual Conference and she will be preparing a report for the Commissioners summarizing some of her key takeaways. Chair Bagley also highlighted upcoming events at Discovery Oaks, Catalpa Oaks, Turtle Woods and Red Oaks, and encouraged Commissioners to attend.

CLOSED SESSION

11. Pursuant to MCL 15.268(d) – Discussion to consider the purchase or lease of real property

Smith Charles moved that the Oakland County Parks and Recreation Commission enter into Closed Session for the purposes of discussion to consider the purchase or lease of real property. Seconded by Baker.

Motion carried unanimously on a roll call vote.

The Commission went into Closed Session at 3:08 p.m.

The Commission reconvened in Open Session at 3:47 p.m.

ANNOUNCEMENTS/ADJOURNMENT

At 3:47 p.m., there being no further business to come before the Commission, the meeting was adjourned to November 4, 2026, or to the Call of the Chair.

Andrea LaFontaine, OCPRC Secretary **Jami Monte, Recording Secretary**

NOTE: The foregoing minutes are subject to Commission approval.

RETURN TO AGENDA

Parks and Recreation

Fund Balance	As of 9/30/2025	Current 10/30/2026
	$54,556,755.98	$75,292,106.08

Summary of Parks and Recreation

FY 2026 YTD	Adopted	Amended	Actual	Favorability/UNF	Percentage
Revenue	$68,596,827.00	$71,372,827.00	$72,337,114.80	$964,287.80	101.35%
Expenses	$68,596,827.00	$71,372,827.00	$50,647,605.83	$20,725,221.17	70.96%

Summary of Golf Programs

FY 2026 YTD	Adopted	Amended	Actual	Favorability/UNF	Percentage
Revenue	$6,574,600.00	$6,574,600.00	$7,432,785.86	$858,185.86	113.05%
Expenses	$7,400,995.00	$7,400,995.00	$8,391,254.41	($990,259.41)	113.38%

Summary of Waterpark Programs

FY 2026 YTD	Adopted	Amended	Actual	Favorability/UNF	Percentage
Revenue	$1,635,615.00	$1,635,615.00	$1,576,101.55	($59,513.45)	96.36%
Expenses	$2,177,748.00	$2,177,748.00	$2,275,642.59	($97,894.59)	104.50%

Summary of Campground Programs

FY 2026 YTD	Adopted	Amended	Actual	Favorability/UNF	Percentage
Revenue	$2,226,000.00	$2,226,000.00	$2,293,676.14	$67,676.14	103.04%
Expenses	$4,490,879.00	$4,490,879.00	$4,481,793.85	$9,085.15	99.80%

Summary of ORV Park Operations

FY 2026 YTD	Adopted	Amended	Actual	Favorability/UNF	Percentage
Revenue	$320,000.00	$369,000.00	$263,645.00	($105,355.00)	71.45%
Expenses	$446,124.00	$446,124.00	$271,222.22	$174,901.78	60.80%

Summary of Community Grant and Strategic Partnership Program

FY 2022 - 2026 YTD	Awarded	Amount Paid Out	Amount Remaining
Expenses	$5,595,216.00	$3,516,750.00	$2,078,466.00

Investment Income

FY 2025	
$2,242,274.65	The County strategy is to invest in longer term Agencies and Treasuries. Before the unprecedented rise in short term rates this strategy consistently outpreformed the short term investments (CDs and High Yeild Savings accounts).
FY 2026 YTD	
$2,238,150.39	

RETURN TO AGENDA

Oakland County Parks and Recreation Commission
Agenda Item Brief

Meeting date	November 4, 2026
Agenda item	1 - Enterprise Business Planning Policy
Item type	Action
Lead staff	Chris Ward, Director
Recommended by	Policy Modernization Workgroup — Commissioners Baker and Banks

ACTION REQUESTED

Recommended motion: Move to adopt the Enterprise Business Planning Policy, as presented, superseding Parks Commission Policy C-09-002, Development of Business Plans Policy.

AT A GLANCE

This policy requires business plans for designated major recreation and learning facilities. It gives the Parks Commission a clear picture of demand, revenue, operating costs, public subsidy, capital needs, and public benefits before deciding how to sustain or change an enterprise. It replaces the broader 2009 policy with a focused framework for enterprise facilities.

BACKGROUND AND CONTEXT

C-09-002 called for business and feasibility planning across existing and proposed parks and facilities. The replacement focuses enterprise business planning on major facilities that have separate program-level budget centers and regularly provide paid services or experiences. An incidental fee, revenue account, or separately tracked activity does not make a service an enterprise.

Revenue alone does not show whether a facility is financially sustainable. A facility can generate substantial revenue while requiring public subsidy or carrying major future repair and replacement needs. Business plans will distinguish gross revenue from operating results and show capital and lifecycle obligations separately.

Potential candidates include major golf, aquatic, camping, ORV, and learning facilities. These are examples, not automatic designations. The Director recommends a verified inventory; the Parks Commission approves it and any material additions or removals. Accounting changes alone do not change the approved inventory.

PUBLIC VALUE AND STRATEGIC ALIGNMENT

Enterprise designation does not require profit or full cost recovery. Cost-recovery expectations reflect the balance of benefits to participating users and the broader community, together with the public subsidy the Parks Commission considers appropriate. Business plans also address accessibility, affordability, and the facility's public purpose.

Enterprise planning addresses how a facility should operate, respond to demand, and improve. Lifecycle evaluation identifies what it takes to sustain it over time. The policy allows this work to be incorporated into existing park, financial, capital, and operating reviews.

HOW THE POLICY WORKS

Step	What happens
Identify the facilities	The Director recommends major recreation and learning facilities with separate program-level budget centers and recurring paid services or experiences. The Parks Commission approves the enterprise inventory.
Prepare business plans	Each designated facility has a current plan addressing public purpose, demand, revenue, operating costs, subsidy, pricing, staffing, risks, capital and lifecycle needs, performance, and reasonable future options.
Update and report	Comprehensive updates occur at least every five years and before a new enterprise, major reinvestment, material operating change, or material operating agreement, and when performance materially departs from approved expectations. The Director establishes annual monitoring and presents an annual portfolio report.
Make decisions	The Parks Commission receives plan executive summaries and the annual report, and establishes or affirms public purpose, strategic direction, and subsidy or cost-recovery parameters requiring its action. Projects, spending, contracts, pricing changes, and other reserved actions follow their separate approval processes.

IMPACTS AND COMMITMENTS

Area	Key information
Financial	Adoption establishes planning and reporting requirements. It does not itself approve spending, a capital project, a pricing change, or a subsidy. Plans make operating performance and future financial obligations visible.
Operating	The Director sets methods, staff assignments, annual monitoring, and an implementation schedule within approved authority. Initial planning should be prioritized to available staff capacity and integrated with existing systems.
Long-term	Plans identify capital backlog, renewal, replacement, and lifecycle obligations and consider continuation, reinvestment, redesign, alternative delivery, consolidation, or retirement.
Legal and governance	The Parks Commission approves enterprise designation and retains strategic and reserved decisions. Business plans do not independently change approved park frameworks or replace required Parks Commission or Oakland County Board of Commissioners approvals.

ALTERNATIVES CONSIDERED

- Adopt: Replace C-09-002 with focused enterprise planning and reporting requirements.
- Modify: Adjust the scope, planning requirements, or reporting schedule before adoption.
- Defer or decline: C-09-002 remains in effect unless separately amended or repealed.

NEXT STEPS

Upon adoption, staff will verify the initial enterprise inventory for Parks Commission approval and develop a prioritized implementation schedule. Staff should also identify plans and updates completed under C-09-002 and confirm how planning for parks and services outside the enterprise scope is addressed through Integrated Park Plans and other applicable systems.

	Commission Policy	Date Adopted: [proposed] Date Revised: ____-____-____ C: 26-___ (Proposed)
	Enterprise Business Planning	

Authority: Public Act 261 of 1965, as amended; Oakland County Parks and Recreation Commission Bylaws; applicable Oakland County Board of Commissioners resolutions, County policies, and adopted budgets.

Related Policies: C26-001, Commission Reserved Authority and Director Delegation; C26-002, Integrated Park Plans and Park Zones; applicable pricing, contracting, and real-estate policies.

I. PURPOSE

The purpose of this policy is to ensure that major Oakland County Parks recreation and learning facilities with separate program-level budget centers that provide paid services or experiences are managed through disciplined enterprise business planning.

Enterprise business planning shall provide the Commission with a transparent understanding of operating performance, public subsidy, capital and lifecycle obligations, market conditions, public value, and the available options for continuation, reinvestment, redesign, alternative delivery, consolidation, or retirement.

II. DEFINITIONS

Enterprise facility. A major recreation or learning facility that has a separate program-level budget center and regularly provides paid services or experiences. An incidental fee, separately tracked activity, or revenue account does not, by itself, establish an enterprise.

Private and community benefit. Private benefit accrues principally to participating users or groups; community benefit extends to the broader public. Enterprise facilities may produce both.

Other public and merit services shall not be classified as enterprises solely because they charge a fee. Those services shall be evaluated through applicable public-value, program-planning, cost-of-service, pricing, and performance frameworks.

III. ENTERPRISE DESIGNATION

The Director shall recommend facilities for enterprise designation based on the criteria established by this policy. The Commission shall approve the initial inventory of enterprise facilities and any subsequent material additions or removals. Changes in accounting structure alone shall not alter the Commission-approved inventory.

Designation as an enterprise does not establish a requirement that the operation generate a profit or recover all costs. Cost-recovery expectations shall reflect the relative private and community benefits produced and the public subsidy the Commission considers appropriate. Designation establishes that the operation's financial performance, subsidy, capital exposure, lifecycle obligations, and public value must be explicitly evaluated and managed.

IV. BUSINESS PLANNING REQUIREMENTS

Oakland County Parks shall maintain a current business plan for each designated enterprise facility. Each business plan shall address, as applicable:

- the public purpose and the private and community benefits produced;
- utilization, capacity, customer demand, and market position;
- gross earned revenue, operating costs, net operating contribution or deficit, and public subsidy;
- pricing, cost-recovery expectations, accessibility, and affordability;
- staffing, operating, contractual requirements, and material risks;
- asset condition, capital backlog, renewal, replacement, and full lifecycle obligations; and
- performance measures and options for continuation, reinvestment, redesign, alternative delivery, consolidation, or retirement.

Financial analysis shall distinguish gross revenue generation from net operating performance and shall identify capital and lifecycle obligations separately from annual operating results.

V. PLANNING AND REPORTING SCHEDULE

An enterprise business plan shall be prepared or comprehensively updated before establishing or acquiring a new enterprise, undertaking major capital reinvestment or a material change in operations, or entering a material operating agreement; when performance materially departs from approved expectations; and at least once every five years.

The Director shall establish annual monitoring requirements and shall present an annual enterprise portfolio report to the Commission.

VI. DIRECTOR AUTHORITY

The Director shall oversee and administer enterprise business planning consistent with Commission policy, approved Integrated Park Plans, adopted budgets, and other applicable authority.

The Director may establish planning formats, analytical methods, performance measures, materiality thresholds, staff assignments, and administrative procedures necessary to implement this policy.

The Director may incorporate enterprise business planning into Integrated Park Plans, financial planning, capital planning, operating reviews, or other management systems as appropriate.

VII. COMMISSION REVIEW

The Commission shall receive an executive summary of each enterprise business plan and the annual enterprise portfolio report. The Commission shall establish or affirm the public purpose and strategic direction of each enterprise, including any public subsidy or cost-recovery parameters requiring Commission action.

Enterprise business plans are management and decision-support tools. They do not independently amend an approved park framework or authorize projects, appropriations, contracts, pricing changes, capital commitments, public commitments, or other actions requiring Commission or County Board approval.

Any recommendation arising from an enterprise business plan that requires Commission or County Board authority shall be presented through the applicable approval process.

VIII. EFFECTIVE DATE

This policy takes effect upon Commission adoption and supersedes Commission Policy C-09-002, Development of Business Plans Policy.

OAKLAND COUNTY PARKS	Commission Policy	Date Adopted: 04-08-09	Dated Revised: 04-08-09	C-09-002 Page 1 of 2
		Development of Business Plans Policy		

I. PURPOSE: The purpose of developing business plans for destination facilities and core programs centers on developing a business approach and philosophy to managing these facilities and programs based on a key strategy outlined in the Oakland County Parks and Recreation Commission's Strategic Plan adopted in August, 2008. The goal is to maximize revenues, and provide efficiency to these facilities and programs through effective pricing, cost containment and staffing of these resources. Staff within the organization, along with outside consulting support, will develop these business plans over the next two years. The Oakland County Parks and Recreation Commission will review and adopt the Executive Summaries of these business plans for staff implementation. The results of the business plans efforts will be reviewed and updated annually by OCPRC staff.

II. PROCEDURE:

A. The Executive Officer will establish which business plans will be developed over the course of each year. Business Plans will be done for all current parks and facilities but also for any new proposed park or facility to determine its feasibility. Staff will follow the business template developed by PROS Consulting and will use the appropriate methodology:
   1. For tracking direct and indirect costs
   2. Reviewing demographics and potential users
   3. Focus on existing programs to support the destination facility the makeup of the core program area
   4. Evaluate marketing efforts to attract new users and retain existing users
   5. Focus on appropriate pricing options as outlined in the pricing policy of the Commission
   6. Evaluate existing partnerships and level of equity from Oakland County and its partner's perspective and incorporate measureable outcomes to be tracked and managed through the changes recommended in the business plan.

III. STANDARDS:

A. Staff will follow agreed to performance measures that focus on the following:
   1. Revenues to expense outcomes desired
   2. Staffing levels and use based on approved budget levels
   3. Customer retention and satisfaction levels achieved
   4. Capacity management of each core program area and destination facility

Replace

OAKLAND COUNTY PARKS	Commission Policy	Date Adopted: 04-08-09	Dated Revised: 04-08-09	C-09-002 Page 2 of 2
		Development of Business Plans Policy		

5. Earned income gained to off-set operational costs
6. Staff performance levels met through effective scheduling
7. Marketing efforts and point-of-sale data collected and managed on each customer
8. Partnership equity levels met

IV. EVALUATION:

A. The Business and Organizational Development Section will work with staff on the development of the business plan and in tracking of the performance measures established in the business plan. Staff will review with the Business and Organizational Development Section staff their approaches to make business related changes to achieve the recommendations and cost containment efforts outlined in their respective business plan. The Administrative Management Team will review monthly with staff on how their efforts to manage the sites and core programs are working against expected outcomes.

Replace

RETURN TO AGENDA

Oakland County Parks and Recreation Commission
Agenda Item Brief

Meeting date	November 4, 2026
Agenda item	2 - Lifecycle Obligations and Public Value Policy
Item type	Action
Lead staff	Chris Ward, Director
Recommended by	Policy Modernization Workgroup — Commissioners Baker and Banks

ACTION REQUESTED

Recommended motion: Move to adopt the Lifecycle Obligations and Public Value Policy, as presented.

AT A GLANCE

Before making a major decision, the Parks Commission should understand what it will take to sustain the asset or service, what public benefits it will provide, and what reasonable alternatives exist. This policy requires that information in the materials already prepared for significant Parks Commission decisions. It does not require a separate study for routine work or exhaustive accounting of every cost.

BACKGROUND AND CONTEXT

The initial price of a facility, land acquisition, program, partnership, or restoration project can be only part of its cost. A decision may also commit staff time, require recurring maintenance or treatment, and create major future repair or renewal needs. Annual operating results alone may not show those obligations.

The policy requires staff to identify the continuing obligations that could change a decision. Estimates may use existing records, comparable experience, professional judgment, and reasonable cost ranges. Significant assumptions, uncertainty, and demands on existing staff must be visible. More detail is not required when it would not improve the decision.

Related activities are considered together when they support the same service or outcome. For example, a golf pro shop should be understood within the golf enterprise rather than judged as a separate service simply because its finances can be tracked separately.

PUBLIC VALUE AND STRATEGIC ALIGNMENT

Cost is considered alongside recreation, access, learning, health, ecological function, resilience, and community benefits. Understanding the full cost does not require full recovery through user fees or selection of the cheapest option. It helps the Parks Commission judge whether the benefits justify the obligations and use of public resources.

Enterprise business planning addresses how an enterprise should operate and improve. This policy addresses what it takes to sustain an asset, activity, or service over time. The two inform the same decisions without requiring duplicate reports.

HOW THE POLICY WORKS

Step	What happens
Identify major decisions	An assessment supports Parks Commission actions involving significant capital investment, facility renewal, service or enterprise changes, land acquisitions, partnerships, or recurring natural-resource commitments. Routine maintenance, minor purchases, and ordinary program administration do not require a separate assessment.
Focus on what matters	Staff identify principal initial and continuing costs, major future renewal or treatment, staff capacity needs, expected public benefits, and reasonable alternatives. Detail is proportionate to the decision; no universal dollar threshold or consultant study is required.
Inform the decision	The Director includes the assessment in existing Parks Commission decision materials, with significant assumptions and uncertainties. A cost matters when a reasonable change in its estimate could change affordability, alternatives, future budgets, staffing capacity, or stewardship obligations.

IMPACTS AND COMMITMENTS

Area	Key information
Financial	Adoption establishes an evaluation standard. It does not itself approve a project, expenditure, or appropriation. Future decisions will show significant continuing costs as well as initial costs.
Operating	The Director establishes practical screening, estimation, and documentation methods within existing planning, budgeting, asset management, enterprise, and stewardship processes. Use existing information and avoid unnecessary work.
Long-term	Major decisions will account for foreseeable operating, maintenance, staffing, renewal, replacement, and stewardship responsibilities. Past spending alone does not justify further investment or automatic continuation.
Legal and governance	The Parks Commission retains its decision authority. Existing Parks Commission and Oakland County Board of Commissioners approval requirements remain in place. No separate standing approval process is created; binding legal and contractual obligations still apply.

ALTERNATIVES CONSIDERED

- Adopt: Establish a consistent expectation for lifecycle obligations and public value in major decisions.
- Modify: Adjust applicability or the information expected before adoption.
- Defer or decline: Continue under existing requirements without this common assessment standard.

NEXT STEPS

Upon adoption, the Director will establish screening and estimation practices, use existing information and systems, and incorporate proportionate assessments into applicable Parks Commission decision materials. Separate project, budget, contract, and other approvals remain required.

	Commission Policy	Date Adopted: [proposed] Date Revised: ____-____-____ C: 26-___ (Proposed)
	Lifecycle Obligations and Public Value	

Authority: Public Act 261 of 1965, as amended; Oakland County Parks and Recreation Commission Bylaws; applicable Oakland County Board of Commissioners resolutions, County policies, and adopted budgets.
Related Policies: C26-001, Commission Reserved Authority and Director Delegation; C26-002, Integrated Park Plans and Park Zones; and other applicable Commission policies.

I. PURPOSE

The purpose of this policy is to establish Commission expectations for considering material long-term obligations and public value when making consequential decisions about Oakland County Parks assets, natural resources, facilities, enterprises, services, programs, and partnerships.

II. POLICY STATEMENT

The Oakland County Parks and Recreation Commission ("Commission") recognizes that decisions to acquire, develop, operate, maintain, restore, improve, or provide assets and services can create recurring costs, major future expenditures, and continuing stewardship responsibilities beyond their initial authorization.

Significant decisions shall be informed by a reasonable understanding of these obligations, the anticipated public benefits, available resources, and institutional capacity. Lifecycle evaluation informs judgment; it does not presume continuation, replacement, full cost recovery, discontinuation, or selection of the lowest-cost alternative.

III. SCOPE AND APPLICABILITY

A proportionate lifecycle and public-value assessment shall support matters requiring Commission action that involve material new or continuing commitments, including:

- major capital investments, substantial facility rehabilitation or replacement, and significant asset adaptation or disposition;
- major establishment, expansion, reinvestment, restructuring, or discontinuation of recreational business enterprises, Outdoor Learning and Stewardship Services, or other public services;
- significant land acquisitions, partnerships, agreements, or shared responsibilities creating continuing obligations; and
- natural-resource restoration or management programs establishing substantial ongoing treatment, monitoring, or stewardship commitments.

A separate lifecycle assessment is not required for routine maintenance, minor asset purchases, ordinary program administration, or other matters unlikely to materially affect a decision. The Director shall apply lifecycle considerations within existing planning, budgeting, asset management, and natural-resource stewardship processes as appropriate.

IV. LIFECYCLE AND PUBLIC VALUE PRINCIPLES

A. Functional Consolidation. Related revenues, expenditures, assets, activities, and obligations shall be considered together when they support a common service, enterprise, or ecological outcome. Components may be examined separately when useful for management, but shall not be treated as independent services solely because they can be accounted for separately.

B. Full Lifecycle Consideration. Evaluations shall identify reasonably foreseeable material initial costs; recurring operations, maintenance, staffing, and management obligations, including demands on existing capacity; major repair, renewal, replacement, and continuing treatment; and other significant future commitments. Operating results and long-term cash needs shall remain distinguishable without obscuring their combined burden.

C. Public Value. Financial performance shall be considered alongside relevant public benefits, including recreation, access, geographic reach, learning, health, ecological function, resilience, and community outcomes. Identifying the full cost of a service does not require full recovery through user fees or selection of the least expensive alternative.

D. Materiality and Decision Sufficiency. The level of analysis shall be proportionate to financial significance, duration, complexity, risk, and long-term consequences. An item is material when a reasonable change in its estimate could affect affordability, comparison of alternatives, future budgets, staffing capacity, or stewardship commitments. Assessments may use standardized assumptions, comparable experience, professional judgment, and reasonable cost ranges, applied consistently across alternatives. Principal obligations, material assumptions, and uncertainties shall be disclosed. Additional precision or incidental cost detail is not required when unlikely to materially improve the decision.

E. Alternatives and Responsible Stewardship. Material continuation, reinvestment, or expansion decisions shall consider reasonable alternatives, organizational capacity, and competing uses of public resources. Past expenditures alone shall not justify future investment. Applicable legal, contractual, safety, environmental, and other binding obligations remain controlling.

V. DIRECTOR AUTHORITY AND ADMINISTRATION

The Director shall oversee and administer this policy within applicable law, approved budgets, County requirements, Commission policies, and delegated authority.

The Director may establish screening criteria, materiality thresholds for analytical effort, standardized estimation methods, documentation and review practices, and staff responsibilities. These practices shall support consistent, evidence-based assessments and be incorporated into existing planning, budgeting, enterprise management, natural-resource stewardship, and program processes.

Administration shall make practical use of existing information and systems, avoid unnecessary duplication, and stop further analysis when additional detail would not materially improve a decision. Administrative screening and routine management shall not create a separate Commission approval process. The Director may recommend changes to existing commitments based on the resulting evaluations.

VI. COMMISSION REVIEW

For applicable matters requiring Commission action, the Director shall include in the existing decision materials a proportionate assessment of principal lifecycle obligations, anticipated public value, relevant alternatives, and significant assumptions or uncertainties. It shall provide information sufficient for a sound decision, not exhaustive activity-level accounting. Matters requiring Commission or Oakland County Board of Commissioners approval shall follow existing authorization processes.

Nothing in this policy independently authorizes any project, expenditure, appropriation, contract, land-use restriction, disposition, public commitment, or other action requiring separate approval.

VII. RELATIONSHIP TO OTHER REQUIREMENTS

This policy establishes general stewardship expectations. Specialized policies governing pricing, enterprise business planning, capital investment, natural resources, partnerships, and other matters may impose additional requirements. This policy does not supersede applicable law, County requirements, Park Rules, approved park frameworks, or reserved authorities.

VIII. EFFECTIVE DATE

This policy takes effect upon Commission adoption.

RETURN TO AGENDA

Oakland County Parks and Recreation Commission
Agenda Item Brief

Meeting date	November 4, 2026
Agenda item	3 - External Funding and Grant Authorization Policy
Item type	Action
Lead staff	Chris Ward, Director
Recommended by	Policy Modernization Workgroup — Commissioners Baker and Banks

ACTION REQUESTED

Recommended motion: Move to adopt Parks Commission Policy C26-010, External Funding and Grant Authorization, as presented.

AT A GLANCE

This policy sets out who may authorize Oakland County Parks to pursue grants and other external funding, submit awards for acceptance, and request changes to existing grants. It gives the Director authority to handle routine matters and identifies decisions that require Parks Commission approval. Adopting the policy does not approve a specific grant or commit funds.

BACKGROUND AND CONTEXT

A grant can bring money into the park system while also requiring matching funds, staff time, maintenance, reporting, or other future costs. The policy allows staff to meet funding deadlines while ensuring that significant commitments come to the Parks Commission.

The Oakland County Board of Commissioners Grant Policy and associated County grant procedures govern County review and approval. This Parks policy establishes OCP's internal authorization rules within that framework.

Director or Parks Commission authorization permits submission into the County process. All required County approvals, including Oakland County Board of Commissioners approval where required, must be completed before final acceptance or execution. Separate spending, contract, and staffing approvals remain required.

PUBLIC VALUE AND STRATEGIC ALIGNMENT

Funding must support Parks Commission-approved park purposes and priorities. The availability of money alone is not a reason to take on an obligation. Review must consider the public benefit and the matching funds, cash flow, staffing, maintenance, compliance, and long-term responsibilities the funding would create.

The Director will establish staff procedures and keep the Parks Commission informed of material applications, awards, and amendments. The authorization rules are summarized on the following page.

HOW THE AUTHORIZATION RULES WORK

Funding step	Director may authorize submission	Parks Commission must authorize
Apply for funding	Routine applications.	Applications that themselves create a binding commitment or require a decision reserved to the Parks Commission.
Submit an award for acceptance	$10,000 or less, with no exception below or reserved decision.	Over $10,000, any exception below, or a decision reserved to the Parks Commission.
Submit a grant amendment	A change of less than 15% of the current award OR $10,000 or less, with no reserved decision.	Changes meeting neither test, or requiring a decision reserved to the Parks Commission.

Small-award exceptions: Parks Commission authorization is required if the grantor requires a separate resolution, an interlocal agreement is needed, or acceptance changes authorized staffing levels. Amendment tests apply to the amount of the change, not the total award.

IMPACTS AND COMMITMENTS

Area	Key information
Financial	Adopting this policy establishes authorization rules only. Individual grants and related spending remain subject to the required approvals. Funding decisions must consider matching funds, cash flow, and continuing costs.
Operating	The Director establishes staff procedures for review, County routing, documentation, compliance, reporting, and closeout.
Legal and governance	Parks Commission authorization and County approval are separate steps. All applicable County policies, grant procedures, and other required approvals remain in effect.

ALTERNATIVES CONSIDERED

- Adopt: Establish the proposed authorization rules and Director delegation within the County framework.
- Modify: Adjust the thresholds, reserved decisions, or reporting expectations before adoption.
- Defer or decline: Existing County requirements and OCP policies continue to govern; the proposed delegation would not take effect.

NEXT STEPS

Upon adoption, the Director will establish staff procedures and guidance. Items requiring Parks Commission authorization will be brought forward before submission into the applicable County approval process. The Director will keep the Parks Commission informed of material grant activity.

	Parks Commission Policy	Date Adopted: [proposed] Date Revised: ____-____-____ C: 26-010 (Proposed)
	External Funding and Grant Authorization	

Authority: Public Act 261 of 1965, as amended; Oakland County Parks and Recreation Commission Bylaws; applicable County resolutions, policies, and adopted budgets.

Related Policies: C26-001, Commission Reserved Authority and Director Delegation; C23-003, Expenditure and Contract Approval Policy; and other applicable Parks Commission policies.

I. PURPOSE

This policy establishes authority for the development, submission, and consideration of external funding applications, grant acceptances, and amendments for Oakland County Parks. It supports timely pursuit of funding while preserving Parks Commission authority over material commitments and compliance with the Oakland County grant review and approval process. In this policy, "Parks Commission" means the Oakland County Parks and Recreation Commission. References to the Oakland County Board of Commissioners identify the separate County governing body.

II. POLICY STATEMENT

External funding shall advance Parks Commission-approved public purposes and priorities. Availability of funding alone shall not justify new or continuing institutional obligations.

Authorization by the Parks Commission or Director under this policy means authorization to submit the matter into the applicable Oakland County grant review and approval process. It does not constitute final County approval, grant acceptance, execution of an agreement, or approval of any other commitment requiring separate authorization.

III. GRANT APPLICATIONS

The Director or designee may authorize preparation and submission of external funding applications through the applicable County grant review and approval process without routine prior Parks Commission approval.

Prior Parks Commission authorization is required when an application itself would make a binding commitment or otherwise involve an action reserved to the Parks Commission. Preliminary County review may proceed before such authorization when permitted by County procedures.

IV. GRANT ACCEPTANCE SUBMISSIONS

The Director may administratively authorize submission of an award acceptance for County review when the award is $10,000 or less, provided the grantor does not require a separate resolution, an interlocal agreement is not required, and acceptance would not change authorized staffing levels.

Parks Commission authorization is required before submission for County acceptance review when the award exceeds $10,000, any of the above conditions is present, or the award otherwise involves a matter reserved to the Parks Commission.

V. GRANT AMENDMENT SUBMISSIONS

The Director may administratively authorize submission of a grant amendment for County review when the change is less than 15 percent of the current award amount or is $10,000 or less, provided the amendment does not require an action reserved to the Parks Commission.

Parks Commission authorization is required before submission for County review when an amendment meets neither threshold or otherwise requires Parks Commission action. The percentage and dollar tests apply to the proposed change in the current award, not the total award amount.

VI. EVALUATION AND OVERSIGHT

Grant decisions shall reasonably consider anticipated public value, funding conditions, matching and cash-flow requirements, and material staffing, operating, maintenance, compliance, and long-term stewardship obligations. The level of review shall be proportionate to the significance of the decision.

The Director shall keep the Parks Commission reasonably informed of material applications, awards, and amendments and shall establish administrative procedures for staff responsibilities, County routing, documentation, compliance, reporting, and closeout.

VII. OTHER AUTHORITY AND EFFECTIVE DATE

All matters remain subject to applicable law, Parks Commission policies and reserved authority, County grant review and approval requirements, including any required Oakland County Board of Commissioners approval, grantor conditions, and other required approvals. No authorization under this policy independently permits an expenditure, contract, staffing change, land-use action, or other commitment requiring separate approval.

This policy takes effect upon Parks Commission adoption.

RETURN TO AGENDA

Oakland County Parks and Recreation Commission Agenda Item Memo

Agenda #: 4

Department: Administration

From: Jami Monte, Administrative Services Coordinator

Subject: 2027 Oakland County Parks and Recreation Commission Meeting Schedule

RECOMMENDED MOTION

Move to approve the 2027 Oakland County Parks and Recreation Meeting Schedule.

INTRODUCTION AND HISTORY

Annually, the Oakland County Parks and Recreation Commission (OCPRC) receives a proposed schedule for the upcoming calendar year for approval. The OCPRC typically meets on the first Wednesday of every month at 2:00 p.m. The schedule is developed to provide consistency for strategic planning and public engagement.

The January meeting is scheduled to begin at 12:30 p.m. to include additional time for discussion on the long-term fiscal outlook including recurring cost and capital investment scenarios. The February meeting is scheduled for Tuesday, February 9, to accommodate commissioner and staff attendance at the mParks Conference from February 2–5, and to avoid Ash Wednesday on February 10.

The majority of meetings will be held in the Parks Commission Room at the Parks and Recreation Administration building in Waterford Township, with two meetings being held off-site to highlight different park locations. The July off-site meeting coincides with the Oakland County Fair, scheduled for July 9-18. The May off-site meeting was determined based on the Commission's majority consensus identifying Bikes, Fishing & Fritters at Clinton River Oaks as their preferred recreational activity.

ATTACHMENTS

1. 2027 Oakland County Parks and Recreation Meeting Schedule

2027 Oakland County Parks & Recreation Commission Meeting Schedule

JANUARY						
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DECEMBER						
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OCPRC Meeting (Commission Room) - 2:00 p.m.
(January meeting starts at 12:30 p.m.)

OCPRC Meeting (Off-site: Oakland County Fair) - 2:00 p.m.

OCPRC Meeting (Off-site: Clinton River Oaks) - 2:00 p.m.

OCPRC Budget Study Session - 2:00 p.m. *(if needed)*

Executive Committee Meeting - 1:00 p.m.

County Holidays

10/30/2026

RETURN TO AGENDA

Oakland County Parks and Recreation Commission Agenda Item Memo

Agenda #: 5

Department: Strategic Partnerships and Initiatives

From: Simon Rivers, Chief – Strategic Partnerships & Initiatives

Subject: Clinton River Oaks Construction License Agreement – Great Lakes Fisheries Commission

RECOMMENDED MOTION

Move to approve the Construction License Agreement between the County of Oakland and the Great Lakes Fisheries Commission.

INTRODUCTION AND HISTORY

Earlier this year, Oakland County Parks (OCP) purchased a 128.61-acre parcel in Rochester, commonly referred to as the Letica property. OCP had been interested in this property for many years, as it holds significant strategic and ecological value, located adjacent to (immediately south of) the Clinton River Trail and adjacent to (immediately north of) Bloomer Park. The property includes a stretch of the Clinton River, including an area in need of significant restoration.

This acquisition is central to a broader conservation and restoration effort. OCP has been working with the Great Lakes Fisheries Commission (GLFC) to restore this section of the river, particularly to address a bypass around a dam that is allowing invasive Sea Lamprey into the upstream reach of the river, which is detrimental to native fish species, such as trout, that make the Clinton River and Paint Creek such a high-quality fishery in Oakland County. GLFC has committed to funding and implementing the restoration project, with an estimated completion date of 2027 and a projected cost of over $1 million.

Due to the significance of this project and the desire to protect the river in perpetuity, GLFC has committed to contributing $300,000 towards the acquisition of the Letica property. This funding is guaranteed and only requires OCP to submit an invoice to receive the funds.

In addition to the aquatic restoration and protection project, OCP plans to utilize the Letica property as part of Clinton River Oaks to preserve the river and surrounding natural areas, providing people with pedestrian and water access both from the Clinton River Trail and Bloomer Park. There are opportunities to create trails, boardwalks and river waypoints on the property to provide better access to and interpretation of this stretch of river for Oakland County residents.

ATTACHMENTS

1. License Construction Agreement – Great Lakes Fisheries Commission
2. Great Lakes Fisheries Commission – Letter of Support

CONSTRUCTION LICENSE AGREEMENT

County of Oakland, by and through its statutory agent the Oakland County Parks and Recreation Commission, 2800 Watkins Lake Road, Waterford MI ("Landowner") who is the owner of the Subject Property, as defined herein, and Great Lakes Fishery Commission ("GLFC"), 2200 Commonwealth Boulevard, Suite 100, Ann Arbor, MI (both parties, Landowner and GLFC, referred to as "Parties") agree to enter into this agreement ("Agreement") to facilitate the Clinton River Sea Lamprey Barrier and Clinton River Restoration ("Project"), a Project that will provide natural resource benefit to the Subject Property as further described below.

Recitals

A. The Project involves restoration of the Clinton River utilizing principals of natural channel design to allow for effective sea lamprey blockage at Yates Dam, as further detailed in the attached **Exhibit A**.

B. Various stakeholders and partners are contributing efforts and funds to complete the Project to benefit the area, including, but not limited to, the, Clinton River Watershed Council, City of Rochester, Rochester Hills, Michigan Department of Natural Resources ("DNR"), Michigan Department of Environment, Great Lakes, and Energy ("EGLE"), the United States Fish and Wildlife Service, among others.

C. Green Watershed Restoration is providing professional consulting services necessary to complete the Project.

D. Use of the Subject Property as described below is necessary for completing the Project.

NOW, THEREFORE, for the mutual consideration and promises set forth in this Agreement, the Parties agree to enter the following Agreement subject to the terms and conditions below.

1. **Consideration:** The Parties agree that this Agreement is made with good and adequate consideration. Namely, allowing the Project will enhance the natural resource value of the Subject Property due to providing a long-term solution for the blockage of sea lamprey and restoration of the Clinton River. GLFC benefits from the Agreement by being able to use the Subject Property as specified below to assist with completing the Project.

2. **Subject Property:** The defined term "Subject Property" means the property located at Dequindre Road, Rochester, Michigan associated with Oakland County Parcel Number: 15-13-276-005. An aerial photograph showing the Subject Property is attached as **Exhibit B**.

3. **GLFC:** The defined term "GLFC" includes all employees, contractors, subcontractors, and agents of GLFC and/or of any entity or person working to complete the Project (e.g., the entities listed in the Recitals above). Such persons will be authorized to access the Subject Property for the reasons specified in this Agreement.

4. **Work / Subject Property Access:** GLFC may access and utilize the Subject Property for the purposes of completing the Project. This access includes, but is not limited to, GLFC: (1) entering and passing over the Subject Property; (2) potential incidental storage of equipment and materials on the Subject Property solely for purposes of completing the Project; (3) conducting any other activities as may be necessary or useful to completing the Project. For purposes of completing the Project, GLFC will be working within and adjacent to the stream bank but has reserved additional land rights in this paragraph to facilitate Project construction in the event of unforeseen circumstances.

5. **Term:** The term of this Agreement lasts from the date GLFC and Landowner execute this Agreement until GLFC completes the Project. Project construction necessitates use of the Subject Property and is estimated to conclude by December 31, 2027, with post-construction monitoring to conclude at the latest by January 1, 2031, and GLFC will use reasonable and prudent attempts to complete use of the Subject Property by the dates above but will not be strictly bound to completion by the above dates.

6. **Landowner Access Obligations:** GLFC shall not unduly restrict access to the Subject Property from Landowner unless in the event of an emergency requiring restrictions on access for safety. Moreover, Landowner acknowledges that it will allow GLFC (and all individuals authorized to access the Subject Property) to access the Subject Property as outlined in this Agreement and will not prevent GLFC from use of the Subject Property under the terms of this Agreement.

7. **Condition:** GLFC may not leave any items besides those associated with Project improvements on the Subject Property after the term of this Agreement. GLFC will make reasonable efforts to ensure that it does not substantially impair the conditions of the Subject Property, other than impacts to the Subject Property from improvements associated with the Project, while accessing the Subject Property under the terms of this Agreement.

8. **GLFC** shall obtain and maintain insurance according to the specifications set forth in Exhibit C. Exhibit C is incorporated into this Agreement.

9. **Compliance with Laws:** All of the activities of GLFC, its contractors, subcontractors consultants, agents, and employees relating to the Project and the Subject Property shall be

performed in full compliance with all applicable environmental, health, safety, and other laws, regulations, ordinances, and requirements.

10. **Indemnification:** To the extent permitted by international law, the Great Lakes Fishery Act, and all regulations, proclamations, and statutes imposed by the governments of Canada and United States, GLFC shall indemnify, hold harmless, and/or defend (at the Landowner's election) the Landowner and its Boards, Commissions, elected or appointed officials, and employees from any and all Claims that are incurred by or asserted against the County and its Boards, Commissions, elected or appointed officials, and employees by any person or entity, which are alleged to have been caused by or found to arise from the acts, performances, errors, or omissions of GLFC or its employees, agents, volunteers, subcontractors, invitees, or any other persons at or on the Property because of GLFC's use of the Property. GLFC shall require its agents, contractors, and subcontractors to indemnify, hold harmless, and/or defend (at the Landowner's election) the Landowner and its Boards, Commissions, elected or appointed officials, and employees from any and all Claims that are incurred by or asserted against the County and its Boards, Commissions, elected or appointed officials, and employees by any person or entity, which are alleged to have been caused by or found to arise from the acts, performances, errors, or omissions of such agents, contractors, and subcontractors. As used herein, "Claim" means any loss; complaint; demand for relief or damages; lawsuit; cause of action; proceeding; judgment; penalty; costs or other liability of any kind which is imposed on, incurred by, or asserted against the Landowner or for which the Landowner may become legally or contractually obligated to pay or defend against, whether commenced or threatened, including, but not limited to, reimbursement for reasonable attorney fees, mediation, facilitation, arbitration fees, witness fees, court costs, investigation expenses, litigation expenses, or amounts paid in settlement.

11. **Release:** GLFC does hereby release Landowner and its successors or assigns from any and all Claims arising from, due to, or in any way connected with the Project at the Subject Property or the activities of GLFC's contractors, consultants, agents, and/or employees related thereto.

12. **Site Restoration**. Upon completion of the Project, and at GLFC's sole cost and expense, GLFC agrees to remove any and all equipment or devices used by it or its contractors, consultants, agents, and/or employees from the Subject Property and to repair any damage to the Subject Property caused by any of the foregoing and/or the Survey Work.

13. **Notice:** Landowner may receive written notice or communications pursuant to this Agreement by personal service or via mail to Oakland County Parks and Recreation Commission, Attn: Director, 2800 Watkins Lake Road, Waterford, Michigan 48328. GLFC may receive written notice pursuant to this Agreement by: (1) mail or personal

service to 2200 Commonwealth Boulevard, Suite 100, Ann Arbor, MI; or (2) e-mail to cfreiburger@glfc.org.

14. **Entire Agreement:** This Agreement contains and comprises the entire agreement and understanding of the GLFC and Landowner. There are no additional promises between the parties other than those contained herein. Any other agreements between GLFC and previous owners of the Subject Property shall be null and void as they relate to the subject matter of this Agreement.

15. **Counterparts:** This Agreement may be executed in counterparts with photocopies, electronic copies, or facsimile copies of signatures treated in all manner and respects as binding and original.

16. **Waiver:** The waiver of a breach or violation of any provision of this Agreement will not operate as or be construed to be a waiver of any subsequent breach.

17. **Severability:** If any one or more of the provisions of this Agreement is deemed invalid, illegal, or unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired.

18. **Governing Law & Dispute Resolution:** This Agreement will be governed by and construed in accordance with the laws of the State of Michigan. In the event that the mandatory alternative dispute resolution process below is not successful, jurisdiction and venue for any disputes related to this Agreement are proper in any court of competent jurisdiction within Oakland County, Michigan. Before utilizing courts to resolve disputes under this Agreement, if either party believes the other party is in breach of this Agreement or is otherwise aggrieved by the other party they must: (1) provide detailed written notice to the other party detailing the alleged breach(es) and/or issues of the other party; and (2) meet with the other party and provide at least 30 days for the alleged offending party to cure any breach or to resolve a dispute. During the alternative dispute resolution process, the Parties shall not unreasonably withhold an alleged breaching/offending party from curing any such breach or resolving a dispute to continue activities under the Agreement.

19. **Modification and Assignment:** This Agreement may be amended only in a writing intended for that purpose that is signed by the GLFC and Landowner. Landowner may assign this Agreement to any purchaser of the Subject Property.

20. **Headings**: This Agreement contains headings for the convenience of the parties. These headings shall not be considered when interpreting this Agreement.

By signing the below, the individuals represent and warrant that they may bind themselves to this Agreement.

Great Lakes Fishery Commission

Dated: _____

_____
By: Stephen Domeracki
Deputy Executive Secretary

Landowner:

County of Oakland

Dated: _____

_____
By: Ebony Bagley, Chair
Oakland County Parks and Recreation Commission

Exhibit A – 60% Design Clinton River Restoration

Exhibit B – Attach Subject Property Map

General Property Information

- Site Address: Dequindre Road, City of Rochester, Michigan
- Tax Parcel ID Number: 15-13-276-005



EXHIBIT A - INSURANCE REQUIREMENTS

A. **Insurance Coverages.** GLFC shall provide and maintain, at its expense, all insurance as set forth below. The insurance shall be written for not less than any minimum coverage herein specified or required by law, whichever is greater.

1. **Commercial General Liability Insurance:** with the following minimum limits:

$1,000,000 Bodily Injury & Property Damage Each Occurrence Limit
$1,000,000 Personal & Advertising Injury Limit
$1,000,000 Products/Completed operations
$5,000 Medical Expense (Any One Person)
$2,000,000 General Aggregate Limit

Commercial General Liability Insurance shall contain the following minimum coverages:

- Occurrence Form
- Premises/Operations
- Personal and Advertising Injury
- Independent Contractors
- Broad Form Property Damage
- (Blanket) Broad Form Contractual (including coverage for obligations assumed in this Agreement)

2. **Supplemental Coverages – As Needed**

☐ **Host Liquor Liability Insurance** with a limit of $1,000,000 each occurrence shall be required when alcohol is served to guest with no charge.

☐ **Liquor Legal Liability Insurance** with a limit of $1,000,000 each occurrence shall be required when a cash bar is present and/or alcohol is served by a Caterer.

☐ **Other:**

3. **Workers' Compensation Insurance** with limits statutorily required by any applicable Federal or State Law and Employers Liability insurance with limits of no less than $500,000 each accident, $500,000 disease each employee, and $500,000 disease policy limit. This requirement is waived if there are no owners or employees.

☐ Fully Insured or State approved self-insurer.

☐ Sole Proprietors must submit a signed Sole Proprietor form.

☐ Exempt entities, Partnerships, LLC, etc., must submit a State of Michigan form WC-337 Certificate of Exemption.

4. **Commercial Automobile Liability Insurance** covering bodily injury or property damage arising out of the use of any owned, hired, or non-owned automobile with a combined single limits of $1,000,000 each accident. This requirement is waived if there are no company owned, hired or non-owned automobiles utilized in the performance of this Agreement.

B. **General Insurance Provisions**. All certificates of insurance and insurance policies shall contain the following provisions and/or clauses with evidence of same provided to the Oakland County Parks and Recreation Commission 2800 Watkins Lake Road, Waterford, Michigan 48328:

1. All policies of insurance shall be on a primary, non-contributory basis with any other insurance and/or self-insurance carried by the County of Oakland.
2. The insurance company(s) issuing the policy or policies shall have no recourse against the County of Oakland for subrogation, payment of any premiums, deductibles, or assessments under any form of policy.
3. Any and all deductibles in the required insurance policies shall be assumed by and be at the sole risk of GLFC.
4. All policies must be endorsed to include a written waiver of subrogation in favor of the County of Oakland.
5. All insurance policies must be endorsed to name as Additional Insured: the County of Oakland and it officers, directors, employees, appointees and commissioners.
6. GLFC shall require their contractors or sub-contractors not protected under GLFC's insurance policies, to procure and maintain insurance with coverages, limits, provisions, and/or clauses equal to those required of GLFC in this Agreement.
7. Certificates of insurance must bear evidence of all required endorsements and clauses and must be provided no less than ten (10) business days prior to commencement of the Project.
8. All policies of insurance required in this Agreement shall be issued by companies that are licensed and approved to do business in Michigan and shall have and maintain a minimum A.M. Best rating of AV or greater.

Great Lakes Fishery Commission

May 20, 2025

Melissa Prowse, Manager, Planning + Development
1200 North Telegraph Road
Pontiac, MI 48341

Dear Ms. Prowse,

Oakland County Parks and Recreation (OCP) and the Great Lakes Fishery Commission (GLFC) are committed partners in the acquisition and restoration of 128 acres in the City of Rochester, including a significant stretch of the Clinton River.

As part of this partnership, OCP will purchase, own, and manage the property as protected parkland, preserving its natural river corridor. GLFC is fully committed to supporting the project by contributing $300,000 toward the land acquisition and funding a $1.4 million river restoration initiative. This restoration will prevent the upstream migration of invasive sea lamprey, restore natural stream function using principles of natural channel design, and enhance recreational access and use of the river.

OCP will provide the remaining $1.2 million needed for the purchase and will ensure long-term stewardship of the site, including ongoing monitoring of the restored river segments. This joint effort reflects both organizations shared dedication to ecological restoration, invasive species management, and expanding public access to natural resources.

Sincerely,

Chris Freiburger

Chris Freiburger
Infrastructure Manager

Cc: Eric Diesing, OCP Freshwater Program Coordinator
Sarah Cook-Maylen, OCP
Dr. Marc Gaden, GLFC Executive Secretary
Dr. Michael Siefkes, Director-Sea Lamprey Control
Pete Hrodey, USFWS

Great Lakes Fishery Commission
2200 Commonwealth Blvd, Suite 100
Ann Arbor, MI, 48105
734.662.3209
glfc.org

RETURN TO AGENDA

Oakland County Parks and Recreation Commission Agenda Item Memo

Agenda #: 6

Department: Strategic Partnerships and Initiatives

From: Simon Rivers, Chief – Strategic Partnerships & Initiatives

Subject: 2023 Community Grant Program Agreement Extension – Village of Leonard, Polly Ann Trail Project

RECOMMENDED MOTION

Move to approve the Oakland County Parks Community Park and Trail Capital Grant Program Agreement Amendment between the County of Oakland and the Village of Leonard, and forward to the Oakland County Board of Commissioners for approval.

INTRODUCTION AND HISTORY

In 2023, Oakland County Parks (OCP) awarded the Village of Leonard a $25,000 grant for the Polly Ann Trail Modernization & Safety Improvements Design project through OCP's Community Grant Program. The grant has a three-year term, with an original end date of 11/1/2026. On October 8, 2026, the project manager for the Polly Ann Trail Modernization project, Kristen Wiltfang, requested a one-year extension due to a project expansion.

In 2024, an amendment to the original agreement was approved by the Oakland County Parks and Recreation Commission to change the scope of the project due to the higher than anticipated engineering design estimates. The revised scope focuses on specific areas of the Polly Ann Trail deemed most in need of improvements, reducing the portion of the trail included in the project from the full 16.9 miles to 4.1 miles of trail from Hosner Road to Elmwood Street.

Last fall, the Michigan Department of Natural Resources (DNR) was awarded a $500,000 Michigan Health Endowment Fund grant (on behalf of the Polly Ann Trailway Management Council) to further support the planning and engineering design of upgrades to the Polly Ann Trail. The Village of Leonard will combine OCP funding with the new grant funding to enhance year-round access to safe walking and biking – promoting sustainable physical activity and positioning the region for future construction funding.

BACKGROUND

The Polly Ann Trail (PAT) begins in Orion Township and spans almost 37 miles across northeastern Oakland County and central Lapeer County. Much of the trailway generally follows the former Pontiac, Oxford and Port Austin Railroad right-of-way (later obtained by Grand Trunk Western Railroad). While the DNR owns the majority of the trail property, the Polly Ann Trailway Management Council oversees the portion in Oakland County. The Oakland County portion of the Polly Ann Trail is a 16.9-mile linear park that is open year-round to hiking, biking, cross-country skiing and horseback riding. Trail users can enjoy the vistas of the scenic rural countryside and also take advantage of the businesses found along major commercial corridors. The PAT passes through the quaint downtowns of Oxford and Leonard and is easily accessible by nearby neighborhoods, schools and parks.

ATTACHMENTS

1. Village of Leonard Grant Amendment – Polly Ann Trail Project

OAKLAND COUNTY PARKS
COMMUNITY PARK AND TRAIL CAPITAL GRANT PROGRAM AGREEMENT AMENDMENT

This Agreement Amendment ("Amendment") is between the County of Oakland, 1200 North Telegraph Road, Pontiac, MI 48341 ("County"), by and through its statutory agent, the Oakland County Parks and Recreation Commission ("OCPRC"), 2800 Watkins Lake Road, Waterford, MI 48328 and the **Village of Leonard, 23 E. Elmwood, P.O. Box 112, Leonard, MI 48367** ("Grantee").

The Grantee and OCPRC entered into an Agreement dated **11/1/2023** for the Project set forth below ("Agreement"), which Agreement is attached and incorporated herein as Exhibit A. The Parties now desire to amend the Agreement. This Amendment extends the End Date of the Agreement as set forth below. The Parties agree to the terms and conditions set forth in this Amendment.

Project Title ("Project"): Polly Ann Trail Modernization & Safety Improvements Design
Grant Amount ("Grant Amount"): $25,000
Match Amount ("Match Amount"): $500,000
Total Project Amount: $525,000
Start Date: 11/1/2023
Original End Date: 5/15/2026
Amended End Date: [1 year from the date the last Party to this Agreement signs the Agreement]

This Amendment and the Agreement comprise the entire agreement and understanding between the Parties and supersede all other prior oral or written understandings, communications, agreements, or contracts between the Parties. By signing this Amendment, the below individuals certify they are authorized to sign this Amendment on behalf of their organization, and the Parties will fulfill the terms of the Agreement and this Amendment.

Grantee:

_____

Name: William Moore, President Date
Village of Leonard

County of Oakland:

_____

Name: David T. Woodward, Chairperson Date
Oakland County Board of Commissioners

Oakland County Parks and Recreation Commission:

_____

Name: Ebony Bagley, Chairperson Date
Oakland County Parks and Recreation Commission

OAKLAND COUNTY PARKS TRAILWAYS AND PARK DEVELOPMENT PROGRAM AGREEMENT AMENDMENT

This Agreement Amendment ("Amendment") is between **Village of Leonard, 23 E. Elmwood, P.O. Box 112, Leonard, MI 48367** ("Grantee") and the County of Oakland, by and through its statutory agent, the Oakland County Parks and Recreation Commission ("OCPRC").

The Grantee and OCPRC entered into an Agreement dated **11/1/2023** for the Project and Project Number set forth below ("Agreement"), which Agreement is attached and incorporated herein as Exhibit A. The Parties now desire to amend the Agreement. This Amendment changes the scope of the project due to higher engineering design costs than originally anticipated. The project will now focus on specific areas on the Polly Ann Trail deemed most in need of improvements, reducing the scope from the full 16.9 miles of trail to 4.1 miles of trail from Hosner Road to Elmwood Street. The Parties agree to the terms and conditions set forth in this Amendment.

Project Title ("Project"): Polly Ann Trail Modernization & Safety Improvements Design
Project Number: GU-PR-Leonard-PA
Grant Amount ("Grant Amount"): $25,000
Match Amount ("Match Amount"): $75,000
Total Project Amount: $100,000
Start Date: November 1, 2023 [Date of last signature on Agreement]
End Date: October 31, 2026

This Amendment and the Agreement comprise the entire agreement and understanding between the Parties and supersede all other prior oral or written understandings, communications, agreements, or contracts between the Parties. By signing this Amendment, the below individuals certify they are authorized to sign this Amendment on behalf of their organization and the Parties will fulfill the terms of the Agreement and this Amendment.

Grantee:

Signed: _____

Name: Michael J. McDonald
Title: President
Organization: Village of Leonard
Date:

County of Oakland:

Signed: _____
David T. Woodward (Aug 13, 2024 12:31 EDT)

Name: David T. Woodward
Chairperson, Oakland County Board of Commissioners
Date: Aug 13, 2024

OAKLAND COUNTY PARKS COMMUNITY PARK AND TRAIL CAPITAL GRANT PROGRAM AGREEMENT

This Agreement is between **Village of Leonard, 23 E. Elmwood, P.O. Box 112, Leonard, MI 48367** ("Grantee") and the County of Oakland, by and through its statutory agent, the Oakland County Parks and Recreation Commission ("OCPRC").

Monies from the Oakland County Parks and Recreation Commission Millage have been appropriated for the Oakland County Parks Community Park and Trail Capital Grant Program ("Program"). The purpose of this Agreement is to provide funding to Grantee in exchange for the work to be performed by Grantee for the below named project. The Parties agree to the terms and conditions set forth in this Agreement.

Project Title ("Project"): Polly Ann Trail Modernization & Safety Improvements Design
Project Number: GU-PR-Leonard-PA
Grant Amount ("Grant Amount"): $25,000.00
Match Amount ("Match Amount"): $75,000.00
Total Project Amount: $100,000.00
Start Date: [Effective Date—the date the last Party to this Agreement signs the Agreement]
End Date: [3 years from Start Date]

By signing this Agreement, the below individuals certify they are authorized to sign this Agreement on behalf of their organization and the Parties will fulfill the terms of this Agreement, including any attached Exhibits.

Grantee:

Signed: _____

Name: Michael J McDonald
Title: President
Organization: Village of Leonard
Date: October 31, 2023

Oakland County Parks and Recreation Commission:

Signed: _____
David T. Woodward (Nov 1, 2023 17:06 EDT)

Name: David T. Woodward
Chairperson, Oakland County Board of Commissioners
Date: Nov 1, 2023

1. **Agreement Execution.** Grantee is required to sign the Agreement and return it to OCPRC within sixty (60) calendar days of the date the Agreement is issued to Grantee. If not, OCPRC may cancel this Agreement and the monies allocated under this Agreement may be issued to another entity, in OCPRC's sole discretion. This Agreement is not effective until both Parties sign the Agreement. The "Effective Date" shall be the date the last Party signs the Agreement.
2. **Contact Information.** This Agreement shall be administered on behalf of OCPRC by the **Planning & Resource Development Unit.** All notices, reports, documents, requests, actions, or other communications required between OCPRC and Grantee shall be submitted to the contacts identified below. By written notice, the Parties may designate a different contact with correlating information.
   2.1. **Grantee Contact**
      2.1.1. **Organization:** Village of Leonard
      2.1.2. **Name/Title:** Michael J McDonald / President
      2.1.3. **Address:** 23 E Elmwood, PO Box 789
      2.1.4. **Telephone Number:** 248 628 7380
      2.1.5. **E-Mail Address:** villageofleonard@gmail.com
   2.2. **OCPRC Contact**
      2.2.1. **Name/Title: Donna Folland, Supervisor – Planning & Resource Development**
      2.2.2. **Address: 2800 Watkins Lake Road, Waterford, MI 48328**
      2.2.3. **Telephone Number: 248-736-9087**
      2.2.4. **E-Mail Address: follandd@oakgov.com**
3. **Project/Project Period.**
   3.1. Grantee shall complete the Project as set forth and described in Exhibit A within the Project Period. Exhibit A is incorporated into this Agreement.
   3.2. As defined in this Agreement, "Project Period" means the period of time beginning on the Effective Date and ending on the End Date listed on page 1 of this Agreement.
   3.3. Grantee shall complete the Project within the Project Period. Requests to extend the Project Period must be made in writing a minimum of thirty (30) calendar days before the Project Period ends. OCPRC may extend the Project Period, in its sole discretion, and the extension must be codified in an amendment to this Agreement.
4. **Grantee Reporting Requirements:**
   4.1. Grantee shall complete and submit bi-annual progress reports, including a narrative report and summary of Project expenditures, in accordance with instructions provided by OCPRC.
   4.2. Within sixty (60) days of Project completion, Grantee shall submit final reporting documentation, including a final reimbursement request and narrative report, and copies of written materials and/or photographs of grant recognition signs in accordance with the instructions provided by OCPRC.
5. **OCPRC Payments/Advances/Project Closeout.** OCPRC shall make payments of the Grant Amount to Grantee as follows:
   5.1. OCPRC shall pay Grantee the Grant Amount listed on page 1 of this Agreement, in accordance with Exhibit A. Any cost overruns incurred to complete the Project shall be the sole responsibility of Grantee.

5.2. To be eligible for payment, Grantee must submit a complete payment request to the OCPRC on form(s) provided by OCRPC and have satisfied all progress reporting requirements due prior to the date of the payment request.

5.3. Grantee shall submit documentation of all costs incurred, including the value of match and donations made to the Project. Documentation of expenditures and value of match and donations must meet written OCRPC requirements as specified in the 2023 Grant Program Guidance Criteria.

5.4. OCPRC reserves the right to request additional information necessary to substantiate payments.

5.5. Grantee shall be a registered vendor with the County of Oakland to receive payments. Registration can be accomplished by completing a vendor registration through the Oakland County Vendor Registration link on the County Web site. All grant funds will be paid by ACH or check.

5.6. OCPRC shall not pay any portion of the Grant Amount to a Grantee contractor or subcontractors. Grant Amounts shall only be paid to Grantee.

5.7. OCPRC will hold back ten percent (10%) of the Grant Amount until Project Closeout set forth in this Section. Final payment of the remaining ten percent (10%) of the Grant Amount will be released upon OCPRC approval of Grantee's **Final Report** and satisfactory Project completion as determined by OCPRC, in its sole discretion.

5.8. A determination of Project completion, which may include a site inspection and an audit, shall be made by OCPRC after Grantee has met any match obligations, satisfactorily completed the activities, and provided products and deliverables described in Exhibit A.

5.9. Grantee shall immediately refund to OCPRC any payments in excess of the costs allowed by this Agreement.

5.10. Upon issuance of final payment from OCPRC, Grantee releases OCPRC of all claims against OCPRC arising under this Agreement. Unless otherwise provided in this Agreement or by State law, final payment under this Agreement shall not constitute a waiver of OCPRC's claims against Grantee.

6. **Grantee Assurances/Responsibilities.**

6.1. Grantee shall comply with all applicable local, State, and federal laws, rules, ordinances, and regulations in the performance of this Agreement.

6.2. Grantee shall comply with the 2023 Grant Program Guidance Criteria.

6.3. Grantee shall obtain all necessary permits and licenses for construction and maintenance of the Project. This Agreement shall not be construed to obligate OCPRC or any other governmental entity to issue any permit or license required for the Project. Grantee shall solely determine what permits or licenses are required for the Project, secure the needed permits or licenses, and remain in compliance with such permits or licenses. Grantee shall retain a copy of all permits or licenses and make them available to OCPRC upon request.

6.4. Grantee shall have control of the Project area through fee simple title, lease, or other recorded interest, or have written permission from the owner of the Project area to complete Project activities.

6.5. Grantee shall abide by all State and federal threatened and endangered species regulations when completing Project activities.

6.6. Grantee shall not discriminate against an employee or an applicant for employment in hiring, any terms and conditions of employment or matters related to employment regardless of race, color, religion, sex, sexual orientation, gender identity or expression, national origin, age, genetic information, height, weight, disability, veteran status, familial status, marital status or any other reason, that is unrelated to the person's ability to perform the duties of a particular job or position, in accordance with applicable federal and state laws. Grantee further agrees that any subcontract shall contain non-discrimination provisions, which are not less stringent than this provision and binding upon any and all subcontractors. A breach of this covenant shall be regarded as a material breach of this Agreement.

6.7. Grantee shall require that no individual be denied access to the Project or Project activities on the basis of race, color, religion, sex, sexual orientation, gender identity or expression, national origin, age, genetic information, height, weight, disability, veteran status, familial status, or marital status.

6.8. OCPRC reserves the right to deny the use of any consultant, contractor, associate, or other personnel to perform any portion of the Project.

6.9. Grantee is solely responsible for all activities performed under this Agreement and for the construction and maintenance of the Project. Grantee shall be the sole point of contact regarding contractual matters for the Project, including payment of any and all charges resulting from the Project.

6.10. Grantee shall require all contractors and subcontractors constructing or performing the Project to comply with this Agreement.

6.11. Grantee shall ensure all contractors and subcontractors constructing and performing the Project are qualified to perform such work.

6.12. Grantee shall be solely responsible for the operation and maintenance of the Project subject to this Agreement.

6.13. All records related to the Project must be maintained for a minimum of seven (7) years after the final payment has been issued to Grantee by OCPRC.

7. **Liability.**

7.1. OCPRC is not liable or required to operate, maintain, or contribute to the operation or maintenance of the Project and any associated Project activities.

7.2. Grantee shall defend any Claim brought against either Party that involves the Project or associated Project activities or that involves title, ownership, or other specific rights of real property controlled by Grantee and relates to the Project.

7.3. Grantee is responsible for all Claims arising under or in any manner related to the Agreement, the activities authorized by the Agreement, or the use and occupancy of the Project.

7.4. As used in this Agreement, "Claims" mean any alleged losses, claims, complaints, demands for relief or damages, lawsuits, causes of action, proceedings, judgments, deficiencies, liabilities, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other

amounts or liabilities of any kind which are incurred by or asserted against a Party, or for which a Party may become legally and/or contractually obligated to pay or defend against, whether direct, indirect or consequential, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether commenced or threatened.

7.5. Performance of this Agreement is a governmental function. This Agreement does not, and is not intended to, impair, divest, delegate, or contravene any constitutional, statutory, and/or other legal right, privilege, power, obligation, duty, or immunity of the Parties. Nothing in this Agreement shall be construed as a waiver of governmental immunity.

8. **Insurance.** The Grantee shall acquire and maintain insurance or a program of self-insurance, which Grantee deems necessary, to protect it from liability related to construction and/or operation of the Project. OCPRC shall not obtain any insurance or provide any self-insurance for construction and/or operation of the Project.
9. **Audit and Access to Records.** OCPRC reserves the right to conduct programmatic and financial audits of the Project and may withhold payment until the audit is satisfactorily completed. Grantee shall maintain all pertinent records and evidence pertaining to this Agreement, including grant and any required matching funds, in accordance with generally accepted accounting principles and other procedures specified by OCPRC. OCPRC or any of its duly authorized representatives must have access, upon reasonable notice, to such books, records, documents, and other evidence for the purpose of inspection, audit, and copying. Grantee shall provide proper facilities for such access and inspection. All records must be maintained for a minimum of seven (7) years after the final payment has been issued to Grantee by OCPRC.
10. **Assignability.** Grantee shall not assign or transfer any interest in this Agreement without prior written authorization of the OCPRC Director.
11. **Changes.** Any changes to this Agreement requested by Grantee shall be made in writing and sent to OCPRC contact listed in section 2 of this agreement. OCPRC may approve or deny such change, in its sole discretion. Changes requiring an amendment to this Agreement will be executed by OCPRC and Grantee in the same manner as this Agreement.
12. **Termination.**

12.1. Failure by Grantee to comply with any provision of this Agreement shall be a material breach of this Agreement. Upon breach of the Agreement by Grantee, OCPRC may, in addition to any other remedy provided by law:

12.1.1. Terminate this Agreement;

12.1.2. Withhold and/or cancel future payments to Grantee on any or all current grant projects under the Program until the violation is resolved to the satisfaction of OCRPC;

12.1.3. Withhold action on all pending and future grant applications submitted by Grantee under the Program;

12.1.4. Require repayment of grant funds already paid to Grantee under this Program; and/or

12.1.5. Require specific performance of the Agreement.

12.2. This Agreement may be terminated by OCPRC, upon thirty (30) calendar days written notice, due to budgetary reduction, other lack of funding, or upon request by Grantee. OCPRC may honor requests for just and equitable compensation to Grantee for all satisfactory and eligible work completed under this Agreement up and until the date of Agreement termination.

Upon the date of termination, all outstanding reports and documents are due to OCPRC and after the termination date OCPRC will no longer be liable to pay or reimburse Grantee any outstanding Grant Amounts.

Exhibit A
OCPR Grant Program Application

For the 2023 Oakland County Parks and Recreation Park Improvement and Trailways Grant Program, $650,000 is available for trail and park improvement projects. This program is designed to assist local Oakland County communities with planning, preliminary engineering/design, and construction costs directly related to park improvement and trail projects located in Oakland County. For full program guidelines refer to the 2023 Community Grant Program Guidelines found on the Oakland County Parks web site.

We are not using Laserfiche this year but changing to this fillable PDF application. Please submit attachments and supporting documents along with this application as ONE PDF document if possible.

A. Applicant Information

1. Project Title: Polly Ann Trail Modernization & Safety Improvements Design Project

2. Oakland County City, Village or Township Name: Village of Leonard (Fiduciary), Addison, Oxford Twp, Oxford Village, Orion

3. Census Tract: 1284, 1281, 1286, 1218, 1217, 1215, 1210,1203, 1200

4. Name of Primary Grant Contact: Linda Moran, Polly Ann Trail Manager or Mike McDonald, Leonard Village President

Address: 23 E Elmwood, PO Box 112, Leonard, MI 48367

Primary Contact Phone: 248.981.1242

Primary Contact E-Mail Address: manager@pollyanntrailway.org or villageofleonard@gmail.com

5. Please list any project partners: Polly Ann Trailway Management Council, Michigan Department of Natural Resources

6. For which type of funding are you applying (please check one):

☑ Pre-development grants minimum request $5,000, maximum request $25,000 (design, engineering, planning, etc.) 25% Match

☐ Development grants minimum request $5,000, maximum request $100,000. 50% Match

B. Financial Information

Grant Amount Requested: $25,000

Match Amount: $75,000

☑ 25% minimum match for pre-development projects

☐ 50% match for development projects.

Certain communities may be eligible to have the match requirement waived – if your community is struggling to provide a match, please reach out to OCPR grants planning staff

Match Source(s):

Philanthropy: $50,000; Community Foundation SEMI - Wilson Legacy Design and Access (Pending)
General Fund: $25,000; Polly Ann Trailway Management Council (Budgeted)

Projected Budget (if more lines are needed, please attach as additional document):

Scope Item	Quantity	Total Amount
Geotechnical, Green Infrastructure and Wetland Delineation	1	$33,450
Topographic Surveying and Mapping Services	1	$20,000
Public Input and Project Coordination Meetings	1	$10,250
Design Development/Traffic Control Device (Incl permit apps)	1	$25,460
Construction Documents, Bidding and Award	1	$10,840

Total project budget: $100,000

C. Grant Application Requirements

1. Indicate how and where this project is addressed in relevant community planning documents, which may include: 5-Year Parks and Recreation Master Plan, Capital Improvement Plan, Park Master Plan, Community Master Plan, Complete Streets Plan, Trailway Master Plan, Pathway Plan, etc. Provide links to relevant online planning documents or add relevant pages to application PDF document. (100 word maximum)

The proposed project is identified mainly in Chapter 7: Action Program of the Polly Ann Trailway 5-year Master Plan (see pages 21, 81, 84, 85)
https://pollyanntrailway.org/images/PAT_MasterPlan_21_25.pdf
The Polly Ann Trail is also identified as a significant regional trail in the SEMCOG Bicycle and Pedestrian Mobility Plan for Southeast Michigan (Pages 2,10, 20, 98)
https://semcog.org/desktopmodules/SEMCOG.Publications/GetFile.ashx?filename=BicycleAndPedestrianMobilityPlanForSoutheastMichiganMarch2020.pdf

2. Proposed Project Dates

Anticipated Start Date: July 2023

Anticipated End Date: July 2024

3. Select the type of site control the applicant has over the site where the project is to be completed:

- [x] Fee simple
- [ ] Less-than-fee-simple (explain): (text field)
- [x] Lease
- [ ] License
- [x] Easement
- [x] Other (explain): Road Right-of-Way

4. Final Report & Reimbursement

The OCPR Trails and Park Improvements grant program is a reimbursement program. If awarded a grant, the community will have an opportunity to request reimbursement on a quarterly basis. A final report will need to be submitted and approved by OCPR grant management staff prior to the release of the final 20% of grant funds.

- [x] Please check here to acknowledge that this is a reimbursement grant and that a final report will be required to release the final 20% of grant funds.

D. Project Description

1. Describe the physical location of the proposed project and ownership of the property. (250 words max)

The Polly Ann Trail is 16.9 miles and extends across the northeastern corner of Oakland County through Orion Township, Oxford Township, Oxford Village, Addison Township and the Village of Leonard. These five municipalities have been collaborating for more than 25 years to transform the former railroad into a four season, non-motorized trail that is open to active transportation and outdoor recreation.

The trailway property is typically 50 feet wide and generally follows the former railroad right-of-way. The Polly Ann is owned by various entities including the Michigan Department of Natural Resources (DNR), Polly Ann Trailway Management Council, Orion Township, and long-term lease agreements with private entities. The PATMC oversees the day-to-day operations, maintenance, programming, management and construction projects for the entire trail in Oakland

2. Describe the project design and why it was chosen. (250 words max)

In the early 2000s, the Polly Ann Trail had been acquired and converted from a railroad to a shared use path open to walking, biking, cross-country skiing and horseback riding. Many of the state and federal guidelines for trailway development have changed since that time and this important regional trail needs to make necessary design changes to make transformative safety improvements and replace aging infrastructure. The following examples are a few of the known deficiencies:

--Existing road crossings: many of the existing trail/road crossings follow the old railroad alignment and cross on a diagonal rather than a 90-degree angle. The existing alignment causes trail users to be in the roadway and exposed to motor vehicle traffic for longer distances and longer periods of time.

3. Provide a relevant history/background information (including any environmental concerns). (250 words max)

Railroads have been an integral part of the transportation network in Michigan for nearly two centuries. Since 1970, many abandoned railway corridors in the state have been transformed into shared-use paths. This has allowed Michigan to be known as the "Trails State," leading the nation with more than 2,600 miles of rail-trails. These converted historic transportation routes continue to be essential infrastructure for outdoor recreation and active transportation like walking and biking.

The Polly Ann Trailway Management Council was formed in 1997 through an Interlocal Agreement that was entered into by the five participating communities of Orion Township, Oxford Township, Village of Oxford, Addison Township and Village of Leonard. The PATMC has a long-term lease agreement with the DNR to manage the day-to-day operations

4. Describe the community need for the project. (250 words max)

The community need for this project can be broken into three scales:

1. Local:
Many area residents start from their homes in nearby neighborhoods and mainly utilize the Polly Ann Trail for fitness and outdoor recreation and also to access local businesses, library, downtowns, schools, essential services, and local parks.

2. County and Regional:
The Polly Ann serves as an important trailway corridor in Southeast Michigan and provides users with connections to other regionally significant trails and parks like the Polly Ann Trail in Lapeer County, Paint Creek Trail, Bald Mountain

5. Project Alignment with most recent OCPR Community-Wide Needs Assessment.
Please select all categories in which your proposed project falls:

- [ ] Beaches
- [x] Multi-use trails
- [ ] Canoe & kayak launch sites
- [ ] Picnicking areas and pavilions
- [ ] Playgrounds
- [ ] Sledding Hills
- [ ] Farmers Markets
- [ ] Waterparks and Waterslides
- [ ] Boating and fishing areas
- [ ] Splash pads and spray parks
- [ ] Outdoor amphitheaters
- [ ] Camping areas
- [ ] Mountain-biking trails
- [ ] Tennis courts
- [ ] Baseball and softball diamonds
- [ ] Basketball courts
- [ ] Disc golf
- [ ] Archery range
- [ ] Hunting areas
- [ ] Off-road vehicle areas
- [ ] Soccer and cricket fields
- [ ] Outdoor equestrian facilities/trails
- [ ] Pickleball courts
- [ ] Other

6. Does the project positively impact equity and justice and/or provide parks and recreation services that feel safe and welcoming to everyone? If so, please summarize here. (250 word max)

Communities in northeast Oakland County, along with many towns across southeastern Michigan, face a number of disparities related to income, transportation choices, employment opportunities, and access to high quality education, healthcare and green space. Being known as the 'Motor City' often creates a stigma around using alternative modes of transportation like transit, walking, and biking. Many residents in Southeast Michigan are faced with limited transportation options and the Polly Ann Trail and other regional trails can help address some of the mobility inequities.

Once completed, the proposed improvements will ensure an accessible, equitable, and sustainable corridor for alternative modes of transportation to best serve people of all ages and abilities. It will also incorporate considerations for green infrastructure, connected open space, and environmental justice in its design and implementation. Once

7. Does the project consider sustainable design/construction practices and help build community resilience and adaptation to climate change? If so, please summarize here. (250 word max)

The project team will work to select a consultant to complete the design engineering phase of the project. An emphasis will be placed on sustainable design and construction practices. Examples include, using locally sourced materials whenever possible, requiring American steel, increasing green stormwater infrastructure, using native landscaping materials, pervious paving materials, recycled materials, and using wood materials from sustainable forestry practices.

Once fully implemented, this innovative and thoughtfully re-designed linear park will help the surrounding communities to adapt to climate change and improve community resilience.

8. Does the project increase access to spaces and experiences that promote physical, mental, and social health for all? If so, please summarize here. (250 word max)

The ongoing COVID-19 Pandemic has only emphasized how important trails and parks are to have a livable and healthy community. This critical infrastructure provides a place for residents to enrich both mental and physical wellbeing, reduce social isolation, and improve their access to nature. In addition, Southeast Michigan has become an automobile-centric place that contributes directly to preventable health conditions like obesity, high blood pressure and diabetes. Through the promotion of inclusive facilities like the Polly Ann Trail, trail users of all ages and abilities can fight chronic diseases and live healthy and active lives. The proposed project will also help to improve the overall user experience.

The Polly Ann Trailways Management Council envisions a future in which local residents enjoy: a walkable community, using the Polly Ann Trail and local spurs to make short trips within their neighborhoods and villages and to access

9. Has any public engagement been done around this project yet? If so please summarize here.

Over the past decade, several meetings and public engagement opportunities have been associated with the trail and 5-year Trail Master Plan update. In addition, several area road and pathway projects, such as the "Restore M-24" (Lapeer Road) reconstruction and the Clarkston Road Pathway Connector, have incorporated direct walking/biking path linkages and trail related amenities.

The Polly Ann Trail Modernization & Safety Improvements Design project is being developed in coordination with a diverse group of stakeholders from the public and private sectors and will continue to engage them in the planning, design, and implementation stages. Stakeholders have recently provided input for the proposed project. Input and comments were taken into consideration to address safety concerns, trailway condition and planned amenities. Several

10. Describe how the project will be managed and maintained long-term, including any equipment or staffing needs and how they will be addressed.

The proposed project is being managed by the Polly Ann Trailway Management Council. This work is the first of three stages that needs to be completed in order to modernize the trail and bring it up to the most current standards. After the Design Engineering is completed, it will be followed by the Bidding Stage and finally go to Construction.

Despite having a modest budget, the Polly Ann Trailway Management Council has been able to collaborate with partners and funders to purchase the former railroad right-of-way, improve the surface in the early 2000s, and construct a bridge over Lapeer Rd (M-24) in Oxford. The original trailway surface is nearly 20 year old and beyond its design life and the proposed project is the first step to making needed improvements to the surface and roadway crossings.

11. Describe how the project will meet or exceed ADA guidelines. Describe any Universal Design principles that will be incorporated into the project.

As mentioned in question 2 above, the trailway will be designed to meet AASHTO guidelines, which incorporate ADA and Universal Design principles. During the design process, the following elements will be incorporated:
- Walkways within a trailhead that are at least 6 feet wide with cross-slopes under 2% and running slopes under 5%
- Multi-use trail that is 10 feet wide, with 2-foot clear zones on both sides, with cross-slopes under 2% and running slopes under 5%
- Utilize a firm and stable surface material like concrete, boardwalk or asphalt, crushed aggregate that has been rolled and compacted
- Detectable warning surfaces at roadway crossing to assist people that have vision impairments
- Larger (greater than 60"X60") level areas at all turns and intersections

12. Select whether or not the park or facility has any required entrance fees – annual, daily, non-resident, etc.

- [x] No fees for park use
- [ ] Non-resident annual or daily fee
- [ ] Annual or daily fee for residents and non-residents
- [ ] Other (explain):

13. Select the ways in which people can access the site:

- [ ] Automobile only
- [x] Automobile
- [x] Bicycle on-street
- [ ] Dedicated bike lane
- [x] Sidewalk
- [ ] Nearby bus stop (within ¼ mile)

E. Attachments

If possible please use the "Combine Files into one PDF" tool to combine your application materials into one PDF document. If you don't have the ability to do so, individual files will still be accepted. Email all attachments to Kate Layton at laytonk@oakgov.com. Put your community name in the subject line of the email.

Required Attachments:

1. Project location map

2. Site plan or site map

3. Optional letters of support

4. Optional Other Materials

   a) Design drawings/specifications

   b) Photographs with captions that indicate the relevant content of the photo

Submission

Completed applications should be e-mailed to Kate Layton at laytonk@oakgov.com.

You will receive a confirmation e-mail within 48 hours indicating that we received your application. If your application file size is too large to e-mail, reach out to Kate or Donna for file-sharing options.

Applications should be submitted by April 21 at 5:00 p.m.

Contact Information:

Donna Folland
Supervisor – Planning and Resource Development
(248) 736-9087
follandd@oakgov.com

Kate Layton
Community Liaison
laytonk@oakgov.com

Polly Ann Trailway Management Council

23 E. Elmwood St.
P.O. Box 112
Leonard, MI 48367

(248) 981-1242

www.pollyanntrailway.org

April 17, 2023

Donna Folland, Planning & Resource Dev. Supervisor
Oakland County Parks and Recreation
2800 Watkins Lake Road
Waterford, MI 48328

Re: 2023 OCPR Grant Program-Polly Ann Trail Modernization & Safety Improvements

Dear Ms. Folland,

The Polly Ann Trailway Management Council is pleased to collaborate with the Village of Leonard to submit a grant application to Oakland County Parks and Recreation (OCPR) to complete the required design engineering services, construction cost estimates, and bid documents to modernize and improve safety on the Polly Ann Trail in Oakland County. This request for funding is in the amount of $25,000 with a total project cost of $100,000. It is anticipated that the proposed design project will take one year to complete.

The Polly Ann Trail was originally developed in the early 2000s and many of the state and federal guidelines for trailway development have changed since that time. With your financial assistance, the proposed project will upgrade the overall design of the trail to better serve trail users of all ages and abilities, make necessary safety enhancements at road crossings, replace aging infrastructure, and bring this significant regional trail up to current design standards.

The proposed project is consistent with OCPR's goal to have safe and welcoming recreation facilities, strong sustainability and environmental stewardship practices, and promote physical, mental, and social health for all trail users. It will also consider feedback from public engagement and represents a collaboration among a variety of stakeholders from non-profits, private, local, state and county agencies.

Please contact me if you have any questions or if you would like to discuss this important project further.

Thank you for your consideration,

Curtis Wright, Chair
Polly Ann Trailway Management Council

Polly Ann Trail OCPR 2023
Trail Pre-Development Grant

PROJECT ADMINISTRATION

Fiduciary

Mike McDonald, President
Village of Leonard

Project Manager

Linda Moran
Polly Ann Trail Manager

Polly Ann Trailway Management Council

Curtis Wright, Chair
Oxford Township Representative

Ed Brakefield, Vice Chair
Addison Township Representative

Mike McDonald, Secretary
Village of Leonard Representative

Bruce Pearson, Treasurer
Addison Township Representative

Matt Pfeiffer
Orion Township Representative

Allison Kemp
Village of Oxford Representative

Aaron Whatley
Orion Township Representative

Jonathan Nold
Oxford Township Representative

Kevin Greene
Citizen Representative (non-voting member)

Design Engineering Firm

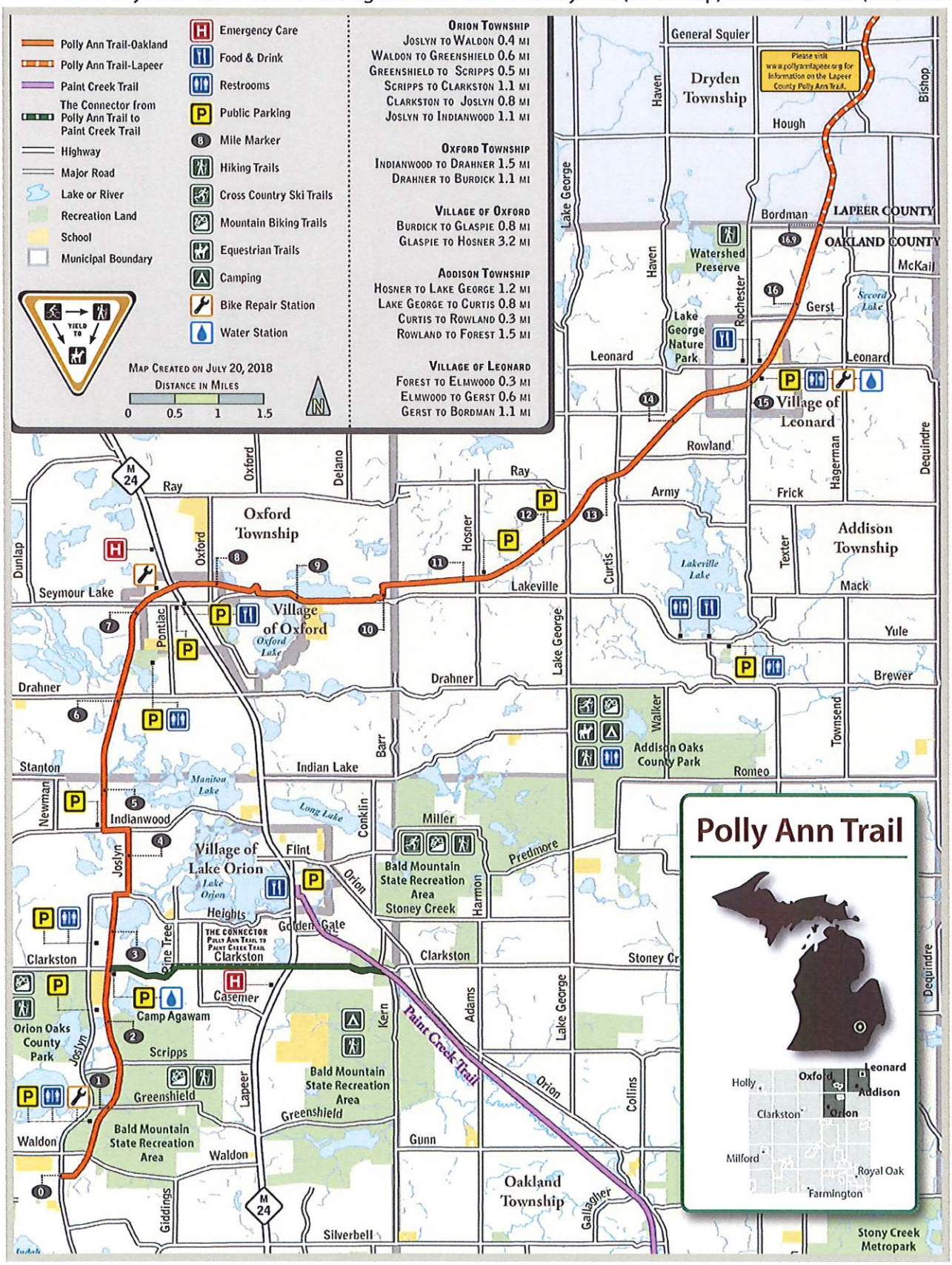
Orion Township

Michigan Department of Natural Resources

Polly Ann Trail OCPR 2023
Trail Pre-Development Grant

PROJECT LOCATION MAPS

The Polly Ann Trail is 16.9 miles long and extends from Joslyn Rd (Orion Twp) to Bordman Rd (Addison Twp)



Polly Ann Trail OCPR 2023
Trail Pre-Development Grant

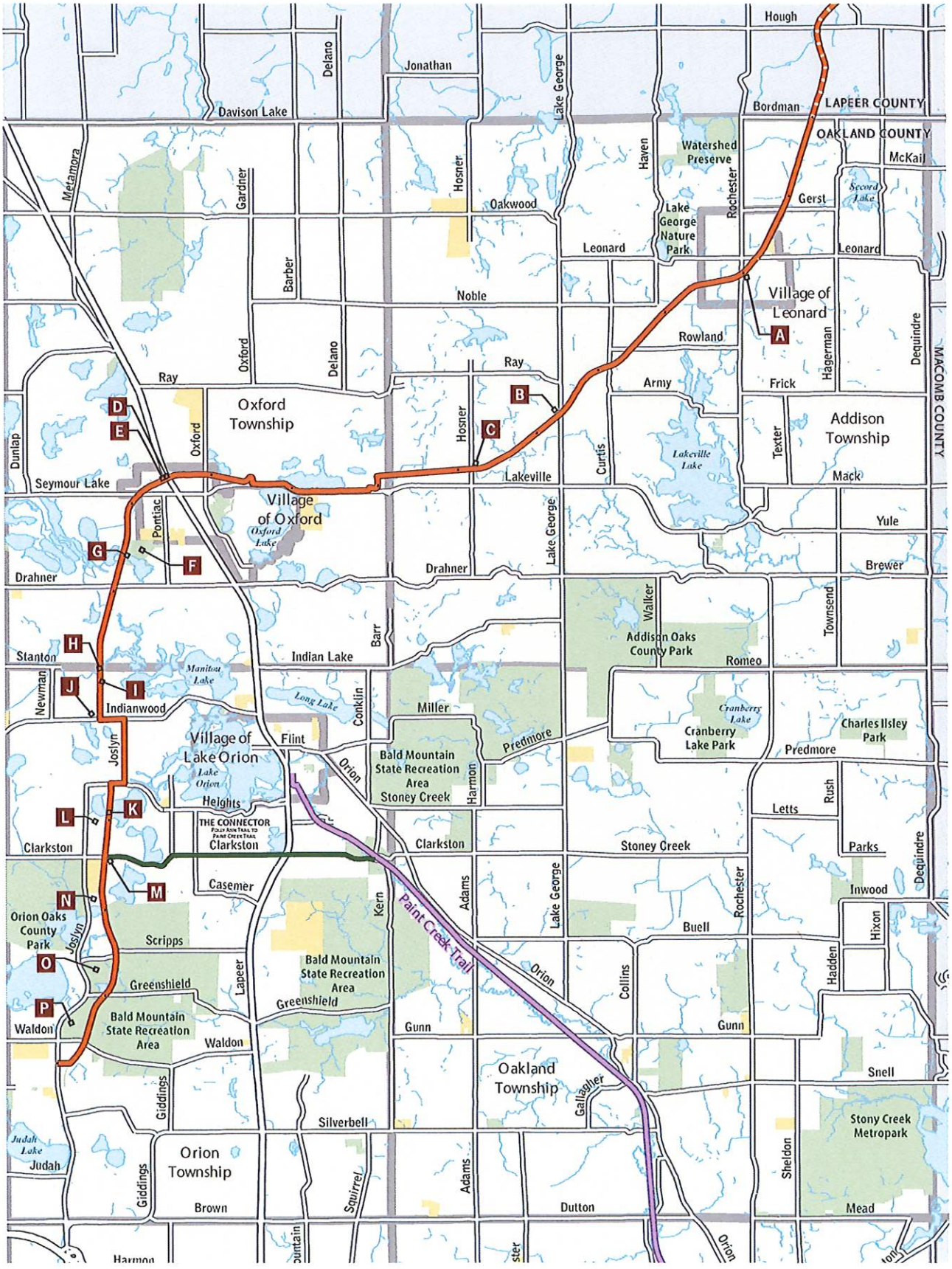
Public Parking Locations

The following is a list of public parking locations and bridges along the Polly Ann Trail (see map on following page).

Map ID	Name	Notes
Parking Areas/Bridges		
A	Leonard Trailhead (30 spaces) 4401 Baza St, Leonard 48367	Horse corral available. Seasonal vault toilet (a.k.a. Leonard Yard)
B	Lake George Rd Trailhead (6+ spaces) Northwest corner of the trail/Lake George Intersection	(a.k.a. Milk Run)
C	Hosner Road Parking (2 spaces) Northeast corner of the trail/Hosner Road intersection	(a.k.a. M&M Junction)
D	Larry Obrecht Bridge	
E	Pleasant Street Parking Lot (21 spaces) 27 Pleasant St, Oxford, MI 48371	Village of Oxford owns the parking lot.
F	Oxford Library/Powell Lake Park Trailhead 530 Pontiac Rd, Oxford 48371	Restrooms/drinking fountain in Library. (a.k.a. Weigh Station)
G	Powell Lake Overlook	
H	Paint Creek Drain Bridge (a.k.a. James Lumber Bridge)	
I	Indian Trl Bridge	
J	Indianwood Road Parking (7 spaces) 1860 Indianwood Rd, Orion Twp, MI 48362	(a.k.a. Indianwood Crossing)
K	Square Lake Bridge (North of Clarkston Rd)	
L	Orion Township Library Parking (7+ spaces) 825 Joslyn Rd, Lake Orion 48362	Restrooms/drinking fountain inside Library
M	Clarkston Road Trailhead (13 spaces) Southwest corner of Clarkston Road and Rhodes Road	(a.k.a. Water Depot)
N	Orion Center Trailhead (34 spaces) 1335 Joslyn Rd, Lake Orion 48360	Restrooms/water in Orion Center; Adult Fitness Station
O	Orion Township Municipal Complex 2323 Joslyn Rd, Lake Orion, MI 48360	
P	Civic Center Park 2525 Joslyn Rd, Lake Orion, MI 48360	Restrooms at Sheardy Pavilion

Polly Ann Trail OCPR 2023
Trail Pre-Development Grant

PUBLIC PARKING LOCATIONS



Cross-State Trail Corridors

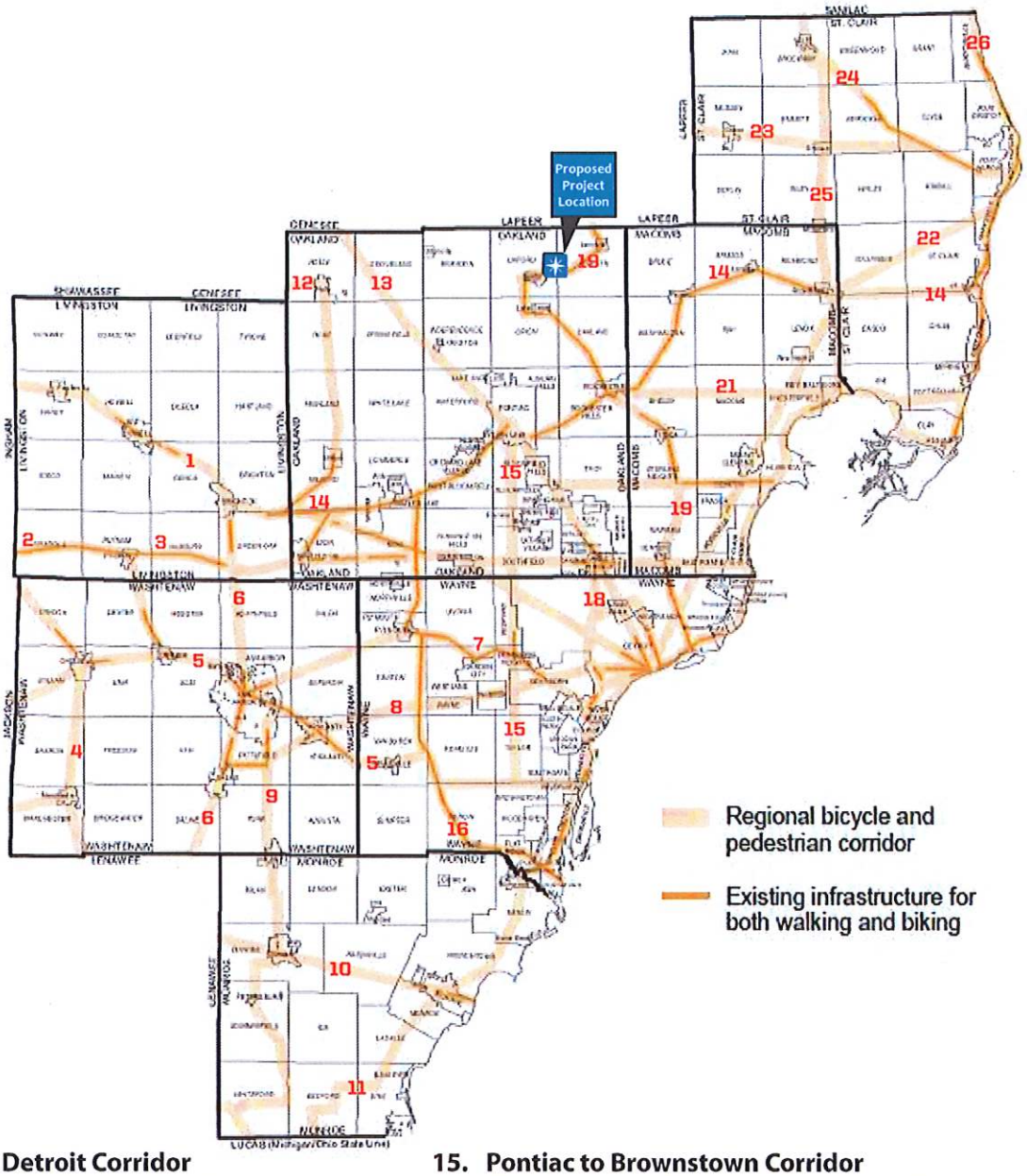
A portion of the Polly Ann Trail is a key segment of Michigan's Iron Belle Trail-Biking Route that extends across the state from Belle Isle to Ironwood. This important cross-state trail network will provide local communities with economic vitality, active transportation, social connection, health and fitness, environmental preservation, and local tourism related opportunities.

Iron Belle Trail

Two Routes, One Great Trail



Regional Bicycle and Pedestrian Corridors



1. Fowlerville to Detroit Corridor
2. Huron Waterloo Pathway Loop Corridor
3. Pinckney to St Clair Shores Corridor
4. Chelsea to Manchester Corridor
5. Dexter to Wyandotte Corridor
6. Brighton to Saline Corridor
7. Ann Arbor to Detroit Corridor
8. Saline to River Rouge Corridor
9. Ann Arbor to Whiteford Corridor
10. Dundee to Monroe Corridor
11. Bedford to Detroit Corridor
12. Holly to Brighton Corridor
13. CLarkston to Detroit Corridor
14. South Lyon to St Clair Corridor
15. Pontiac to Brownstown Corridor
16. Walled Lake to Lake Erie Metropark Corridor
17. Joe Louis Greenway Corridor
18. Ferndale to River Rouge Corridor
19. Leonard to Detroit Corridor
20. Birmingham to Lake St Clair Metropark Corridor
21. Rochester to Marine City Corridor
22. Detroit to Port Huron Corridor
23. Capac to Port Huron Corridor
24. Yale to Port Huron Corridor
25. Yale to New Baltimore Corridor
26. Fort Gratiot to Detroit Corridor

Source: SEMCOG *Bicycle and Pedestrian Mobility Plan for Southeast Michigan. 2020.*

PROJECT SUPPORT

The following pages contain supporting documents and letters for the Polly Ann Trail Modernization & Safety Improvements Design Project.

Grant Application Resolutions

- Village of Leonard
- Polly Ann Trailway Management Council

Letters of Support

- Clear Lake Elementary School
- Oxford Township Parks and Recreation
- Leonard Village Council
- White Pine Coffee Roasters
- Leonard Elementary School
- Cooper Standard
- Oxford Downtown Development Authority
- Oxford Chamber of Commerce
- Larry Obrecht

Other Documentation

- Polly Ann Trailway Management Council Interlocal Agreement

Polly Ann Trail OCPR 2023
Trail Pre-Development Grant

GRANT APPLICATION RESOLUTION

VILLAGE OF LEONARD
PO BOX 789
LEONARD, MI 48367
248-628-7380 villageofleonard@gmail.com FAX 248 628 8673

RESOLUTION OF SUPPORT FOR A GRANT APPLICATION BY THE VILLAGE OF LEONARD TO THE OAKLAND COUNTY PARKS & RECREATION 2023 TRAIL PRE-DEVELOPMENT GRANT PROGRAM FOR FUNDING OF PRELIMINARY ENGINEERING OF THE POLLY ANN TRAIL

WHEREAS Voters passed the Oakland County Parks and Recreation (OCPR) Millage in November 2020 and a portion of those funds will be used for competitive grant programs to assist local communities with preliminary engineering and construction costs directly related to park and trail improvement projects located in Oakland County; and

WHEREAS OCPR requires grant applications to be submitted by a city, village, or township in Oakland County; and

WHEREAS the Village of Leonard, acting as a fiduciary on behalf of and in partnership with the Polly Ann Trailway Management Council (PATMC), desires to apply for a 2023 OCPR Trail Pre-Development Grant for the proposed Modernization and Safety Improvements Project to complete the preliminary engineering and bid documents to upgrade approximately 16.9-miles of the Polly Ann Trail and comply with current AASHTO and ADA standards; and

WHEREAS the PATMC is a public body corporate formed under an Interlocal Agreement between Orion Twp, Oxford Twp, Village of Oxford, Addison Twp and Village of Leonard and is also registered as a 501 (c)(3) non-profit namely to develop and maintain a recreational trail in Oakland County, Michigan between Joslyn Road (south of Waldon Rd) and Boardman Rd, utilizing the abandoned Grand Trunk Railroad right-of-way; and

WHEREAS the proposed project is supported by goals and objectives identified in the approved 2021-2025 Polly Ann Trailway Master Plan and will help to improve the overall trail user experience, enhance safety at road crossings, and modernize an established regional trailway in northeast Oakland County; and

WHEREAS several well publicized public participation opportunities have been held dating back to 2019 when the last Polly Ann Trailway Master Plan was created and input received supports the improvements identified in the proposed project; and

WHEREAS the Village of Leonard has prepared a grant application to OCPR for $25,000.00, based on a total project cost of $100,000.00, to fund preliminary engineering for the desired and proposed improvements; and

NOW, THEREFORE, BE IT RESOLVED, that the Village of Leonard, on behalf of the Polly Ann Trailway Management Council, hereby authorizes submission of a 2023 OCPR Trail Pre-Development Grant application in the amount of $25,000.00;

AND BE IT FURTHER RESOLVED if funding from OCPR is received, the Village of Leonard will enter into an agreement with the Polly Ann Trailway Management Council which will require the PATMC to make available a local match and other grant funding through financial commitment of $75,000.00 during the 2023-2024 fiscal years; and

VILLAGE OF LEONARD
PO BOX 789
LEONARD, MI 48367
248-628-7380 villageofleonard@gmail.com FAX 248 628 8673

BE IT FURTHER RESOLVED if funding from OCPR is received, the agreement between the Village of Leonard and PATMC will require the PATMC to certify compliance with all grant program requirements, including commitment to long-term maintenance of the trail and acknowledge all grant project related cost overruns be the responsibility of the PATMC; and

BE IT FURTHER RESOLVED that Village President Michael J. McDonald is authorized to sign all grant-related documents on behalf of the Village of Leonard and/or his designee.

AYES:
NAYES:
ABSENT:
MOTION: APPROVED

I HEREBY CERTIFY, that the foregoing is a Resolution duly made and passed by the Village Council for the Village of Leonard at their regular meeting held on April 10, 2023 at 7:00 p.m., with a quorum present.

Clerk, Loree Zelenock

April 10, 2023
Dated

Polly Ann Trailway Management Council

23 E. Elmwood St.
P.O. Box 112

Leonard, MI, 48367
www.pollyanntrailway.org

248-981-1242

RESOLUTION OF SUPPORT FOR A GRANT APPLICATION TO THE OAKLAND COUNTY PARKS & RECREATION 2023 TRAIL PRE-DEVELOPMENT GRANT PROGRAM FOR FUNDING OF PRELIMINARY ENGINEERING OF THE POLLY ANN TRAIL

WHEREAS Voters passed the Oakland County Parks and Recreation (OCPR) Millage in November 2020 and a portion of those funds will be used for competitive grant programs to assist local communities with preliminary engineering and construction costs directly related to park and trail improvement projects located in Oakland County; and

WHEREAS OCPR requires grant applications to be submitted by a city, village, or township in Oakland County; and

WHEREAS the Polly Ann Trailway Management Council (PATMC) is working in partnership with Village of Leonard to submit an application to the 2023 OCPR Trail Pre-Development Grant for the proposed Modernization and Safety Improvements Project to complete the preliminary engineering and bid documents to upgrade approximately 16.9-miles of the Polly Ann Trail and comply with current AASHTO and ADA standards; and

WHEREAS the PATMC is a public body corporate formed under an Interlocal Agreement between Orion Twp, Oxford Twp, Village of Oxford, Addison Twp and Village of Leonard and is also registered as a 501 (c)(3) non-profit namely to develop and maintain a recreational trail in Oakland County, Michigan between Joslyn Road (south of Waldon Rd) and Boardman Rd, utilizing the abandoned Grand Trunk Railroad right-of-way; and

WHEREAS the Village of Leonard will act as the fiduciary on behalf of and in partnership with the PATMC on the proposed Polly Ann Trail Modernization and Safety Improvements Project; and

WHEREAS the proposed project is supported by goals and objectives identified in the approved 2021-2025 Polly Ann Trailway Master Plan and will help to improve the overall trail user experience, enhance safety at road crossings, and modernize an established regional trailway in northeast Oakland County; and

WHEREAS several well publicized public participation opportunities have been held dating back to 2019 when the last Polly Ann Trailway Master Plan was created and input received supports the improvements identified in the proposed project; and

WHEREAS the Village of Leonard has prepared a grant application on behalf of the PATMC to OCPR for $25,000.00, based on a total project cost of $100,000.00, to fund preliminary engineering and bid documents for the desired and proposed improvements; and

WHEREAS the Polly Ann Trailway Management Council is hereby making a financial commitment for the matching funds to the project in the amount of $75,000.00 from cash or other grants from the following sources:

Polly Ann Trailway Management Council General Fund:	$25,000.00	(Budgeted)
2023 Ralph C. Wilson, Jr. Legacy: Design & Access Fund:	$50,000.00	(Pending)
Total Matching Funds:	**$75,000.00**	

NOW, THEREFORE, BE IT RESOLVED, that Polly Ann Trailway Management Council, hereby supports the Village of Leonard submitting a 2023 OCPR Trail Pre-Development Grant application in the amount of $25,000.00;

AND BE IT FURTHER RESOLVED if funding from OCPR is received, the PATMC will enter into an agreement with the Village of Leonard, which will require the PATMC to make available a local match and other grant funding through financial commitment of $75,000.00 during the 2023-2024 fiscal years; and

BE IT FURTHER RESOLVED if funding from OCPR is received, the agreement between the PATMC and Village of Leonard will require the PATMC to certify compliance with all grant program requirements, including commitment to long-term maintenance of the trail and acknowledge that all grant project related cost overruns be the responsibility of the PATMC; and

BE IT FURTHER RESOLVED that the Trail Manager, Linda Moran is authorized to sign all grant-related documents on behalf of the Polly Ann Trailway Management Council.

AYES: Whatley, Wright, McDonald, Madore, Brakefield

NAYS: None

ABSENT: Nold, Pearson, Pfeiffer

MOTION APPROVED.

I HEREBY CERTIFY that the foregoing is a Resolution duly made and passed by the Polly Ann Trailway Management Council at their regular meeting held on April 19, 2023 at 3:00pm at the Oxford Village Offices with a quorum present.

Secretary: Mikel McDall Dated: April 19, 2023

OXFORD COMMUNITY SCHOOLS
Clear Lake Elementary
2085 W. Drahner Rd.
Oxford, MI 48371
248-969-5200

Dear Grant Project Funding Committee,

It is with great pleasure that I write to you in support of the Polly Ann Trail's grant proposal to secure funding to enhance the condition of the Polly Ann Trail. As the former International Baccalaureate (IB) Primary Years Programme (PYP) Coordinator and now as Principal for Clear Lake Elementary School in Oxford, it has been marvelous to have such proximity to the Polly Ann Trail, its natural resources, and the guidance of the Trail Manager, Linda Moran.

There are several times throughout our school year in which we interact with the Polly Ann Trail to take students' learning on location. Each fall, we are able to take our entire 5th grade to the trail to connect their learning of invasive species in Michigan and take their research outside the walls of the classroom. Within a short walking distance, we can see firsthand the invasive species that are local to our area. We learn the ways the Polly Ann Trail organization works to be innovative to remove or lessen the impact these invasive plant species have on our native plants and flowers. Through this trip, many of our students are now not only more knowledgeable and aware of their local community, but they are inspired and want to take action. Often, our students along with their families will volunteer to help once spring arrives to clean up the trail, plant flowers, and to help Mrs. Moran with other trail projects.

Another yearly learning opportunity that our school has been able to provide to our students is a walking field trip to our local Oxford Public Library. This field trip would not happen if we were not able to use the Polly Ann Trail. The Polly Ann Trail allows our students and teachers to safely travel the 4 miles round trip without having to worry about car traffic. The funding from this grant would directly impact and ensure that our route traveled is resurfaced to further improve safety for our students and other pedestrians.

Mrs. Moran's dedication and hard work that she puts forth in creating a safe and robust trail for our local community is so amazing. I am honored to write this letter on her and the Polly Ann Trail's behalf as they both have given back to our school and local community in so many ways. I have great trust that if provided the grant funding that it would be used to bring joy to our community and opportunities for the students in Oxford to grow their outdoor classroom space.

Please do not hesitate to reach out for further information or questions. Thank you for your time and the opportunity that this grant funding provides local communities to establish a culture of continuous improvement and innovation.

Educationally yours,

Stephanie Niemi

Stephanie Niemi, Principal-Clear Lake Elementary School

Non-Discrimination Clause: Oxford Community Schools does not discriminate on the basis of race, color, religion, national origin, sex (sexual orientation or gender), disability, age, height, weight, marital status or any other legally protected characteristic, in its programs, services or activities, including employment opportunities. The following person has been designated to handle inquiries regarding the nondiscrimination policies: Assistant Superintendent of Human Resources, 10 North Washington Street, Oxford, MI 48371, (248) 969-5004.

OXFORD TOWNSHIP
PARKS AND RECREATION

2795 Seymour Lake Rd. * Oxford, MI 48371
Phone: 248-628-1720 / Fax: 248-628-1854
Web: www.oxparkrec.org

Commissioners

Austin Brantley

Sarah Jones

Tim Kalohn

Theresa Myer

Ron Roop

November 22, 2022

Attn: Linda Moran
Polly Ann Trail Manager
23 E Elmwood St, PO Box 112
Leonard, MI 48367

RE: Polly Ann Trail Modernization and Safety Improvements Project

Dear Ms. Moran,

I am writing on behalf of the Oxford Township Parks and Recreation Commission, to offer strong support of the Polly Ann Trailway Management Council's grant applications to upgrade the Polly Ann Trail in Oakland County. The proposed project will design, reconstruct and modernize almost 17 miles of shared-use path, improve safety at roadway crossings, upgrade the trail surface, and enhance connections to amenities.

The proposed project will not only make necessary safety improvements, but it will also make critical upgrades to aging infrastructure. This important linear corridor will continue to provide safe alternative transportation options, help to support economic vitality in rural towns, increase outdoor recreation opportunities, and further promote vibrant communities.

The Polly Ann is a key segment of the Southeast Michigan trail network, and it provides a direct link between neighborhoods, local businesses, schools, parks, historic and cultural attractions, Downtown Oxford, Downtown Leonard, and several commercial districts. This rail-trail also plays an important role in local tourism and was designated as a segment of Michigan's Iron Belle Trail-biking route in 2012 and honored with a Pure Michigan Trail designation in 2019.

I encourage the Polly Ann Trailway Management Council to pursue the necessary funding to complete the design engineering and construction phases of this important project. We strongly urge the granting agencies to approve this important request for funding for Polly Ann Trail Modernization and Safety Improvements project. This project meets the regional trail priorities to increase safety, accessibility, use and comfort level; and improve mobility for pedestrians, equestrians, and cyclists to access public spaces, downtowns, core services and amenities; and encourage active lifestyles in Southeast Michigan.

Please don't hesitate to contact me if you have any further questions. Thank you for your consideration.

Sincerely,

Phil Castonia, CPRP
Director

VILLAGE OF LEONARD
PO BOX 789
LEONARD, MI 48367
248-628-7380 villageofleonard@gmail.com FAX 248 628 8673

November 22, 2022

Attn: Linda Moran
Polly Ann Trail Manager
23 E Elmwood St, PO Box 112
Leonard, MI 48367

RE: Polly Ann Trail Modernization and Safety Improvements Project

Dear Ms. Moran,

I am writing on behalf of the Village of Leonard Park and Recreation Committee, to offer strong support of the Polly Ann Trailway Management Council's various grant applications to upgrade the Polly Ann Trail in Oakland County. The proposed project will design, reconstruct and modernize approximately 16.9 miles of shared-use path, improve safety at roadway crossings, upgrade the trail surface, and enhance connections to amenities.

The proposed project will not only make necessary safety improvements, but it will also make critical upgrades to aging infrastructure. This important linear corridor will continue to provide safe alternative transportation options, help to support economic vitality in rural towns, increase outdoor recreation opportunities, and further promote vibrant communities.

The Polly Ann is a key segment of the Southeast Michigan trail network and it provides a direct link between neighborhoods, local businesses, schools, parks, historic and cultural attractions, Downtown Oxford, Downtown Leonard, and several commercial districts. This rail-trail also plays an important role in local tourism and was designated as a segment of Michigan's Iron Belle Trail-biking route in 2012 and honored with a Pure Michigan Trail designation in 2019.

Much of the planning and development plans for the Village Park and Recreation programs hinge on the Polly Ann Trail for recreational as well as economic development for the Village's future.

We encourage the Polly Ann Trailway Management Council to pursue the necessary funding to complete the design engineering and construction phases of this important project. We strongly urge the granting agencies to approve this important request for funding for Polly Ann Trail Modernization and Safety Improvements project. This project meets the regional trail priorities to increase safety, accessibility, use and comfort level; and improve mobility for pedestrians, equestrians, and cyclists to access public spaces, downtowns, core services and amenities; and encourage active lifestyles in Southeast Michigan.

Please don't hesitate to contact me if you have any further questions. Thank you for your consideration.

Sincerely,

Michael McDonald, Chair
Village of Leonard Park Committee

November 25th, 2022

Attn: Linda Moran
Polly Ann Trail Manager
23 E Elmwood St, PO Box 112
Leonard, MI 48367

RE: Polly Ann Trail Modernization and Safety Improvements Project

Dear Ms. Moran,

I am writing on behalf of White Pine Coffee Roasters to offer strong support of the Polly Ann Trailway Management Council's various grant applications to upgrade the Polly Ann Trail in Oakland County. The proposed project will design, reconstruct and modernize approximately 16.9 miles of shared-use path, improve safety at roadway crossings, upgrade the trail surface, and enhance connections to amenities.

The proposed project will not only make necessary safety improvements, but it will also make critical upgrades to aging infrastructure. This important linear corridor will continue to provide safe alternative transportation options, help to support economic vitality in rural towns, increase outdoor recreation opportunities, and further promote vibrant communities.

The Polly Ann is a key segment of the Southeast Michigan trail network and it provides a direct link between neighborhoods, local businesses, schools, parks, historic and cultural attractions, Downtown Oxford, Downtown Leonard, and several commercial districts. This rail-trail also plays an important role in local tourism and was designated as a segment of Michigan's Iron Belle Trail-biking route in 2012 and honored with a Pure Michigan Trail designation in 2019.

As a business owner who operates a retail business alongside the Polly Ann Trailway, I can wholeheartedly state that the trail helps our business tremendously. The number of customers that enter our doors is elevated due to the trail. The positivity of those customers and their passion for the trail is self-evident when talking with them. The trail is a huge benefit to the community, its businesses, those businesses' employees, and the residents of the communities the trail passes through.

I encourage the Polly Ann Trailway Management Council to pursue the necessary funding to complete the design engineering and construction phases of this important project. We strongly urge the granting agencies to approve this important request for funding for Polly Ann Trail Modernization and Safety Improvements project. This project meets the regional trail priorities to increase safety, accessibility, use and comfort level; and improve mobility for pedestrians, equestrians, and cyclists to access public spaces, downtowns, core services and amenities; and encourage active lifestyles in Southeast Michigan.

Please don't hesitate to contact me if you have any further questions. Thank you for your consideration.

Sincerely,

Brad Kopek, President
White Pine Coffee Roasters

LEONARD ELEMENTARY SCHOOL

Paul McDevitt, Principal

November 28, 2022

Attn: Linda Moran
Polly Ann Trail Manager
23 E Elmwood St, PO Box 112
Leonard, MI 48367

RE: Polly Ann Trail Modernization and Safety Improvements Project

Dear Ms. Moran,

I am writing on behalf of Leonard Elementary with Oxford Community Schools to offer strong support of the Polly Ann Trailway Management Council's various grant applications to upgrade the Polly Ann Trail in Oakland County. The proposed project will design, reconstruct and modernize approximately 16.9 miles of shared-use path, improve safety at roadway crossings, upgrade the trail surface, and enhance connections to amenities.

The proposed project will not only make necessary safety improvements, but it will also make critical upgrades to aging infrastructure. This important linear corridor will continue to provide safe alternative transportation options, help to support economic vitality in rural towns, increase outdoor recreation opportunities, and further promote vibrant communities.

The Polly Ann is a key segment of the Southeast Michigan trail network and it provides a direct link between neighborhoods, local businesses, schools, parks, historic and cultural attractions, Downtown Oxford, Downtown Leonard, and several commercial districts. This rail-trail also plays an important role in local tourism and was designated as a segment of Michigan's Iron Belle Trail-biking route in 2012 and honored with a Pure Michigan Trail designation in 2019.

Our students often take "walking field trips" on the Polly Ann trail and many of our parents use the trail daily for walks, runs and cycling after dropping their children off at school.

We encourage the Polly Ann Trailway Management Council to pursue the necessary funding to complete the design engineering and construction phases of this important project. We strongly urge the granting agencies to approve this important request for funding for Polly Ann Trail Modernization and Safety Improvements project. This project meets the regional trail priorities to increase safety, accessibility, use and comfort level; and improve mobility for pedestrians, equestrians, and cyclists to access public spaces, downtowns, core services and amenities; and encourage active lifestyles in Southeast Michigan.

Please don't hesitate to contact me if you have any further questions. Thank you for your consideration.

Sincerely,

Paul McDevitt
Principal, Leonard Elementary
Paul.mcdevitt@oxfordschools.org
248.969.5302

Non-Discrimination Clause: Oxford Community Schools does not discriminate on the basis of race, color, religion, national origin, sex (sexual orientation or gender), disability, age, height, weight, marital status or any other legally protected characteristic, in its programs, services or activities, including employment opportunities. The following person has been designated to handle inquiries regarding the nondiscrimination policies: Assistant Superintendent of Human Resources, 10 North Washington Street, Oxford, MI 48371, (248) 969-5004.

CooperStandard

Leonard

November 28, 2022

Attn: Linda Moran
Polly Ann Trail Manager
23 E Elmwood St, PO Box 112
Leonard, MI 48367

RE: Polly Ann Trail Modernization and Safety Improvements Project

Dear Ms. Moran,

I am writing on behalf of Cooper Standard Leonard Plant to offer strong support of the Polly Ann Trailway Management Council's various grant applications to upgrade the Polly Ann Trail in Oakland County. I am to understand the proposed project will design, reconstruct and modernize approximately 16.9 miles of shared-use path, improve safety at roadway crossings, upgrade the trail surface, and enhance connections to amenities.

The proposed project is focused on not only making necessary safety improvements, but it will help in critical upgrades to aging infrastructure. This important linear corridor will continue to provide safe alternative transportation options, help to support economic vitality in rural towns, increase outdoor recreation opportunities, and further promote vibrant communities.

The Polly Ann is a key segment of the Southeast Michigan trail network, and it provides a direct link between neighborhoods, local businesses, schools, parks, historic and cultural attractions, Downtown Oxford, Downtown Leonard, and several commercial districts. This rail-trail also plays an important role in local tourism and was designated as a segment of Michigan's Iron Belle Trail-biking route in 2012 and honored with a Pure Michigan Trail designation in 2019.

Cooper Standard Leonard Plant is a very proud community partner in the Village of Leonard and always desires to support projects that improve both the general surroundings and population of the area.

I encourage the Polly Ann Trailway Management Council to pursue the necessary funding to complete the design engineering and construction phases of this important project. We strongly urge the granting agencies to approve this important request for funding for Polly Ann Trail Modernization and Safety Improvements project. Again, I am to understand this project meets the regional trail priorities to increase safety, accessibility, use and comfort level; and improve mobility for pedestrians, equestrians, and cyclists to access public spaces, downtowns, core services and amenities; and encourage active lifestyles in Southeast Michigan.

Thank you for your consideration.

Sincerely,

David Malcolm
Plant Manager
david.malcolm@cooperstandard.com
1 248 628 4899 • 1 248 462 5094 (mobile)
180 E. Elmwood Street, P.O. Box 680
Leonard, Michigan 48367

Rod Charles, CFP
1399 Beemer Court
Oxford, MI 48371
November 28, 2022

To: Linda Moran

It is my understanding that the Polly Ann Trailway Management Council is seeking grants to improve and upgrade the Polly Ann Trail here in Oakland County. The efforts include design, rebuild, and modernize almost 17 miles of share-use path. This also includes safety at roadway crossings and improvements to the trail surface.

As personal users of the Polly Ann Trail my wife and I fully support these efforts. Additionally, in my capacity as a *Trustee of Oxford Township* I see how this can help us provide safer alternative user options within our Township to our residents.

In my capacity as *Chairperson of the Oxford Downtown Development Authority* ("DDA") I further also endorse the grant efforts. The Polly Ann trail is a vital part of our local efforts to enhance historic attractions, promote local businesses here, and recreation opportunities. In fact, several members of our DDA Board are looking to partner with a new bicycle shop in Downtown Oxford and the Polly Ann Trail. Most recently this included participation in a SEMCOG seminar re. rural bike paths and trails.

I all three of my identified capacities I encourage the Polly Ann Trail Council to engage in the necessary funding of the design and construction phases of the intended project. I also hope the granting agencies will look kindly on requests for funding of the Polly Ann Trail Modernization and Safety Improvements project. Certainly a win-win for all concerned.

Respectfully,

Rod Charles

Rod Charles

12/1/22

Attn: Linda Moran
Polly Ann Trail Manager
23 E Elmwood St, PO Box 112
Leonard, MI 48367

RE: Polly Ann Trail Modernization and Safety Improvements Project

Dear Ms. Moran,

I am writing on behalf of the Oxford Chamber of Commerce to offer strong support of the Polly Ann Trailway Management Council's various grant applications to upgrade the Polly Ann Trail in Oakland County. The proposed project will design, reconstruct and modernize approximately 16.9 miles of shared-use path, improve safety at roadway crossings, upgrade the trail surface, and enhance connections to amenities.

The proposed project will not only make necessary safety improvements, but it will also make critical upgrades to aging infrastructure. This important linear corridor will continue to provide safe alternative transportation options, help to support economic vitality in rural towns, increase outdoor recreation opportunities, and further promote vibrant communities.

The Polly Ann is a key segment of the Southeast Michigan trail network and it provides a direct link between neighborhoods, local businesses, schools, parks, historic and cultural attractions, Downtown Oxford, Downtown Leonard, and several commercial districts. This rail-trail also plays an important role in local tourism and was designated as a segment of Michigan's Iron Belle Trail-biking route in 2012 and honored with a Pure Michigan Trail designation in 2019.

Linda Moran is a huge asset to our community along with her work ethic and willingness to help others.

We encourage the Polly Ann Trailway Management Council to pursue the necessary funding to complete the design engineering and construction phases of this important project. We strongly urge the granting agencies to approve this important request for funding for Polly Ann Trail Modernization and Safety Improvements project. This project meets the regional trail priorities to increase safety, accessibility, use and comfort level; and improve mobility for pedestrians, equestrians, and cyclists to access public spaces, downtowns, core services and amenities; and encourage active lifestyles in Southeast Michigan.

Please don't hesitate to contact me if you have any further questions. Thank you for your consideration.

Sincerely,

Amy Desotell, Executive Director
Oxford Chamber of Commerce

Larry A. Obrecht
Oxford, Michigan

December 2, 2022

Linda Moran, Polly Ann Trail Manager
23 E. Elmwood St
PO Box 112
Leonard, MI 48367

Dear Ms. Moran,

I am writing to encourage and support the Polly Ann Trail's grant applications for funding to improve 16.9 miles of trail. The needed improvements include: an upgrade to the trail surface, improvements to roadway crossings and enhanced connections to amenities.

The Polly Ann Trail is a significant segment of Michigan's trail network providing links between neighborhoods, local businesses, schools, parks, historic and cultural venues. The Polly Ann Trail connects Orion, Oxford and Addison Townships and the Villages of Orion, Oxford, and Leonard. This trail also is a connector to Lapeer County Trails, the Paint Creek Trail, and the Michigan Iron Belle Trail. Of note, the Polly Ann was honored with a Pure Michigan Trail designation in 2019.

The Polly Ann Trail was one of the first and very early developed rail to trails in Oakland County. Although very controversial when introduced it has proven to be very successful and maintains heavy use by walkers, runners, bikers, and equestrians.

Today when discussing the trail with citizens and local government leaders the recognition of this trail is supportive and very positive. Many users are hopeful for additional neighborhood paths which would connect to the main trail. Someday these will allow a hiker and bike rider the ability to travel around the entire perimeter of our State of Michigan.

Future projects will include necessary upgrades to aging infrastructure and safety improvements. The Polly Ann linear corridor will continue to provide safe transportation options, support economic vitality, increase outdoor recreation opportunities, and further enhance vibrant communities.

I encourage the Polly Ann Trail Management Council to continue to pursue the necessary funding for the design, engineering, and construction phases of this important project.

I strongly urge the granting agencies to approve this request and fund these safety and modernization improvements. This request meets the regional trail priorities to increase safety, accessibility and improved mobility for pedestrians, cyclists, and equestrians. This modernization also enhances access to public spaces, parks, downtowns, core services and amenities. AND, very importantly, it encourages a healthy and active lifestyle for all users in Southeast Michigan.

Sincerely,

Larry Obrecht

INTERLOCAL AGREEMENT
TOWNSHIPS OF ORION, OXFORD, ADDISON,
VILLAGES OF OXFORD AND LEONARD
AGREEMENT WITH THE POLLY ANN TRAILWAY MANAGEMENT COUNCIL, INC.

THIS INTERLOCAL AGREEMENT (the "Agreement") is entered into pursuant to the Urban Cooperation Act of 1967, 1967 PA 7, as amended ("Act 7"). MCL 124.501 et. seg. And Part 721 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended ("Act 451"), MCL 324.72101 et. seq., by and between the Townships or Orion, Oxford, and Addison; the Villages of Oxford and Leonard (the "Parties"), for the purpose of establishing and providing for the powers and duties of the POLLY ANN TRAILWAY MANAGEMENT COUNCIL, INC. (the "COUNCIL"). Each of the Parties is a "governmental agency", as that term is defined in Act 451, and a "public Agency", as that term is defined in Act 7, with the power to carry out the programs described in this Agreement. The Parties have each determined that the Parties will be able to provide the trailway programs described in this Agreement on a more cost effective basis if the Parties carry out such programs jointly.

SECTION 1: ESTABLISHMENT AND PURPOSE

There is hereby established a separate legal entity to be known as the Polly Ann Trailway Management Council (the "Council") for the purpose of administering this Agreement. The Council shall be a public body corporate having the powers functions and duties provided in this agreement, for the purpose of operating and maintaining that portion of 1 or more Michigan trailways located on state owned land pursuant to an agreement entered into under section 72105 of Act 451 of 1994, (MCL 324.72105) between the Michigan Department of Natural Resources (the "DNR") and the Council.

SECTION 2: MEMBERSHIP

MEMBER UNITS to the COUNCIL shall be those Parties who are signatories to this Agreement. The COUNCIL shall be considered an established public corporation when two local governments of the Parties named above have entered into this Agreement. Subsequent to the effective date of the COUNCIL, other local governments, whether or not named above, may become MEMBER UNITS by entering into this agreement. The COUNCIL may require, as a condition of membership, a fair share contribution agreement between the COUNCIL and any proposed MEMBER UNIT, if the COUNCIL determines that such agreement is necessary to provide fair allocation of costs among present and proposed MEMBER UNITS. All local governments who are signatories to this agreement shall have full MEMBER UNIT status in accordance with this agreement. This agreement and any agreement entered into or obligation incurred by any MEMBER UNIT in accordance with this agreement, shall be binding upon that MEMBER UNIT'S successor in interest, if any.

SECTION 3: GOVERNANCE

A. COUNCIL

1. The COUNCIL shall be composed of two (2) persons from each of the MEMBER UNIT townships (Addison Township, Charter Township of Orion, and Charter Township of Oxford), and one (1) one person from each of the MEMBER UNIT villages (Village of Leonard, and Village of Oxford) of which shall be a member of the MEMBER UNIT's governing body, or the Village Manager in the case of the Village of Leonard or Village of Oxford ; and one (1) non-voting citizen at large who shall be a resident of a MEMBER UNIT. The governing body of each MEMBER UNIT shall, by resolution, appoint its representative(s). The non-voting citizen at large shall be appointed by the duly appointed MEMBER UNIT council representatives.

2. At least once every two years, each MEMBER UNIT shall certify to the COUNCIL the persons appointed pursuant to Section 3, A, 1.

3. Councilpersons shall serve at the pleasure of their MEMBER UNIT and may be removed by resolution of their MEMBER UNIT governing board at any time with or without cause. Councilpersons who are members of a MEMBER UNIT governing board shall not serve beyond their term on the governing board, unless the other Councilperson from that MEMBER UNIT is then a member of that MEMBER UNIT'S governing board. The non-voting citizen at large shall serve a two (2) year term, commencing from the date of appointment.

4. Any vacancy on the COUNCIL arising for any reason shall be filled by appointment of the MEMBER UNIT governing board that made the original appointment, within forty-five (45) days of the vacancy, for the remainder of the unexpired term. A MEMBER UNIT shall certify to the COUNCIL persons appointed pursuant to this paragraph. A vacancy for any reason in the non-voting citizen at large position shall be filled by the COUNCIL within forty-five (45) days of the vacancy.

5. Each MEMBER UNIT governing board may also appoint alternate councilpersons who shall serve with full privileges and duties in the absence of the regular councilpersons.

6. The COUNCIL shall adopt Bylaws pursuant to the purpose and activities of this agreement and consistent with this Inter Local Agreement.

B. OFFICERS

1. The COUNCIL shall elect from its membership a Chairperson, Vice Chairperson, Secretary, Treasurer, and such other officers as it may deem appropriate, who shall serve terms of one (1) year commencing January 1st, except for the officers first elected who shall serve that fraction of the calendar year between COUNCIL selection and December 31st.

2. Officers shall serve at the pleasure of the COUNCIL and may be removed by resolution at any time.

3. Vacancies in any office shall be filled by COUNCIL election within thirty (30) days of the vacancy, for the remainder of the unexpired term.

4. The Chairperson shall preside at all meetings of the COUNCIL and shall have all privileges and duties of a councilperson. The Vice Chairperson shall preside at all meetings of the COUNCIL at which the Chairperson is absent. The Secretary shall keep or cause to be made all non-financial reports, records and minutes required by this agreement of applicable law and shall be charged with assuring compliance with the Michigan Open Meetings Act and the Michigan Freedom of Information Act. The Treasurer shall have custody of all COUNCIL funds which shall be deposited, invested, and/or disbursed by the Treasurer as directed by the COUNCIL. The Treasurer shall be charged with assuring complete financial records and reports as required by this agreement or applicable law or contract provisions.

SECTION 4: MEETINGS

A. SCHEDULE/CALL OF MEETINGS

1. The COUNCIL shall meet at least quarterly and shall annually establish a regular meeting schedule which shall posted at the offices of the MEMBER UNIT governing boards in similar form and within similar times as required by law for governmental meeting schedules.

2. Special meetings of the COUNCIL may be called by the Chairperson, or in the absence of the Chairperson, by the Vice Chairperson.

B. NOTICE

Each councilperson shall receive five (5) days written notice of all regular meetings. All notices of all meetings shall also be posted as required by the Michigan Open Meetings Act.

C. VOTING

A majority vote of the COUNCIL shall be necessary to take any official action at a regular or special meeting, provided that only those items on the agenda may be acted upon, and provided that only bills which represent budgeted expenses may be approved. A majority of the COUNCIL, appointed and serving, shall constitute a quorum in such cases.

Bills which represent expenses not previously included in the budget may only be approved by a quorum including at least one member of each governmental unit.

D. MINUTES

Complete written minutes of all COUNCIL meetings shall be kept in compliance with applicable provisions of the Michigan Open Meetings Act. Copies of minutes shall be prepared within the time period established by the Open Meetings Act and sent to all councilpersons and the chairpersons of MEMBER UNIT governing boards as soon as reasonably possible following their preparation.

E. RULES

Roberts Rules of Order, as last revised, when not in conflict with this agreement or written standing rules the COUNCIL may adopt, shall serve as the parliamentary authority for all COUNCIL meetings.

SECTION 5: POWERS

A. GENERAL POWERS

The COUNCIL shall have the following powers, authority and obligations:

1. Purchase, lease, receive, acquire, hold title in, trade, sell, lease or rent to others, dispose of, divide, distribute, own or exercise right of dominion over, all or part of any land, and any improvements thereon, within the railroad right of way described in Appendix A which is hereby incorporated and made part of this agreement. The COUNCIL may exercise the aforesaid powers over other land only upon consent of the governing board of the MEMBER UNIT in whose jurisdiction such land lies. The disposition of land acquired with aid from state or federal funds shall have the approval of the state or federal agency involved, if required by the agency. All property, real or personal, of the COUNCIL shall be used solely for the purposes stated in this agreement.

2. Improve, build, maintain and operate public trails, access sites and appropriate structures on COUNCIL land.

3. Contract or cooperate with other governmental units, public agencies, or private parties, as-appropriate, to carry out COUNCIL functions or fulfill COUNCIL obligations.

4. Contract a director and such other personnel as it may determine necessary who shall serve at the pleasure of the COUNCIL subject to applicable law.

5. Accept funds, voluntary work, or other assistance to carry out COUNCIL functions or obligations, from any source, public or private, including, but not limited to, to local governmental funding of specific projects, state or federal grants, and private donations. A complete record of all funds received from any source shall be maintained and made part of the annual financial report.

6. Establish policies or rules governing use of COUNCIL land or facilities not inconsistent with state or local law.

7. Recommend local ordinance provisions to MEMBER UNITS, as necessary to provide for the safety of the public utilizing DNR and/or COUNCIL land or facilities.

8. Make claims for federal or state aid payable to the individual or several MEMBER UNITS or the COUNCIL as may be available and appropriate to carry out COUNCIL functions.

B. LIABILITY COVERAGE

The COUNCIL shall purchase public liability insurance covering any cause of action, claim, damage, accident, injury or liability that may arise as a result of the ownership, construction, maintenance or operation of the land, public trails, access sites or other facilities of the COUNCIL. The COUNCIL purchasing such insurance shall name the Michigan Department of Natural Resources (DNR) and the MEMBER UNITS as additionally named insureds.

C. REPORTS

The COUNCIL shall, at least annually, make a full and complete report of all of its activities to the governing boards of all MEMBER UNITS.

D. LIMITATIONS

The COUNCIL shall have no power or authority to:

1. Levy any tax in its own name or, except as provided in MCL 124.507(4), Issue any bonds in its own name.
2. Indebt any MEMBER UNIT in any way except as provided in this agreement.

3. Condemn any land for any purpose.

SECTION 6: FINANCES

A. FISCAL YEAR

The fiscal year of the COUNCIL shall be from January 1st to December 31st.

B. OPERATIONAL AND PROJECT BUDGET

The COUNCIL shall each year develop an operational budget which shall be limited to meeting, postage, document or accounting costs, and similar basic costs. This budget shall include personnel, engineering, legal, land purchase or lease, or any development or maintenance costs incurred or to be incurred by the COUNCIL.

C. COUNCILPERSON REIMBURSEMENT

Each councilperson shall serve with no compensation from the COUNCIL for COUNCIL meetings actually attended.

D. FINANCIAL AUDITS/REPORTS

The Treasurer shall make or cause to be made a full and complete financial report to MEMBER UNITS of all the COUNCIL'S financial transactions and affairs at the end of each financial year. Said report may include a complete audit by a certified public accountant. State and federal audit requirements shall be fully met as applicable. MEMBER UNITS shall have the right, at their expense, to conduct such additional audits as they deem necessary or appropriate.

SECTION 7: TERMINATION/DISSOLUTION

A. MEMBER UNIT TERMINATION

A MEMBER UNIT may terminate its membership only: 1) upon ninety (90) days written notice to the COUNCIL and termination shall be effective only upon the elapse of the ninety (90) days written notice to the COUNCIL and termination shall be effective only upon the elapse of the sixty (60) days. If a MEMBER UNIT terminates its membership, all COUNCIL MEMBER UNITS terminating its membership shall remain liable for all obligations incurred by it pursuant to this agreement and prior to actual termination. A MEMBER UNIT terminating its membership under subsection 2 shall remain liable for all obligations incurred by it pursuant to this agreement and prior to actual termination, but shall not be liable for financial obligations established by the COUNCIL'S new fiscal year budget request triggering the MEMBER UNIT'S termination.

B. COUNCIL DISSOLUTION

If all or all but one of the MEMBER UNITS terminates their membership, the COUNCIL shall be considered dissolved.

1. Upon dissolution, the trailways property and any improvements thereon located within the boundaries of each former MEMBER UNIT shall revert to ownership by that unit of the Government, upon such terms and conditions as are to be agreed upon by the Member Units. Each Unit of Government shall be responsible to uphold the following provisions:

   A) The trailways property and the improvements thereon shall remain open for public recreational use in perpetuity;

   B) No prohibitions, impediments or blockages shall be made to the free passage of the trailways of legitimate trail users;

   C) The use of the trailways and improvements thereon shall remain subject to all applicable deed restrictions and all applicable state provisions imposed by law or contract.

2. After dissolution, if any former MEMBER UNIT fails to uphold any of the provisions named in Section 7 (B) (1) above, any of the other former MEMBER UNITS shall have cause to enforce compliance with said provision(s), provided however that failure to seek enforcement of any provision shall not constitute a waiver.

SECTION 8: AMENDMENTS

This agreement may be amended in whole or in any part by the written agreement of the governing boards of all MEMBER UNITS.

SECTION 9: STATE APPROVAL

As soon as reasonably practicable after the effective date of this agreement, this agreement shall be officially submitted to the Office of the Governor for approval pursuant to the Urban Cooperation Act of 1967.

SECTION 10: APPLICABLE LAWS

The COUNCIL shall in all activities fully comply with applicable local, state and federal laws and regulations and with applicable grant conditions or contract provisions.

SECTION 11: EFFECTIVE DATE

This agreement shall be in full force and effect and the COUNCIL shall be considered in effect as an operating public corporation as provided in Section 2 above, which date shall be noted as the second date in time indicated below.

IN WITNESS WHEREOF, the authorized representatives of the MEMBER UNITS have signed the agreement on the dates indicated below.

EFFECTIVE DATE: 3-17-2020 BY: _____
Supervisor, Addison Township

DATE: 3-17-2020 BY: _____
Clerk, Addison Township

EFFECTIVE DATE: 7/22/20 BY: _____
Supervisor, Orion Township

DATE: 7/22/2020 BY: _____
Clerk, Orion Township

EFFECTIVE DATE: 3-17-2020 BY: _____
Supervisor, Oxford Township

DATE: 3/17/2020 BY: _____
Clerk, Oxford Township

EFFECTIVE DATE: 7/16/2020 BY: _____
President, Oxford Village

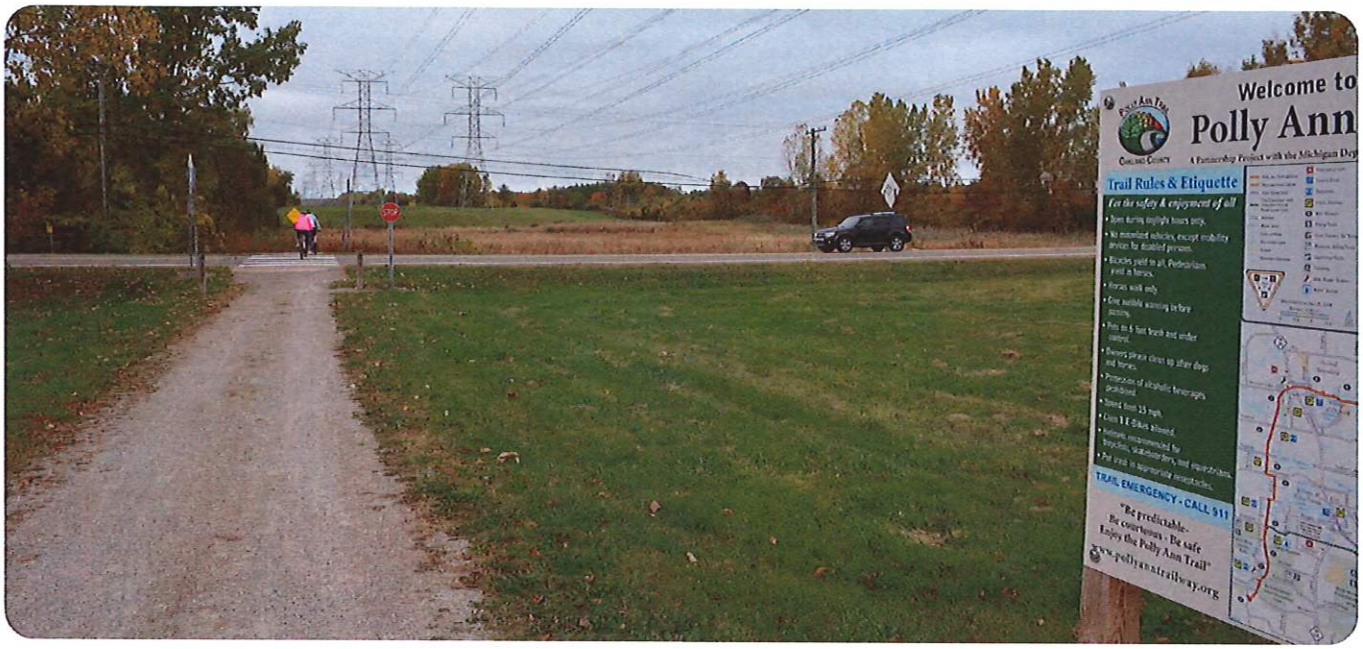
DATE: 7/15/2020 BY: _____
Clerk, Oxford Village

EFFECTIVE DATE: 3/17/2020 BY: _____
President, Leonard Village

DATE: 3/17/2020 BY: _____
Clerk, Leonard Village

Site Photographs

Project Point of Beginning at Joslyn Road Crossing #1 | Looking west



Crossing needs 20 foot paved approach and widen trail surface to 10 feet.

Approx 300' east of Project Point of Beginning at Joslyn Road Crossing #1 | Looking west



Trailway is a 2-track and needs to be surfaced and reestablish 10 foot width.

Scripps Road | Looking south



Crossing needs 20 foot paved approach and vegetation removal is needed to improve sight distance

Clarkston Road Trailway Crossing | Looking west



Additional traffic control devices are needed at Clarkston Road due to high traffic volumes, travel speeds and sight distance.

Burdick Street | Looking east



Crossing needs to be realigned. Trail users are currently in the roadway for approx. 65 feet. Realignment would reduce the crossing distance to approx. 26 feet.

Approx 300 feet west of Pleasant Street | Looking east



Asphalt section in Oxford is in need of milling and resurfacing.

Lake George Road Trailhead | Looking west



An accessible connection is needed from the Lake George parking area to the trail (remove steps).

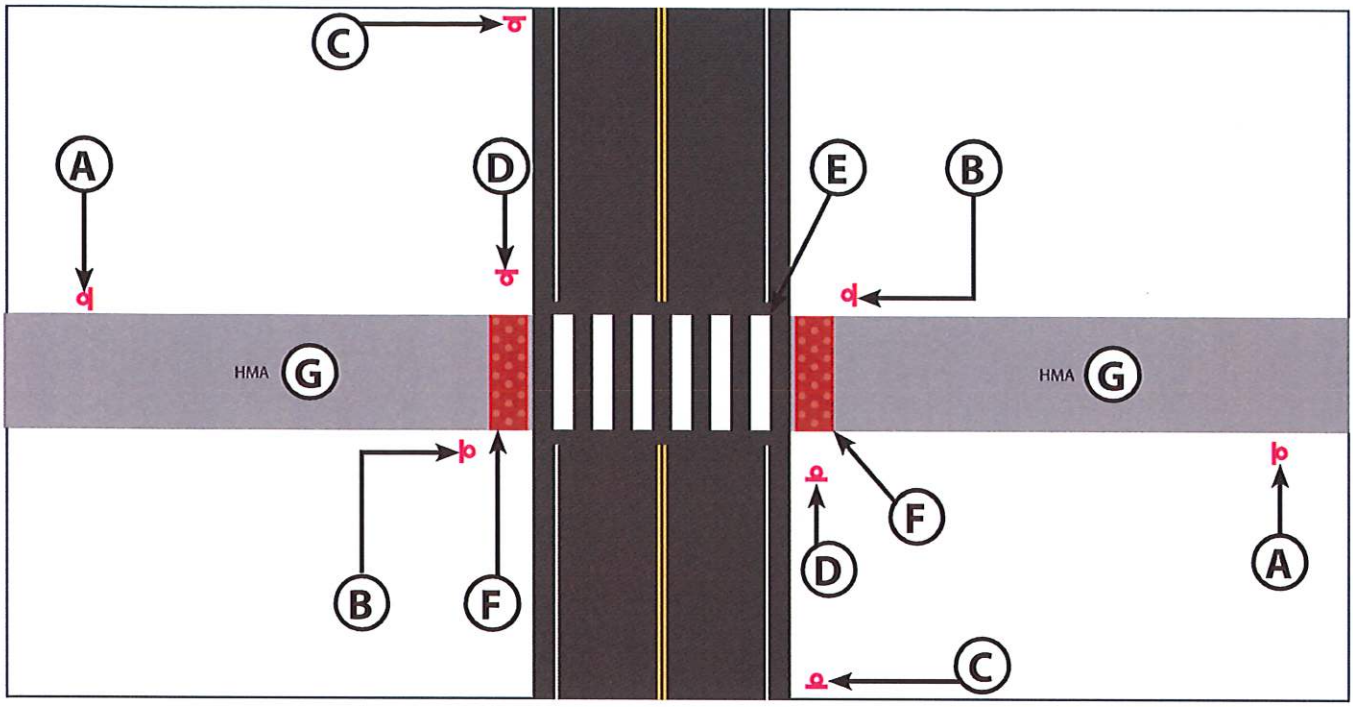
Approx 400 feet east of Forest Street | Looking northeast



Trailway is a 2-track and needs to be resurfaced and reestablish 10 foot width

Design Drawings/Specs

Road Crossing Detail



(A) -NO MOTOR VEHICLES REGULATORY SIGN, 24"

(B) -STOP REGULATORY SIGN, 18"

(C) -BIKE/PED CROSSING AHEAD WARNING SIGN, 36"

(D) -BIKE/PED CROSSING WARNING SIGN, 36"

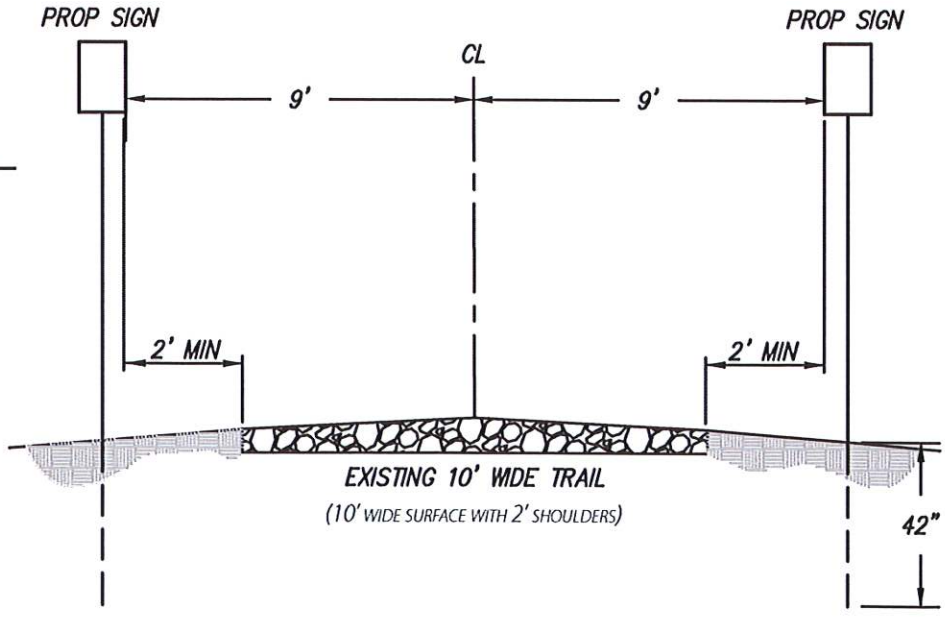
(E) -PAVT MRKG, OVLY COLD PLASTIC, 24 INCH, WHITE

(F) -DETECTABLE WARNING SURFACE

(G) -SHARED USE PATH, HMA

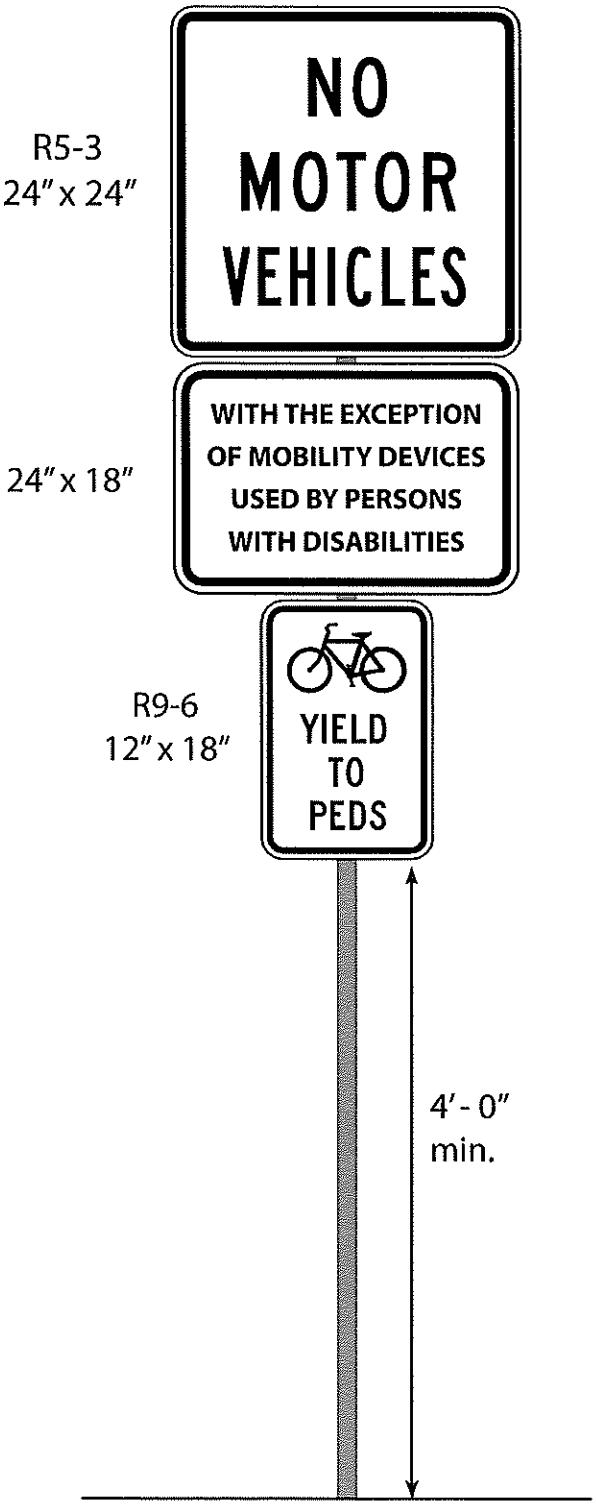
Detail

Typical Sign Placement



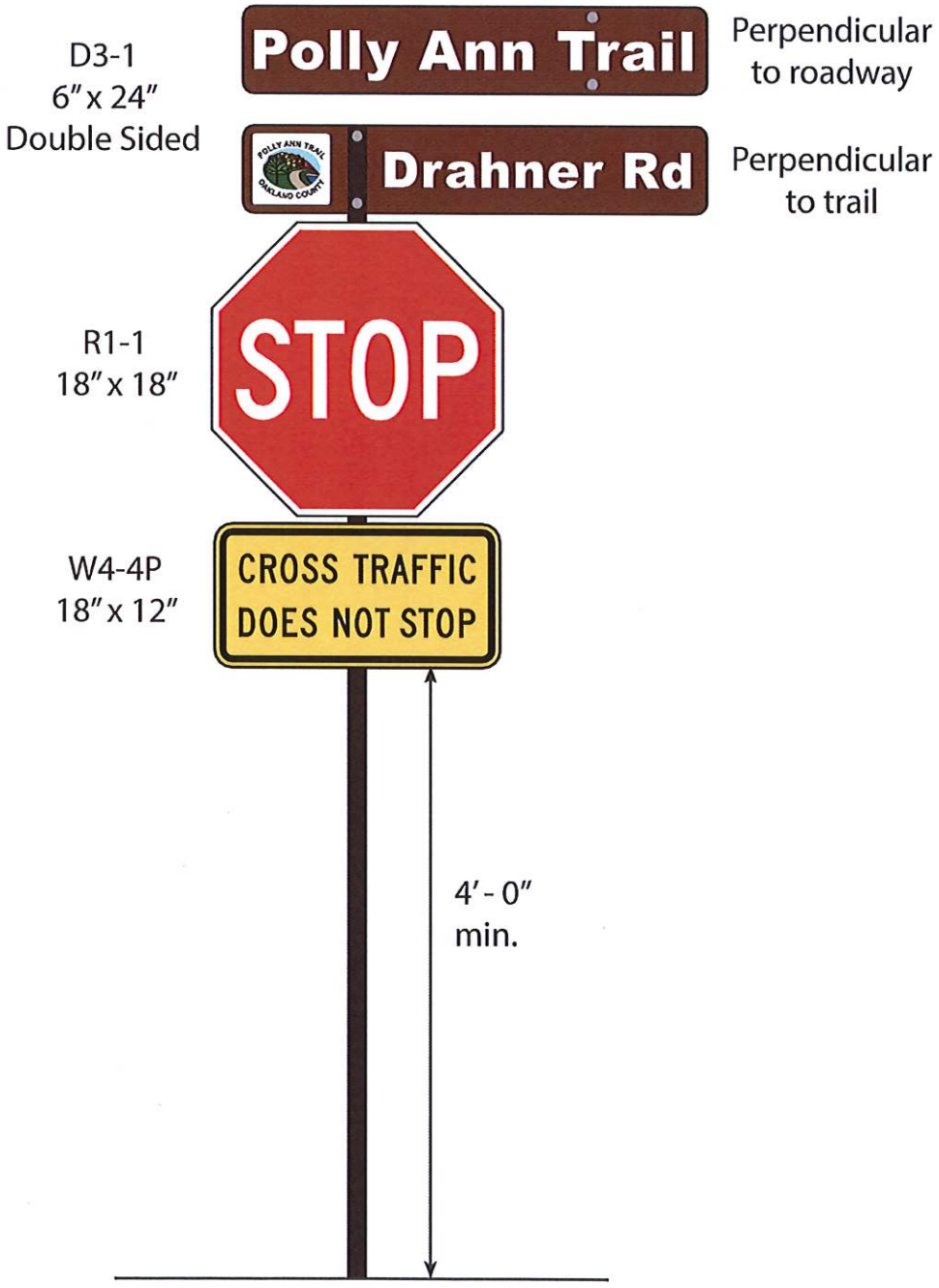
SIGN DETAIL Ⓐ

No Motorized Vehicles Sign



SIGN DETAIL Ⓑ

Stop
Sign

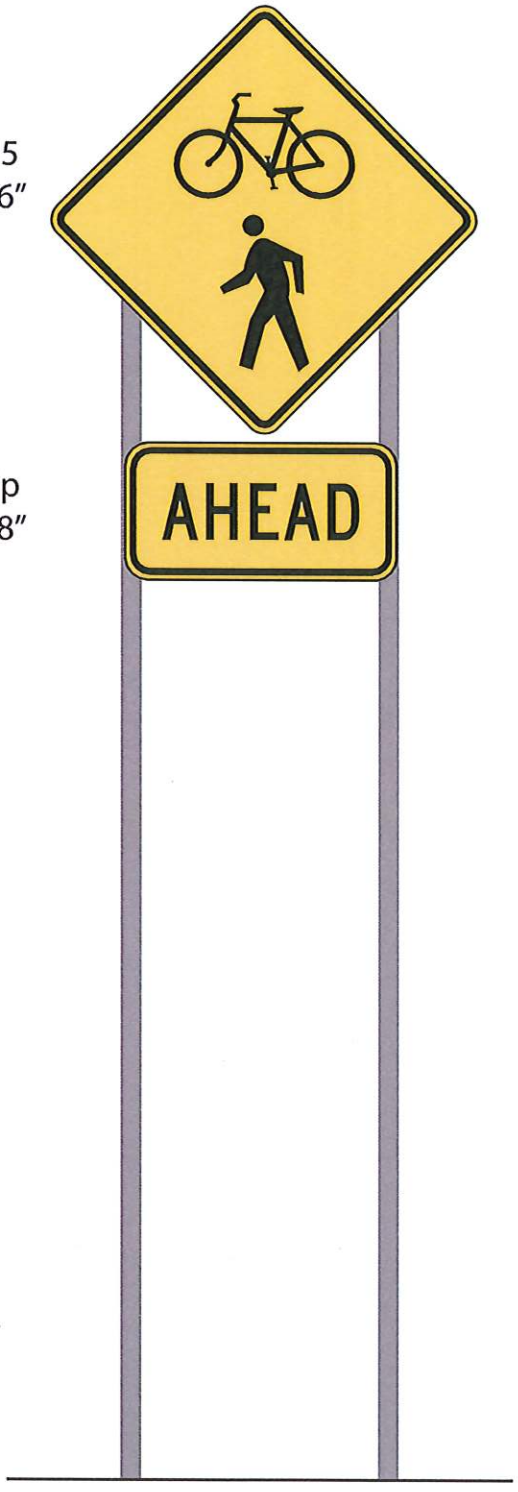


SIGN DETAIL ©

Bike & Pedestrian Crossing Ahead Warning Sign

W11-15
36" x 36"

W16-9p
30" x 18"

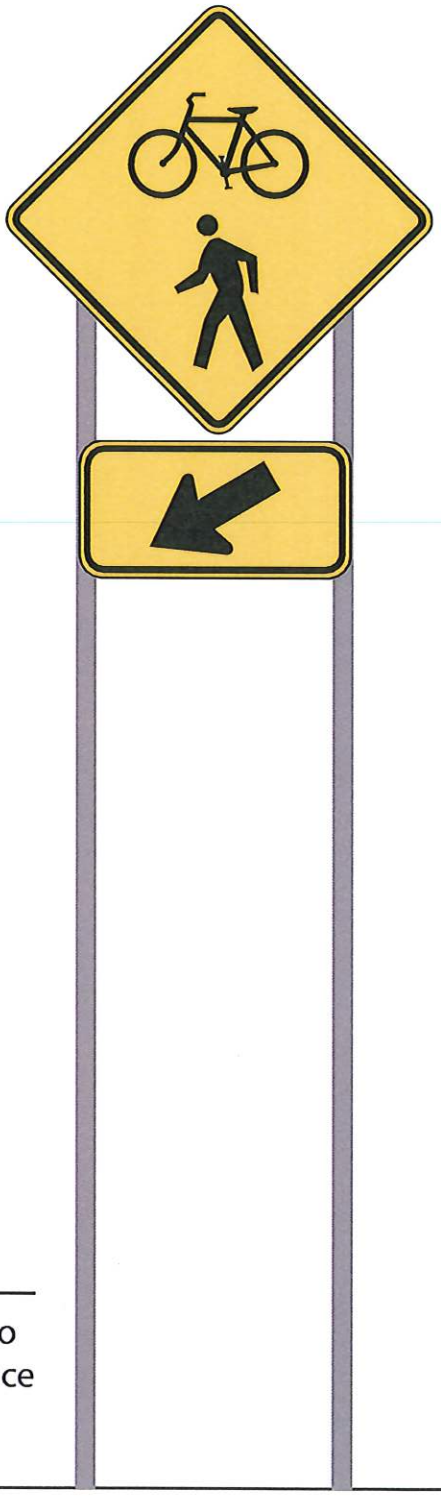


SIGN DETAIL Ⓓ

Bike & Pedestrian Crossing Warning Sign

W11-15
36" x 36"

W16-7pl
30" x 18"



DETAIL

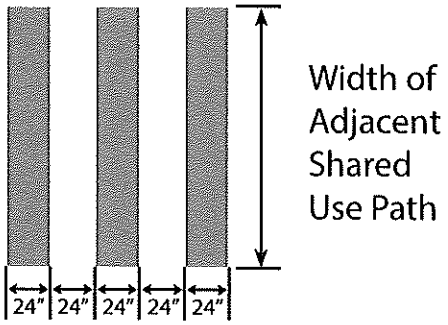
Typical Sign Placement

When installing, ensure not to block pedestrian sight distance of oncoming traffic.

DETAIL (E)

Crosswalk Pavement Marking

NOT TO SCALE



RETURN TO AGENDA

Oakland County Parks and Recreation Commission Agenda Item Memo

Agenda #: 7

Department: Strategic Partnerships and Initiatives

From: Simon Rivers, Chief – Strategic Partnerships & Initiatives

Subject: 2022 Community Grant Program Agreement Extension – City of South Lyon, Downtown South Lyon Park Project

RECOMMENDED MOTION

Move to approve the Oakland County Parks Community Park and Trail Capital Grant Program Agreement Amendment between the County of Oakland and the City of South Lyon, and forward to the Oakland County Board of Commissioners for approval.

INTRODUCTION AND HISTORY

In 2023, Oakland County Parks (OCP) awarded the City of South Lyon a $100,000 grant for the Downtown South Lyon Park Development project through OCP's Community Grant Program. The grant had end date of 5/3/2026 and reimbursement was not completed by the deadline. The City of South Lyon has requested a one-year extension to utilize the funds.

BACKGROUND

The City of South Lyon was awarded $100,000 for development of a new park in downtown South Lyon. Located on a vacant city-owned parcel, the park will include a 10x10 shelter, pergola with swinging benches, decorative paving, a lawn area and various plantings. The space is envisioned to also house rotating artwork in the future and includes sustainability measures such as native plantings, low-volume drip irrigation, LED lighting and recycled plastic benches and receptacles.

The South Lyon DDA was also awarded approximately $300,000 through a grant with Main Street Oakland County. The original grant agreement end date was previously extended by one year to incorporate the Main Street Oakland County funding.

ATTACHMENTS

1. City of South Lyon Grant Amendment – Downtown South Lyon Park Project

OAKLAND COUNTY PARKS
COMMUNITY PARK AND TRAIL CAPITAL GRANT PROGRAM AGREEMENT AMENDMENT

This Agreement Amendment ("Amendment") is between the County of Oakland, 1200 North Telegraph Road, Pontiac, MI 48341 ("County"), by and through its statutory agent, the Oakland County Parks and Recreation Commission ("OCPRC"), 2800 Watkins Lake Road, Waterford, MI 48328 and the **City of South Lyon, 335 S. Warren St., South Lyon, MI 48178** ("Grantee").

The Grantee and OCPRC entered into an Agreement dated **5/4/2022** for the Project set forth below ("Agreement"), which Agreement is attached and incorporated herein as Exhibit A. The Parties now desire to amend the Agreement. This Amendment extends the End Date of the Agreement as set forth below. The Parties agree to the terms and conditions set forth in this Amendment.

Project Title ("Project"): Downtown South Lyon Park Development
Grant Amount ("Grant Amount"): $100,000
Match Amount ("Match Amount"): $350,000
Total Project Amount: $450,000
Start Date: 5/4/2022
Original End Date: 5/3/2026
Amended End Date: [1 year from the date the last Party to this Agreement signs the Agreement]

This Amendment and the Agreement comprise the entire agreement and understanding between the Parties and supersede all other prior oral or written understandings, communications, agreements, or contracts between the Parties. By signing this Amendment, the below individuals certify they are authorized to sign this Amendment on behalf of their organization, and the Parties will fulfill the terms of the Agreement and this Amendment.

Grantee:

_____

Name: Douglas Baaki, City Manager — Date
City of South Lyon

County of Oakland:

_____

Name: David T. Woodward, Chairperson — Date
Oakland County Board of Commissioners

Oakland County Parks and Recreation Commission:

_____

Name: Ebony Bagley, Chairperson Date
Oakland County Parks and Recreation Commission

OAKLAND COUNTY PARKS TRAILWAYS AND PARK DEVELOPMENT PROGRAM AGREEMENT AMENDMENT

This Agreement Amendment ("Amendment") is between **City of South Lyon, 335 S. Warren St., South Lyon, MI 48178** ("Grantee") and the County of Oakland, by and through its statutory agent, the Oakland County Parks and Recreation Commission ("OCPRC").

The Grantee and OCPRC entered into an Agreement dated **05/04/2022** for the Project and Project Number set forth below ("Agreement"), which Agreement is attached and incorporated herein as Exhibit A. The Parties now desire to amend the Agreement. This Amendment extends the End Date of the Agreement as set forth below. The Parties agree to the terms and conditions set forth in this Amendment.

Project Title ("Project"): Downtown South Lyon Park
Project Number: 22-13
Grant Amount ("Grant Amount"): $100,000
Match Amount ("Match Amount"): $50,000
Total Project Amount: $150,000
Start Date: May 4, 2022
Original End Date: May 3, 2025
Amended End Date: May 3, 2026

This Amendment and the Agreement comprise the entire agreement and understanding between the Parties and supersede all other prior oral or written understandings, communications, agreements, or contracts between the Parties. By signing this Amendment, the below individuals certify they are authorized to sign this Amendment on behalf of their organization and the Parties will fulfill the terms of the Agreement and this Amendment.

Grantee:

Signed: _____

Name: Paul C. Zelenak
Title: City Manager
Organization: City of South Lyon
Date: 2/29/25

Oakland County Board of Commissioners:

Signed: _____
David T. Woodward (Mar 21, 2025 09:54 EDT)

Name: David T. Woodward
Chairperson, Oakland County Board of Commissioners
Date: Mar 21, 2025

OAKLAND COUNTY PARKS
Great Parks for Great People

OAKLAND COUNTY PARKS TRAILWAYS AND PARK DEVELOPMENT PROGRAM AGREEMENT

This Agreement is between **City of South Lyon, 335 S. Warren St., South Lyon, MI 48178** ("Grantee") and the County of Oakland, by and through its statutory agent, the Oakland County Parks and Recreation Commission ("OCPRC").

Monies from the Oakland County Parks and Recreation Commission Millage have been appropriated for the Oakland County Trailways and Park Development Program ("Program"). The purpose of this Agreement is to provide funding to Grantee in exchange for the work to be performed by Grantee for the below named project. The Parties agree to the terms and conditions set forth in this Agreement.

Project Title ("Project"): Downtown South Lyon Park
Project Number: 22-13
Grant Amount ("Grant Amount"): $100,000
Match Amount ("Match Amount"): $50,000
Total Project Amount: $150,000
Start Date: [Effective Date—the date the last Party to this Agreement signs the Agreement]
End Date:

By signing this Agreement, the below individuals certify they are authorized to sign this Agreement on behalf of their organization and the Parties will fulfill the terms of this Agreement, including any attached Exhibits.

Grantee:

Signed: _____
Name: PAUL C ZELEVAN
Title: CITY MANAGER
Organization: CITY OF SOUTH LYON
Date: 5/4/22

Oakland County Parks and Recreation Commission:

Signed: _____
Name: Gary R. McGillivray
Chairperson, Oakland County Parks and Recreation Commission
Date: 05/04/2022

1. **Agreement Execution.** Grantee is required to sign the Agreement and return it to OCPRC within sixty (60) calendar days of the date the Agreement is issued to Grantee. If not, OCPRC may cancel this Agreement and the monies allocated under this Agreement may be issued to another entity, in OCPRC's sole discretion. This Agreement is not effective until both Parties sign the Agreement. The "Effective Date" shall be the date the last Party signs the Agreement.
2. **Contact Information.** This Agreement shall be administered on behalf of OCPRC by the **Planning & Resource Development Unit.** All notices, reports, documents, requests, actions, or other communications required between OCPRC and Grantee shall be submitted to the contacts identified below. By written notice, the Parties may designate a different contact with correlating information.
   2.1. **Grantee Contact**
      2.1.1. **Organization:** City of South Lyon
      2.1.2. **Name/Title:** Nathan Mack, DDA/Economic Development Director
      2.1.3. **Address:** 335 S. Warren St., South Lyon, MI 48178
      2.1.4. **Telephone Number:** (248) 437-1735
      2.1.5. **E-Mail Address:** nmack@southlyonmi.org
   2.2. **OCPRC Contact**
      2.2.1. **Name/Title: Melissa Prowse, Manager of Parks and Recreation**
      2.2.2. **Address: 2800 Watkins Lake Road, Waterford, MI 48328**
      2.2.3. **Telephone Number: 248-249-2801**
      2.2.4. **E-Mail Address: prowsem@oakgov.com**
3. **Project/Project Period.**
   3.1. Grantee shall complete the Project as set forth and described in Exhibit A within the Project Period. Exhibit A is incorporated into this Agreement.
   3.2. As defined in this Agreement, "Project Period" means the period of time beginning on the Effective Date and ending on the End Date listed on page 1 of this Agreement.
   3.3. Grantee shall complete the Project within the Project Period. Requests to extend the Project Period must be made in writing a minimum of thirty (30) calendar days before the Project Period ends. OCPRC may extend the Project Period, in its sole discretion, and the extension must be codified in an amendment to this Agreement.
4. **Grantee Reporting Requirements:**
   4.1. Grantee shall complete and submit bi-annual progress reports, including a narrative report and summary of Project expenditures, in accordance with instructions provided by OCPRC.
   4.2. Within sixty (60) days of Project completion, Grantee shall submit final reporting documentation, including a final reimbursement request and narrative report, and copies of written materials and/or photographs of grant recognition signs in accordance with the instructions provided by OCPRC.
5. **OCPRC Payments/Advances/Project Closeout.** OCPRC shall make payments of the Grant Amount to Grantee as follows:
   5.1. OCPRC shall pay Grantee the Grant Amount listed on page 1 of this Agreement, in accordance with Exhibit A. Any cost overruns incurred to complete the Project shall be the sole responsibility of Grantee.

5.2. To be eligible for payment, Grantee must submit a complete payment request to the OCPRC on form(s) provided by OCRPC and have satisfied all progress reporting requirements due prior to the date of the payment request
5.3. Grantee shall submit documentation of all costs incurred, including the value of match and donations made to the Project. Documentation of expenditures and value of match and donations must meet written OCRPC requirements as specified in the Trailways and Park Development Grant Program Criteria.
5.4. OCPRC reserves the right to request additional information necessary to substantiate payments.
5.5. Grantee shall be a registered vendor with the County of Oakland to receive payments. Registration can be accomplished by completing a vendor registration through the Oakland County Vendor Registration link on the County Web site. All grant funds will be paid by ACH or Check.
5.6. OCPRC shall not pay any portion of the Grant Amount to a Grantee contractor or subcontractors. Grant Amounts shall only be paid to Grantee.
5.7. OCPRC will hold back ten percent (10%) of the Grant Amount until Project Closeout set forth in this Section. Final payment of the remaining ten percent (10%) of the Grant Amount will be released upon OCPRC approval of Grantee's **Final Report** and satisfactory Project completion as determined by OCPRC, in its sole discretion.
5.8. A determination of Project completion, which may include a site inspection and an audit, shall be made by OCPRC after Grantee has met any match obligations, satisfactorily completed the activities, and provided products and deliverables described in Exhibit A.
5.9. Grantee shall immediately refund to OCPRC any payments in excess of the costs allowed by this Agreement.
5.10. Upon issuance of final payment from OCPRC, Grantee releases OCPRC of all claims against OCPRC arising under this Agreement. Unless otherwise provided in this Agreement or by State law, final payment under this Agreement shall not constitute a waiver of OCPRC's claims against Grantee.

6. **Grantee Assurances/Responsibilities.**
6.1. Grantee shall comply with all applicable local, State, and federal laws, rules, ordinances, and regulations in the performance of this Agreement.
6.2. Grantee shall comply with the OCPRC Trailways and Park Development Grant Program Criteria.
6.3. Grantee shall obtain all necessary permits and licenses for construction and maintenance of the Project. This Agreement shall not be construed to obligate OCPRC or any other governmental entity to issue any permit or license required for the Project. Grantee shall solely determine what permits or licenses are required for the Project, secure the needed permits or licenses, and remain in compliance with such permits or licenses. Grantee shall retain a copy of all permits or licenses and make them available to OCPRC upon request.
6.4. Grantee shall have control of the Project area through fee simple title, lease, or other recorded interest, or have written permission from the owner of the Project area to complete Project activities.

6.5. Grantee shall abide by all State and federal threatened and endangered species regulations when completing Project activities.

6.6. Grantee shall not discriminate against an employee or an applicant for employment in hiring, any terms and conditions of employment or matters related to employment regardless of race, color, religion, sex, sexual orientation, gender identity or expression, national origin, age, genetic information, height, weight, disability, veteran status, familial status, marital status or any other reason, that is unrelated to the person's ability to perform the duties of a particular job or position, in accordance with applicable federal and state laws. Grantee further agrees that any subcontract shall contain non-discrimination provisions, which are not less stringent than this provision and binding upon any and all subcontractors. A breach of this covenant shall be regarded as a material breach of this Agreement.

6.7. Grantee shall require that no individual be denied access to the Project or Project activities on the basis of race, color, religion, sex, sexual orientation, gender identity or expression, national origin, age, genetic information, height, weight, disability, veteran status, familial status, or marital status.

6.8. OCPRC reserves the right to deny the use of any consultant, contractor, associate, or other personnel to perform any portion of the Project.

6.9. Grantee is solely responsible for all activities performed under this Agreement and for the construction and maintenance of the Project. Grantee shall be the sole point of contact regarding contractual matters for the Project, including payment of any and all charges resulting from the Project.

6.10. Grantee shall require all contractors and subcontractors constructing or performing the Project to comply with this Agreement.

6.11. Grantee shall ensure all contractors and subcontractors constructing and performing the Project are qualified to perform such work.

6.12. Grantee shall be solely responsible for the operation and maintenance of the Project subject to this Agreement.

6.13. All records related to the Project must be maintained for a minimum of seven (7) years after the final payment has been issued to Grantee by OCPRC.

7. **Liability.**

7.1. OCPRC is not liable or required to operate, maintain, or contribute to the operation or maintenance of the Project and any associated Project activities.

7.2. Grantee shall defend any Claim brought against either Party that involves the Project or associated Project activities or that involves title, ownership, or other specific rights of real property controlled by Grantee and relates to the Project.

7.3. Grantee is responsible for all Claims arising under or in any manner related to the Agreement, the activities authorized by the Agreement, or the use and occupancy of the Project.

7.4. As used in this Agreement, “Claims” mean any alleged losses, claims, complaints, demands for relief or damages, lawsuits, causes of action, proceedings, judgments, deficiencies, liabilities, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other

amounts or liabilities of any kind which are incurred by or asserted against a Party, or for which a Party may become legally and/or contractually obligated to pay or defend against, whether direct, indirect or consequential, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether commenced or threatened.

7.5. Performance of this Agreement is a governmental function. This Agreement does not, and is not intended to, impair, divest, delegate, or contravene any constitutional, statutory, and/or other legal right, privilege, power, obligation, duty, or immunity of the Parties. Nothing in this Agreement shall be construed as a waiver of governmental immunity.

8. **Insurance.** The Grantee shall acquire and maintain insurance or a program of self-insurance, which Grantee deems necessary, to protect it from liability related to construction and/or operation of the Project. OCPRC shall not obtain any insurance or provide any self-insurance for construction and/or operation of the Project.
9. **Audit and Access to Records.** OCPRC reserves the right to conduct programmatic and financial audits of the Project and may withhold payment until the audit is satisfactorily completed. Grantee shall maintain all pertinent records and evidence pertaining to this Agreement, including grant and any required matching funds, in accordance with generally accepted accounting principles and other procedures specified by OCPRC. OCPRC or any of its duly authorized representatives must have access, upon reasonable notice, to such books, records, documents, and other evidence for the purpose of inspection, audit, and copying. Grantee shall provide proper facilities for such access and inspection. All records must be maintained for a minimum of seven (7) years after the final payment has been issued to Grantee by OCPRC.
10. **Assignability.** Grantee shall not assign or transfer any interest in this Agreement without prior written authorization of the OCPRC Director.
11. **Changes.** Any changes to this Agreement requested by Grantee shall be made in writing and sent to OCPRC contact listed in section 2 of this agreement. OCPRC may approve or deny such change, in its sole discretion. Changes requiring an amendment to this Agreement will be executed by OCPRC and Grantee in the same manner as this Agreement.
12. **Termination.**

12.1. Failure by Grantee to comply with any provision of this Agreement shall be a material breach of this Agreement. Upon breach of the Agreement by Grantee, OCPRC may, in addition to any other remedy provided by law:

12.1.1. Terminate this Agreement;

12.1.2. Withhold and/or cancel future payments to Grantee on any or all current grant projects under the Program until the violation is resolved to the satisfaction of OCRPC;

12.1.3. Withhold action on all pending and future grant applications submitted by Grantee under the Program;

12.1.4. Require repayment of grant funds already paid to Grantee under this Program; and/or

12.1.5. Require specific performance of the Agreement.

12.2. This Agreement may be terminated by OCPRC, upon thirty (30) calendar days written notice, due to budgetary reduction, other lack of funding, or upon request by Grantee. OCPRC may honor requests for just and equitable compensation to Grantee for all satisfactory and eligible work completed under this Agreement up and until the date of Agreement termination.

12.3. Upon the date of termination, all outstanding reports and documents are due to OCPRC and after the termination date OCPRC will no longer be liable to pay or reimburse Grantee any outstanding Grant Amounts.

Oakland County Parks and Recreation

Trailways and Park Improvements Community Grants

EXHIBIT A

Applicant Information

Application

Application ID:
11298PTW

OCPR Grant Programs

When the Oakland County Parks and Recreation (OCPR) millage passed by voters in November 2020, a portion of the funds was allocated for competitive grant programs that support local park improvement projects and non-motorized trails. The OCPR Grant Programs were created to assist local communities with planning, preliminary engineering/design, and construction costs directly related to park improvement and trail projects located in Oakland County.

$1.2 million is available for the OCPR Grant Programs for Fiscal Year 2022 (Oakland County Fiscal Year begins October 1). Currently, $750,000 has been allocated for the Trailways Grant Program, and $450,000 allocated for the Park Improvements Grant Program. The OCPR Commission reserves the ability to adjust the funding in each grant program, in its sole discretion.

Project Title: *
Downtown South Lyon Park

Applicant Information

Oakland County Applicant *
City of South Lyon

Name of Primary Grant Contact: *
Nathan Mack

Address: *
335 S. Warren St.

City: *
South Lyon

State:
MI

ZIP: *
48178

Phone of Primary Contact: *
(248) 437-1735

Email of Primary Contact: *
nmack@southlyonmi.org

Confirmation of Primary Contact Email: *
nmack@southlyonmi.org

Are there any project partners? *
(•) Yes ( ) No

Project Partners

Project Partner Name *
South Lyon Cultural Arts Commission

South Lyon Area Recreation Authority

South Lyon Downtown Development Authority

Financial Information

Grant Type

Which type of Grant are you requesting *

- ○ Trailways
- ◉ Park Improvements

For which type of funding are you applying (please check one): *

- ○ Pre-Development grants minimum request: $5,000, maximum request: $25,000 (design, engineering, planning, etc.)
- ◉ Development grants minimum request: $5,000, maximum request: $100,000 Park Improvement/$200,000 Trailways (construction)

Grant Request and Match

Grant Amount Requested: *

$ 100,000.00

Match Funds

Match Source *	Amount *	Funding Status *
City of South Lyon	$ 50,000.00	Pending

Total Project Funding:

$ 150,000.00

Percent Match

33

Projected Budget

Budget Items

Scope Item *	Other Scope Item *	Quantity *	Total Amount *
Construction Management		1	$ 20,030.00
Picnic Area (Picnic Table and/or Shade Shelter / Pavilion / Grill)		2	$ 50,000.00
OTHER	Mobilization	1	$ 2,500.00
OTHER	Soil Erosion and Sedimentation Control	1	$ 2,500.00
OTHER	Storm Sewer and Drain Tile	1	$ 10,000.00
OTHER	Site Electrical	1	$ 7,500.00
OTHER	Concrete Curb and Gutter (100 lf)	100	$ 2,000.00
OTHER	Concrete Paving (540 sf)	540	$ 3,510.00
OTHER	Precast Concrete Paving (2400 sf)	1	$ 36,000.00
Site Furnishings (Bench / Bike Rack / Trash Receptacle / Recycle Bin / Bike Repair Station)		15	$ 15,960.00

Total Budget:

$ 150,000.00

Total Budget must equal Total Project Funding listed above.

Project Details

Project Description

Describe the physical location of the proposed project and ownership of the property. *

The physical location of the proposed project is 390 S. Lafayette St. in downtown South Lyon. The proposed site is a 100-foot by 60-foot parcel located at the northwest corner of S. Lafayette St. and W. McHattie St. The City of South Lyon owns the property where the proposed project would take place. This parcel is a prominent corner in the downtown and serves as an entrance to Downtown South Lyon.

Describe the project design and why it was chosen. *

This project design for a park in downtown South Lyon was chosen after considerable input from various community groups. Previously, this parcel was identified in the City of South Lyon Master Plan as a site for mixed-use, infill development. However, once the City of South Lyon conducted soil borings at the site, a presence of peat and ground water was found, resulting in a location that would be extremely costly to develop. In light of this information, the City of South Lyon, South Lyon Parks and Recreation Commission, Cultural Arts Commission, and the Downtown Development Authority began to offer input regarding the establishment of a park on the site. Feedback was sought from each of these groups to obtain an overall vision for the development of the space. Once this was completed, it was included in the City of South Lyon's updated Parks and Recreation Master Plan, which was formally adopted by City Council on December 13, 2021.

Provide a relevant history/background information (including any environmental concerns). *

The City of South Lyon purchased the property in approximately 2014. The parcel contained a building that was in disrepair and was demolished shortly after the city acquired it. Since that time, it has sat vacant with no development. Given the poor soil conditions present at this location, a downtown park is the most feasible and productive option for this site.

Describe the community need for the project. *

Currently, there is no park in the DDA district. This project has been identified in the City of South Lyon's Parks and Recreation Master Plan as well as by the Downtown Development Authority. Studies have shown that parks in an urban setting provide essential environmental, aesthetic, economic, and recreation benefits. They enhance property values, increase municipal revenue, and attract homebuyers and workers to the area. This section of the downtown does not have the concentration of retail and restaurants present in the core downtown area at the intersection of Lake and Lafayette Streets. However, this park would provide an important development to the downtown. Additionally, this area will become an important area for the promotion of arts and cultural programs.

As demographics continue to shift throughout Oakland County, Michigan, and the United States, planning for an inclusionary and diverse community must be a priority so that all people may access parks that will enhance their overall quality of life. With this in mind, parks provide essential places for play cities across the country are striving to provide.

Projected Identification in Planning Documents

Project Identification in Planning Documents: *

Indicate where and how this project is addressed in relevant community planning documents, which may include: 5 Year Parks and Recreation Master Plan, Capital Improvement Plan, Park Master Plan, Community Master Plan, Complete Streets Plan, Trailway Master Plan, Pathway Plan, etc. Provide links to relevant online planning documents, or upload applicable pages in optional uploads section on the next tab.

This project is identified in the updated 5-year South Lyon Parks and Recreation Master Plan.

Project Alignment (Park Improvement)

Project Alignment with Most Recent OCPR County-Wide Needs Assessment *

Please select all categories in which your proposed project falls.

- [ ] Beaches
- [ ] Paved multi-use trails
- [ ] Unpaved multi-use trails
- [ ] Canoe & Kayak launch sites
- [x] Picnicking areas and pavilions
- [ ] Playgrounds
- [ ] Sledding Hills
- [x] Farmers Markets
- [ ] Waterparks & Waterslides
- [ ] Boating & fishing areas
- [ ] Splash pads & spray parks
- [ ] Outdoor amphitheaters
- [ ] Camping areas
- [ ] Mountain-biking trails
- [ ] Tennis courts
- [ ] Baseball & softball diamonds
- [ ] Basketball courts
- [ ] Disc golf
- [ ] Archery range
- [ ] Hunting areas
- [ ] Off-road vehicle areas
- [ ] Soccer & cricket fields
- [ ] Outdoor equestrian facilities/trails
- [ ] Pickleball courts
- [ ] Proposed project does not align with any facilities/activities on this list

Public Engagement

Public Engagement: *

Applicants must hold at least one public meeting (advertised in a manner that would satisfy the Michigan Open Meetings Act) to receive public input about the project. This can be a regularly scheduled board/commission meeting or a separate stakeholder or public input meeting. Include a summary of all relevant public engagement regarding the proposed project. If additional space is needed, upload a public engagement summary in the optional uploads section on the next tab.

During the City of South Lyon's Parks and Master Plan Update 2022-2028 process, there was ample opportunity for public input. Beginning August 24, 2021, a public input survey was published and available to residents until October 1, 2021. On September 8, there was a kickoff meeting with Parks and Recreation Commission to gather input. From September 8-30 the draft plan was developed. October 1 the draft plan was completed. October 1 – 15 provided a two-week window for the draft plan to be reviewed by city staff and the Parks and Recreation Commission. The final draft preparation occurred from October 15 – November 12, which incorporated feedback, addressed comments and questions from Staff and Commission review. November 13 the final draft plan was completed. November 13 – December 13 the draft plan was publicly available for review and comment for 30 days. On December 6, the public hearing for the plan was advertised one week prior to the December 13 South Lyon City Council meeting. On December 13, there was a public hearing held and a resolution adopted for the Parks and Recreation Master Plan by the South Lyon City Council.

Sustainability

Sustainability: *

Describe how the project considers sustainability in design and/or construction.

The City of South Lyon takes sustainability seriously. One of the core tenets of quality parks and recreation, as well as economic development, is implementing elements of sustainability in projects. In order to achieve sustainability objectives for this project, the following items will be considered for the park design and/or construction: native plantings to help reduce irrigation demands, low volume drip irrigation heads and drip irrigation to help reduce irrigation demands, LED lighting, recycled plastic benches and trash receptacles, and, depending on budget constraints, permeable pavers to help reduce storm runoff.

Long-Term Maintenance

Long-Term Maintenance: *

Describe how the project will be managed long-term, including any equipment or staffing needs and how they will be addressed.

The project will be managed long-term by the City of South Lyon's Department of Public Works staff as well as by the South Lyon Area Recreation Authority and the Downtown Development Authority. The following maintenance standards have been developed in order to ensure the park remains an asset to the community for many years. Mowing and detailing: mow to the maximum recommended height for the turf at least once a week during the growing season; edge sidewalks, fences, borders, and other appropriate areas as needed; install sod or seed as needed; weeds should cover no more than 10% of the grass surface; prune shrubs and trees as necessary; remove hazardous limbs and plants immediately upon discovery; remove dead trees that pose an immediate hazard upon discovery; remove or treat invasive plants twice annually; inspect irrigation systems at least once per month; initiate repairs of non-functioning systems within 24 hours of discovery during the dry season and within 10 days during the wet season; inspect fences, gates, and other landscape structures at least once annually. Complete safety related repairs immediately. Complete other repairs within 48 hours of discovery; water manually as necessary to establish new plantings; weed as necessary; prune shrubs and trees as necessary; plant and renovate areas as needed; place organic mulch as needed; remove dirt, debris, and sand from walkways.

ADA Compliance/Universal Accessibility

ADA Compliance/Universal Accessibility: *

Describe how the project will meet or exceed ADA guidelines. Describe any Universal Design principles that will be incorporated into the project. Include design drawings/specifications/etc. as well as relevant meeting notes or feedback documents as applicable in optional uploads section.

The City of South Lyon will strive to meet and exceed ADA guidelines. The city will attempt to implement ADA friendly picnic tables as well as providing access for all types of users. This park will also be intuitive, meaning users will be able to understand its intended use no matter experience, knowledge, or language skills. Further, it will be designed in a manner that will allow for all types of individuals to access the park, whether that is a family with a stroller, a person in a wheelchair, or someone out for a walk.

Proposed Project Dates

Anticipated Start Date: *

04/01/2022

Anticipated End Date: *

04/01/2025

Site Control

Site Control *

Select the type of site-control the applicant has over the site where the project is to be completed.

- [x] Fee simple
- [ ] Less-than-fee-simple
- [ ] Lease
- [ ] License
- [ ] Easement
- [ ] Other

Entrance Fees

Entrance Fees *

Select whether or not the park or facility has any required entrance fees - annual, daily, non-resident, etc.

- (•) No Fees for park use
- ( ) Non-resident annual or daily fee
- ( ) Annual or daily fee for residents and non-residents

Ease of Access

Ease of Access *

Select the ways in which people can access the site.

- [ ] Automobile only
- [x] Automobile
- [x] Bicycle on-street
- [ ] Dedicated bike lane
- [x] Sidewalk
- [ ] Nearby bus stop (within 1/4 mile)

Final Report & Reimbursement

Final Report & Reimbursement *

The OCPR Trailways and Park Improvements Grant Programs are reimbursement grants. If awarded a grant, the community will have an opportunity to request reimbursement on a quarterly basis. A final report will need to be submitted and approved by OCPR grant management staff prior to the release of the final 20% of grant funds.

- [x] Please check here to acknowledge that this is a reimbursement grant and that a final report will be required to release the final 20% of grant funds.

Uploads

Project Map

Submit as one combined PDF or no more than 3 JPG files

Upload Project Map *

390_S_Lafayette_St.pdf	684.44KB

Project Site Plan/Map

Submit as one combined PDF or no more than 3 JPG files

Upload Project Site Plan/Map *

24x36 WITH NOTES 20211130.pdf	10.45MB

Certified Resolution

Submit as a PDF

Upload Certified Resolution *

DOC011422-01142022131333.pdf	16.37KB

Optional Uploads

Submit as one combined PDF or no more than 3 JPG files

Letters of Support.

Design drawings/specifications/site plans.

Photographs with captions that indicate the relevant content of the photo.

SL_Park_Master_Plan.pdf	1.52MB

Other

South Lyon Parks Inventory.pdf	362.77KB
Master Plan proposed timeline 2022-2026.pdf	523.9KB

Continue to click "Upload" to add up to 5 documents to this section.

Submit Application

SUBMIT APPLICATION

Please review your application and ensure that it is ready to submit before clicking the green “Submit” button. **Once submitted, you will not be able to access or make changes to your application.** To save your application to come back and work on it at a later time, please click the “Save as Draft” button.

RETURN TO AGENDA

Oakland County Parks and Recreation Commission Agenda Item Memo

Agenda #: 8

Department: Strategic Partnerships and Initiatives

From: Simon Rivers, Chief – Strategic Partnerships and Initiatives

Subject: 2026 Strategic Partnership Grant Amendment – City of Ferndale, Lennon Memorial Park Project

RECOMMENDED MOTION

Move to approve the Park Development Agreement between the County of Oakland and the City of Ferndale for Lennon Park Improvements, and forward to the Oakland County Board of Commissioners for approval.

INTRODUCTION AND HISTORY

At the August 2026 Oakland County Parks and Recreation Commission meeting, Commissioners approved a Strategic Partnership Grant to the City of Ferndale in the amount of $100,000 for basketball courts and accessibility improvements at Lennon Memorial Park. The grant agreement was later approved by the Board of Commissioners.

The approved grant agreement awards $100,000 to the City of Ferndale and indicates $200,000 in guaranteed matching funds. Ferndale has committed $100,000 from the city's general fund, with another $100,000 in potential funding from a grant (in the application stage) to the Michigan Department of Natural Resources (DNR). However, the approved grant agreement does not make that distinction – the matching funds are listed as "$200,000." This amendment is to indicate that the only guaranteed matching funds for this project are $100,000 from the City of Ferndale's general fund, with a total project funding of $200,000.

If the City of Ferndale receives the DNR grant, the project will increase accessibility improvements with additional paved pathways to park amenities.

BACKGROUND

Lennon Memorial Park is a 4.2-acre park in the City of Ferndale. Lennon Park currently consists of two small soccer fields, a basketball court, children's play areas, picnic areas, and open space areas. This grant will provide improvements that will allow Ferndale residents to gather and recreate outdoors. Having a safe space that provides residents with opportunities for physical activity, the ability to explore nature, and an environment that encourages gathering with others outdoors will help residents form connections with others. The City of Ferndale identified these improvements as a priority in their 2022 Recreation Plan.

The project scope includes:

- Replacing the outdated basketball court and hoops
- Installation of accessible pathways
- Installation of other site amenities, including benches and picnic tables

Project Significance

The Lennon Memorial Park improvement project represents a strategic investment in equitable access to recreational facilities and public health in one of Oakland County's most underserved areas. In addition to serving City residents, the Ferndale Parks and Recreation Department has agreements with the City of Hazel Park and Charter Township of Royal Oak to also serve their residents. As the park is near the Ferndale's border with Hazel Park, Lennon Park provides basketball court access to Hazel Park residents who do not have basketball facilities in their city. Furthermore, the installation of pathways will increase accessibility and connectivity, transforming Lennon Park into a more welcoming community space for all ages and abilities.

This partnership exemplifies the goals of Mission 26, particularly the Recreation for All pillar, by prioritizing modernized amenities and connected greenways so distance, cost, ability or jurisdictional boundaries are no longer barriers to participation. Through this collaboration, Oakland County Parks strengthens its regional network of inclusive recreation facilities while reinforcing its role as a partner to local communities in advancing public value.

ATTACHMENTS

1. City of Ferndale Grant Agreement – Lennon Memorial Park Project

COUNTY OF OAKLAND—PARK DEVELOPMENT AGREEMENT
CITY OF FERNDALE – LENNON PARK IMPROVEMENTS

This Agreement is between the County of Oakland, by and through, its statutory agent, the Oakland County Parks and Recreation Commission ("OCPRC") and the City of Ferndale, 1938 Burdette Street, Ferndale, MI 48220 ("Grantee").

The purpose of this Agreement is to provide funding to Grantee in exchange for the work to be performed by Grantee for the below named project. The Parties agree to the terms and conditions set forth in this Agreement.

Project Title ("Project"): Lennon Park Improvement Project
Grant Amount ("Grant Amount"): One Hundred Thousand Dollars **($100,000)**
Grantee Match Amount ("Match Amount"): One Hundred Thousand Dollars **($100,000)**
Total Project Amount: Two Hundred Thousand Dollars **($200,000)**
Start Date: Effective Date—the date the last Party to this Agreement signs the Agreement
End Date: Three years after the date the last Party to this Agreement signs the Agreement

By signing this Agreement, the below individuals certify they are authorized to sign this Agreement on behalf of their organizations and the Parties will fulfill the terms of this Agreement, including any attached Exhibits.

Grantee:

_____

Name: Colleen O'Toole, City Manager Date
City of Ferndale

County of Oakland:

_____

Name: David T. Woodward, Chairperson Date
Oakland County Board of Commissioners

Oakland County Parks and Recreation Commission:

_____

Name: Ebony Bagley, Chairperson Date
Oakland County Parks and Recreation Commission

1. **Agreement Execution.** Grantee is required to sign the Agreement and return it to the contact person listed in Section 2 within sixty (60) calendar days of the date the Agreement is issued to Grantee. If not, the OCPRC Chairperson may cancel this Agreement and the monies allocated under this Agreement may be issued to another entity, in the County's sole discretion. This Agreement is not effective until both Parties sign the Agreement. The "Effective Date" shall be the date the last Party signs the Agreement.
2. **Contact Information.** This Agreement shall be administered on behalf of the County by the Planning & Resource Development Unit of the OCPRC. All notices, reports, documents, requests, actions, or other communications required between the OCPRC and Grantee shall be in writing and submitted to the contacts identified below. By written notice, the Parties may designate a different contact with correlating information.

   2.1. Grantee Contact

   2.1.1. Organization: City of Ferndale
   2.1.2. Name/Title: LaReina Wheeler, Parks and Recreation Director
   2.1.3. Address: 1938 Burdette Street, Ferndale, MI 48220
   2.1.4. Telephone Number: (248) 544-6767
   2.1.5. E-Mail Address: lwheeler@ferndalemi.org

   2.2. OCPRC Contact

   2.2.1. Name/Title: Simon Rivers, Chief of Strategic Partnerships and Initiatives
   2.2.2. Address: 2800 Watkins Lake Road, Waterford, MI 48328
   2.2.3. Telephone Number: 248-421-9033
   2.2.4. E-Mail Address: riverss@oakgov.com
3. **Project/Project Period.**

   3.1. Grantee shall complete the Project as set forth and described in Exhibit A within the Project Period. Exhibit A is incorporated into this Agreement.
   3.2. As defined in this Agreement, "Project Period" means the period of time beginning on the Effective Date and ending on the End Date listed on page 1 of this Agreement.
   3.3. Grantee shall complete the Project within the Project Period. Requests to extend the Project Period must be made in writing a minimum of thirty (30) calendar days before the Project Period ends. The OCPRC Planning & Resource Development Unit may extend the Project Period, in its sole discretion, and the extension must be codified in an amendment to this Agreement, which amendment shall be signed by the OCPRC Chairperson.
4. **Grantee Reporting Requirements:**

   4.1. Grantee shall complete and submit bi-annual progress reports, including a narrative report and summary of Project expenditures, in accordance with instructions provided by OCPRC.
   4.2. Within sixty (60) days of Project completion, Grantee shall submit final reporting documentation, including a final reimbursement request and narrative report, and copies of written materials and/or photographs of grant recognition signs in accordance with the instructions provided by OCPRC.
5. **Payments/Advances/Project Closeout.** The OCPRC shall make payments of the Grant Amount to Grantee as follows:

5.1. OCPRC shall pay the Grantee fifty percent (50%) of the Grant Amount listed on page 1 of this Agreement within thirty (30) calendar days of the Effective Date. The remaining fifty percent (50%) of the Grant Amount shall be paid by the County within thirty (30) calendar days of the date the Project is complete in accordance with Section 4. Any cost overruns incurred to complete the Project shall be the sole responsibility of the Grantee. To be eligible for payment, Grantee must submit a complete payment request to OCPRC on form(s) provided by OCPRC and have satisfied all progress reporting requirements due prior to the date of the payment request

5.2. Grantee shall submit documentation of all costs incurred, including the value of match and donations made to the Project.

5.3. OCPRC reserves the right to request additional information necessary to substantiate payments.

5.4. Grantee shall be a registered vendor with the County to receive payments. Registration can be accomplished by completing a vendor registration through the County Vendor Registration link on the County Web site. All grant funds will be paid by ACH or Check.

5.5. OCPRC shall not pay any portion of the Grant Amount to a Grantee contractor or subcontractors. Grant Amounts shall only be paid to Grantee.

5.6. Notwithstanding any other provision to the contrary, OCPRC shall hold back ten percent (10%) of the Grant Amount until Project Closeout set forth in this Section. Final payment of the remaining ten percent (10%) of the Grant Amount will be released upon OCPRC's approval of Grantee's Final Report and satisfactory Project completion as determined by OCPRC, in its sole discretion.

5.7. A determination of Project completion, which may include a site inspection and an audit, shall be made by OCPRC after Grantee has met any match obligations, satisfactorily completed the activities, and provided products and deliverables described in Exhibit A.

5.8. Grantee shall immediately refund to OCPRC any payments in excess of the costs allowed by this Agreement.

5.9. Upon issuance of final payment from the OCPRC, Grantee releases the County, OCPRC, and its employee and officers of all claims against the County/OCPRC arising under this Agreement. Unless otherwise provided in this Agreement or by State law, final payment under this Agreement shall not constitute a waiver of the County's claims against Grantee.

6. **<u>Grantee Assurances/Responsibilities.</u>**

6.1. Grantee shall comply with all applicable local, State, and federal laws, rules, ordinances, and regulations in the performance of this Agreement.

6.2. Grantee shall obtain all necessary permits and licenses for construction and maintenance of the Project. Grantee shall solely determine what permits or licenses are required for the Project, secure the needed permits or licenses, and remain in compliance with such permits or licenses. Grantee shall retain a copy of all permits or licenses and make them available to the County upon request.

6.3. Grantee shall have control of the Project area through fee simple title, lease, or other recorded interest, or have written permission from the owner of the Project area to complete Project activities.

6.4. Grantee shall abide by all State and federal threatened and endangered species

regulations when completing Project activities.

6.5. Grantee shall not discriminate against an employee or an applicant for employment in hiring, any terms and conditions of employment or matters related to employment regardless of race, color, religion, sex, sexual orientation, gender identity or expression, national origin, age, genetic information, height, weight, disability, veteran status, familial status, marital status or any other reason, that is unrelated to the person's ability to perform the duties of a particular job or position, in accordance with applicable federal and state laws. Grantee further agrees that any subcontract shall contain non-discrimination provisions, which are not less stringent than this provision and binding upon any and all subcontractors. A breach of this covenant shall be regarded as a material breach of this Agreement.

6.6. Grantee shall require that no individual be denied access to the Project or Project activities on the basis of race, color, religion, sex, sexual orientation, gender identity or expression, national origin, age, genetic information, height, weight, disability, veteran status, familial status, or marital status.

6.7. Grantee is solely responsible for all activities performed under this Agreement and for the construction and maintenance of the Project. Grantee shall be the sole point of contact regarding contractual matters for the Project, including payment of any and all charges resulting from the Project.

6.8. Grantee shall require all contractors and subcontractors constructing or performing the Project to comply with this Agreement.

6.9. Grantee shall ensure all contractors and subcontractors constructing and performing the Project are qualified to perform such work.

6.10. Grantee shall be solely responsible for the installation, operation, repair, and maintenance of the Project.

6.11. All records related to the Project must be maintained for a minimum of seven (7) years after the final payment has been issued to Grantee by the County.

7. **<u>Liability.</u>**

7.1. The County/OCPRC is not liable or required to install, operate, repair, maintain, or contribute to the installation, operation, repair, or maintenance of the Project and any associated Project activities.

7.2. Grantee shall defend any Claim brought against either Party that involves the Project or associated Project activities or that involves title, ownership, or other specific rights of real property controlled by Grantee and relates to the Project.

7.3. Grantee is responsible for all Claims arising under or in any manner related to the Agreement, the activities authorized by the Agreement, or the use and occupancy of the Project.

7.4. As used in this Agreement, “Claims” mean any alleged losses, claims, complaints, demands for relief or damages, lawsuits, causes of action, proceedings, judgments, deficiencies, liabilities, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are incurred by or asserted against a Party, or for which a Party may become legally and/or contractually obligated to pay or defend against, whether direct, indirect or consequential, whether based upon any alleged

violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether commenced or threatened.

7.5. Performance of this Agreement is a governmental function. This Agreement does not, and is not intended to, impair, divest, delegate, or contravene any constitutional, statutory, and/or other legal right, privilege, power, obligation, duty, or immunity of the Parties. Nothing in this Agreement shall be construed as a waiver of governmental immunity.

8. **Insurance.** The Grantee shall acquire and maintain insurance or a program of self-insurance, which Grantee deems necessary, to protect it from liability related to construction and/or operation of the Project. The County/OCPRC shall not obtain any insurance or provide any self-insurance for construction and/or operation of the Project.
9. **Audit and Access to Records.** OCPRC reserves the right to conduct programmatic and financial audits of the Project and may withhold payment until the audit is satisfactorily completed. Grantee shall maintain all pertinent records and evidence pertaining to this Agreement, including grant and any required matching funds, in accordance with generally accepted accounting principles and other procedures specified by OCPRC. OCPRC or any of its duly authorized representatives must have access, upon reasonable notice, to such books, records, documents, and other evidence for the purpose of inspection, audit, and copying. Grantee shall provide proper facilities for such access and inspection. All records must be maintained for a minimum of seven (7) years after the final payment has been issued to Grantee by OCPRC.
10. **Assignability.** Grantee shall not assign or transfer any interest in this Agreement without prior written authorization of OCPRC.
11. **Changes.** Any changes to this Agreement requested by Grantee shall be made in writing and sent to the contact listed in Section 2 of this Agreement. OCPRC may approve or deny such change, in its sole discretion. Any changes related to the grant amount, or any other financial component of this Agreement, will require an amendment to be executed in the same manner as this Agreement. Any changes not related to the grant amount, including modifications to project scope or deadline extensions, can be made by amendment at the discretion of and signed by the OCPRC Chairperson.
12. **Termination.**

12.1. Failure by Grantee to comply with any provision of this Agreement shall be a material breach of this Agreement. Upon breach of the Agreement by Grantee, OCPRC may, in addition to any other remedy provided by law:

12.1.1. Terminate this Agreement;

12.1.2. Withhold and/or cancel future payments to Grantee on any or all current grant projects until the violation is resolved to the satisfaction of OCPRC;

12.1.3. Withhold action on all pending and future grant applications submitted by Grantee; or

12.1.4. Require specific performance of the Agreement.

12.2. Upon the date of termination, all outstanding reports and documents are due to OCPRC and after the termination date OCPRC will no longer be liable to pay or reimburse Grantee any outstanding Grant Amounts.

13. **Governing Laws/Consent to Jurisdiction and Venue.** This Agreement shall be governed, interpreted, and enforced by the laws of the State of Michigan, excluding Michigan's conflict of law principles. Except as otherwise required by law or court rule, any action, complaint, lawsuit,

or other legal or equitable proceeding brought to enforce, interpret, or decide any Claim, as defined herein, arising under or related to this Agreement shall be brought in the Sixth Judicial Circuit Court of the State of Michigan, the 50th District of the State of Michigan, or the United States District Court for the Eastern District of Michigan, Southern Division, as dictated by the applicable jurisdiction of the court. Except as otherwise required by law or court rule, venue is proper in the courts set forth above. The choice of forum set forth above shall not be deemed to preclude the enforcement of any judgment obtained in such forum or taking action under this Agreement to enforce such judgment in any appropriate jurisdiction.

14. **Entire Contract.** This Agreement represents the entire agreement and understanding between the Parties. This Agreement supersedes all other prior oral or written understandings, communications, agreements, or contracts between the Parties regarding the subject matter of this Agreement. The language of this Contract shall be construed as a whole according to its fair meaning and not construed strictly for or against any Party.

Grantee Information

Item	Grantee Information
Project Title:	Lennon Park Improvements
Oakland County City, Village or Township Name:	City of Ferndale
Name of Primary Grant Contact:	LaReina Wheeler, Parks and Recreation Director
Address:	1938 Burdette St., Ferndale, MI 48220
Primary Contact Phone:	248-544-6767
Primary Contact Email Address:	lwheeler@ferndalemi.gov
Please list any project partners:	Michigan Department of Natural Resources

Financial Information

Project Funding

Requested Grant Amount: $100,000

Match Amount: $100,000

Total Project Funding (Requested grant amount + total match amount): $200,000

Project Schedule

Anticipated Start Date: 7/12/2027

Anticipated Completion Date: 7/31/2028

Project Description

Need Statement

What is the reason for doing this project? Answer may incorporate documented community and recreational needs, public engagement, condition of current recreation assets, environmental issues or accessibility and inclusion needs. Is the project in the communities 5-Year Parks and Recreation Master Plan or other planning document?

Lennon Memorial Park is one of Ferndale's largest neighborhood parks and serves neighborhood residents, Edison School, City recreation programming, and visitors from surrounding communities. While the City is currently seeking a $100,000 MDNR Recreation grant to replace the park's aging playground, limited project funding required several critical improvements to be removed or reduced from the original project scope, including renovation of the park's existing 26+-year-old full-size basketball court, site amenities such as benches and trash/recycling receptacles, and portions of the planned barrier-free pathway system connecting key park amenities. Oakland County's Strategic Partnership investment is critical to restoring these essential project components and completing the City’s vision for a more accessible, connected, and functional neighborhood park. If awarded, the MDNR grant and Oakland County partnership, together with the City's local investment, will leverage up to $300,000 in park improvements while maximizing the impact of each funding source. Renovating the basketball court will preserve one of the park's heavily used recreational amenities, while

expanded barrier-free pathways will provide ADA-compliant connections between the playground, basketball court, seating areas, drinking fountain, sidewalks, and other park features, ensuring visitors of all ages and abilities can fully experience the park. Lennon Memorial Park also serves as a recreation site for Edison School, which is located adjacent to the park and provides a center-based educationally therapeutic program for students from across Oakland County with support from Oakland Schools. The park also serves as the primary recreation site for the City's Summer Day Camp program, with approximately 50 children ages 5 to 7 utilizing the park daily for nine weeks each summer, significantly increasing the demand for safe, accessible, and functional recreation facilities. The existing playground has exceeded its useful life, lacks modern safety and accessibility features, and no longer meets the recreational needs of today's users. Likewise, the park's basketball court has exceeded its useful lifespan and is deteriorating, with a crumbling and uneven playing surface that prevents residents and program participants from using the court safely and makes a full renovation necessary. The proposed improvements directly implement the goals of the City of Ferndale's 5-Year Parks and Recreation Master Plan, which identifies accessibility, park connectivity, Universal Design, and recreation opportunities for users of all ages and abilities as community priorities. The Master Plan also identifies Lennon Memorial Park as one of the City's least accessible parks, receiving a Barrier Free score of 2 out of 5. Public engagement through City Council, the Parks and Recreation Commission, and the Ferndale Accessibility and Inclusion Advisory Commission confirmed strong community support for these improvements. Oakland County's partnership will allow the City to restore critical accessibility improvements and recreational amenities while leveraging additional state investment, resulting in a more inclusive, connected, and fully accessible community park.

Project Scope

What are the actions that will implement the project? Is the project designed to meet or exceed ADA guidelines or to incorporate Universal Design principles?

The project will renovate Lennon Memorial Park by replacing the aging playground with a modern play area designed for children of multiple ages and abilities while incorporating ADA and Universal Design (UD) principles throughout the park. Project improvements include accessible play features, barrier-free pathways, and universally designed site amenities. Funding from Oakland County will also allow the City to renovate the existing full-size basketball court, install additional park benches with companion seating, accessible trash and recycling receptacles, and barrier-free pathways that connect the playground, basketball court, seating areas, drinking fountain, sidewalks, and other park amenities. The installation of landscaping with native trees will improve the park's appearance while providing shade and environmental benefits. This collaborative funding approach allows each funding source to address complementary project elements while maximizing the overall public investment in Lennon Memorial Park. Oakland County funding will restore project elements that were removed or reduced because of funding limitations, including the basketball court renovation, expanded barrier-free pathways and accessible connections, and additional site amenities. If awarded, the City's pending MDNR Recreation grant will fund replacement of the playground and a portion of the ADA and UD improvements, with Oakland County funding also serving as the required local match. Should the MDNR application not be successful, the City remains committed to completing the basketball court renovation, accessibility improvements, and site amenities through Oakland County’s partnership and local City funding. The project has been designed to exceed ADA requirements and incorporate Universal Design principles creating a welcoming park experience for all visitors. Improvements include universally accessible routes connecting amenities, companion seating, an ADA-accessible drinking fountain with bottle filler, accessible site furnishings, appropriate clearances, and inclusive play opportunities for children with varying physical, sensory, and developmental

abilities. The project design was developed with input from the Ferndale Accessibility and Inclusion Advisory Commission, engineering consultants, Parks and Recreation Commission, and City staff to ensure accessibility, safety, functionality, and long-term sustainability were incorporated throughout the park.

Project Outcomes

What are the anticipated outcomes and who will benefit from the project? Will the project result in greater access to recreation for all residents and visitors? Are any environmental benefits expected? How will the project make the community more sustainable and resilient?

The project will transform Lennon Memorial Park into a safer, more accessible, and more inclusive neighborhood destination that better serves residents and visitors of all ages and abilities. The improvements are expected to increase overall park usage by creating a modern recreation space that encourages active lifestyles, outdoor play, social interaction, and year-round community engagement. The project will also expand opportunities for programming, school activities, community events, and informal neighborhood use while strengthening connections between the park and surrounding neighborhoods, supporting neighborhood revitalization, and encouraging residents to spend more time enjoying their local parks.Edison School, which directly borders the park, provides a center-based educationally therapeutic program for Oakland County students with emotional and behavioral disabilities. The school serves students and families from communities throughout the region, including Avondale, Bloomfield Hills, Birmingham, Clawson, Berkley, Ferndale, Oak Park, Madison Heights, Lamphere, Royal Oak, South Lyon, Walled Lake, and West Bloomfield, with support from Oakland Schools. The enhanced park will provide these students with greater opportunities for outdoor recreation, therapeutic learning, physical activity, social interaction, and emotional well-being in a safe, welcoming, and inclusive environment. The project will also support continued growth of the City's Summer Day Camp program, which serves approximately 50 children ages 5 to 7 at Edison School each summer, while creating new opportunities for future recreation programming and community partnerships. By improving accessibility throughout the park, the project will ensure that residents and visitors of all ages and abilities can participate more fully in recreation opportunities and community life. Environmental benefits include the addition of native trees that will provide shade, improve aesthetics, increase the urban tree canopy, help manage stormwater runoff, and contribute to carbon reduction. The installation of recycling receptacles and a drinking fountain with a bottle filler will encourage sustainable practices and reduce waste. Together, these improvements will create a more resilient public space that promotes environmental stewardship while reducing long-term maintenance needs. Oakland County's investment will create lasting community benefits by increasing participation in recreation, expanding community programming, improving accessibility and inclusion, supporting healthier lifestyles, strengthening partnerships with Edison School, and enhancing the overall quality of life for Ferndale residents and visitors from communities throughout Oakland County.

Acknowledgement

This is a partial reimbursement program. The community will receive fifty percent (50%) of the grant amount when the grant agreement is executed. The community can submit quarterly requests for additional funds throughout the grant period. Final payment of the remaining grant funds will be released upon the County’s approval of the grantee’s final report and satisfactory project completion as defined by the County.

☐ Please check here to acknowledge that this is a reimbursement grant and that a final report will be required to release the final grant funds.

Submission

Send completed forms and attachments to the email below. If your file size is too large to email, reach out for file-sharing options. Please call with any questions.

Contact Information:
Simon Rivers
Chief of Strategic Partnerships and Initiatives
(248) 421-9033
riverss@oakgov.com

RETURN TO AGENDA

Oakland County Parks and Recreation Commission Agenda Item Memo

Agenda #: 9

Department: Strategic Partnerships and Initiatives

From: Simon Rivers, Chief – Strategic Partnerships and Initiatives

Subject: Red Oaks Back Lot Purchase

RECOMMENDED MOTION

Move to approve the Purchase Agreement between the County of Oakland and Sharon L Oynskin in the amount of $40,000 for 0.33 acres located at 30526 Winthrop Drive, Madison Heights, MI 48071, and forward to the Oakland County Board of Commissioners for approval.

INTRODUCTION AND HISTORY

The property at 30526 Winthrop Drive, is a back lot parcel that has been owned by Sharon L Oynskin for more than 20 years. It is a small private inholding on the west side of Red Oaks Nature Center. The property owner no longer uses the property and would like to downsize. The seller contacted staff earlier this year regarding selling the property to OCP to become part of Red Oaks. The addition of this inholding parcel would increase the opportunity for recreation on the west of the Nature Center and entrance drive along Hales Street.

ATTACHMENTS

1. Purchase Agreement
2. Photos & Map

PURCHASE AGREEMENT

THIS PURCHASE AGREEMENT ("Agreement") is made and entered by and between Sharon L Onyskin, 30526 Winthrop Dr., Madison Heights, MI 48071 ("Seller") and the COUNTY OF OAKLAND, by and through its statutory agent, the Oakland County Parks and Recreation Commission, a Constitutional and Municipal Corporation, 1200 N. Telegraph Road, Pontiac, Michigan 48341 ("Purchaser") for the purchase of real property and structures located thereon, located at in Madison Heights, MI 48071, which are specifically described in Exhibit A ("Premises"), including all rights, title, interests, and mineral rights or mineral royalty interest in the Premises. Exhibit A is fully incorporated into this Agreement. In consideration of the mutual covenants and agreements contained herein, receipt of which is acknowledged by the Parties, the Parties agree as follows:

1. PURCHASE PRICE/DEPOSIT/OTHER COSTS OR FEES.

1.1. Property Transferred. Seller shall sell and Purchaser shall purchase the Premises, subject to the terms and conditions of this Agreement.

1.2. Purchase Price. Subject to the adjustments and prorations provided for in this Agreement, the purchase price of the Premises is forty thousand dollars and no cents ($40,000.00) payable as set forth in this Agreement.

1.3. Effective Date. This Agreement shall be effective on the date it is fully executed by the Parties ("Effective Date").

1.4. Earnest Money Deposit. Within ten (10) calendar days after the Effective Date, Purchaser shall deposit with ATA National Title Group/Seaver Title, 42651 Woodward Avenue, Bloomfield Hills, MI, 48304 (the "Title Company") three thousand dollars and no cents ($3,000.00) ("Deposit"). The Deposit shall be held in a non-interest-bearing account. The Deposit shall be applied toward the purchase price at the time of Closing, if the sale is consummated, or shall be disbursed to Seller or Purchaser in accordance with the terms of this Agreement.

1.5. Payment of Balance of Purchase Price. This is a cash sale. At the time of Closing, after applying the Deposit, the balance of the purchase price minus any costs adjusted at Closing shall be wired by Purchaser to the Title Company.

1.6. Broker's Fee. The Sell and Purchaser did not engage/retain a broker for the purchase of the Premises.

2. TITLE CONVEYED.

2.1. Form of Conveyance. At Closing, Seller shall convey fee simple, marketable title to the Premises to Purchaser by warranty deed showing no exceptions, except for: (i) the "Permitted Exceptions" (as defined in Section 4); (ii) all zoning, building, and

other municipal ordinances, laws, regulations, and restrictions of public authorities; (iii) any matters that an accurate survey or personal inspection of the Premises would disclose; and (iv) all easements, covenants, conditions, restrictions, and other matters of record. The Premises shall include all tenements, hereditaments, privileges and appurtenances belonging or in any way appertaining to the Premises including the following: (1) all future land division rights (2) all right, title and interest of Seller in any street, road or avenue, open or proposed, in front of or adjoining the Premises, or any part thereof, to the centerline thereof, (3) all water, air, riparian and mineral rights originating on or strictly appurtenant to the Premises (4) the use of appurtenant easements, whether or not of record, strips and rights of way abutting, adjacent, contiguous or adjoining the Premises, and (5) all assignable licenses, franchises, rights and governmental or other permits, authorizations, consents and approvals, which are necessary to own and/or operate the Premises, to the extent that the same are legally assignable. Notwithstanding anything to the contrary contained herein or in any document executed in connection herewith, the Premises, its appurtenances, and the rights conveyed hereunder strictly exclude, and Purchaser hereby waives and relinquishes, any and all rights, claims, interests, or implied easements (including easements of necessity, access, light, air, view, drainage, or utility) in, over, under, across, or through the real property with the common address of 30526 Winthrop Drive, Madison Heights Michigan, Parcel Identification Number 25-12-254-008 (the "Seller's Retained Parcel"), which waiver and relinquishment shall survive Closing and the conveyance of title to the Premises to Purchaser. The Premises shall also include the rights of Seller under any express or implied guaranties, warranties, indemnifications and other rights, if any, which Seller may have against suppliers, laborers, materialmen, contractors or subcontractors arising out of or in connection with the installation, construction and maintenance of the improvements, fixtures and personal property on or about the Premises.

Purchaser agrees, covenants, and warrants for as long as Seller's primary residence is 30526 Winthrop Drive, Madison Heights, MI, that Purchaser shall not: (1) construct, install, or permit the placement of any automobile parking lot, driveway, or vehicle parking area of any kind upon the Premises; (2) install any asphalt, concrete, or paved walking paths upon the Premises; (3) construct or install any walking path, trail, or track of any composition whatsoever (including gravel, woodchips, or dirt) within fifty (50) feet from the property line of Seller's Retained Parcel.

2.2. Encumbrances. After Seller's executes this Agreement, Seller shall not lease, assign, or grant a security interest or other lien that would encumber the Premises after the Closing Date, unless approved in writing by Purchaser. Seller warrants that any lease, assignment, security interest or other lien that encumbers or would encumber the Premises shall be terminated prior to the Closing Date or satisfied out of the consideration transferred at the time of Closing.

3. TITLE INSURANCE.

3.1. Within ten (10) calendar days of the Effective Date, Purchaser shall obtain from the Title Company and deliver to Seller, a commitment for an ALTA Owner's Policy of Title Insurance in the amount of the total purchase price (the "Commitment"). The Commitment shall be issued by the Title Company, without standard exceptions, and shall bear a date later than the Effective Date, wherein the Title Company is to insure the title to the Premises in the condition required herein.

3.2. At the time of Closing, Purchaser shall order and have a Policy of Title Insurance issued (in the name of Purchaser) pursuant to the Commitment.

3.3. The cost of the Commitment and the Policy of Title Insurance shall be paid for by Purchaser

3.4. Seller agrees to execute a customary and standard form Owner's Affidavit at the Closing, in a form reasonably acceptable to Seller, to assist in the Purchaser's efforts to obtain coverage without standard exceptions. In addition to the representations and warranties contained in said Owner's Affidavit, Seller agrees to execute an affidavit indicating that to Seller's actual knowledge and without investigation: (1) Seller has not received written notice of any pending claims against Seller that would materially and adversely affect the sale of the Premises, and (2) there are no court orders prohibiting the sale of the Premises.

4. TITLE OBJECTIONS.

4.1. Purchaser shall have fifteen (15) calendar days after receipt of the Commitment to object to the condition of the title, based upon written opinion of Purchaser's attorney, that the title is not marketable or that the Premises are not suitable for Purchaser's intended use (collectively "Title Defects").

4.2. Upon written notice to Seller specifying any bona fide Title Defects that render title to the Premises unmarketable, Seller shall have thirty (30) calendar days from the date Seller is notified of such claimed defect(s) to notify Purchaser in writing whether Seller elects to (1) remedy such defects to Purchaser's reasonable satisfaction or (2) gain from the Title Company a substitute commitment for title insurance insuring, in a manner reasonably satisfactory to Purchaser, Purchaser's title against such Title Defects or (3) not cure the claimed Title Defects. Seller shall have no obligation to cure any Title Defect or incur any expense to do so.

4.3. If Seller fails to remedy the Title Defects or obtain a substitute commitment for title insurance within said period, Purchaser may do any of the following, at its sole option: (1) waive the claimed Title Defects and close subject to same or (2) terminate this Agreement and receive a full refund of the Deposit.

4.4. If Seller remedies the Title Defects or obtains a title policy within the time period and Purchaser does not elect to terminate this Agreement, Purchaser shall complete

the sale of the Premises within fifteen (15) calendar days of written notification thereof, but no sooner than the Closing Date specified herein.

4.5. For all purposes under this Agreement, all matters appearing on the Commitment and the New Survey which are not objected to or are waived or accepted by Purchaser shall be deemed "Permitted Exceptions."

5. INSPECTION PERIOD AND DUE DILIGENCE INVESTIGATIONS.

5.1. Inspection Period and Due Diligence Investigation/Examination. Purchaser shall have ninety (90) calendar days from the Effective Date ("Inspection Period") to conduct due diligence property investigations/examinations at its sole cost and expense, including but not limited to the following: (1) physical inspections, (2) testing of all aspects of the Premises, (3) above and below ground environmental assessments, (4) building inspections, (5) review of easements and restrictions of record, (6) investigation of availability and condition of utility/sewer services, (7) review of any existing service agreements, (8) review of any applicable zoning, building and use restriction, and (9) other examinations as Purchaser may deem necessary.

5.2. Survey. Purchaser shall, at its expense, obtain an ALTA/ACSM boundary survey of the Premises ("New Survey"). Purchaser shall have fifteen (15) calendar days from the receipt of the New Survey to determine if it matches the Premises described in Exhibit A. If in the written opinion of Purchaser's attorney, the New Survey does not match the Premises described in Exhibit A, Seller may, but shall have no obligation to, elect to remedy such defect at Seller's sole discretion. If Seller elects not to remedy the survey defect, or is unable to do so within thirty (30) calendar days of notice, Purchaser's sole and exclusive remedies shall be to either: (1) waive the defect and close subject to same with no reduction in the Purchase Price, or (2) terminate this Agreement, whereupon the Deposit shall be refunded to Purchaser, this Agreement shall become null and void, and neither party shall have any further liability hereunder. If Seller remedies the defects and Purchaser does not elect to terminate the Agreement, then Purchaser shall complete the sale of the Premises within fifteen (15) calendar days of written notification thereof, but no sooner than the Closing Date specified herein. If Purchaser terminates this Agreement pursuant to this Section, it shall receive a full refund of the Deposit.

5.3. Phase I Environmental Assessment.

5.3.1. Purchaser shall, at its sole expense, obtain a Phase I Environmental Site Assessment ("Phase 1") performed consistent with applicable ASTM standards.

5.3.2. If Purchaser is not satisfied with the results of the Phase I, for any reason, then Purchaser may do any of the following, at its sole option and cost: (1)

terminate this Agreement and receive a full refund of the Deposit or (2) commission a Phase II Environmental Site Assessment ("Phase II"). Purchaser shall notify Seller within fifteen (15) calendar days after receipt of the Phase I if it elects to terminate this Agreement for environmental reasons or perform a Phase II. Purchaser shall provide Seller with a copy of all environmental reports at no cost.

5.3.3. If Purchaser elects to perform a Phase II, then the Inspection Period shall automatically extend for another ninety (90) calendar days from the date Purchaser notified Seller of such election. If Purchaser is not satisfied with the results of the Phase II, for any reason, then Purchaser may terminate this Agreement and receive a full refund of the Deposit.

5.4. Purchaser may perform any other investigations during the Inspection Period that it, in its sole discretion, shall deem appropriate. Purchaser shall: (i) conduct all activities in a safe manner and in compliance with all applicable laws; (ii) not damage, materially alter, or harm the Premises or any of Seller's adjacent property; and (iii) immediately repair any disruption to the land and restore the Premises to its pre-investigation condition at Purchaser's sole cost (including, without limitation, backfilling any soil borings or test pits).

5.5. Seller shall, no later than five (5) calendar days after the Effective Date, turn over to Purchaser copies of any and all documents and information related to the Premises, including but not limited to, wetland reports, environmental reports, surveys, soil reports, easements, deed restrictions, past title commitments, that are currently in Seller's actual physical possession and control. Seller makes no representation or warranty as to the accuracy or completeness of any such documents. Should Seller delay in turning over the above-referenced documents/information, Purchaser's sole remedy shall be to request an extension of the Inspection Period, which extension shall not exceed a cumulative total of five (5) additional calendar days.

5.6. Nothing in this Agreement will prohibit the Parties from modifying or extending the Closing Date if such changes are necessary based upon the due diligence property investigations. Such modification or extension must be in writing and signed by both Parties. For Purchaser, a modification or extension under this Section shall be approved and executed by the Oakland County Board of Commissioners Chairperson.

5.7. Notwithstanding any other provision in this Agreement, at any time prior to the expiration of the Inspection Period, Purchaser may terminate this Agreement, in its sole discretion, by giving written notice to Seller that it is not satisfied with the condition of the Premises. If Purchaser terminates this Agreement pursuant to this Section, Purchaser shall be entitled to a full refund of the Deposit, whereupon this Agreement shall become null and void.

5.8. This Agreement is contingent upon the due diligence investigations and requirements set forth in this Section. Seven (7) calendar days after the expiration of the Inspection Period, this contingency shall be deemed fully satisfied and waived by Purchaser for all purposes.

6. CLOSING, AND CLOSING DOCUMENTS.

6.1. If Seller can convey fee simple, marketable title in accordance with this Agreement and provided Seller is not otherwise in material default of its obligations hereunder, then Purchaser shall complete the sale within fifteen (15) calendar days of the expiration of the Inspection Period ("Closing Date" or "Closing").

6.2. The Closing shall be held at the offices of the Title Company. The Title Company will prepare the necessary documents for signatures.

6.3. Seller and Purchaser shall each execute and deliver to the Title Company all standard and customary closing documents required to consummate this transaction in accordance with the Title Company's closing instructions, provided such documents are made available to the parties at least three (3) days prior to the Closing Date.

6.4. Seller shall sign and deliver at Closing, a statutory form warranty deed conveying fee simple, marketable title to the Premises inclusive of all minerals rights or royalties, if any, (pursuant to Michigan law) in the condition required by this Agreement and a Non-Foreign Persons Affidavit.

6.5. All financial encumbrances upon the Premises shall be paid and discharged by Seller prior to the Closing Date or shall be paid and discharged using the purchase money for the Premises.

6.6. Purchaser shall pay for the recording of the Warranty Deed, any notary fees, and any other fees/costs associated with the closing.

6.7. At the Closing, Seller will sign an Affidavit of No Liens on the Title Company's standard form, sufficient to permit the Title Company to delete the standard Schedule B exceptions.

6.8. At the Closing, Seller will sign a Certificate of Accuracy, regarding the Representations made by Seller in Section 12.

6.9. Seller and Purchaser will sign and/or prepare any other documents reasonably necessary to complete the sale and transfer of the Premises.

6.10. Seller will provide to Purchaser an accounting of all rents and fees, if any, that pertain to the Premises and were paid to Seller for periods that extend beyond the Closing Date. Those rents that are for periods that extend beyond the Closing Date shall be prorated back to the Closing Date and Seller shall tender to Purchaser a

cashiers check in the amount of those prorated rents, as well as for any other adjustments or charges as reflected by the closing statement.

6.11. Property taxes for the Premises shall be prorated on a due date basis and assumed to be prepaid. As such, Seller shall be responsible for all current property taxes attributable to the period on and prior to the Closing Date, any delinquent property taxes prior to Closing, unpaid installments of any current special assessments prior to Closing, or IRS liens on the Premises prior to Closing. Seller shall be reimbursed at Closing for any property taxes it has paid attributable to the period after the Closing Date.

7. POSSESSION AND POST-CLOSING WORK. Purchaser shall have possession of the Premises on the Closing Date. Following Closing, Purchaser shall perform the following work at its sole cost and expense:

(a) Relocation of Shed. Purchaser shall remove the existing 10' x 10' storage shed currently located on the Premises and reinstall the same onto the 10' x 10' concrete pad located on Seller's adjacent residential property. Purchaser shall complete all work required under this subsection in a professional, workmanlike manner within sixty (60) calendar days following the Closing Date, weather permitting, or some other period of time as the parties may agree.

(b) Relocation of Privacy Fence. Purchaser shall remove the existing privacy fence currently located along the approximate Northern property line of the Premises and reinstall the same along the boundary line separating the Premises being conveyed to Purchaser and Seller's adjacent residential property. Purchaser shall ensure the fence is structurally sound and aligned properly upon reinstallation. All work associated with removing and reinstalling the privacy fence shall be completed within sixty (60) calendar days following the Closing Date, weather permitting, or some other period of time as the parties may agree.

8. RIGHT OF ENTRY AND ACCESS.

8.1. During this Agreement, Purchaser and its employees, contractors, and agents shall have the right to enter and access the Premises at reasonable times for the purpose of surveying, testing, performing environmental impact studies, site planning, and other inspections or testing Purchaser deems necessary or desirable to determine if the Premises are suitable for Purchaser's use.

8.2. All inspections or testing shall be coordinated with Seller.

8.3. In the event that this sale does not take place, Purchaser, at its own expense, shall restore the Premises to substantially the same condition that existed on the date this Agreement was executed; to the extent such restoration is necessary due to Purchaser's actions.

9. DEFAULT OF SELLER. In the event Seller shall materially default in the performance of its obligations herein, Purchaser shall have the right, as its sole and exclusive remedies and in its sole discretion, elect to proceed under either 9.1 or 9.2, but not both.

9.1. Purchaser may specifically enforce this Agreement and require specific performance of this Agreement by judicial decree; or

9.2. Purchaser may terminate this Agreement and receive a full refund of the Deposit.

DEFAULT OF PURCHASER. In the event Purchaser shall materially default in the performance of its obligations herein to close on the purchase of the Premises, Seller may declare that Purchaser has forfeited all rights hereunder and retain the Deposit as liquidated damages. The retention of the deposit by Seller shall cancel this Agreement and be in full and final satisfaction of any and all claims that Seller may bring against Purchaser.

10. RISK OF LOSS. No risk of loss shall pass to Purchaser prior to the Closing Date. Except as otherwise provided in this Agreement, Purchaser acknowledges the following: (1) Seller has made no representations or warranties with respect to the Premises; (2) the inspection rights set forth in this Agreement are sufficient to enable Purchaser to inspect the Premises to determine if they are satisfactory to Purchaser; and (3) Purchaser is purchasing the Premises in its strictly 'AS IS, WHERE IS' condition, with all faults, as of the Closing Date. Seller explicitly disclaims, and Purchaser hereby waives, any and all representations or warranties of any kind, express or implied, oral or written, concerning the Premises, including, without limitation, any warranties regarding the physical, environmental, or geological condition of the land, the presence or absence of hazardous substances, or the suitability, adequacy, or fitness of the Premises for any particular purpose or intended use by Purchaser (including use as a public park or nature preserve). Purchaser relies entirely on its own due diligence investigations and assumes all risks associated with the utility, condition, and development of the Premises.

11. WARRANTIES BY SELLER. Seller warrants to Purchaser and certifies the following by execution of this Agreement:

11.1. Seller has full authority to enter into and perform this Agreement in accordance with its conditions, without breaching or defaulting any obligation or commitment that Seller has to any third parties; Seller will provide Purchaser with any reasonably necessary resolutions, waivers and consents or other documents that verify Seller has the requisite authority;

11.2. Seller is the fee simple owner of the Premises and will discharge any liens or other encumbrances prior to the Closing Date;

11.3. To Seller's knowledge, the legal description set forth in Exhibit A is an accurate description of the Premises and does not include any adjacent or contiguous land owned by Seller or any third party;

11.4. To Seller's knowledge, there are no leases, rights of first refusal, contracts, or other agreements of any kind with respect to the Premises, which would impair Purchaser's right to receive fee title absolute;

11.5. To Seller's knowledge, there are no lawsuits, actions, or proceedings pending or threatened by any party, including governmental authorities or agencies, against or involving the Premises which would affect Seller's ability to convey the Premises;

11.6. Seller has no notice or knowledge of any of the following:

11.6.1. any planned or commenced public improvements that might result in special assessments or otherwise directly and materially affect the Premises;

11.6.2. any government agency or court order requiring corrections of any existing conditions; and

11.6.3. any request by an insurer or a mortgagee of the Premises requiring correction of any existing conditions; and

11.7. Seller has not used the Premises for the purpose of disposing, refining, generating, manufacturing, producing, storing, handling, treating, transferring, processing or transporting Hazardous Materials. As used in this Agreement, the term "Hazardous Materials" shall mean any hazardous or toxic substances, wastes or materials, or flammable explosives, including, without limitation, those described in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, the Hazardous Materials Transportation Act, as amended, the Resource Conservation and Recovery Act, Parts 20, 211 and 213 of the Natural Resources Environmental Protection Act, and all rules, regulations and policies promulgated thereto (collectively, the "Environmental Laws").

12. WARRANTIES BY THE PURCHASER. Purchaser warrants the following to Seller:

12.1. Purchaser is a Michigan Constitutional and Municipal Corporation; and

12.2. Purchaser has full authority and funding to enter into and perform this Agreement in accordance with its conditions.

13. SURVIVAL OF THE WARRANTIES. The warranties of the Parties contained in this Agreement which are not otherwise merged into the deed shall survive for one (1) after the Closing Date.

14. LIABILITY. Seller shall indemnify, hold harmless, and defend Purchaser from any actual third-party liabilities, proven property damage, or bodily injury claims directly caused by the acts or omissions of Seller on the Premises prior to the Closing Date, except to the extent arising out of the acts of Purchaser or its employees, contractors, or agent(s). Seller shall be responsible for paying any and all judgments, damages awarded, costs and expenses

(including attorney fees and court costs) and any other liabilities that result from any such actual losses, claims, suits, causes of action, litigation, or other demands for damages of any kind directly caused by the acts or omissions of Seller on the Premises prior to the Closing Date.

15. CONDEMNATION/EMINENT DOMAIN.

15.1. In the event that all or any portion of the Premises shall be taken by the exercise of eminent domain or condemnation proceedings prior to the Closing Date, Purchaser may, at its option, terminate this Agreement by giving written notice to Seller. If Purchaser elects to terminate this Agreement as a result of a condemnation proceeding or exercise of eminent domain, then Purchaser shall receive a full refund of the Deposit.

15.2. If Purchaser does not elect to terminate this Agreement in the event of the exercise of eminent domain or condemnation, Purchaser shall accept title to the Premises without any reduction of the purchase price and Seller shall assign to Purchaser at Closing all of Seller's right, title, and interest in and to any resulting condemnation award.

16. NOTICE. Any notice, request, demand, consent, approval or other communication given hereunder shall be in writing and shall be sent by registered or certified mail, return receipt requested, addressed to the other Party at its address as set forth below:

Seller: Sharon L Onyskin
248-891-0793
Sharon.onyskin@gmail.com

With a copy to:
Michael K. Dorocak
Couzens, Lansky, PC
39395 W. 12 Mile Rd., Suite 200
Farmington Hills, MI 48331
michael.dorocak@couzens.com

Purchaser: Oakland County Parks and Recreation Commission
Attention: Director
2800 Watkins Lake Road
Waterford, Michigan 48328

Property Management Specialist
County of Oakland Department of Facilities Management
One Public Works Dr.
Waterford, Michigan 48328
248-858-5380

16.1. Any Party may change its address for notice by providing notice as required by this Section. Any notice by either Party shall be sufficient if signed on behalf of said Party by any elected or appointed official thereof.

17. TIME OF THE ESSENCE. Time is of the essence for this Agreement.

18. COMPLIANCE WITH LAWS. The Parties shall comply with all federal, state, and local laws, statutes, ordinances, and regulations, applicable to their activities under this Agreement.

19. NO IMPLIED WAIVER. Absent a written waiver, no act, failure to act, or delay to act by a Party to pursue or enforce any right or remedy under this Agreement shall constitute a waiver of those rights with regard to any existing or subsequent breach of this Agreement. No waiver of any term, condition, or provision of this Agreement, whether by conduct or otherwise, in one or more instances, shall be deemed or construed as a continuing waiver of any term, condition, or provision of this Agreement. No waiver by either Party shall subsequently affect its right to require strict performance of this Agreement.

20. SEVERABILITY. If a court of competent jurisdiction finds a term, condition, or provision of this Agreement to be illegal or invalid, then the term, condition, or provision shall be deemed severed from this Agreement. All other terms, conditions, and provisions of this Agreement shall remain in full force and effect.

21. CAPTIONS. The section and subsection numbers, captions, and any index to such sections and subsections contained in this Agreement are intended for the convenience of the reader and are not intended to have any substantive meaning and shall not be interpreted to limit or modify any substantive provisions of this Agreement. Any use of the singular or plural number, any reference to the male, female, or neuter genders, and any possessive or nonpossessive use in this Agreement shall be deemed the appropriate plurality, gender or possession as the context requires.

22. AGREEMENT MODIFICATIONS OR AMENDMENTS. Any modifications, amendments, rescissions, waivers, or releases to this Agreement must be in writing and signed by both Parties.

23. GOVERNING LAWS/CONSENT TO JURISDICTION AND VENUE. This Agreement shall be governed, interpreted, and enforced by the laws of the State of Michigan. Except as otherwise required by law or court rule, any action brought to enforce, interpret, or decide any claim arising under or related to this Agreement shall be brought in the Sixth Judicial Circuit Court of the State of Michigan, the 50th District Court of the State of Michigan, or the United States District Court for the Eastern District of Michigan, Southern Division, as dictated by the applicable jurisdiction of the court. Except as otherwise required by law or court rule, venue is proper in the courts set forth above. The choice of forum set forth above shall not be deemed to preclude the enforcement of any judgment obtained in such forum or taking action under this Agreement to enforce such judgment in any appropriate jurisdiction.

24. COUNTERPARTS. This Agreement may be executed in one or more counterpart copies, all of which together shall constitute and be deemed an original and shall constitute one and the same instrument binding on the Parties.

25. ENTIRE AGREEMENT. This document represents the entire agreement and understanding between the Parties. This Agreement supersedes all other prior oral or written understandings, communications, agreements or contracts between the Parties. The language of this Agreement shall be construed as a whole according to its fair meaning and not construed strictly for or against any Party.

PURCHASER: County of Oakland

_____
By: David T. Woodward, Chairperson, Oakland County Board of Commissioners

The Agreement was acknowledged before me in Oakland County, Michigan on this _____ day of _____, 2026 by _____.

_____
_____, Notary Public
Oakland County, Michigan
Acting in Oakland County, Michigan.
My Commission expires: _____.

SELLER:

Sharon L Onyskin
Sharon L Onyskin

The Agreement was acknowledged before me in Oakland County, Michigan on this 12th day of October, 2026 by Sharon L. Onyskin.

Lynn Rosenthal
Lynn Rosenthal, Notary Public
Oakland County, Michigan
Acting in Oakland County, Michigan.
My Commission expires: 5-6-2031

EXHIBIT A – LEGAL DESCRIPTIONS

The land referred to in this purchase is described as follows: City of Madison Heights, County of Oakland, State of Michigan

T1N, R11E, SEC 12 CR45C-5 PART OF NE 1/4, BEG AT PT DIST N 82-27-00 W 2440.03 FT & S 00-45-00 W 1338.89 FT FROM NE SEC COR, TH E 180 FT, TH S 00-45-00 W 80 FT, TH W 180 FT TH N 00-45-00 E 80 FT TO BEG 0.33 A

Parcel ID: 25-12-254-038

Backlot Parcel – Red Oaks Park

Photos 7.8.26



View from middle looking north



View from west looking east



View from south looking to Hales House



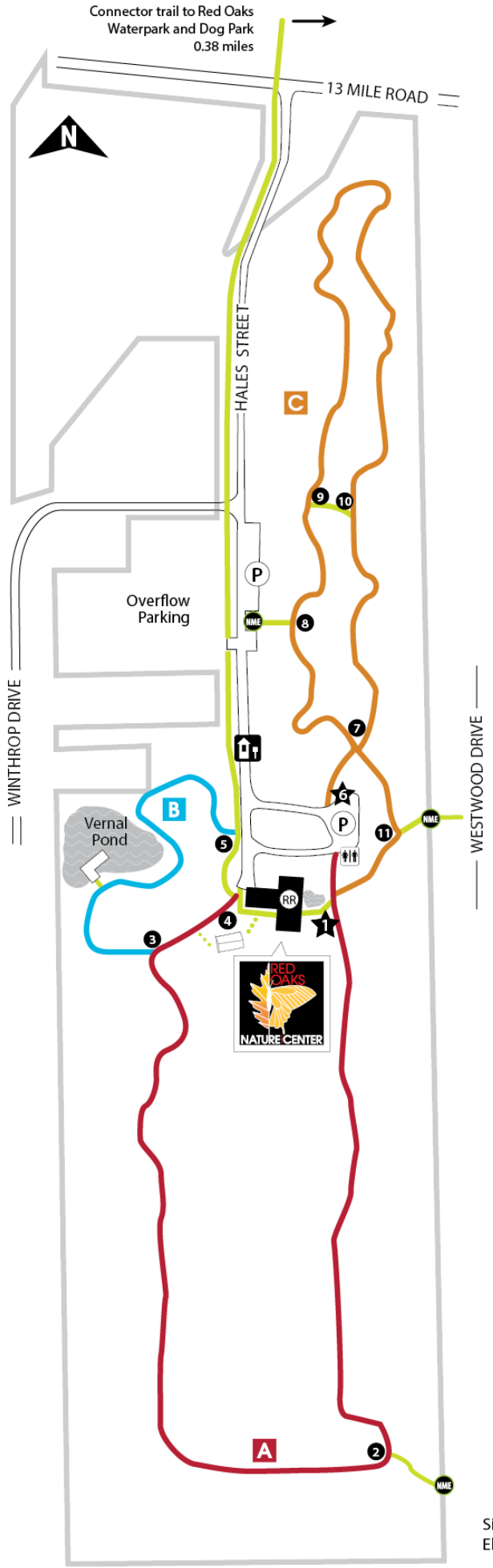
View looking north from SW corner



Sellers shed – needs to be moved



Sellers house – parcel is behind



Red Oaks County Park

30300 Hales Street
Madison Heights, MI 48071
248-585-0100

TRAIL	DIFFICULTY	DISTANCE	USE
A Forest Trail		0.6 miles	
B Sensory Trail		0.2 miles	
C Habitat Trail		0.6 miles	
Trail Links			

LEGEND

- Trailhead
- Paved Trail
- Unpaved Trail
- 1–11 Trail Intersections
- P Parking
- RR Restroom and drinking water
- Portable Restroom
- Park Entrance
- NME Non-motorized Entrance
- Boardwalk/Bridge

TRAIL REFERENCE POINT

Intersection where you are: 3
All maps oriented to North: Map
Direction of travel to next trail intersection: 4

Trail Use

Trail Difficulty

Easier
Moderate
Difficult
More Difficult

For information about the trails difficulty rating system visit OaklandCountyParks.com/trails

OAKLAND COUNTY PARKS
Great Parks for Great People

RETURN TO AGENDA

Oakland County Parks and Recreation Commission Agenda Item Memo

Agenda #: 10

Department: Administration

From: Thomas Hughes, Interim Manager – Park & Enterprise Operations

Subject: Springfield Oaks Residential Lease – Terry Foshia

RECOMMENDED MOTION

Move to approve the Residential Lease Agreement between the County of Oakland and Terry Foshia for property located at 12080 Clark Road, Davisburg, MI 48350, and forward to the Oakland County Board of Commissioners for approval.

INTRODUCTION AND HISTORY

In October 2026, the Oakland County Parks and Recreation Commission approved the Residential Property Lease Policy. The purpose of the policy is to set forth procedures and guidelines to manage residential properties located on Oakland County Parks property. The Oakland County Parks and Recreation Director shall oversee the implementation and interpretation of this policy. Under the new policy, residential lease rates will be adjusted to reflect current fair market value. To avoid a substantial and immediate financial impact on existing long-term tenants, any required rate increases will be phased in over a 5-year period.

The property under consideration is located within Springfield Oaks County Park at 12080 Clark Rd., Davisburg, MI 48350. The residence is 1,344 square feet, built in 1972, with 3 bedrooms, 2 baths, a 2-car garage, and a basement. The house has been occupied by Terry Foshia for several years and has been well-maintained.

We are requesting to move forward with a 5-year lease for Terry Foshia, incorporating the phased market-rate adjustment schedule. The lease includes the standard terms for early termination by either party as outlined in the Residential Property Lease Policy.

The attached lease agreement has been prepared and reviewed by Oakland County Corporation Counsel.

ATTACHMENTS

1. Residential Lease with Aerial Map – Foshia – Springfield Oaks

RESIDENTIAL LEASE AGREEMENT

NOTICE: MICHIGAN LAW ESTABLISHES RIGHTS AND OBLIGATIONS FOR PARTIES TO RENTAL AGREEMENTS. THIS AGREEMENT IS REQUIRED TO COMPLY WITH THE TRUTH IN RENTING ACT. IF YOU HAVE A QUESTION ABOUT THE INTERPRETATION OR LEGALITY OF A PROVISION OF THIS AGREEMENT, YOU MAY WANT TO SEEK ASSISTANCE FROM A LAWYER OR OTHER QUALIFIED PERSON.

This Lease Agreement ("Lease") is entered into between the County of Oakland, 1200 North Telegraph, Pontiac, MI 48341 ("Landlord"), by the through its statutory agent the Oakland County Parks and Recreation Commission ("OCPRC") and **Terry Foshia, 12080 Clark Road, Davisburg, MI 48350** ("Tenant") according to the terms and conditions set forth below.

1. Premises. Tenant leases from landlord the real property located at **, 12080 Clark Road, Davisburg, MI 48350** ("Premises"), together with any furnishings, fixtures, personal property, and appurtenances provided by Landlord for Tenant's use.

2. Term. The term of this Lease shall be for five (5) years, beginning on **January 1, 2027** and ending on **December 31, 2031**. References in this Lease to the term of the Lease shall include any renewal term(s). Tenant shall receive possession of the Premises upon execution of the Lease.

3. Tenant Monetary Obligations.

   3.1. Tenant shall pay Landlord the following rent on or before the first day of each month during the term of this Lease:

January 1, 2027 – December 31, 2027	**$ 1131.00**
January 1, 2028 – December 31, 2028	**$ 1226.00**
January 1, 2029 – December 31, 2029	**$ 1329.00**
January 1, 2030 – December 31, 2030	**$ 1440.00**
January 1, 2031 – December 31, 2031	**$ 1561.00**

   3.2. The rent shall be paid by check or money order made payable to the "County of Oakland" and sent to the following address: Oakland County Parks and Recreation, 2800 Watkins Lake Road, Waterford, Michigan 48328 or another address designated by Landlord in writing.

   3.3. Tenant shall pay the first monthly installment when Tenant executes this Lease. The first monthly installment shall be pro-rated for such month, if the Lease is executed on another day than the first day of the month.

   3.4. Tenant shall pay Landlord a late fee of $25 for each monthly installment not received by Landlord within five days of its due date. This increase shall be considered additional rent and shall compensate Landlord for costs incurred because of late payments. Landlord's right to collect this additional rent shall be in addition to Landlord's right to take action under other provisions of this Lease for Tenant's default in paying rent. Tenant shall pay all additional rent to Landlord promptly after the due date of the delinquent installment. All rent paid

after the due date and payments to cover checks that have been returned for insufficient funds must be paid at the place designated for payment, by cashier's check, certified check, or money order.

3.5. During the term of this Lease, Tenant shall obtain and maintain comprehensive personal liability or tenant's form insurance coverage in the minimum amount of One Hundred Thousand Dollars ($100,000.00). Tenant shall also provide the Landlord with a certificate of insurance coverage listing the County of Oakland and its employees, officers, and elected and appointed officials as additional insureds.

3.6. A tenant who has a reasonable apprehension of present danger to him or her or his or her child from domestic violence, sexual assault, or stalking may have special statutory rights to seek a release of rental obligation under MCL 554.601 b.

4. Use of Premises.

4.1. Tenant shall use the Premises for private residential purposes only. No persons other than the following listed person(s) shall occupy the Premises for more than fourteen (14) days during the term of this Lease without the prior written approval of Landlord:

Martha Foshia

Landlord's approval shall be given by the OCPRC Director or his or her designee.

4.2. Tenant shall not do any of the following or allow another person to do any of the following:

4.2.1 Create any excessive noise or public nuisance;
4.2.2 Do anything to the Premises or its surroundings that may be hazardous or that will cause Landlord's insurance to be cancelled or premiums to increase;
4.2.3 Deface or damage any part of the Premises;
4.2.4 Change the locks or install any additional locks or bolts without Landlord's prior written approval. Landlord's approval shall be given by the OCPRC Director or his or her designee;
4.2.5 Place a waterbed or other heavy article on the Premises without Landlord's prior written approval. Landlord's approval shall be given by the OCPRC Director or his or her designee;
4.2.6 Install any equipment or appliances that, in Landlord's opinion, would cause any unsafe conditions on or around the Premises;
4.2.7 Accumulate refuse on or around the Premises that might pose a health hazard to Tenant or to the surrounding properties;
4.2.8 Permit any flammable liquids or explosives to be kept on or around the Premises; and
4.2.9 Bring any animals on the Premises without Landlord's prior written approval. Landlord's approval shall be given by the OCPRC Director or his or her designee.

4.3 Tenant Duties.

4.3.1 To the extent permitted by law, Tenant shall secure and protect the Park

Property and facilities therein, especially during "Park Closed" hours. This shall include contacting and coordinating with police, fire or other agencies as may be required and the preparation of an Unusual Incident Report as required by Landlord.

4.3.2 Tenant shall arrange for emergency repair and maintenance services for Park Property and facilities, as needed.

4.3.3 Tenant shall make reports to the Park Supervisor or other entity as may be required by Landlord.

4.3.4 Landlord shall install smoke-detection devices for the Premises along with batteries at the time of installation. Tenant must regularly test the devices to ensure that they are operational and if not notify Landlord immediately. Tenants must never remove batteries from smoke-detection devices, except when necessary to replace the batteries.

4.3.5 Tenant shall be responsible for performing routine household maintenance necessary to maintain the Premises, including:

- Adding salt to the water softener, when applicable
- Replacing water filters for sinks, refrigerators, or other Landlord provided potable water systems
- Replacing HVAC furnace filters at recommended intervals.
- Replacing interior and exterior light bulbs serving the Premises.
- Replacing smoke detector and carbon monoxide detector batteries, unless equipped with sealed 10-year batteries.
- Maintaining sidewalks, porches, patios, and other residential areas in a clean and orderly condition.

4.3.6 The performance of "tenant duties," set forth in the Lease does not and is not intended to create an employee/employer relationship between Landlord and Tenant.

5. Use of Illegal Substances. Tenant shall not violate or knowingly allow another person to violate federal, state, or local laws regarding the use of controlled substances or the use of alcohol by minors in or around the Premises. When aware of a violation of this section, Landlord will file a formal police report.

6. Condition of Premises.

6.1. Except as otherwise expressly stated herein or in an Amendment to this Lease, Tenant acknowledges that no representations were made by Landlord about the condition of the Premises or promises to alter or to improve the Premises before or during the term of the Lease.

6.2. Throughout the term of the Lease, Tenant shall keep the Premises in a good and clean condition and shall allow no waste of the Premises or any utilities.

6.3. Except for normal wear and tear, Tenants shall return the Premises to Landlord in the same condition as they were upon commencement of this Lease, including cleanliness.

7. Utilities and Services for Premises. Tenant is responsible for the costs of utilities and services for the Premises and for establishing accounts, if they are not already established for the term of this Lease including but not limited to the following: (a) garbage removal; (b) water and sewer; (c) gas; (d) electricity; (e) ice removal, including salting the driveway and any walks surrounding the Premises or on the Premises; (f) telephones; (g) cable television; (h) Internet; and (i) cleaning for the interior of the building located on the Premises. All accounts for utilities and services shall be in the name of Tenant.

8. Maintenance, Repairs, and Damage to Premises.

8.1. Landlord shall provide snow removal services for the driveway on the Premises, including plowing and de-icing as follows: Snow removal will generally occur only when snow removal operations are being conducted for parking lots and roadways. Public park facilities, including parking lots, roads, and other public access areas, shall always receive priority over residential properties. Landlord is not obligated to dispatch equipment solely for snow removal at the Premises.

8.2. Landlord shall provide general lawn mowing for the Premises and line trimming services on a schedule consistent with OCPRC maintenance operations. Mowing frequency shall be determined solely by Landlord based on operational needs and weather conditions.

8.3. Tenant shall be responsible for clearing snow and applying de-icing materials to sidewalks, entry walkways, porch areas, and all door access points serving the Premises.

8.4. Tenant shall provide routine landscape maintenance of the Premises, including, but not limited to, weeding, maintaining landscape beds, replenishing mulch as needed, applying fertilizer at Tenant's discretion, trimming small shrubs and bushes, and performing other routine cosmetic landscape upkeep necessary to maintain the Premises.

8.5. Landlord shall provide repair and maintenance for the Premises and its parking lot or parking area, including but not limited to, building infrastructure, HVAC system, utility infrastructure, plumbing and electrical system. Tenant shall notify Landlord, in a timely manner and without delay, when there is a need for repairs to the Premises.

8.6. Except for normal wear and tear to the Premises, Tenant shall be liable for any damage to the Premises or other property of Landlord that is caused by the acts or omissions of Tenant or Tenant’s guests, including but not limited to broken glass and lost or broken keys. If damage occurs, Landlord or its agents shall make the necessary repairs and Tenant shall reimburse Landlord for all costs associated with the repairs. Such reimbursement shall be paid by Tenant within thirty (30) days of receiving an invoice from Landlord. If Landlord makes a claim and receives payment under its property insurance for damage to the Premises, then

Tenant shall only be liable to Landlord for the amount of the deductible for the property insurance for the Premises. Landlord shall send an invoice to Tenant for the amount of the deductible and Tenant shall pay this amount within thirty (30) days of receiving the invoice.

8.7. To the extent permitted by law, Landlord and Landlord's agents shall not be liable for any damage to property or loss of property that is caused by theft or casualty on the Premises. Landlord recommends that Tenant obtain insurance to protect Tenant's personal property against such loss or damage.

9. Decorations and Alterations to Premises. Tenant shall not alter or decorate the Premises, including but not limited to, removing any furnishings Landlord provides to Tenant, driving nails into the woodwork, painting or using any adhesive material on the walls without prior written approval from Landlord. Landlord's approval shall be given by the OCPRC Director or his or her designee. Landlord's approval of a particular decoration or alteration shall not be deemed consent to future decorations or alterations.

10. Assignment and Sublease of Premises. Tenant shall not assign or sublease the Premises or any portion thereof.

11. Access to the Premises. Tenant shall allow Landlord and Landlord's agents reasonable access to the Premises to inspect, repair, alter, or improve the Premises. Landlord and Landlord's agents shall have immediate access to the Premises in case of an emergency or if an emergency repair to the Premises is required. Tenant shall also allow insurance carriers and representatives, fire department inspectors, police, or local health authorities to inspect the Premises. Tenant shall allow Landlord or Landlord's agents to show the Premises to prospective tenants or purchasers at reasonable times during the sixty (60) days prior to the expiration of this Lease.

12. Vacation or Abandonment of the Premises. If Tenant removes substantially all Tenant's property from the Premises for a period of thirty (30) days, Landlord may immediately enter and redecorate the Premises without abatement of rent and proceed as if Tenant terminated this Lease. These acts by Landlord shall not affect Tenant's obligations under this Lease. If Tenant abandons the Premises before the Lease expires, all rent for the remainder of the term of the Lease shall immediately become due.

13. Damage or Destruction of the Premises. If a casualty partially destroys the Premises but they can be restored to a tenantable condition within thirty (30) days, Landlord shall repair the Premises with reasonable dispatch; however, Landlord's obligation to repair the Premises shall be limited to the amount of insurance proceeds actually received by Landlord. Tenant's obligation to pay rent shall be suspended while the Premises are untenantable. If a casualty damages the Premises to the extent that they cannot be restored to a habitable condition within thirty (30) days, either Party may terminate this Lease by giving the other party written notice within fifteen (15) days after the casualty. Landlord shall not be liable for any reasonable delay or for providing housing for Tenant during repairs.

14. Termination of Lease.

14.1. Tenant may terminate this Lease for any reason upon thirty (30) days written notice to Landlord.

14.2. Landlord may terminate this Lease for any reason upon ninety (90) days written notice to Tenant.

14.3. Upon termination of this Lease, Tenant shall surrender the Premises to Landlord in the same condition they were upon commencement of Lease, normal wear and tear excepted. Upon termination of this Lease, Tenant shall also notify Landlord of the move-out date, return all keys to the Premises to Landlord, and transfer all utility and service accounts into the name of the "County of Oakland."

15. Default of Lease and Landlord's Remedies.

16.1 If Tenant defaults on any obligations under this Lease or misrepresents any information in the application for this lease, Landlord may, on written notice to Tenant, terminate the Lease and enter the Premises as permitted by law; Tenant and any other occupants shall surrender the Premises to Landlord by the date stated in the notice. If Landlord terminates the Lease, Landlord may recover Landlord's expenses for enforcing Landlord's rights under the Lease and applicable law, including court costs and attorney fees, from Tenant, as permitted by statute; and rent for the rest of the term of the Lease shall immediately become due. Tenant may not be liable for the total accelerated amount because of Landlord's obligation to minimize damages, and either party may ask a court to determine the actual amount owed, if any. If Tenant fails to pay rent or any other sums when due to Landlord, Landlord serves a notice of default on Tenant as required by law, and Tenant fails to remit the amounts due before the notice period expires, the amount of court costs and attorney fees incurred by Landlord in enforcing Landlord's remedies and allowed by statute shall be added to the amount of the arrearage.

16.2 It is a violation of this Lease if Tenant, a member of Tenant's household, or any other person under Tenant's control unlawfully manufactures, delivers, possesses with intent to deliver, or possesses a controlled substance as defined by Michigan law anywhere on the Premises or surrounding the Premises. Pursuant to Michigan law, if Tenant violates this provision Landlord may serve a written demand for possession for termination of this Lease giving Tenant 24 hours' notice of the Lease termination and demand for possession. Tenant acknowledges that an order of eviction/writ of restitution may be issued by the court immediately after the entry of a judgment for possession. Tenant's initials:_____.

16. Hold Over. Tenant may, with Landlord's permission, continue to occupy the Premises after the term of this Lease expires without renewing this Lease or signing another Lease for the Premises. Such tenancy shall be on a month-to-month basis and subject to the provisions of this Lease except that the monthly rent shall increase by ten (10) percent from the rent for the last month of the term of the Lease, and Landlord may increase rent on thirty (30) days' notice to Tenant.

17. Notices. Any notices under this Lease shall be in writing and delivered to the recipient personally or by first class mail fully prepaid at the following locations:

Tenant: **Terry Foshia**

12080 Clark Road
Davisburg, MI 48350

Landlord: Oakland County Department of
Facilities Management Property Management
One Public Works Drive, Bldg. 95W
Waterford, MI 48328

and

Oakland County Parks and Recreation
Director
2800 Watkins Lake Road, Bldg. 97W
Waterford, MI 48328

Unless otherwise required by law, the date of service shall be the date of hand delivery or the mailing date.

18. Modifications. No modifications of this Lease shall be binding unless they are in writing and signed by Landlord and Tenant.

19. Whole Agreement. This Lease sets forth the entire agreement between Landlord and Tenant. There are no verbal or written agreements that are not contained in this Lease between the parties.

20. Binding Effect. This Lease shall bind and benefit the parties to the Lease and their heirs, personal representatives, successors, and permitted assigns.

21. Severability. If any provision of this Lease is invalid, unlawful, or unenforceable to any extent, the rest of the Lease and the application of the provision to the persons or circumstances other than those for which it is invalid, unlawful, or unenforceable are not affected.

22. Time of the Essence. Time shall be deemed to be of the essence in the performance of this Lease.

23. Effective Date. This Lease is effective on the date stated in Section 2.

TENANT LANDLORD

_____ _____

Date_____ Date_____


12080 Clark Rd,
Davisburg, MI 48350
Located At Springfield Oak
Eaton
Broadway
Dilley
Andersonville
Clark
Hall
Scott
Springfield Oaks Golf Course
12450 Andersonville Road
Davisburg, MI 48350
Clark
Andersonville

RETURN TO AGENDA

Oakland County Parks and Recreation Commission Agenda Item Memo

Agenda #: 11

Department: Administration

From: Thomas Hughes, Interim Manager – Park & Enterprise Operations

Subject: Groveland Oaks Residential Lease – Robert Hatt

RECOMMENDED MOTION

Move to approve the Residential Lease Agreement between the County of Oakland and Robert Hatt for property at 6000 Grange Hall Road, Holly, MI 48442, and forward to the Oakland County Board of Commissioners for approval.

INTRODUCTION AND HISTORY

In October 2026, the Oakland County Parks and Recreation Commission approved the Residential Property Lease Policy. The purpose of the policy is to set forth procedures and guidelines to manage residential properties located on Oakland County Parks property. The Oakland County Parks and Recreation Director shall oversee the implementation and interpretation of this policy. Under the new policy, residential lease rates will be adjusted to reflect current fair market value. To avoid a substantial and immediate financial impact on existing long-term tenants, any required rate increases will be phased in over a 5-year period.

The property under consideration is located within Groveland Oaks County Park at 6000 Grange Hall Road, Holly, MI 48442. The house has been occupied by Robert Hatt for several years and has been well-maintained. We are requesting to move forward with a 5-year lease for Robert Hatt, incorporating the phased market-rate adjustment schedule. The lease includes the standard terms for early termination by either party as outlined in the Residential Property Lease Policy.

The attached lease agreement has been prepared and reviewed by Oakland County Corporation Counsel.

ATTACHMENTS

1. Residential Lease with Aerial Map – Hatt – Groveland Oaks

RESIDENTIAL LEASE AGREEMENT

NOTICE: MICHIGAN LAW ESTABLISHES RIGHTS AND OBLIGATIONS FOR PARTIES TO RENTAL AGREEMENTS. THIS AGREEMENT IS REQUIRED TO COMPLY WITH THE TRUTH IN RENTING ACT. IF YOU HAVE A QUESTION ABOUT THE INTERPRETATION OR LEGALITY OF A PROVISION OF THIS AGREEMENT, YOU MAY WANT TO SEEK ASSISTANCE FROM A LAWYER OR OTHER QUALIFIED PERSON.

This Lease Agreement ("Lease") is entered into between the County of Oakland, 1200 North Telegraph, Pontiac, MI 48341 ("Landlord"), by the through its statutory agent the Oakland County Parks and Recreation Commission ("OCPRC") and **Robert Hatt, 6000 Grange Hall Road, Holly, MI 48442** ("Tenant") according to the terms and conditions set forth below.

1. Premises. Tenant leases from landlord the real property located at **, 6000 Grange Hall Road, Holly, MI 48442** ("Premises"), together with any furnishings, fixtures, personal property, and appurtenances provided by Landlord for Tenant's use.

2. Term. The term of this Lease shall be for five (5) years, beginning on **January 1, 2027** and ending on **December 31, 2031**. References in this Lease to the term of the Lease shall include any renewal term(s). Tenant shall receive possession of the Premises upon execution of the Lease.

3. Tenant Monetary Obligations.

   3.1. Tenant shall pay Landlord the following rent on or before the first day of each month during the term of this Lease:

January 1, 2027 – December 31, 2027	**$ 955.00**
January 1, 2028 – December 31, 2028	**$ 1053.00**
January 1, 2029 – December 31, 2029	**$ 1115.00**
January 1, 2030 – December 31, 2030	**$ 1180.00**
January 1, 2031 – December 31, 2031	**$ 1249.00**

   3.2. The rent shall be paid by check or money order made payable to the "County of Oakland" and sent to the following address: Oakland County Parks and Recreation, 2800 Watkins Lake Road, Waterford, Michigan 48328 or another address designated by Landlord in writing.

   3.3. Tenant shall pay the first monthly installment when Tenant executes this Lease. The first monthly installment shall be pro-rated for such month, if the Lease is executed on another day than the first day of the month.

   3.4. Tenant shall pay Landlord a late fee of $25 for each monthly installment not received by Landlord within five days of its due date. This increase shall be considered additional rent and shall compensate Landlord for costs incurred because of late payments. Landlord's right to collect this additional rent shall be in addition to Landlord's right to take action under other provisions of this Lease for Tenant's default in paying rent. Tenant shall pay all additional rent to Landlord promptly after the due date of the delinquent installment. All rent paid

after the due date and payments to cover checks that have been returned for insufficient funds must be paid at the place designated for payment, by cashier's check, certified check, or money order.

3.5. During the term of this Lease, Tenant shall obtain and maintain comprehensive personal liability or tenant's form insurance coverage in the minimum amount of One Hundred Thousand Dollars ($100,000.00). Tenant shall also provide the Landlord with a certificate of insurance coverage listing the County of Oakland and its employees, officers, and elected and appointed officials as additional insureds.

3.6. A tenant who has a reasonable apprehension of present danger to him or her or his or her child from domestic violence, sexual assault, or stalking may have special statutory rights to seek a release of rental obligation under MCL 554.601 b.

4. Use of Premises.

4.1. Tenant shall use the Premises for private residential purposes only. No persons other than the following listed person(s) shall occupy the Premises for more than fourteen (14) days during the term of this Lease without the prior written approval of Landlord:

Cattie Hatt

Landlord's approval shall be given by the OCPRC Director or his or her designee.

4.2. Tenant shall not do any of the following or allow another person to do any of the following:

4.2.1 Create any excessive noise or public nuisance;
4.2.2 Do anything to the Premises or its surroundings that may be hazardous or that will cause Landlord's insurance to be cancelled or premiums to increase;
4.2.3 Deface or damage any part of the Premises;
4.2.4 Change the locks or install any additional locks or bolts without Landlord's prior written approval. Landlord's approval shall be given by the OCPRC Director or his or her designee;
4.2.5 Place a waterbed or other heavy article on the Premises without Landlord's prior written approval. Landlord's approval shall be given by the OCPRC Director or his or her designee;
4.2.6 Install any equipment or appliances that, in Landlord's opinion, would cause any unsafe conditions on or around the Premises;
4.2.7 Accumulate refuse on or around the Premises that might pose a health hazard to Tenant or to the surrounding properties;
4.2.8 Permit any flammable liquids or explosives to be kept on or around the Premises; and
4.2.9 Bring any animals on the Premises without Landlord's prior written approval. Landlord's approval shall be given by the OCPRC Director or his or her designee.

4.3 Tenant Duties.

4.3.1 To the extent permitted by law, Tenant shall secure and protect the Park

Property and facilities therein, especially during "Park Closed" hours. This shall include contacting and coordinating with police, fire or other agencies as may be required and the preparation of an Unusual Incident Report as required by Landlord.

4.3.2 Tenant shall arrange for emergency repair and maintenance services for Park Property and facilities, as needed.

4.3.3 Tenant shall make reports to the Park Supervisor or other entity as may be required by Landlord.

4.3.4 Landlord shall install smoke-detection devices for the Premises along with batteries at the time of installation. Tenant must regularly test the devices to ensure that they are operational and if not notify Landlord immediately. Tenants must never remove batteries from smoke-detection devices, except when necessary to replace the batteries.

4.3.5 Tenant shall be responsible for performing routine household maintenance necessary to maintain the Premises, including:

- Adding salt to the water softener, when applicable
- Replacing water filters for sinks, refrigerators, or other Landlord provided potable water systems
- Replacing HVAC furnace filters at recommended intervals.
- Replacing interior and exterior light bulbs serving the Premises.
- Replacing smoke detector and carbon monoxide detector batteries, unless equipped with sealed 10-year batteries.
- Maintaining sidewalks, porches, patios, and other residential areas in a clean and orderly condition.

4.3.6 The performance of "tenant duties," set forth in the Lease does not and is not intended to create an employee/employer relationship between Landlord and Tenant.

5. Use of Illegal Substances. Tenant shall not violate or knowingly allow another person to violate federal, state, or local laws regarding the use of controlled substances or the use of alcohol by minors in or around the Premises. When aware of a violation of this section, Landlord will file a formal police report.

6. Condition of Premises.

6.1. Except as otherwise expressly stated herein or in an Amendment to this Lease, Tenant acknowledges that no representations were made by Landlord about the condition of the Premises or promises to alter or to improve the Premises before or during the term of the Lease.

6.2. Throughout the term of the Lease, Tenant shall keep the Premises in a good and clean condition and shall allow no waste of the Premises or any utilities.

6.3. Except for normal wear and tear, Tenants shall return the Premises to Landlord in the same condition as they were upon commencement of this Lease, including cleanliness.

7. Utilities and Services for Premises. Tenant is responsible for the costs of utilities and services for the Premises and for establishing accounts, if they are not already established for the term of this Lease including but not limited to the following: (a) garbage removal; (b) water and sewer; (c) gas; (d) electricity; (e) ice removal, including salting the driveway and any walks surrounding the Premises or on the Premises; (f) telephones; (g) cable television; (h) Internet; and (i) cleaning for the interior of the building located on the Premises. All accounts for utilities and services shall be in the name of Tenant.

8. Maintenance, Repairs, and Damage to Premises.

8.1. Landlord shall provide snow removal services for the driveway on the Premises, including plowing and de-icing as follows: Snow removal will generally occur only when snow removal operations are being conducted for parking lots and roadways. Public park facilities, including parking lots, roads, and other public access areas, shall always receive priority over residential properties. Landlord is not obligated to dispatch equipment solely for snow removal at the Premises.

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8.6. Except for normal wear and tear to the Premises, Tenant shall be liable for any damage to the Premises or other property of Landlord that is caused by the acts or omissions of Tenant or Tenant’s guests, including but not limited to broken glass and lost or broken keys. If damage occurs, Landlord or its agents shall make the necessary repairs and Tenant shall reimburse Landlord for all costs associated with the repairs. Such reimbursement shall be paid by Tenant within thirty (30) days of receiving an invoice from Landlord. If Landlord makes a claim and receives payment under its property insurance for damage to the Premises, then

Tenant shall only be liable to Landlord for the amount of the deductible for the property insurance for the Premises. Landlord shall send an invoice to Tenant for the amount of the deductible and Tenant shall pay this amount within thirty (30) days of receiving the invoice.

8.7. To the extent permitted by law, Landlord and Landlord's agents shall not be liable for any damage to property or loss of property that is caused by theft or casualty on the Premises. Landlord recommends that Tenant obtain insurance to protect Tenant's personal property against such loss or damage.

9. Decorations and Alterations to Premises. Tenant shall not alter or decorate the Premises, including but not limited to, removing any furnishings Landlord provides to Tenant, driving nails into the woodwork, painting or using any adhesive material on the walls without prior written approval from Landlord. Landlord's approval shall be given by the OCPRC Director or his or her designee. Landlord's approval of a particular decoration or alteration shall not be deemed consent to future decorations or alterations.

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11. Access to the Premises. Tenant shall allow Landlord and Landlord's agents reasonable access to the Premises to inspect, repair, alter, or improve the Premises. Landlord and Landlord's agents shall have immediate access to the Premises in case of an emergency or if an emergency repair to the Premises is required. Tenant shall also allow insurance carriers and representatives, fire department inspectors, police, or local health authorities to inspect the Premises. Tenant shall allow Landlord or Landlord's agents to show the Premises to prospective tenants or purchasers at reasonable times during the sixty (60) days prior to the expiration of this Lease.

12. Vacation or Abandonment of the Premises. If Tenant removes substantially all Tenant's property from the Premises for a period of thirty (30) days, Landlord may immediately enter and redecorate the Premises without abatement of rent and proceed as if Tenant terminated this Lease. These acts by Landlord shall not affect Tenant's obligations under this Lease. If Tenant abandons the Premises before the Lease expires, all rent for the remainder of the term of the Lease shall immediately become due.

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14. Termination of Lease.

14.1. Tenant may terminate this Lease for any reason upon thirty (30) days written notice to Landlord.

14.2. Landlord may terminate this Lease for any reason upon ninety (90) days written notice to Tenant.

14.3. Upon termination of this Lease, Tenant shall surrender the Premises to Landlord in the same condition they were upon commencement of Lease, normal wear and tear excepted. Upon termination of this Lease, Tenant shall also notify Landlord of the move-out date, return all keys to the Premises to Landlord, and transfer all utility and service accounts into the name of the "County of Oakland."

15. Default of Lease and Landlord's Remedies.

16.1 If Tenant defaults on any obligations under this Lease or misrepresents any information in the application for this lease, Landlord may, on written notice to Tenant, terminate the Lease and enter the Premises as permitted by law; Tenant and any other occupants shall surrender the Premises to Landlord by the date stated in the notice. If Landlord terminates the Lease, Landlord may recover Landlord's expenses for enforcing Landlord's rights under the Lease and applicable law, including court costs and attorney fees, from Tenant, as permitted by statute; and rent for the rest of the term of the Lease shall immediately become due. Tenant may not be liable for the total accelerated amount because of Landlord's obligation to minimize damages, and either party may ask a court to determine the actual amount owed, if any. If Tenant fails to pay rent or any other sums when due to Landlord, Landlord serves a notice of default on Tenant as required by law, and Tenant fails to remit the amounts due before the notice period expires, the amount of court costs and attorney fees incurred by Landlord in enforcing Landlord's remedies and allowed by statute shall be added to the amount of the arrearage.

16.2 It is a violation of this Lease if Tenant, a member of Tenant's household, or any other person under Tenant's control unlawfully manufactures, delivers, possesses with intent to deliver, or possesses a controlled substance as defined by Michigan law anywhere on the Premises or surrounding the Premises. Pursuant to Michigan law, if Tenant violates this provision Landlord may serve a written demand for possession for termination of this Lease giving Tenant 24 hours' notice of the Lease termination and demand for possession. Tenant acknowledges that an order of eviction/writ of restitution may be issued by the court immediately after the entry of a judgment for possession. Tenant's initials:_____.

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17. Notices. Any notices under this Lease shall be in writing and delivered to the recipient personally or by first class mail fully prepaid at the following locations:

Tenant: **Robert Hatt**

6000 Grange Hall Road
Holly, MI 48442

Landlord: Oakland County Department of
Facilities Management Property Management
One Public Works Drive, Bldg. 95W
Waterford, MI 48328

and

Oakland County Parks and Recreation
Director
2800 Watkins Lake Road, Bldg. 97W
Waterford, MI 48328

Unless otherwise required by law, the date of service shall be the date of hand delivery or the mailing date.

18. Modifications. No modifications of this Lease shall be binding unless they are in writing and signed by Landlord and Tenant.

19. Whole Agreement. This Lease sets forth the entire agreement between Landlord and Tenant. There are no verbal or written agreements that are not contained in this Lease between the parties.

20. Binding Effect. This Lease shall bind and benefit the parties to the Lease and their heirs, personal representatives, successors, and permitted assigns.

21. Severability. If any provision of this Lease is invalid, unlawful, or unenforceable to any extent, the rest of the Lease and the application of the provision to the persons or circumstances other than those for which it is invalid, unlawful, or unenforceable are not affected.

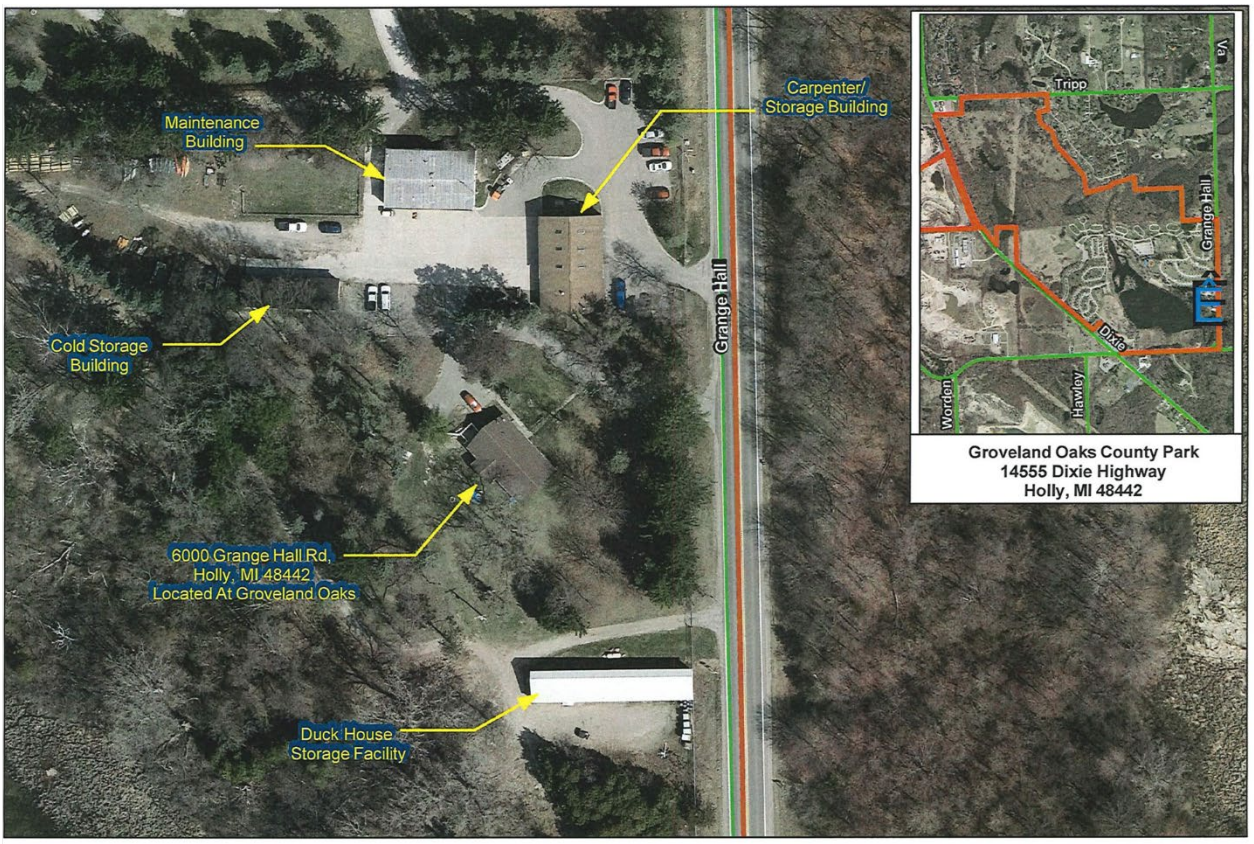
22. Time of the Essence. Time shall be deemed to be of the essence in the performance of this Lease.

23. Effective Date. This Lease is effective on the date stated in Section 2.

TENANT LANDLORD

_____ _____

Date_____ Date_____


Maintenance Building
Carpenter/ Storage Building
Cold Storage Building
Grange Hall
6000 Grange Hall Rd, Holly, MI 48442 Located At Groveland Oaks
Duck House Storage Facility
Tripp
Grange Hall
Dixie
Worden
Hawley
Groveland Oaks County Park
14555 Dixie Highway
Holly, MI 48442
OAKLAND COUNTY PARKS
Oakland County Parks and Recreation
2800 Watkins Lake Road
Waterford, MI
248-858-0906
WWW.OaklandCountyParks.com
Revision Date: August 19, 2025 By Dean Serafinowski

RETURN TO AGENDA

Oakland County Parks and Recreation Commission Agenda Item Memo

Agenda #: 12

Department: Administration

From: Thomas Hughes, Interim Manager – Park & Enterprise Operations

Subject: Waterford Oaks Residential Lease – Brad Lowe

RECOMMENDED MOTION

Move to approve the Residential Lease Agreement between the County of Oakland and Brad Lowe for property located at 2930 Watkins Lake Road, Waterford, MI 48328, and forward to the Oakland County Board of Commissioners for approval.

INTRODUCTION AND HISTORY

In October 2026, the Oakland County Parks and Recreation Commission approved the Residential Property Lease Policy. The purpose of the policy is to set forth procedures and guidelines to manage residential properties located on Oakland County Parks property. The Oakland County Parks and Recreation Director shall oversee the implementation and interpretation of this policy. Under the new policy, residential lease rates will be adjusted to reflect current fair market value. To avoid a substantial and immediate financial impact on existing long-term tenants, any required rate increases will be phased in over a 5-year period.

The property under consideration is located within Waterford Oaks County Park at 2930 Watkins Lake Road, Waterford, MI 48328. The house has been occupied by Brad Lowe for several years and has been well-maintained. We are requesting to move forward with a 5-year lease for Brad Lowe, incorporating the phased market-rate adjustment schedule. The lease includes the standard terms for early termination by either party as outlined in the Residential Property Lease Policy.

The attached lease agreement has been prepared and reviewed by Oakland County Corporation Counsel.

ATTACHMENTS

1. Residential Lease with Aerial Map – Lowe Waterford Oaks

RESIDENTIAL LEASE AGREEMENT

NOTICE: MICHIGAN LAW ESTABLISHES RIGHTS AND OBLIGATIONS FOR PARTIES TO RENTAL AGREEMENTS. THIS AGREEMENT IS REQUIRED TO COMPLY WITH THE TRUTH IN RENTING ACT. IF YOU HAVE A QUESTION ABOUT THE INTERPRETATION OR LEGALITY OF A PROVISION OF THIS AGREEMENT, YOU MAY WANT TO SEEK ASSISTANCE FROM A LAWYER OR OTHER QUALIFIED PERSON.

This Lease Agreement ("Lease") is entered into between the County of Oakland, 1200 North Telegraph, Pontiac, MI 48341 ("Landlord"), by the through its statutory agent the Oakland County Parks and Recreation Commission ("OCPRC") and **Brad Lowe, 2930 Watkins Lake Road, Waterford, MI 48328** ("Tenant") according to the terms and conditions set forth below.

1. Premises. Tenant leases from landlord the real property located at **, 2930 Watkins Lake Road, Waterford, MI 48328** ("Premises"), together with any furnishings, fixtures, personal property, and appurtenances provided by Landlord for Tenant's use.

2. Term. The term of this Lease shall be for five (5) years, beginning on **January 1, 2027** and ending on **December 31, 2031**. References in this Lease to the term of the Lease shall include any renewal term(s). Tenant shall receive possession of the Premises upon execution of the Lease.

3. Tenant Monetary Obligations.

   3.1. Tenant shall pay Landlord the following rent on or before the first day of each month during the term of this Lease:

January 1, 2027 – December 31, 2027	**$ 1266.00**
January 1, 2028 – December 31, 2028	**$ 1418.00**
January 1, 2029 – December 31, 2029	**$1570.00**
January 1, 2030 – December 31, 2030	**$ 1722.00**
January 1, 2031 – December 31, 2031	**$ 1873.00**

   3.2. The rent shall be paid by check or money order made payable to the "County of Oakland" and sent to the following address: Oakland County Parks and Recreation, 2800 Watkins Lake Road, Waterford, Michigan 48328 or another address designated by Landlord in writing.

   3.3. Tenant shall pay the first monthly installment when Tenant executes this Lease. The first monthly installment shall be pro-rated for such month, if the Lease is executed on another day than the first day of the month.

   3.4. Tenant shall pay Landlord a late fee of $25 for each monthly installment not received by Landlord within five days of its due date. This increase shall be considered additional rent and shall compensate Landlord for costs incurred because of late payments. Landlord's right to collect this additional rent shall be in addition to Landlord's right to take action under other provisions of this Lease for Tenant's default in paying rent. Tenant shall pay all additional rent to Landlord promptly after the due date of the delinquent installment. All rent paid

after the due date and payments to cover checks that have been returned for insufficient funds must be paid at the place designated for payment, by cashier's check, certified check, or money order.

3.5. During the term of this Lease, Tenant shall obtain and maintain comprehensive personal liability or tenant's form insurance coverage in the minimum amount of One Hundred Thousand Dollars ($100,000.00). Tenant shall also provide the Landlord with a certificate of insurance coverage listing the County of Oakland and its employees, officers, and elected and appointed officials as additional insureds.

3.6. A tenant who has a reasonable apprehension of present danger to him or her or his or her child from domestic violence, sexual assault, or stalking may have special statutory rights to seek a release of rental obligation under MCL 554.601 b.

4. Use of Premises.

4.1. Tenant shall use the Premises for private residential purposes only. No persons other than the following listed person(s) shall occupy the Premises for more than fourteen (14) days during the term of this Lease without the prior written approval of Landlord:

Brad Lowe

Landlord's approval shall be given by the OCPRC Director or his or her designee.

4.2. Tenant shall not do any of the following or allow another person to do any of the following:

4.2.1 Create any excessive noise or public nuisance;
4.2.2 Do anything to the Premises or its surroundings that may be hazardous or that will cause Landlord's insurance to be cancelled or premiums to increase;
4.2.3 Deface or damage any part of the Premises;
4.2.4 Change the locks or install any additional locks or bolts without Landlord's prior written approval. Landlord's approval shall be given by the OCPRC Director or his or her designee;
4.2.5 Place a waterbed or other heavy article on the Premises without Landlord's prior written approval. Landlord's approval shall be given by the OCPRC Director or his or her designee;
4.2.6 Install any equipment or appliances that, in Landlord's opinion, would cause any unsafe conditions on or around the Premises;
4.2.7 Accumulate refuse on or around the Premises that might pose a health hazard to Tenant or to the surrounding properties;
4.2.8 Permit any flammable liquids or explosives to be kept on or around the Premises; and
4.2.9 Bring any animals on the Premises without Landlord's prior written approval. Landlord's approval shall be given by the OCPRC Director or his or her designee.

4.3 Tenant Duties.

4.3.1 To the extent permitted by law, Tenant shall secure and protect the Park

Property and facilities therein, especially during "Park Closed" hours. This shall include contacting and coordinating with police, fire or other agencies as may be required and the preparation of an Unusual Incident Report as required by Landlord.

4.3.2 Tenant shall arrange for emergency repair and maintenance services for Park Property and facilities, as needed.

4.3.3 Tenant shall make reports to the Park Supervisor or other entity as may be required by Landlord.

4.3.4 Landlord shall install smoke-detection devices for the Premises along with batteries at the time of installation. Tenant must regularly test the devices to ensure that they are operational and if not notify Landlord immediately. Tenants must never remove batteries from smoke-detection devices, except when necessary to replace the batteries.

4.3.5 Tenant shall be responsible for performing routine household maintenance necessary to maintain the Premises, including:

- Adding salt to the water softener, when applicable
- Replacing water filters for sinks, refrigerators, or other Landlord provided potable water systems
- Replacing HVAC furnace filters at recommended intervals.
- Replacing interior and exterior light bulbs serving the Premises.
- Replacing smoke detector and carbon monoxide detector batteries, unless equipped with sealed 10-year batteries.
- Maintaining sidewalks, porches, patios, and other residential areas in a clean and orderly condition.

4.3.6 The performance of "tenant duties," set forth in the Lease does not and is not intended to create an employee/employer relationship between Landlord and Tenant.

5. Use of Illegal Substances. Tenant shall not violate or knowingly allow another person to violate federal, state, or local laws regarding the use of controlled substances or the use of alcohol by minors in or around the Premises. When aware of a violation of this section, Landlord will file a formal police report.

6. Condition of Premises.

6.1. Except as otherwise expressly stated herein or in an Amendment to this Lease, Tenant acknowledges that no representations were made by Landlord about the condition of the Premises or promises to alter or to improve the Premises before or during the term of the Lease.

6.2. Throughout the term of the Lease, Tenant shall keep the Premises in a good and clean condition and shall allow no waste of the Premises or any utilities.

6.3. Except for normal wear and tear, Tenants shall return the Premises to Landlord in the same condition as they were upon commencement of this Lease, including cleanliness.

7. Utilities and Services for Premises. Tenant is responsible for the costs of utilities and services for the Premises and for establishing accounts, if they are not already established for the term of this Lease including but not limited to the following: (a) garbage removal; (b) water and sewer; (c) gas; (d) electricity; (e) ice removal, including salting the driveway and any walks surrounding the Premises or on the Premises; (f) telephones; (g) cable television; (h) Internet; and (i) cleaning for the interior of the building located on the Premises. All accounts for utilities and services shall be in the name of Tenant.

8. Maintenance, Repairs, and Damage to Premises.

8.1. Landlord shall provide snow removal services for the driveway on the Premises, including plowing and de-icing as follows: Snow removal will generally occur only when snow removal operations are being conducted for parking lots and roadways. Public park facilities, including parking lots, roads, and other public access areas, shall always receive priority over residential properties. Landlord is not obligated to dispatch equipment solely for snow removal at the Premises.

8.2. Landlord shall provide general lawn mowing for the Premises and line trimming services on a schedule consistent with OCPRC maintenance operations. Mowing frequency shall be determined solely by Landlord based on operational needs and weather conditions.

8.3. Tenant shall be responsible for clearing snow and applying de-icing materials to sidewalks, entry walkways, porch areas, and all door access points serving the Premises.

8.4. Tenant shall provide routine landscape maintenance of the Premises, including, but not limited to, weeding, maintaining landscape beds, replenishing mulch as needed, applying fertilizer at Tenant's discretion, trimming small shrubs and bushes, and performing other routine cosmetic landscape upkeep necessary to maintain the Premises.

8.5. Landlord shall provide repair and maintenance for the Premises and its parking lot or parking area, including but not limited to, building infrastructure, HVAC system, utility infrastructure, plumbing and electrical system. Tenant shall notify Landlord, in a timely manner and without delay, when there is a need for repairs to the Premises.

8.6. Except for normal wear and tear to the Premises, Tenant shall be liable for any damage to the Premises or other property of Landlord that is caused by the acts or omissions of Tenant or Tenant’s guests, including but not limited to broken glass and lost or broken keys. If damage occurs, Landlord or its agents shall make the necessary repairs and Tenant shall reimburse Landlord for all costs associated with the repairs. Such reimbursement shall be paid by Tenant within thirty (30) days of receiving an invoice from Landlord. If Landlord makes a claim and receives payment under its property insurance for damage to the Premises, then

Tenant shall only be liable to Landlord for the amount of the deductible for the property insurance for the Premises. Landlord shall send an invoice to Tenant for the amount of the deductible and Tenant shall pay this amount within thirty (30) days of receiving the invoice.

8.7. To the extent permitted by law, Landlord and Landlord's agents shall not be liable for any damage to property or loss of property that is caused by theft or casualty on the Premises. Landlord recommends that Tenant obtain insurance to protect Tenant's personal property against such loss or damage.

9. Decorations and Alterations to Premises. Tenant shall not alter or decorate the Premises, including but not limited to, removing any furnishings Landlord provides to Tenant, driving nails into the woodwork, painting or using any adhesive material on the walls without prior written approval from Landlord. Landlord's approval shall be given by the OCPRC Director or his or her designee. Landlord's approval of a particular decoration or alteration shall not be deemed consent to future decorations or alterations.

10. Assignment and Sublease of Premises. Tenant shall not assign or sublease the Premises or any portion thereof.

11. Access to the Premises. Tenant shall allow Landlord and Landlord's agents reasonable access to the Premises to inspect, repair, alter, or improve the Premises. Landlord and Landlord's agents shall have immediate access to the Premises in case of an emergency or if an emergency repair to the Premises is required. Tenant shall also allow insurance carriers and representatives, fire department inspectors, police, or local health authorities to inspect the Premises. Tenant shall allow Landlord or Landlord's agents to show the Premises to prospective tenants or purchasers at reasonable times during the sixty (60) days prior to the expiration of this Lease.

12. Vacation or Abandonment of the Premises. If Tenant removes substantially all Tenant's property from the Premises for a period of thirty (30) days, Landlord may immediately enter and redecorate the Premises without abatement of rent and proceed as if Tenant terminated this Lease. These acts by Landlord shall not affect Tenant's obligations under this Lease. If Tenant abandons the Premises before the Lease expires, all rent for the remainder of the term of the Lease shall immediately become due.

13. Damage or Destruction of the Premises. If a casualty partially destroys the Premises but they can be restored to a tenantable condition within thirty (30) days, Landlord shall repair the Premises with reasonable dispatch; however, Landlord's obligation to repair the Premises shall be limited to the amount of insurance proceeds actually received by Landlord. Tenant's obligation to pay rent shall be suspended while the Premises are untenantable. If a casualty damages the Premises to the extent that they cannot be restored to a habitable condition within thirty (30) days, either Party may terminate this Lease by giving the other party written notice within fifteen (15) days after the casualty. Landlord shall not be liable for any reasonable delay or for providing housing for Tenant during repairs.

14. Termination of Lease.

14.1. Tenant may terminate this Lease for any reason upon thirty (30) days written notice to Landlord.

14.2. Landlord may terminate this Lease for any reason upon ninety (90) days written notice to Tenant.

14.3. Upon termination of this Lease, Tenant shall surrender the Premises to Landlord in the same condition they were upon commencement of Lease, normal wear and tear excepted. Upon termination of this Lease, Tenant shall also notify Landlord of the move-out date, return all keys to the Premises to Landlord, and transfer all utility and service accounts into the name of the "County of Oakland."

15. Default of Lease and Landlord's Remedies.

16.1 If Tenant defaults on any obligations under this Lease or misrepresents any information in the application for this lease, Landlord may, on written notice to Tenant, terminate the Lease and enter the Premises as permitted by law; Tenant and any other occupants shall surrender the Premises to Landlord by the date stated in the notice. If Landlord terminates the Lease, Landlord may recover Landlord's expenses for enforcing Landlord's rights under the Lease and applicable law, including court costs and attorney fees, from Tenant, as permitted by statute; and rent for the rest of the term of the Lease shall immediately become due. Tenant may not be liable for the total accelerated amount because of Landlord's obligation to minimize damages, and either party may ask a court to determine the actual amount owed, if any. If Tenant fails to pay rent or any other sums when due to Landlord, Landlord serves a notice of default on Tenant as required by law, and Tenant fails to remit the amounts due before the notice period expires, the amount of court costs and attorney fees incurred by Landlord in enforcing Landlord's remedies and allowed by statute shall be added to the amount of the arrearage.

16.2 It is a violation of this Lease if Tenant, a member of Tenant's household, or any other person under Tenant's control unlawfully manufactures, delivers, possesses with intent to deliver, or possesses a controlled substance as defined by Michigan law anywhere on the Premises or surrounding the Premises. Pursuant to Michigan law, if Tenant violates this provision Landlord may serve a written demand for possession for termination of this Lease giving Tenant 24 hours' notice of the Lease termination and demand for possession. Tenant acknowledges that an order of eviction/writ of restitution may be issued by the court immediately after the entry of a judgment for possession. Tenant's initials:_____.

16. Hold Over. Tenant may, with Landlord's permission, continue to occupy the Premises after the term of this Lease expires without renewing this Lease or signing another Lease for the Premises. Such tenancy shall be on a month-to-month basis and subject to the provisions of this Lease except that the monthly rent shall increase by ten (10) percent from the rent for the last month of the term of the Lease, and Landlord may increase rent on thirty (30) days' notice to Tenant.

17. Notices. Any notices under this Lease shall be in writing and delivered to the recipient personally or by first class mail fully prepaid at the following locations:

Tenant: **Brad Lowe**

2930 Watkins Lake Road
Waterford, MI 48328

Landlord: Oakland County Department of
Facilities Management Property Management
One Public Works Drive, Bldg. 95W
Waterford, MI 48328

and

Oakland County Parks and Recreation
Director
2800 Watkins Lake Road, Bldg. 97W
Waterford, MI 48328

Unless otherwise required by law, the date of service shall be the date of hand delivery or the mailing date.

18. Modifications. No modifications of this Lease shall be binding unless they are in writing and signed by Landlord and Tenant.

19. Whole Agreement. This Lease sets forth the entire agreement between Landlord and Tenant. There are no verbal or written agreements that are not contained in this Lease between the parties.

20. Binding Effect. This Lease shall bind and benefit the parties to the Lease and their heirs, personal representatives, successors, and permitted assigns.

21. Severability. If any provision of this Lease is invalid, unlawful, or unenforceable to any extent, the rest of the Lease and the application of the provision to the persons or circumstances other than those for which it is invalid, unlawful, or unenforceable are not affected.

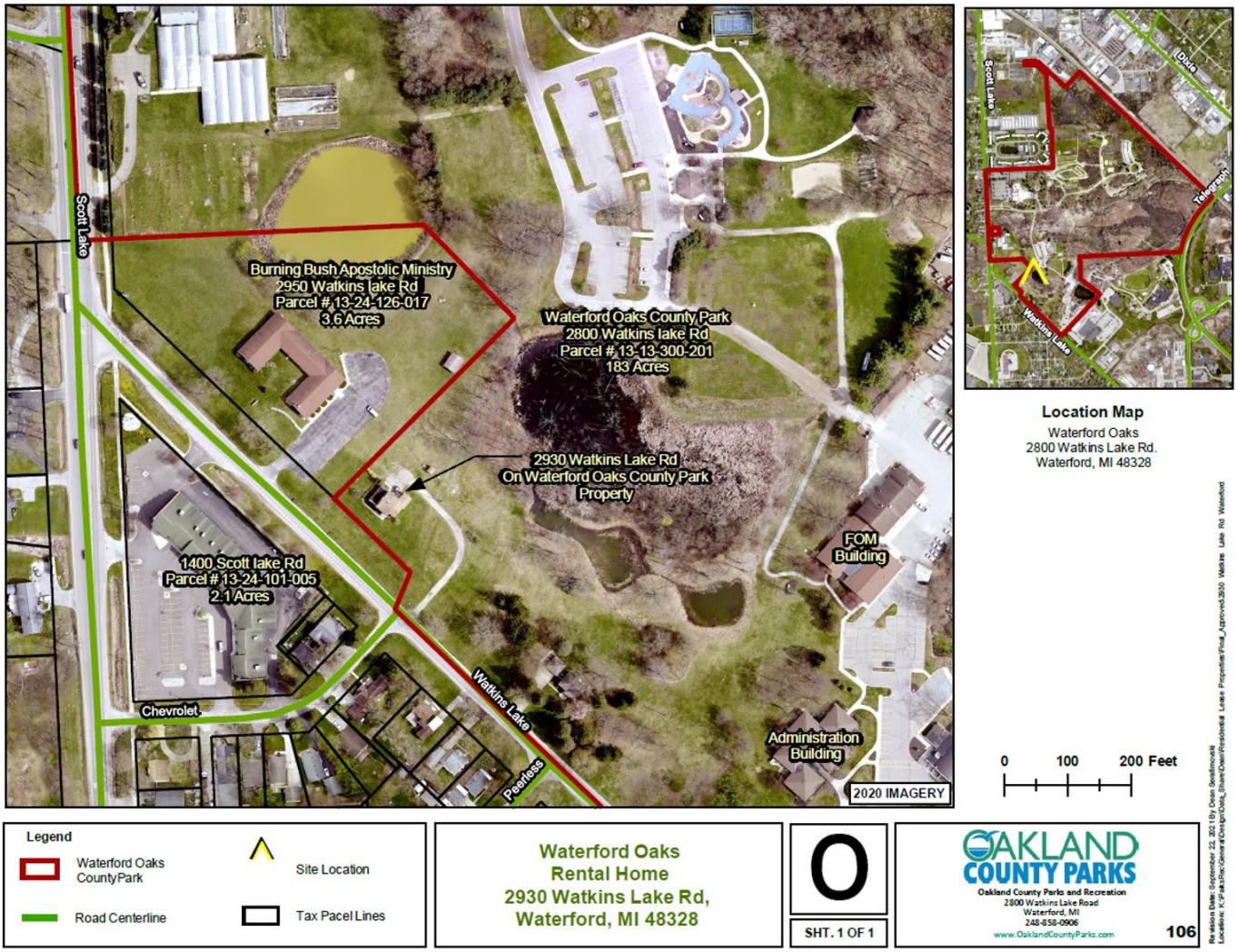
22. Time of the Essence. Time shall be deemed to be of the essence in the performance of this Lease.

23. Effective Date. This Lease is effective on the date stated in Section 2.

TENANT LANDLORD

_____ _____

Date_____ Date_____


Scott Lake
Burning Bush Apostolic Ministry
2950 Watkins lake Rd
Parcel #13-24-126-017
3.6 Acres
Waterford Oaks County Park
2800 Watkins lake Rd
Parcel #13-13-300-201
183 Acres
2930 Watkins Lake Rd
On Waterford Oaks County Park
Property
FOM
Building
1400 Scott lake Rd
Parcel #13-24-101-005
2.1 Acres
Chevrolet
Watkins Lake
Peerless
Administration
Building
2020 IMAGERY
Location Map
Waterford Oaks
2800 Watkins Lake Rd.
Waterford, MI 48328
0
100
200 Feet
Legend
Waterford Oaks CountyPark
Site Location
Road Centerline
Tax Pacel Lines
Waterford Oaks
Rental Home
2930 Watkins Lake Rd,
Waterford, MI 48328
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SHT. 1 OF 1
OAKLAND COUNTY PARKS
Oakland County Parks and Recreation
2800 Watkins Lake Road
Waterford, MI
248-858-0906
www.OaklandCountyParks.com
106

RETURN TO AGENDA

Oakland County Parks and Recreation Commission Agenda Item Memo

Agenda #: 13

Department: Administration

From: Thomas Hughes, Interim Manager – Park & Enterprise Operations

Subject: Waterford Oaks Residential Lease – Chris Rowland

RECOMMENDED MOTION

Move to approve the Residential Lease Agreement between the County of Oakland and Chris Rowland for property at 2866 Watkins Lake Road, Waterford, MI 48328, and forward to the Oakland County Board of Commissioners for approval.

INTRODUCTION AND HISTORY

In October 2026, the Oakland County Parks and Recreation Commission approved the Residential Property Lease Policy. The purpose of the policy is to set forth procedures and guidelines to manage residential properties located on Oakland County Parks property. The Oakland County Parks and Recreation Director shall oversee the implementation and interpretation of this policy. Under the new policy, residential lease rates will be adjusted to reflect current fair market value. To avoid a substantial and immediate financial impact on existing long-term tenants, any required rate increases will be phased in over a 5-year period.

The property under consideration is located within Waterford Oaks County Park at 2866 Watkins Lake Road, Waterford, MI 48328. The house has been occupied by Chris Rowland for several years and has been well-maintained. We are requesting to move forward with a 5-year lease for Chris Rowland, incorporating the phased market-rate adjustment schedule. The lease includes the standard terms for early termination by either party as outlined in the Residential Property Lease Policy.

The attached lease agreement has been prepared and reviewed by Oakland County Corporation Counsel.

ATTACHMENTS

1. Residential Lease with Aerial Map – Rowland Waterford Oaks

RESIDENTIAL LEASE AGREEMENT

NOTICE: MICHIGAN LAW ESTABLISHES RIGHTS AND OBLIGATIONS FOR PARTIES TO RENTAL AGREEMENTS. THIS AGREEMENT IS REQUIRED TO COMPLY WITH THE TRUTH IN RENTING ACT. IF YOU HAVE A QUESTION ABOUT THE INTERPRETATION OR LEGALITY OF A PROVISION OF THIS AGREEMENT, YOU MAY WANT TO SEEK ASSISTANCE FROM A LAWYER OR OTHER QUALIFIED PERSON.

This Lease Agreement ("Lease") is entered into between the County of Oakland, 1200 North Telegraph, Pontiac, MI 48341 ("Landlord"), by the through its statutory agent the Oakland County Parks and Recreation Commission ("OCPRC") and **Chris Rowland, 2866 Watkins Lake Road, Waterford, MI 48328** ("Tenant") according to the terms and conditions set forth below.

1. Premises. Tenant leases from landlord the real property located at **, 2866 Watkins Lake Road, Waterford, MI 48328** ("Premises"), together with any furnishings, fixtures, personal property, and appurtenances provided by Landlord for Tenant's use.

2. Term. The term of this Lease shall be for five (5) years, beginning on **January 1, 2027** and ending on **December 31, 2031**. References in this Lease to the term of the Lease shall include any renewal term(s). Tenant shall receive possession of the Premises upon execution of the Lease.

3. Tenant Monetary Obligations.

   3.1. Tenant shall pay Landlord the following rent on or before the first day of each month during the term of this Lease:

January 1, 2027 – December 31, 2027	**$ 808.00**
January 1, 2028 – December 31, 2028	**$ 918.00**
January 1, 2029 – December 31, 2029	**$ 1028.00**
January 1, 2030 – December 31, 2030	**$ 1138.00**
January 1, 2031 – December 31, 2031	**$ 1249.00**

   3.2. The rent shall be paid by check or money order made payable to the "County of Oakland" and sent to the following address: Oakland County Parks and Recreation, 2800 Watkins Lake Road, Waterford, Michigan 48328 or another address designated by Landlord in writing.

   3.3. Tenant shall pay the first monthly installment when Tenant executes this Lease. The first monthly installment shall be pro-rated for such month, if the Lease is executed on another day than the first day of the month.

   3.4. Tenant shall pay Landlord a late fee of $25 for each monthly installment not received by Landlord within five days of its due date. This increase shall be considered additional rent and shall compensate Landlord for costs incurred because of late payments. Landlord's right to collect this additional rent shall be in addition to Landlord's right to take action under other provisions of this Lease for Tenant's default in paying rent. Tenant shall pay all additional rent to

Landlord promptly after the due date of the delinquent installment. All rent paid after the due date and payments to cover checks that have been returned for insufficient funds must be paid at the place designated for payment, by cashier's check, certified check, or money order.

3.5. During the term of this Lease, Tenant shall obtain and maintain comprehensive personal liability or tenant's form insurance coverage in the minimum amount of One Hundred Thousand Dollars ($100,000.00). Tenant shall also provide the Landlord with a certificate of insurance coverage listing the County of Oakland and its employees, officers, and elected and appointed officials as additional insureds.

3.6. A tenant who has a reasonable apprehension of present danger to him or her or his or her child from domestic violence, sexual assault, or stalking may have special statutory rights to seek a release of rental obligation under MCL 554.601 b.

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Chris Rowland

Landlord's approval shall be given by the OCPRC Director or his or her designee.

4.2. Tenant shall not do any of the following or allow another person to do any of the following:

4.2.1 Create any excessive noise or public nuisance;
4.2.2 Do anything to the Premises or its surroundings that may be hazardous or that will cause Landlord's insurance to be cancelled or premiums to increase;
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- Adding salt to the water softener, when applicable
- Replacing water filters for sinks, refrigerators, or other Landlord provided potable water systems
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days of receiving an invoice from Landlord. If Landlord makes a claim and receives payment under its property insurance for damage to the Premises, then Tenant shall only be liable to Landlord for the amount of the deductible for the property insurance for the Premises. Landlord shall send an invoice to Tenant for the amount of the deductible and Tenant shall pay this amount within thirty (30) days of receiving the invoice.

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11. Access to the Premises. Tenant shall allow Landlord and Landlord's agents reasonable access to the Premises to inspect, repair, alter, or improve the Premises. Landlord and Landlord's agents shall have immediate access to the Premises in case of an emergency or if an emergency repair to the Premises is required. Tenant shall also allow insurance carriers and representatives, fire department inspectors, police, or local health authorities to inspect the Premises. Tenant shall allow Landlord or Landlord's agents to show the Premises to prospective tenants or purchasers at reasonable times during the sixty (60) days prior to the expiration of this Lease.

12. Vacation or Abandonment of the Premises. If Tenant removes substantially all Tenant's property from the Premises for a period of thirty (30) days, Landlord may immediately enter and redecorate the Premises without abatement of rent and proceed as if Tenant terminated this Lease. These acts by Landlord shall not affect Tenant's obligations under this Lease. If Tenant abandons the Premises before the Lease expires, all rent for the remainder of the term of the Lease shall immediately become due.

13. Damage or Destruction of the Premises. If a casualty partially destroys the Premises but they can be restored to a tenantable condition within thirty (30) days, Landlord shall repair the Premises with reasonable dispatch; however, Landlord's obligation to repair the Premises shall be limited to the amount of insurance proceeds actually received by Landlord. Tenant's obligation to pay rent shall be suspended while the Premises are untenantable. If a casualty damages the Premises to the extent that they cannot be restored to a habitable condition within thirty (30) days, either Party may terminate this Lease by giving the other party written notice within fifteen (15) days after the casualty. Landlord shall not be liable for any reasonable delay or for providing housing for Tenant during repairs.

14. Termination of Lease.

14.1. Tenant may terminate this Lease for any reason upon thirty (30) days written notice to Landlord.

14.2. Landlord may terminate this Lease for any reason upon ninety (90) days written notice to Tenant.

14.3. Upon termination of this Lease, Tenant shall surrender the Premises to Landlord in the same condition they were upon commencement of Lease, normal wear and tear excepted. Upon termination of this Lease, Tenant shall also notify Landlord of the move-out date, return all keys to the Premises to Landlord, and transfer all utility and service accounts into the name of the "County of Oakland."

15. Default of Lease and Landlord's Remedies.

16.1 If Tenant defaults on any obligations under this Lease or misrepresents any information in the application for this lease, Landlord may, on written notice to Tenant, terminate the Lease and enter the Premises as permitted by law; Tenant and any other occupants shall surrender the Premises to Landlord by the date stated in the notice. If Landlord terminates the Lease, Landlord may recover Landlord's expenses for enforcing Landlord's rights under the Lease and applicable law, including court costs and attorney fees, from Tenant, as permitted by statute; and rent for the rest of the term of the Lease shall immediately become due. Tenant may not be liable for the total accelerated amount because of Landlord's obligation to minimize damages, and either party may ask a court to determine the actual amount owed, if any. If Tenant fails to pay rent or any other sums when due to Landlord, Landlord serves a notice of default on Tenant as required by law, and Tenant fails to remit the amounts due before the notice period expires, the amount of court costs and attorney fees incurred by Landlord in enforcing Landlord's remedies and allowed by statute shall be added to the amount of the arrearage.

16.2 It is a violation of this Lease if Tenant, a member of Tenant's household, or any other person under Tenant's control unlawfully manufactures, delivers, possesses with intent to deliver, or possesses a controlled substance as defined by Michigan law anywhere on the Premises or surrounding the Premises. Pursuant to Michigan law, if Tenant violates this provision Landlord may serve a written demand for possession for termination of this Lease giving Tenant 24 hours' notice of the Lease termination and demand for possession. Tenant acknowledges that an order of eviction/writ of restitution may be issued by the court immediately after the entry of a judgment for possession. Tenant's initials:_____.

16. Hold Over. Tenant may, with Landlord's permission, continue to occupy the Premises after the term of this Lease expires without renewing this Lease or signing another Lease for the Premises. Such tenancy shall be on a month-to-month basis and subject to the provisions of this Lease except that the monthly rent shall increase by ten (10) percent from the rent for the last month of the term of the Lease, and Landlord may increase rent on thirty (30) days' notice to Tenant.

17. Notices. Any notices under this Lease shall be in writing and delivered to the recipient personally or by first class mail fully prepaid at the following locations:

Tenant: **Chris Rowland**
2866 Watkins Lake Road
Waterford, MI 48328

Landlord: Oakland County Department of
Facilities Management Property Management
One Public Works Drive, Bldg. 95W
Waterford, MI 48328

and

Oakland County Parks and Recreation
Director
2800 Watkins Lake Road, Bldg. 97W
Waterford, MI 48328

Unless otherwise required by law, the date of service shall be the date of hand delivery or the mailing date.

18. Modifications. No modifications of this Lease shall be binding unless they are in writing and signed by Landlord and Tenant.

19. Whole Agreement. This Lease sets forth the entire agreement between Landlord and Tenant. There are no verbal or written agreements that are not contained in this Lease between the parties.

20. Binding Effect. This Lease shall bind and benefit the parties to the Lease and their heirs, personal representatives, successors, and permitted assigns.

21. Severability. If any provision of this Lease is invalid, unlawful, or unenforceable to any extent, the rest of the Lease and the application of the provision to the persons or circumstances other than those for which it is invalid, unlawful, or unenforceable are not affected.

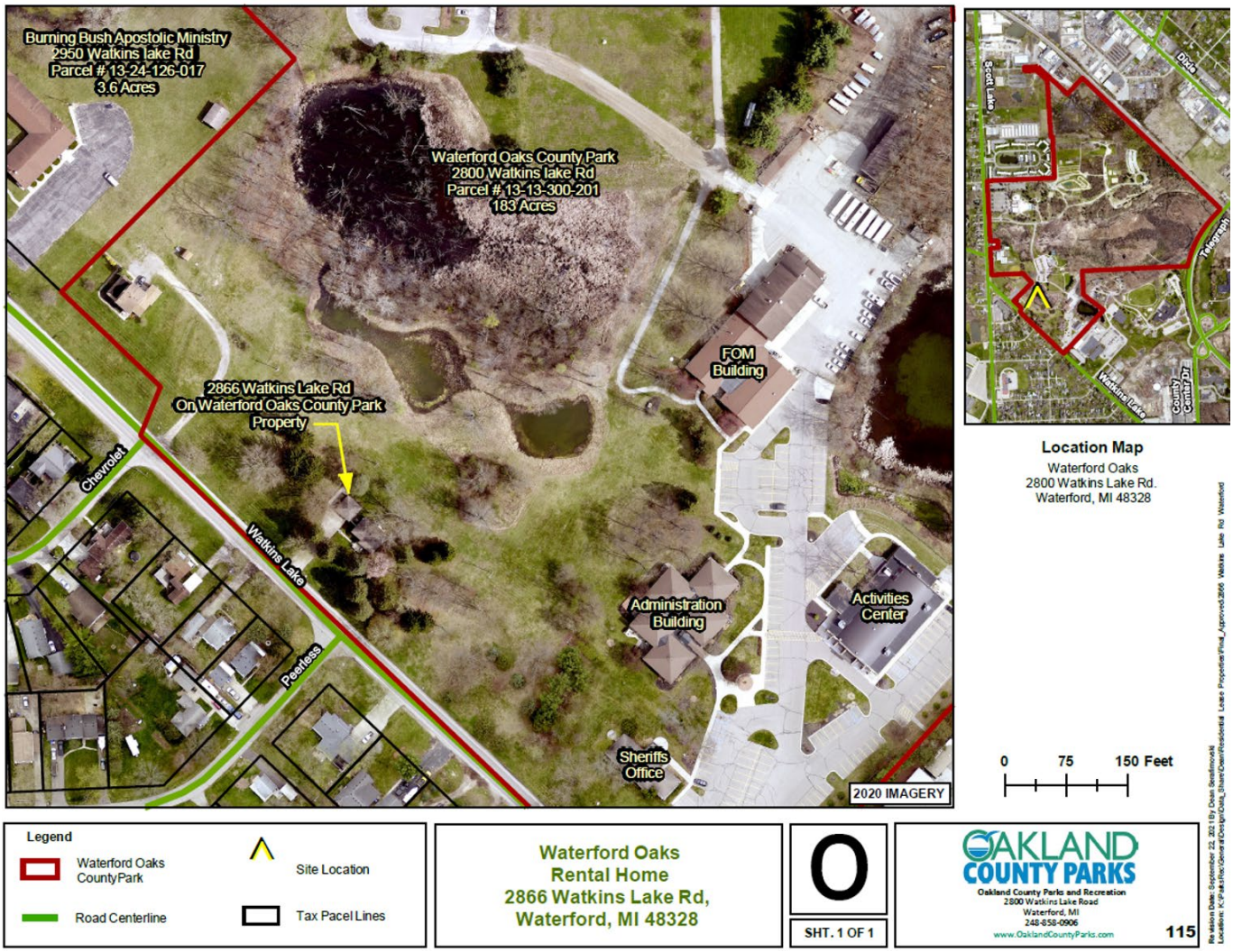
22. Time of the Essence. Time shall be deemed to be of the essence in the performance of this Lease.

23. Effective Date. This Lease is effective on the date stated in Section 2.

TENANT LANDLORD

_____ _____

Date_____ Date_____


Burning Bush Apostolic Ministry
2950 Watkins lake Rd
Parcel # 13-24-126-017
3.6 Acres
Waterford Oaks County Park
2800 Watkins lake Rd
Parcel # 13-13-300-201
183 Acres
2866 Watkins Lake Rd
On Waterford Oaks County Park
Property
FOM Building
Chevrolet
Watkins Lake
Peerless
Administration Building
Activities Center
Sheriffs Office
2020 IMAGERY
Location Map
Waterford Oaks
2800 Watkins Lake Rd.
Waterford, MI 48328
0 75 150 Feet
Legend
Waterford Oaks CountyPark
Site Location
Road Centerline
Tax Pacel Lines
Waterford Oaks
Rental Home
2866 Watkins Lake Rd,
Waterford, MI 48328
SHT. 1 OF 1
OAKLAND COUNTY PARKS
Oakland County Parks and Recreation
2800 Watkins Lake Road
Waterford, MI
248-858-0906
www.OaklandCountyParks.com
115

RETURN TO AGENDA

Oakland County Parks and Recreation Commission Agenda Item Memo

Agenda #: 14

Department: Administration

From: Thomas Hughes, Interim Manager – Park & Enterprise Operations

Subject: Highland Oaks Residential Lease – John Podina

RECOMMENDED MOTION

Move to approve the Residential Lease Agreement between the County of Oakland and John Podina for property at 6555 North Milford Road, Holly, MI 48342, and forward to the Oakland County Board of Commissioners for approval.

INTRODUCTION AND HISTORY

In October 2026, the Oakland County Parks and Recreation Commission approved the Residential Property Lease Policy. The purpose of the policy is to set forth procedures and guidelines to manage residential properties located on Oakland County Parks property. The Oakland County Parks and Recreation Director shall oversee the implementation and interpretation of this policy. Under the new policy, residential lease rates will be adjusted to reflect current fair market value. To avoid a substantial and immediate financial impact on existing long-term tenants, any required rate increases will be phased in over a 5-year period.

The property under consideration is located within Highland Oaks County Park at 6555 North Milford Road, Holly, MI 48342. The house has been occupied by John and Carolyn Podina for several years and has been well-maintained. We are requesting to move forward with a 5-year lease for John and Carolyn Podina, incorporating the phased market-rate adjustment schedule. The lease includes the standard terms for early termination by either party as outlined in the Residential Property Lease Policy.

The attached lease agreement has been prepared and reviewed by Oakland County Corporation Counsel.

ATTACHMENTS

1. Residential Lease with Aerial Map – Podina – Highland Oaks

RESIDENTIAL LEASE AGREEMENT

NOTICE: MICHIGAN LAW ESTABLISHES RIGHTS AND OBLIGATIONS FOR PARTIES TO RENTAL AGREEMENTS. THIS AGREEMENT IS REQUIRED TO COMPLY WITH THE TRUTH IN RENTING ACT. IF YOU HAVE A QUESTION ABOUT THE INTERPRETATION OR LEGALITY OF A PROVISION OF THIS AGREEMENT, YOU MAY WANT TO SEEK ASSISTANCE FROM A LAWYER OR OTHER QUALIFIED PERSON.

This Lease Agreement ("Lease") is entered into between the County of Oakland, 1200 North Telegraph, Pontiac, MI 48341 ("Landlord"), by the through its statutory agent the Oakland County Parks and Recreation Commission ("OCPRC") and **John and Carolyn Podina, 6555 North Milford Road, Holly, MI 48342** ("Tenant") according to the terms and conditions set forth below.

1. Premises. Tenant leases from landlord the real property located at **, 6555 North Milford Road, Holly, MI 48342** ("Premises"), together with any furnishings, fixtures, personal property, and appurtenances provided by Landlord for Tenant's use.

   The detached pole barn and associated storage areas are specifically excluded from this Lease. These facilities remain under the exclusive possession and control of OCPRC and may be accessed and used by OCPRC staff and authorized personnel at any time. Tenant shall not have access to or store personal property within the pole barn or other excluded facilities. Tenant shall not store equipment, vehicles, or trailers outside of the detached pole barn or connect to the pole barn's utilities for any purpose.

2. Term. The term of this Lease shall be for five (5) years, beginning on **January 1, 2027** and ending on **December 31, 2031**. References in this Lease to the term of the Lease shall include any renewal term(s). Tenant shall receive possession of the Premises upon execution of the Lease.

3. Tenant Monetary Obligations.

   3.1. Tenant shall pay Landlord the following rent on or before the first day of each month during the term of this Lease:

January 1, 2027 – December 31, 2027	**$ 947.00**
January 1, 2028 – December 31, 2028	**$ 1073.00**
January 1, 2029 – December 31, 2029	**$ 1216.00**
January 1, 2030 – December 31, 2030	**$ 1378.00**
January 1, 2031 – December 31, 2031	**$ 1561.00**

   3.2. The rent shall be paid by check or money order made payable to the "County of Oakland" and sent to the following address: Oakland County Parks and Recreation, 2800 Watkins Lake Road, Waterford, Michigan 48328 or another address designated by Landlord in writing.

3.3. Tenant shall pay the first monthly installment when Tenant executes this Lease. The first monthly installment shall be pro-rated for such month, if the Lease is executed on another day than the first day of the month.

3.4. Tenant shall pay Landlord a late fee of $25 for each monthly installment not received by Landlord within five days of its due date. This increase shall be considered additional rent and shall compensate Landlord for costs incurred because of late payments. Landlord's right to collect this additional rent shall be in addition to Landlord's right to take action under other provisions of this Lease for Tenant's default in paying rent. Tenant shall pay all additional rent to Landlord promptly after the due date of the delinquent installment. All rent paid after the due date and payments to cover checks that have been returned for insufficient funds must be paid at the place designated for payment, by cashier's check, certified check, or money order.

3.5. During the term of this Lease, Tenant shall obtain and maintain comprehensive personal liability or tenant's form insurance coverage in the minimum amount of One Hundred Thousand Dollars ($100,000.00). Tenant shall also provide the Landlord with a certificate of insurance coverage listing the County of Oakland and its employees, officers, and elected and appointed officials as additional insureds.

3.6. A tenant who has a reasonable apprehension of present danger to him or her or his or her child from domestic violence, sexual assault, or stalking may have special statutory rights to seek a release of rental obligation under MCL 554.601 b.

4. Use of Premises.

4.1. Tenant shall use the Premises for private residential purposes only. No persons other than the following listed person(s) shall occupy the Premises for more than fourteen (14) days during the term of this Lease without the prior written approval of Landlord:

None

Landlord's approval shall be given by the OCPRC Director or his or her designee.

4.2. Tenant shall not do any of the following or allow another person to do any of the following:

4.2.1 Create any excessive noise or public nuisance;
4.2.2 Do anything to the Premises or its surroundings that may be hazardous or that will cause Landlord's insurance to be cancelled or premiums to increase;
4.2.3 Deface or damage any part of the Premises;
4.2.4 Change the locks or install any additional locks or bolts without Landlord's prior written approval. Landlord's approval shall be given by the OCPRC Director or his or her designee;
4.2.5 Place a waterbed or other heavy article on the Premises without Landlord's prior written approval. Landlord's approval shall be given by the OCPRC Director or his or her designee;

4.2.6 Install any equipment or appliances that, in Landlord's opinion, would cause any unsafe conditions on or around the Premises;

4.2.7 Accumulate refuse on or around the Premises that might pose a health hazard to Tenant or to the surrounding properties;

4.2.8 Permit any flammable liquids or explosives to be kept on or around the Premises; and

4.2.9 Bring any animals on the Premises without Landlord's prior written approval. Landlord's approval shall be given by the OCPRC Director or his or her designee.

4.3 Tenant Duties.

4.3.1 To the extent permitted by law, Tenant shall secure and protect the Park Property and facilities therein, especially during "Park Closed" hours. This shall include contacting and coordinating with police, fire or other agencies as may be required and the preparation of an Unusual Incident Report as required by Landlord.

4.3.2 Tenant shall arrange for emergency repair and maintenance services for Park Property and facilities, as needed.

4.3.3 Tenant shall make reports to the Park Supervisor or other entity as may be required by Landlord.

4.3.4 Landlord shall install smoke-detection devices for the Premises along with batteries at the time of installation. Tenant must regularly test the devices to ensure that they are operational and if not notify Landlord immediately. Tenants must never remove batteries from smoke-detection devices, except when necessary to replace the batteries.

4.3.5 Tenant shall be responsible for performing routine household maintenance necessary to maintain the Premises, including:

- Adding salt to the water softener, when applicable
- Replacing water filters for sinks, refrigerators, or other Landlord provided potable water systems
- Replacing HVAC furnace filters at recommended intervals.
- Replacing interior and exterior light bulbs serving the Premises.
- Replacing smoke detector and carbon monoxide detector batteries, unless equipped with sealed 10-year batteries.
- Maintaining sidewalks, porches, patios, and other residential areas in a clean and orderly condition.

4.3.6 The performance of "tenant duties," set forth in the Lease does not and is not intended to create an employee/employer relationship between Landlord and Tenant.

5. Use of Illegal Substances. Tenant shall not violate or knowingly allow another person to violate federal, state, or local laws regarding the use of controlled substances or the use of alcohol by minors in or around the Premises. When aware of a violation of this section, Landlord will file a formal police report.

6. Condition of Premises.

   6.1. Except as otherwise expressly stated herein or in an Amendment to this Lease, Tenant acknowledges that no representations were made by Landlord about the condition of the Premises or promises to alter or to improve the Premises before or during the term of the Lease.

   6.2. Throughout the term of the Lease, Tenant shall keep the Premises in a good and clean condition and shall allow no waste of the Premises or any utilities.

   6.3. Except for normal wear and tear, Tenants shall return the Premises to Landlord in the same condition as they were upon commencement of this Lease, including cleanliness.

7. Utilities and Services for Premises. Tenant is responsible for the costs of utilities and services for the Premises and for establishing accounts, if they are not already established for the term of this Lease including but not limited to the following: (a) garbage removal; (b) water and sewer; (c) gas; (d) electricity; (e) ice removal, including salting the driveway and any walks surrounding the Premises or on the Premises; (f) telephones; (g) cable television; (h) Internet; and (i) cleaning for the interior of the building located on the Premises. All accounts for utilities and services shall be in the name of Tenant.

8. Maintenance, Repairs, and Damage to Premises.

   8.1. Landlord shall provide snow removal services for the driveway on the Premises, including plowing and de-icing as follows: Snow removal will generally occur only when snow removal operations are being conducted for parking lots and roadways. Public park facilities, including parking lots, roads, and other public access areas, shall always receive priority over residential properties. Landlord is not obligated to dispatch equipment solely for snow removal at the Premises.

   8.2. Landlord shall provide general lawn mowing for the Premises and line trimming services on a schedule consistent with OCPRC maintenance operations. Mowing frequency shall be determined solely by Landlord based on operational needs and weather conditions.

   8.3. Tenant shall be responsible for clearing snow and applying de-icing materials to sidewalks, entry walkways, porch areas, and all door access points serving the Premises.

   8.4. Tenant shall provide routine landscape maintenance of the Premises, including, but not limited to, weeding, maintaining landscape beds, replenishing mulch as needed, applying fertilizer at Tenant's discretion, trimming small shrubs and bushes, and performing other routine cosmetic landscape upkeep necessary to maintain the Premises.

8.5. Landlord shall provide repair and maintenance for the Premises and its parking lot or parking area, including but not limited to, building infrastructure, HVAC system, utility infrastructure, plumbing and electrical system. Tenant shall notify Landlord, in a timely manner and without delay, when there is a need for repairs to the Premises.

8.6. Except for normal wear and tear to the Premises, Tenant shall be liable for any damage to the Premises or other property of Landlord that is caused by the acts or omissions of Tenant or Tenant's guests, including but not limited to broken glass and lost or broken keys. If damage occurs, Landlord or its agents shall make the necessary repairs and Tenant shall reimburse Landlord for all costs associated with the repairs. Such reimbursement shall be paid by Tenant within thirty (30) days of receiving an invoice from Landlord. If Landlord makes a claim and receives payment under its property insurance for damage to the Premises, then Tenant shall only be liable to Landlord for the amount of the deductible for the property insurance for the Premises. Landlord shall send an invoice to Tenant for the amount of the deductible and Tenant shall pay this amount within thirty (30) days of receiving the invoice.

8.7. To the extent permitted by law, Landlord and Landlord's agents shall not be liable for any damage to property or loss of property that is caused by theft or casualty on the Premises. Landlord recommends that Tenant obtain insurance to protect Tenant's personal property against such loss or damage.

9. Decorations and Alterations to Premises. Tenant shall not alter or decorate the Premises, including but not limited to, removing any furnishings Landlord provides to Tenant, driving nails into the woodwork, painting or using any adhesive material on the walls without prior written approval from Landlord. Landlord's approval shall be given by the OCPRC Director or his or her designee. Landlord's approval of a particular decoration or alteration shall not be deemed consent to future decorations or alterations.

10. Assignment and Sublease of Premises. Tenant shall not assign or sublease the Premises or any portion thereof.

11. Access to the Premises. Tenant shall allow Landlord and Landlord's agents reasonable access to the Premises to inspect, repair, alter, or improve the Premises. Landlord and Landlord's agents shall have immediate access to the Premises in case of an emergency or if an emergency repair to the Premises is required. Tenant shall also allow insurance carriers and representatives, fire department inspectors, police, or local health authorities to inspect the Premises. Tenant shall allow Landlord or Landlord's agents to show the Premises to prospective tenants or purchasers at reasonable times during the sixty (60) days prior to the expiration of this Lease.

12. Vacation or Abandonment of the Premises. If Tenant removes substantially all Tenant's property from the Premises for a period of thirty (30) days, Landlord may immediately enter and redecorate the Premises without abatement of rent and proceed as if Tenant terminated this Lease. These acts by Landlord shall not affect Tenant's obligations under this Lease. If Tenant abandons the Premises before the Lease expires, all rent for the remainder of the term of the Lease shall immediately become due.

13. Damage or Destruction of the Premises. If a casualty partially destroys the Premises but they can be restored to a tenantable condition within thirty (30) days, Landlord shall repair the Premises with reasonable dispatch; however, Landlord's obligation to repair the Premises shall be limited to the amount of insurance proceeds actually received by Landlord. Tenant's obligation to pay rent shall be suspended while the Premises are untenantable. If a casualty damages the Premises to the extent that they cannot be restored to a habitable condition within thirty (30) days, either Party may terminate this Lease by giving the other party written notice within fifteen (15) days after the casualty. Landlord shall not be liable for any reasonable delay or for providing housing for Tenant during repairs.

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14.1. Tenant may terminate this Lease for any reason upon thirty (30) days written notice to Landlord.

14.2. Landlord may terminate this Lease for any reason upon ninety (90) days written notice to Tenant.

14.3. Upon termination of this Lease, Tenant shall surrender the Premises to Landlord in the same condition they were upon commencement of Lease, normal wear and tear excepted. Upon termination of this Lease, Tenant shall also notify Landlord of the move-out date, return all keys to the Premises to Landlord, and transfer all utility and service accounts into the name of the "County of Oakland."

15. Default of Lease and Landlord's Remedies.

16.1 If Tenant defaults on any obligations under this Lease or misrepresents any information in the application for this lease, Landlord may, on written notice to Tenant, terminate the Lease and enter the Premises as permitted by law; Tenant and any other occupants shall surrender the Premises to Landlord by the date stated in the notice. If Landlord terminates the Lease, Landlord may recover Landlord's expenses for enforcing Landlord's rights under the Lease and applicable law, including court costs and attorney fees, from Tenant, as permitted by statute; and rent for the rest of the term of the Lease shall immediately become due. Tenant may not be liable for the total accelerated amount because of Landlord's obligation to minimize damages, and either party may ask a court to determine the actual amount owed, if any. If Tenant fails to pay rent or any other sums when due to Landlord, Landlord serves a notice of default on Tenant as required by law, and Tenant fails to remit the amounts due before the notice period expires, the amount of court costs and attorney fees incurred by Landlord in enforcing Landlord's remedies and allowed by statute shall be added to the amount of the arrearage.

16.2 It is a violation of this Lease if Tenant, a member of Tenant's household, or any other person under Tenant's control unlawfully manufactures, delivers, possesses with intent to deliver, or possesses a controlled substance as defined by Michigan law anywhere on the Premises or surrounding the Premises. Pursuant to Michigan law, if Tenant violates this provision Landlord may serve a written demand for possession for termination of this Lease giving Tenant 24 hours'

notice of the Lease termination and demand for possession. Tenant acknowledges that an order of eviction/writ of restitution may be issued by the court immediately after the entry of a judgment for possession. Tenant's initials:_____.

16. Hold Over. Tenant may, with Landlord's permission, continue to occupy the Premises after the term of this Lease expires without renewing this Lease or signing another Lease for the Premises. Such tenancy shall be on a month-to-month basis and subject to the provisions of this Lease except that the monthly rent shall increase by ten (10) percent from the rent for the last month of the term of the Lease, and Landlord may increase rent on thirty (30) days' notice to Tenant.

17. Notices. Any notices under this Lease shall be in writing and delivered to the recipient personally or by first class mail fully prepaid at the following locations:

Tenant: **John and Carolyn Podina**
6555 North Milford Road
Holly, MI 48342

Landlord: Oakland County Department of
Facilities Management Property Management
One Public Works Drive, Bldg. 95W
Waterford, MI 48328

and

Oakland County Parks and Recreation
Director
2800 Watkins Lake Road, Bldg. 97W
Waterford, MI 48328

Unless otherwise required by law, the date of service shall be the date of hand delivery or the mailing date.

18. Modifications. No modifications of this Lease shall be binding unless they are in writing and signed by Landlord and Tenant.

19. Whole Agreement. This Lease sets forth the entire agreement between Landlord and Tenant. There are no verbal or written agreements that are not contained in this Lease between the parties.

20. Binding Effect. This Lease shall bind and benefit the parties to the Lease and their heirs, personal representatives, successors, and permitted assigns.

21. Severability. If any provision of this Lease is invalid, unlawful, or unenforceable to any extent, the rest of the Lease and the application of the provision to the persons or circumstances other than those for which it is invalid, unlawful, or unenforceable are not affected.

22. Time of the Essence. Time shall be deemed to be of the essence in the performance of this Lease.

23. Effective Date. This Lease is effective on the date stated in Section 2.

TENANT LANDLORD

_____ _____

Date_____ Date_____



RETURN TO AGENDA

Oakland County Parks and Recreation Commission Agenda Item Memo

Agenda #: 15

Department: Administration

From: Tom Hughes, Interim Manager – Park & Enterprise Operations

Subject: FY 2027 MDNR ORV Law Enforcement Grant Acceptance

RECOMMENDED MOTION

Move to accept the Michigan Department of Natural Resources (MDNR) FY 2027 Off-Road Vehicle (ORV) Law Enforcement Grant in the amount of $15,000, and forward to the Oakland County Board of Commissioners for approval.

INTRODUCTION AND HISTORY

Oakland County Parks (OCP) has been awarded a $15,000 FY 2027 Off-Road Vehicle (ORV) Law Enforcement Grant from the Michigan Department of Natural Resources (MDNR). The funding will support wages for Oakland County Sheriff's Office (OCSO) deputies providing patrol and law enforcement services at Holly Oaks ORV Park.

This marks the eighth consecutive year OCP has applied for this funding. The grant period runs from October 1, 2026, through September 30, 2027.

ATTACHMENTS

1. FY 2027 MDNR ORV Law Enforcement Grant Agreement

Michigan Department of Natural Resources
Law Enforcement Division / Parks and Recreation Division

FY 2026-2027 OFF-ROAD VEHICLE (ORV) LAW ENFORCEMENT PROGRAM
GRANT AGREEMENT

By authority of Part 811 Off-Road Vehicles, 1994 PA 451, as amended.

This Agreement is between the Department of Natural Resources for, and on behalf of, the State of Michigan (DEPARTMENT) and the Oakland County
Federal Tax Identification Number 38-6004876 (GRANTEE).

1. The Agreement period is **October 1, 2026** through **September 30, 2027**.

2. The GRANTEE has been approved by the DEPARTMENT to receive Off-Road Vehicle (ORV) Law Enforcement funding for the following scope of work:

   a. ORV law enforcement and related activities with emphasis on the state-designated ORV trail system and other public land. This funding is not meant to support enforcement of local ordinances enacted pursuant to Section 81131, Part 811 Off-Road Vehicles 1994 PA 451, as amended.
   b. ORV law enforcement program operating expenses.
   c. Contractual services, supplies and materials (CSS&M), including purchase of personal gear, such as boots, gloves, goggles, uniforms, and first aid kits; purchase of parts for equipment used in the program and cost of labor for installation or repair work; purchase of electronics and associated items costing $1,000 or less each.
   d. Purchase of the following equipment for ORV law enforcement purposes:

      None

3. The DEPARTMENT agrees as follows:

   a. To grant to the GRANTEE a sum of money up to 100 percent of the total eligible cost of ORV law enforcement and related activities, operating expenses and CSS&M, but not to exceed

      Fifteen Thousand Dollars **$ 15,000**

   b. To grant to the GRANTEE a sum of money up to 100 percent of the total eligible cost of equipment purchased for ORV law enforcement purposes and authorized under item 2.d. in this Agreement, but not to exceed

      None Dollars **$**

4. This Agreement shall be administered on behalf of the DEPARTMENT through Parks and Recreation Division (PRD).

   a. All reports, documents, or actions required of the GRANTEE are to be submitted to PRD, Department of Natural Resources, P.O. Box 30257, Lansing, MI 48909-7757.

   b. The GRANTEE'S contact for this grant is:

      Name _____ Title _____

      Address _____

      City, State, ZIP _____

      Telephone No. _____ FAX No. _____

      E-mail _____

5. The GRANTEE may not assign or transfer any interest in this Agreement to any other agency, group or individual.
6. To receive reimbursement under this Agreement, the GRANTEE shall submit a completed State Aid Voucher (form PR1988-2) along with required documentation of expenditures and an activity report to the DEPARTMENT by October 6, 2027.
7. The Agreement may be executed separately by the parties. This Agreement is not effective until:
   a) the GRANTEE has signed it and returned it, and
   b) the DEPARTMENT has signed it.

The individuals signing for the parties indicated below certify by their signatures that they have the authority to do so and will ensure the terms of the Agreement are fulfilled.

GRANTEE

Name (Print) _____ Title _____

Signature _____ Date _____

DEPARTMENT OF NATURAL RESOURCES

Name (Print) _____ Title _____

Signature _____ Date _____

Send this completed, signed agreement to:

kennedyr@michigan.gov
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
PARKS AND RECREATION DIVISION
P.O. BOX 30257
LANSING MI 48909-7757

RETURN TO AGENDA

Oakland County Parks and Recreation Commission
Agenda Item Brief

Meeting date	November 4, 2026
Agenda item	16 - Bloomfield Oaks-Johnson Nature Center Integrated Park Plan
Item type	Action
Lead staff	Alan Jaros, Deputy Director

ACTION REQUESTED

Recommended motion: Move to:

- Approve submission of the Bloomfield Oaks–Johnson Nature Center Integrated Park Plan, encompassing the Park Action Plan, Capital Improvement Plan and Park Operations and Management Plan, to Bloomfield Hills Schools for review under the interlocal agreement; and
- Authorize the Director to make revisions needed to complete the review and approval process, including updates to supporting information, schedules and operating arrangements and changes responding to BHS comments, consistent with the plan's purpose and the interlocal agreement.

This authorization does not amend the interlocal agreement or authorize expenditures beyond approved budgets. Existing BHS, County and Commission approval requirements remain in effect.

AT A GLANCE

The IPP establishes the capital, operating and stewardship framework for Bloomfield Oaks–Johnson Nature Center. It supports accessible outdoor learning, ecological stewardship and facility renewal while preserving the nature center's educational purpose. Staff recommends submission to BHS and authority for the Director to make necessary revisions through the review and approval process.

BACKGROUND AND CONTEXT

- The executed interlocal agreement establishes a 30-year partnership in which BHS retains property ownership and specified school-use rights, while OCP operates, manages, maintains and plans for the park. The IPP brings these responsibilities together through the required Park Action Plan (PAP), Capital Improvement Plan (CIP), and Park Operations and Management Plan (POMP).
- The PAP draws on the property's history, community engagement, visitor information and technical assessments. The CIP describes anticipated improvement types, general locations and intended uses. The POMP establishes the management framework for TreeSchool, public programs, facilities, natural resources, educational animals, maple production and partnerships.
- The initial PAP requires BHS review before OCP final approval and implementation. Section 4.7.6 provides 30 calendar days from receipt for BHS response and establishes the applicable written-approval and deemed-approval provisions. The proposed November 4 action advances the draft for that review; it does not represent completion of the approval process.

PUBLIC VALUE AND STRATEGIC ALIGNMENT

Bloomfield Oaks advances Mission 26 through accessible outdoor experiences, place-based discovery and care of natural resources. The plan preserves the nature center's educational role while broadening the ways residents can participate:

- School field trips, TreeSchool preschool, summer camps, public programs and independent exploration connect visitors with woodland, water, wildlife and the sugarbush. Staff facilitate discovery and investigation through direct experiences with nature.

- Accessible trails, connected learning spaces and participation assistance can reduce barriers for schools and communities. Friends of the Johnson Nature Center and other partners can support outreach, volunteer stewardship and opportunities for people who would otherwise have difficulty participating.

Public subsidy, program revenue, grants and partner support will serve different purposes. Entry and parking remain free for BHS and Oakland County residents under the agreement; program and service fees are distinct. Capital decisions will account for continuing staffing, maintenance, utilities and stewardship needs.

IMPACTS AND COMMITMENTS

Area	Key information
Financial	The Johnson Nature Center agreement establishes no fixed capital contribution. This action creates no additional appropriation. Potential improvements will be evaluated through annual capital and operating budgets, with expenditures subject to applicable Commission, County and procurement processes. Historical estimates and proposed partner support do not establish current funding commitments.
Operating	OCP leads park operations and outdoor learning while BHS retains ownership and specified school-use rights. The POMP coordinates TreeSchool continuity, visitor services, facilities, educational animal care and stewardship. Natural Resources leads maple production; Outdoor Learning leads maple education and heritage programming.
Long-term	The CIP establishes a broad framework for accessibility, trails, learning spaces, animal habitats, maple facilities, buildings, utilities, heritage and natural areas. Inclusion does not guarantee funding or completion. Once approved through the agreement's process, the CIP provides BHS preapproval for included project types to the extent authorized by Section 4.7.4. County authorizations, permitting and reserved BHS rights still apply.
Partners and public	The plan supports school and public participation while preserving the nature center's educational and conservation purposes. Friends of the Johnson Nature Center remains an independent partner. Contributions, volunteer activities and fundraising priorities will be coordinated through documented arrangements that respect donor restrictions and organizational responsibilities.
Risks and dependencies	Timely submission and documented BHS review are necessary to complete the approval process. Remaining coordination includes TreeSchool licensing, animal permits and reconciled equipment and animal transfer schedules. The master includes 30 equipment inventory entries, but transfer designations require confirmation. Ownership transfer does not itself transfer permit authority.

ALTERNATIVES CONSIDERED

- The interlocal agreement requires delivery of the IPP, so taking no action does not fulfill OCP's obligation. The Commission may advance the draft as presented or direct revisions.

NEXT STEPS

Following Commission action, staff will submit the plan to the BHS Representative and document receipt to establish the 30-calendar-day response period. The Director will coordinate responses, incorporate revisions within the authority granted by the Commission, and advance the plan through the agreement's final approval process.

Attachments: Bloomfield Oaks–Johnson Nature Center Integrated Park Plan; separate Supporting Appendix.
Sources: Bloomfield Oaks IPP §§1.1, 1.6–1.11 and Attachments A–B; Johnson Nature Center interlocal agreement §§4.7, 4.10–4.11, 4.18 and 5.1–5.2.

Bloomfield Oaks

Johnson Nature Center



Integrated Park Plan

Park Action Plan

Attachment A Capital Improvement Plan

Attachment B Park Operations and Management Plan

Oakland County Parks

Bloomfield Hills Schools

October 30, 2026

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Source references use the BO identifiers in the accompanying source register. Verification items remain in the assessment and action tracker. Supporting records are provided in the separate appendix.

Executive Summary

Bloomfield Oaks–Johnson Nature Center will provide welcoming opportunities to discover, explore and learn through direct experiences with nature. Its woodland, water, wildlife, sugarbush and learning spaces support school field trips, TreeSchool preschool, public programs and independent exploration. Staff facilitate experiences that spark curiosity, encourage investigation and bring learning to life in the places visitors encounter.

This Integrated Park Plan guides the partnership between Oakland County Parks and Bloomfield Hills Schools. BHS retains ownership of the premises, while OCP manages park operations under the partnership agreement. The plan preserves the nature center's educational purpose and establishes direction for public access, investment and continuing care.

The plan has three coordinated components:

- Park Action Plan: establishes the site's purpose, strategic direction, public benefits and partnership framework.
- Attachment A—Capital Improvement Plan: identifies the scope of potential improvements to accessibility, learning spaces, animal habitats, maple production, buildings, utilities, heritage resources and natural areas.
- Attachment B—Park Operations and Management Plan: establishes the operating framework for visitor services, TreeSchool, facilities, stewardship, educational animals, maple sugaring, partnerships and emergency readiness.

Investment will build on existing facilities and verified prior work. Priorities include connected accessible experiences, dependable infrastructure, effective learning environments, animal welfare and ecological resilience. Capital scope will remain distinct from funding authorization and construction scheduling. The Conceptual Site Layout illustrates potential learning areas, heritage experiences, trail connections and supporting facilities. These include a proposed Nature School near the caretaker-house site. Renovation, reuse or replacement of the caretaker house will be evaluated as projects are developed.

TreeSchool continuity is a central operating priority. The documented transition approach provides for BHS to maintain its existing license until OCP's original license is approved and the formal transition is complete, unless the licensing authority directs otherwise. Staffing, facilities, records and family communication will be coordinated throughout that process. [BO-T01]

Operating responsibilities will connect educational programming with dependable site care. Natural Resources will lead maple sugaring production, with Outdoor Learning leading maple education and heritage programming. Friends of the Johnson Nature Center will remain an independent community partner, with contributions and activities coordinated through clearly documented arrangements.

Implementation will proceed through annual operating and capital work programs supported by verified conditions, available resources and evidence of public benefit. Participation, visitor feedback, visitation information, asset condition and stewardship results will inform adjustments over time.

Park Action Plan

The Park Action Plan establishes the direction for managing, maintaining and improving Bloomfield Oaks–Johnson Nature Center. It guides OCP in providing accessible, welcoming opportunities for outdoor learning and recreation while protecting natural resources. The plan brings together the park's public purpose, existing conditions, priorities and partnership responsibilities to guide decisions about programs, stewardship, operations and investment.

1.1 Purpose and Controlling Framework

This Integrated Park Plan provides a coordinated framework for Oakland County Parks and Bloomfield Hills Schools to sustain Johnson Nature Center's conservation and educational purposes, serve the wider community and responsibly manage the property. It guides OCP's management of Bloomfield Oaks while preserving BHS ownership, school use and other rights established in the interlocal agreement. [BO-A01, Introduction; §§2.3–2.6, 4.3, 4.18.1]

The plan follows the structure required by the agreement:

- Park Action Plan (PAP): Establishes the park's purpose, conditions, strategic direction and management priorities.
- Attachment A — Capital Improvement Plan (CIP): Identifies anticipated improvement types, locations and intended uses, providing a framework for evaluating and advancing investments.
- Attachment B — Park Operations and Management Plan (POMP): Establishes the framework for daily operations, maintenance, staffing, programming and coordination.

These components work together. The PAP establishes direction; the CIP describes the improvements OCP may pursue within the approved scope; and the POMP explains how the park will be managed. [BO-A01 §4.7]

The interlocal agreement and its executed amendments establish the parties' responsibilities and govern the plan's approval and update requirements. Approval of this plan provides the planning authority described in those documents, including BHS preapproval of included capital project types to the extent provided in §4.7.4. Applicable County authorizations, permits and expressly reserved BHS rights continue to apply. [BO-A01 §§4.4, 4.7.2–4.7.6, 6.12]

The plan addresses near-term needs within the longer perspective of the 30-year partnership. The CIP establishes a five-year capital planning framework. Some needs will be addressed through routine maintenance and operations. Others may advance as funded improvements or remain longer-term concepts for further evaluation. Inclusion in the CIP does not guarantee funding or implementation, and the plan does not require every potential improvement to be completed within the planning period. [BO-A01 §§2.1, 4.7.4]

The July 2023 Johnson Nature Center Master Plan provides the starting point for identifying potential capital improvements. Its proposals will be evaluated for continued relevance, current conditions, public benefit, operating needs and available resources. The CIP will identify the improvements carried forward, refined or added through this planning process. The earlier plan's recommendations and estimates do not, by themselves, establish current funding or implementation commitments. [BO-B01; BO-A01 §4.7.4]

The appendix binder will preserve supporting assessments, maps, historical plans and other records, with references in the report directing readers to the relevant evidence. These records retain their original dates, scope and limitations; their inclusion does not adopt every recommendation, estimate, schedule or proposed term. The plan distinguishes existing conditions, approved commitments and potential improvements. Proposed partner terms remain proposals until accepted through the appropriate process.

If this plan conflicts with the signed interlocal agreement or an executed amendment, the agreement or amendment takes precedence. OCP and BHS representatives will clarify how it applies, seeking legal or technical advice when needed.

1.2 Property History and Public Purpose

Johnson Nature Center developed through Bloomfield Hills Schools' commitment to learning beyond the classroom. The July 2023 master plan identifies 1968 as the year the district acquired the property and describes its subsequent development as a place where students and community members could learn through direct experiences with nature. This educational purpose remains central to the site's identity. [BO-B01, Phase 1, p. 4]

The nature center's published history describes Richard and Carol Olsen's planting and pond development before their 1968 sale to BHS. Additional district acquisitions supported a nature center dedicated in 1970 to advance science education. These changes illustrate how human care and land use helped shape today's landscape. [BO-H03]

The landscape reflects both natural processes and human use. Woodlands, water features and trails provide settings for observing wildlife, exploring seasonal change and understanding relationships among people, land and water. The visitor center, maple sugaring facilities and log cabin support interpretation and hands-on learning. The cabin was built in the 1980s as a reproduction for historical interpretation; it is not an original nineteenth-century building. Together, these resources allow the nature center to connect environmental education with the ways people have used and cared for the landscape. [BO-B01; BO-B02, Appendix A, building inventory; BO-H03]

Earlier planning established a foundation for this work. The 2018 joint strategic plan for Bowers School Farm and Johnson Nature Center emphasized learning through experience, closer coordination with classroom instruction, community participation and conservation of green space. The 2023 Johnson master plan continued that direction while identifying opportunities to improve accessibility, visitor experiences, facilities and operational sustainability. Its engagement findings also emphasized the value visitors placed on the site's peaceful character and opportunities to experience nature. [BO-B02; BO-B01, Phase 1, pp. 4–5]

The partnership between Oakland County Parks and Bloomfield Hills Schools carries this educational legacy into Bloomfield Oaks' role within the county park system. BHS retains ownership and the school-use rights established in the interlocal agreement, while OCP's management provides a framework for sustaining the property and serving the wider community. [BO-A01, Introduction; §§2.3–2.6, 4.3, 4.18.1]

The public purpose of Bloomfield Oaks is to protect the natural setting that makes these experiences possible and help people develop knowledge, confidence and a lasting connection to the outdoors. School field trips and place-based discovery, community programs and informal visits should reinforce that purpose. Future improvements should remove barriers to participation, support meaningful outdoor experiences and sustain the landscape's ecological health and quiet character.

1.3 Location and Existing Conditions

Location and Landscape Character

Bloomfield Oaks–Johnson Nature Center is located at 3325 Franklin Road in Oakland County. The interlocal agreement describes approximately 43.4 acres owned by Bloomfield Hills Schools, with the premises subject to confirmation by survey and title review. The property combines wooded landscapes, pond and stream environments, trails, educational facilities and supporting operational spaces. These features provide the setting for school field trips and place-based discovery, community programs and informal outdoor recreation. [BO-A01; BO-B01; BO-E01]

The nature center's character comes from the relationship between its natural areas and places for learning. Visitors move between indoor classrooms, wildlife observation areas, maple sugaring facilities, the interpretive log cabin and outdoor activity spaces. Much of the visitor experience depends on the landscape itself: its seasonal changes, wildlife, water and opportunities for quiet exploration.

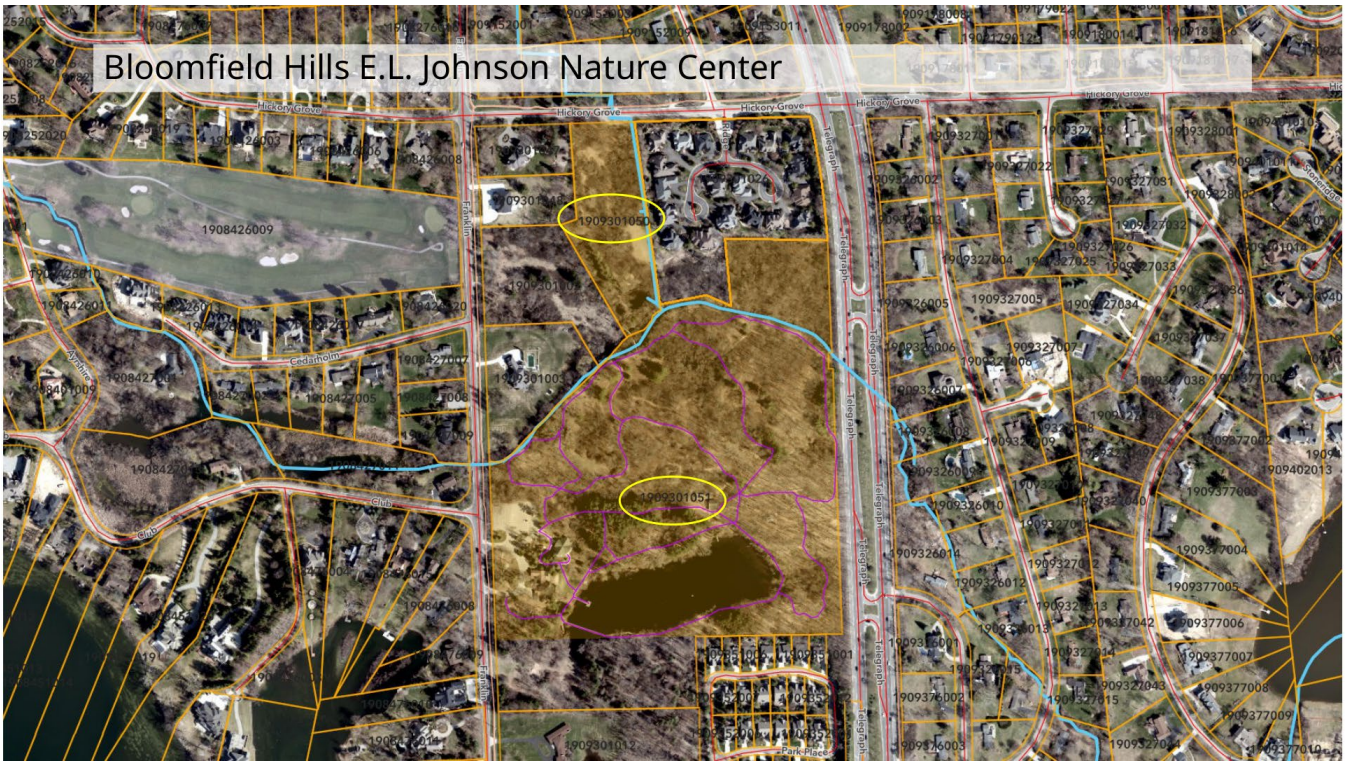


Figure 1. Aerial context for Johnson Nature Center. Supplied aerial slide; imagery date and boundary currency are unverified. Parcel lines and highlights are contextual and do not establish the agreement premises or authorize acquisition. [BO-V01]

Arrival and Principal Facilities

Principal buildings and visitor facilities are concentrated along the western side of the property near Franklin Road. These include the Visitor Center, the caretaker house—a 2,100-square-foot residential ranch—service facilities and animal enclosures. Trails connect this area with the pond, cabin and barn, sugar shack, observation areas and other outdoor destinations. [BO-B01, Phase 1, pp. 11–17; BO-U01]

The Visitor Center provides indoor learning, exhibit and support spaces. Outdoor facilities extend those experiences into the landscape through wildlife observation, maple sugaring, historical interpretation and nature exploration. The Outdoor Classroom is part of this learning environment. Its current configuration and improvements completed since the master plan will be documented in the updated facility inventory.

Parking, service access, storage and utilities support these public and educational uses. Their condition and arrangement should be considered together with visitor circulation, school-group movements and maintenance access.

Accessibility Circulation and Water Management

The 2023 master plan documented barriers to movement between the Visitor Center and outdoor destinations. Drawing on the October 2022 accessibility evaluation, it identified disconnected accessible routes, unstable trail surfaces, steep sections and insufficient information to help visitors understand route conditions. It also identified drainage and periodic flooding affecting portions of the trail system and several activity areas. These

are dated findings that require reconciliation with subsequent improvements and current conditions. [BO-B01, Phase 1, pp. 14–19]

Accessibility and drainage are closely related planning considerations. Routes must support participation while accommodating slopes, water movement, maintenance needs and protection of natural resources. Improvements should connect meaningful experiences across the property and provide reliable information about the conditions visitors can expect.

Facility Condition and Maintenance Baseline

The 2023 facility evaluation identified concerns involving the caretaker house, garage, bridges and docks, portions of the trail system, maple sugaring facilities and other visitor amenities. The assessment considered physical condition, operational usefulness and visitor experience. It provides a starting point for evaluating needs, rather than a statement that every identified deficiency remains unresolved. [BO-B01, Phase 1, p. 17; BO-U01]

The updated facility inventory will distinguish completed work, outstanding needs and changed conditions, with the date and source of each status recorded. This reconciliation will inform the CIP and POMP without treating historical recommendations as current commitments.

The August 3, 2026 fire inspection identified four corrective items: stairwell emergency lighting, sprinkler-system testing and certification, mounting a fire extinguisher in the Bat Cave, and clearing access to the exterior fire department connection. Completion and reinspection records have not yet been verified for this plan. These items should be tracked through operations and maintenance, with capital work identified only where the necessary remedy warrants it. [BO-C01]

Environmental Assessment and Property Documentation

ASTI's June 15, 2026 Phase I Environmental Site Assessment reported no recognized environmental conditions, controlled recognized environmental conditions or significant data gaps within its assessed property. It treated the former orchard as a de minimis condition in the context of continued use. The report did not include soil, water or air sampling. [BO-E01, pp. 1–4]

The assessment describes approximately 34.57 acres and parcel identifiers that differ from the interlocal agreement. Its findings therefore must be tied to the area actually assessed until the survey, title information and assessment boundary are reconciled. Future project evaluation should consider the report's scope and assumptions alongside the location and nature of proposed work.

1.4 Community Engagement and Visitors

Community Setting and Public Use

Bloomfield Oaks serves students, families and community members through school field trips and place-based discovery, public programs, camps, volunteer stewardship and informal visits. Trails and natural areas support everyday experiences alongside organized activities. The county partnership creates an opportunity to broaden participation while sustaining the educational relationships and quiet natural setting that people value.

Understanding this public role requires several distinct perspectives: who participates in engagement, who attends organized programs, who visits independently, and who is not yet being reached. Survey responses, program attendance and estimates of total visitation describe different things and should remain separately identified.

The supplied community profile estimates 71,176 residents and 28,625 households within a modeled 10-minute drive, compared with 113 residents and 38 households within a modeled 10-minute walk. Median household

income is $125,167 in the drive area and $241,867 in the walk area, compared with $105,660 countywide. These 2026 Esri estimates describe surrounding residents, not actual visitors or a verified walking route. The small walk-area population reinforces the importance of arrival options beyond walking. [BO-V02, p. 1]

The drive-area profile also reports 9% of households below poverty, 24% with one or more people with a disability, and 10% receiving SNAP, using 2023 ACS five-year data. Its comparatively high median income does not remove the need for affordable participation and accessible experiences. The attached figures provide race and ethnicity, language, age and income context for outreach; they do not establish the demographics of people currently using the park. [BO-V02, pp. 1–2]

What Community Engagement Tells Us

The 2022–2023 master-planning process included stakeholder workshops and a digital survey. The published plan identifies 425 respondents in its Johnson Nature Center visitor segment. Those respondents valued the site as a place for quiet, recreation and connection with nature. The findings also identified limited awareness of available experiences and interest in clearer communication, additional programs and more affordable participation. Some respondents preferred little change and expressed concern that increased attendance or development could diminish the natural setting. [BO-B01, Phase 1, pp. 50–68]

The October 2025 BHS–OCP engagement included an October 20 event at Johnson Nature Center and an online survey open October 6–31. The November 24 summary reports 646 complete, valid online responses across the two facilities and 80 in-person participants. Across the combined survey, 61% supported the potential partnership, 25% needed more information and 14% opposed it. These results concern the partnership discussion at that time and are not Johnson-only results or approval of this plan. [BO-D02, pp. 2–6]

Johnson-specific survey findings provide a clearer basis for priorities. The published report gives the following rounded results; question-specific response counts are not shown in the summary and remain to be verified. [BO-D02, pp. 17–22]

- Existing experiences: 59% reported using trails and hiking opportunities, 46% reported participating in K–12 environmental education programming, and 45% reported visiting the deer pen or rescued animals.
- Offerings rated very important: no-cost trails and hiking and K–12 environmental education each received 82%; maple sugaring events received 59%. The survey's educational category is retained here as a source label. The plan describes OCP's role as facilitating school field trip discovery and experiences where learning comes alive in place.
- Features rated very important: healthy forests and natural areas received 83%, quiet areas and scenic views 73%, boardwalk repairs and improvements 70%, and wildlife viewing areas 62%.
- Ownership and support: 54% considered continued BHS ownership very important and 18% somewhat important. Half reported supporting Johnson in some way, including donations (13%) and volunteering (12%); these are overlapping forms of support, not commitments to future funding.

Written comments called for extended hours, guided hikes, wildlife interpretation and greater awareness, while others sought lower program costs and protection from crowding or development. These comments describe competing expectations rather than a mandate for every suggested improvement. The plan responds by prioritizing natural-area care, quiet access, boardwalk condition, place-based discovery and clear visitor information, with expanded programming evaluated against site capacity. [BO-D02, pp. 23–24]

Both engagement efforts have representation limits. The earlier master plan identified limited responses from nonvisitors and underrepresentation of several demographic groups. The 2025 summary identifies overrepresentation of ages 35–54, women and White respondents, and underrepresentation of ages 25–34 and Black, Hispanic and Asian respondents relative to the service areas. The voluntary engagement results should not be treated as statistically representative of all residents or visitors. These findings support continued

outreach to people whose experiences are less visible in the available responses; they do not establish the demographic composition of all park visitors. [BO-B01, Phase 1, p. 61; BO-D02, Representation]

What Participation Records Show

The Johnson Nature Center Community Report 2025–2026 reports 5,689 school-program participants, 3,101 participants in community programs and events, and 248 camp participants. These are reported program counts, not a verified count of unique individuals or all visits to the property. They should not be added together and labeled annual park visitation without confirming the counting method and overlap. [BO-G01]

The same report documents outreach involving Pontiac's Police Athletic League and Brilliant Cities Pontiac, illustrating ways the nature center has connected with communities beyond its immediate surroundings. It also reports 2,372 stewardship hours contributed by a group of 12 volunteers. Program and volunteer records demonstrate forms of participation that a single attendance total would not adequately describe. [BO-G01]

An anonymized, aggregated mobile location data source estimates approximately 20,000 visits in 2023, 23,000 in 2024 and 30,000 in 2025. These modeled visits are not a direct attendance count or a count of unique visitors. Staff advise that this source appears to capture visitation less reliably at Bloomfield Oaks than at Discovery Oaks; accuracy varies among properties. The figures provide a provisional indication of relative change, rather than a verified total or a basis for setting attendance targets. [Bloomfield Oaks Visitor Data summary, p. 1; staff interpretation supplied October 28, 2026]

The 2025 summary attributes 43% of modeled visits to Bloomfield Hills, 9% to Birmingham, 5% to Waterford and 4% to West Bloomfield. It reports a modeled visitor median household income of $161,000. These estimates offer useful context for outreach and affordability planning, but do not establish the characteristics of every visitor or family. They remain distinct from the surrounding-resident profile and voluntary survey results. [Bloomfield Oaks Visitor Data summary, p. 2]

Year-to-year patterns should be interpreted only after checking that the reporting boundary, coverage and methods are comparable. Staff should consider the mobility estimates alongside program records, visitor feedback and available direct observations. Neither an apparent increase nor a low modeled total establishes remaining site capacity; decisions about growth must also consider habitat condition, visitor experience and operating resources.

Implications for the Plan

The engagement supports a direction that strengthens outdoor learning, access to nature and stewardship while protecting the qualities that make the site distinctive. Clearer information, accessible experiences and targeted outreach can help more people participate. Increased attendance should be considered alongside habitat condition, visitor experience and operating capacity. Success should be measured through who is reached, the quality of the experience and the condition of the place, as well as participation levels.

Community Profile

Figure A. Bloomfield Oaks 10-minute walk and 10-minute drive area

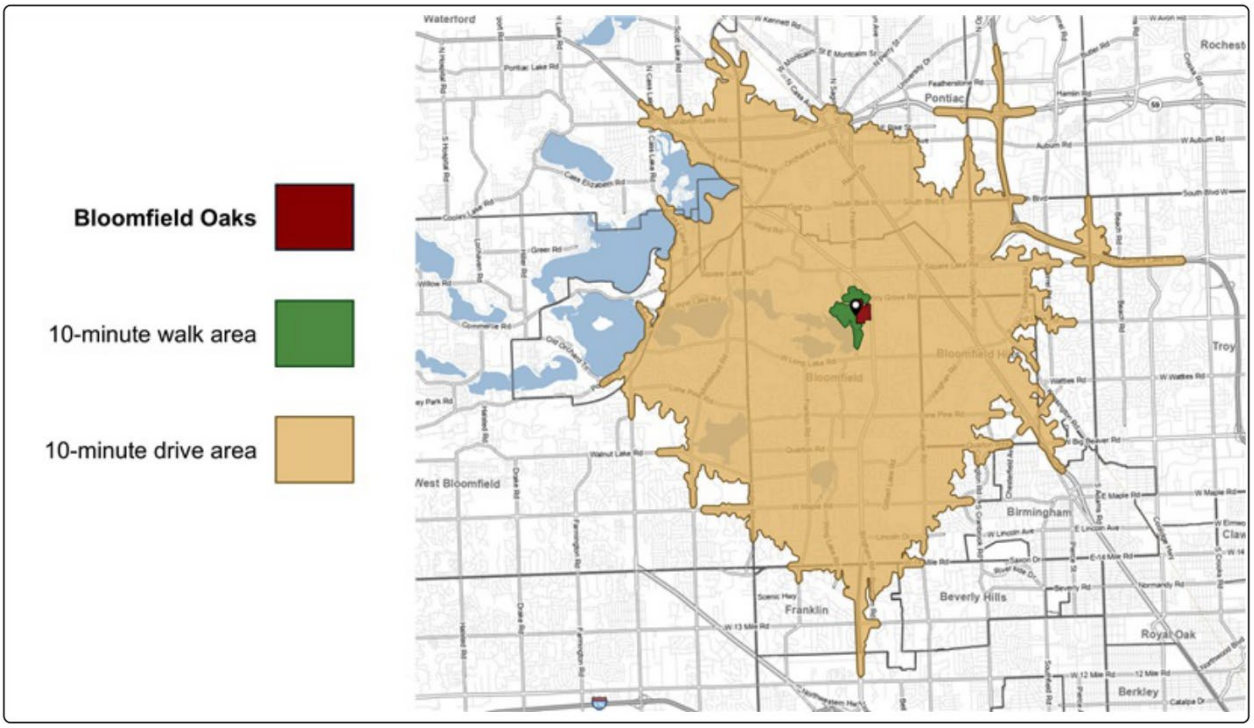


Table 1. Population, Household Income, and Diversity Index
Source: 2026 Esri

Geography	Total Population	Total Households	Median Household Income	Diversity Index
Oakland County, MI	1,275,400	545,282	$105,660	55
Bloomfield Oaks (10m drive)	71,176	28,625	$125,167	59
Bloomfield Oaks (10m walk)	113	38	$241,867	50

Figure B: Demographic comparison – Race and ethnicity
Source: 2026 Esri

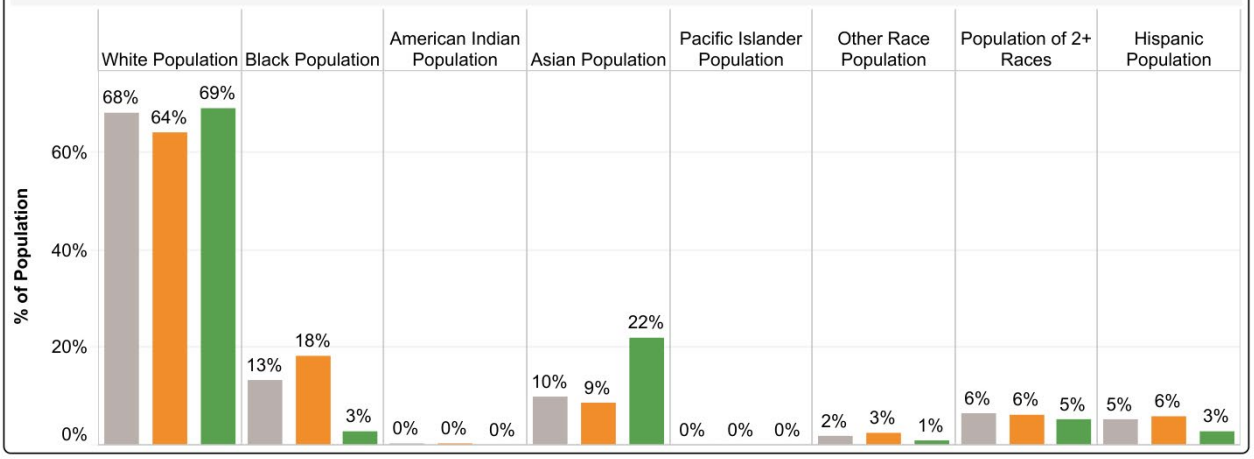


Figure 2. Service area and demographic profile. Source: supplied Bloomfield Oaks Community Data, p. 1; 2026 Esri. Hispanic origin is reported separately from race. [BO-V02]

Community Profile Continued

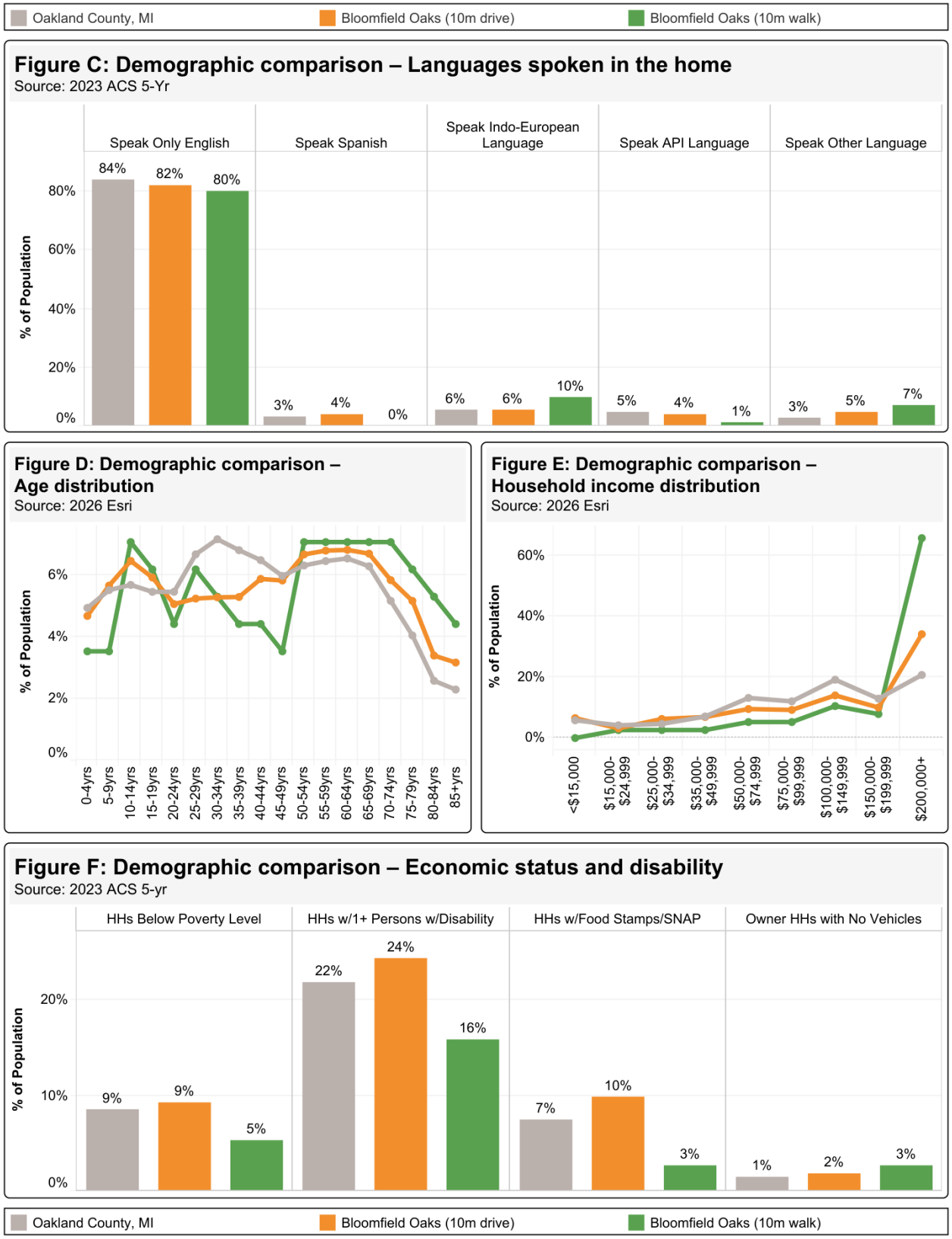


Figure 3. Language, age, income and household characteristics. Source: supplied Bloomfield Oaks Community Data, p. 2; 2026 Esri and 2023 ACS five-year data. Figure F uses household measures despite its population axis label. [BO-V02]

1.5 Strategic Direction and Mission 26

A Nature Center for Learning and Everyday Use

The proposed long-term direction is for Bloomfield Oaks–Johnson Nature Center to serve as an accessible place for outdoor learning, everyday contact with nature and ecological stewardship. School field trips and place-based discovery, public programs and informal visits should reinforce one another while preserving the quiet setting and natural features that give the property its character.

The plan should strengthen opportunities to observe, explore and care for the natural world. Improvements to buildings, trails and outdoor learning spaces should support that purpose. Program growth and capital investment should be evaluated for their contribution to learning, access and stewardship, together with their demands on the site and its operating capacity.

Access That Broadens Participation

Access should be considered across the full visitor experience: learning that the park exists, understanding what is available, reaching the property, navigating its spaces and participating comfortably. Clear information, accessible routes, welcoming arrival areas and appropriate accommodations should guide improvements. Transportation partnerships and targeted outreach could help connect schools and communities that face barriers to visiting.

Informal visits and organized programs should provide complementary ways to participate. The operating plan should clearly explain general access, program registration and any applicable fees, consistent with the Johnson agreement and OCP policies. Potential improvements to entrances, wayfinding and trail connections should be developed from verified site conditions, property rights and accessibility needs. This section proposes no new fee or access restriction.

Learning That Grows with Participation

Bloomfield Oaks should offer inspirational, educational and aspirational experiences that provide several ways to connect with nature. Each provides value independently. People should be able to enjoy an informal visit, participate in structured learning or pursue sustained involvement according to their interests and circumstances.

Inspirational experiences invite curiosity through a walk, wildlife observation, seasonal discovery or time in a natural setting. Educational experiences develop understanding through school programs, camps, guided exploration and learning for families and adults. Aspirational experiences allow people to pursue an interest through sustained projects, volunteer stewardship, mentorship and deeper study.

The Outdoor Classroom should be considered within this broader learning framework. Its future use and any potential improvements should respond to educational purpose, inclusive participation, supervision needs and documented site conditions. Detailed program and facility proposals belong in the public-services section and CIP.

Stewardship and the Visitor Experience

Quiet enjoyment should be an explicit planning consideration alongside outdoor learning and community participation. Decisions about activity locations, group sizes, scheduling and simultaneous uses should account for effects on habitat and other visitors. Trails, learning areas and quiet spaces should be planned together, with recovery or maintenance periods where conditions warrant. The POMP should translate these considerations into operating practices informed by site conditions and experience.

Potential changes in program scale or physical development should be evaluated against habitat condition, drainage, accessibility, visitor experience and staffing capacity. Restoration and maintenance should be part of the planning and cost of an improvement from the outset. Greater attendance alone should not determine whether a proposal advances.

Mission 26 and Sustainable Public Value

The proposed direction translates Mission 26 into practical choices for Bloomfield Oaks: broaden opportunities to reach and use the park; support active outdoor experiences and community connections; make the landscape a setting for learning; and care for natural resources and public assets over time.

Success should be measured through a small set of practical indicators covering visitation, communities reached, learning, accessibility, visitor experience and ecological condition. Anonymized, aggregated mobile location data can inform visitor origins, demographic patterns and relative changes over time, subject to site-specific coverage and methodological review. Program records should document participation and community reach; participant feedback should help assess learning and visitor experience; accessibility reviews and condition monitoring should identify barriers and resource needs. Each selected indicator should have a defined method, reporting interval and responsible role in the POMP. Numerical targets should follow credible baselines and a realistic assessment of operating capacity.

The five-year CIP should begin with the 2023 master-plan proposals and reconcile each against completed work, current needs and this strategic direction. Each proposal carried forward should identify its intended public benefit, capital scope and estimated ongoing requirements for staffing, maintenance, utilities, supplies and eventual renewal. Assumptions and costs requiring further verification should remain clearly identified. These requirements should inform project selection and sequencing and carry into the POMP and budget development. CIP inclusion does not establish a funding commitment or implementation date.

1.6 Outdoor Learning and Public Services

Bloomfield Oaks should connect people to the natural world through direct experience, facilitated discovery and stewardship. School field trips, early childhood experiences, camps and programs for families and adults should use the woodland, water, wildlife and seasons to encourage curiosity, confidence and deeper connection.

School field trips and place-based discovery remain central to the site’s purpose. Experiences should connect with classroom learning through observation, investigation and opportunities to return across seasons and grade levels. BHS school-use rights will be honored under the agreement alongside opportunities to serve other schools. [BO-A01 §4.18.1]

TreeSchool Nature Based Preschool

TreeSchool is the licensed nature-based preschool program and a central part of outdoor learning at the site. Child-led exploration, play, seasonal investigation and intentional teaching support relationships, independence, problem-solving and comfort outdoors.

The 2026–27 family handbook emphasizes small groups, consistent educators, family communication and an emergent curriculum. Ongoing observation and developmentally appropriate assessment guide individualized learning. The assessment tool may vary by year; families receive developmental information at the beginning of the year and in spring, with assessment continuing throughout the year. [BO-T02, pp. 4–5]

The handbook identifies the Outdoor Classroom as the designated fenced licensed outdoor area and describes exploration elsewhere as field trips requiring family authorization. Approved spaces, restrooms, handwashing, weather shelter, arrival and dismissal, and safe movement will be coordinated with public use and supervision requirements. Current approved boundaries and conditions require license verification. [BO-T02]

The August 2026 transition plan provides for BHS to retain existing licensing until a new OCP license is approved and the formal transition is complete, unless the licensing authority directs otherwise. It identifies the BHS Superintendent as licensee designee and the site director as program leadership at that time. OCP requires an original license, rather than a transfer or variance; the intended transition is the 2027–28 school year, subject to approval and readiness. [BO-T01]

OCP and BHS should coordinate the application, inspections, records and family communication to support uninterrupted operation. Management or employment changes do not complete the licensing transition. The POMP addresses interim compliance, staffing, approved spaces and capacity, child records, emergency arrangements and the effective transition date. Current ages, schedules, tuition and capacity will be verified against current materials.

Public Experiences and Participation

Public programs, camps, guided walks and seasonal experiences should offer opportunities for families and adults alongside informal orientation and interpretation. Wildlife, maple sugaring, pond and woodland ecology, and site history provide themes for discovery. Outdoor Classroom improvements should respond to actual use, accessibility, supervision and maintenance needs.

Program planning should address transportation, price, scheduling, registration, language and disability-related barriers. Practical opportunities for repeat participation should help visitors build familiarity and confidence. Partnerships should have a clear purpose and defined responsibilities; volunteer stewardship should be supported by training and supervision.

Each offering should have an identified purpose, audience, staffing and cost assumptions, and a method for assessing results. Fees and subsidies should follow the agreement and applicable policy. Manageable pilots may test new experiences before expansion. Scheduling should account for school and public use, quiet enjoyment and ecological conditions. Detailed enrollment, staffing and schedules belong in the POMP and operating resources.

1.7 Environment and Heritage Stewardship

Natural resources are the foundation of outdoor learning and the quiet visitor experience. Stewardship should build on the site's restoration history. The 2023 management record identifies 34 management zones; it is a historical baseline to be checked against current conditions. [BO-E02]

Management should protect woodland, prairie, thicket, pond and stream habitats through native vegetation, invasive-species management, regeneration and structural diversity. Vegetation removal should be phased with planting and follow-up work, preserving appropriate screening, wildlife cover and separation between trails and adjacent uses.

Tree care should combine safety with succession and habitat objectives. Inspection and routine care belong in the POMP; substantial renewal may require CIP investment. Pond, stream and wetland areas should be managed as connected resources, with attention to buffers, erosion, drainage and trail impacts. Wet conditions should prompt evaluation of route and design choices rather than automatic filling or widening.

Sugarbush stewardship should connect tree health, regeneration, soil protection and visitor impacts with production practices. Proposed thinning or expansion should receive current forestry review. Volunteer assignments should have defined objectives, training and follow-up care.

Learning activity near the visitor center and Outdoor Classroom should be coordinated with quieter experiences across the woodland, trails, pond, stream and sugarbush. This is planning direction rather than a claim that formal management zones have been adopted. Deer browsing, native regeneration, water monitoring and

prairie treatments, including prescribed fire where appropriate, should be evaluated through qualified review and applicable authorizations. [BO-H05; BO-E02]

Resident educational animals require a separate care program, including inventories, permits, daily care, veterinary support, enclosure maintenance and emergency arrangements. Their educational role complements stewardship of free-ranging wildlife but does not replace it.

Heritage interpretation should explain the people and practices that shaped the landscape, including founding plantings, maple sugaring and the cabin. It should distinguish verified history from reproduction structures and demonstrations of historical periods. Historical and technical review should inform changes to the cabin and related features. An updated management-zone map and prioritized work program should connect stewardship objectives with the POMP and CIP.

1.8 Financial Sustainability and Investment

Public funding, participant fees, gifts, grants and partnerships should sustain the park's educational and conservation purposes. Subsidy may be appropriate when an activity produces clear community benefit or removes barriers. Each offering should have a clear purpose, realistic budget, intentional funding approach and evidence of results.

OCP has fee authority under the agreement. Entry and parking are free for BHS and Oakland County residents; program, rental and other service fees are distinct. All Park Revenue belongs to OCP unless an exception agreed during transition is codified in the PAP. No alternative revenue arrangement is established by this draft. [BO-A01 §§5.1–5.2]

Budgets should recognize full operating costs, including staffing, utilities, buildings, habitat and animal care even when public facilities are closed. TreeSchool costs should be separately identifiable, including teaching, preparation, administration, licensing, supplies and facility support, alongside tuition and any subsidy. Direct program costs and shared site costs should be distinguished. Historical BHS expenditures require adjustment before use as current OCP assumptions.

The Johnson agreement establishes no fixed capital contribution. The CIP reconciles earlier proposals and current needs into project types, locations and intended uses. BHS project-type preapproval under §4.7.4 is distinct from funding authorization or a commitment to implement. Safety, accessibility, condition, educational value, ecology and operating requirements should inform selection. Maintenance and new opportunities may proceed concurrently when resources allow. [BO-A01 §§4.4, 4.7.4]

Gifts Grants and Friends Partnership

Friends of the Johnson Nature Center is an important community and philanthropic partner whose mission aligns with ecological conservation, community outreach, volunteerism and fundraising. Its bylaws provide for administering funds and property for charitable, scientific and educational purposes related to conservation, including land, flora and fauna in the Rouge watershed. [BO-F01; BO-F02]

Friends' financial resources and fundraising relationships can support shared priorities. OCP and Friends should identify opportunities for restoration, outdoor learning, participation assistance and improvements. An annual discussion of priorities can connect potential support with the CIP and program needs while respecting Friends' independence.

Friends' funds remain under its control. Contributions require the organization's authorized decisions and compliance with donor restrictions. Amount, purpose, timing and responsibilities should be confirmed before contributions enter project budgets. OCP and BHS should similarly reconcile ownership, available balances,

restrictions and outstanding commitments associated with other gifts, grants and funds. Reported balances should not be treated as unrestricted resources without that review. [BO-I01]

1.9 Implementation Priorities and Measures

Implementation should sustain life safety, TreeSchool licensing continuity, animal care, utilities and dependable circulation while advancing facility renewal, access and restoration. Priorities should reflect urgency, public benefit and delivery capacity. New experiences need not wait for every maintenance item to be resolved.

Work affecting TreeSchool should be coordinated with the applicable staff. Effects on licensed spaces, utilities and access should be evaluated before work begins, with licensing milestones treated separately from management changes. Construction should account for school visits, camps and public schedules, including temporary closures, communication, alternative arrangements and uninterrupted animal care.

An annual work program should identify tasks, intended results, coordinating leads, supporting roles, resources and dates. It should distinguish recurring operating responsibilities, approved and funded work, and potential improvements requiring assessment. Completed or changed projects should be reconciled against earlier plans, with Friends engaged early where partnership opportunities exist.

Measures should address public access and community reach; learning and repeat participation; TreeSchool licensing and service continuity; restoration and ecological condition; facility condition and service interruptions; and financial performance, subsidy and confirmed external support. Each measure should have a defined method, source, reporting interval and responsible role. Numerical targets should follow credible baselines. Mobility estimates may inform trends and outreach but should not independently establish attendance targets.

Annual review should inform adjustments to programs, maintenance and investment. It does not replace amendment procedures, expenditure authorization or other required approvals.

1.10 Plan Administration and Approval

The agreement is administered by the OCP Director and BHS Superintendent or their successors or written designees. Each party must notify the other of changes to written designees. Applicable staff should coordinate delivery and elevate interpretation or proposed changes to the agreement administrators. [BO-A01 §4.1]

The PAP must be based on Exhibit B, the Preliminary Park Use and Improvement Framework, and prepared under current OCP policies and procedures. The CIP should define improvement types, locations and intended uses with sufficient clarity to preserve the project-type preapproval provided by the agreement. Detailed implementation remains subject to applicable authorization processes. Operating coordination documents do not alter or delegate agreement rights without required consent. [BO-A01 §§4.7.2, 4.7.4, 7.2]

Plan action	Agreement procedure
Initial PAP submission	BHS has 30 days after receipt to submit comments and recommendations. OCP must consider and endeavor to address them. Prior written BHS approval is required before OCP approval or implementation; no response within 30 days constitutes deemed approval under §4.7.6.
PAP update	At least every five years, with at least 60 days for BHS review and comment under §4.7.6.

Plan action	Agreement procedure
CIP update	At least every four years, maintaining a five-year framework, with at least 60 days for BHS review and approval. If not approved, the improvement may not be made unless the parties otherwise agree.
POMP update	At least every five years, with at least 60 days for BHS review and approval. If not approved, the change may not be made unless the parties otherwise agree.

On September 30, 2026, the parties executed the joint extension establishing December 15, 2026 as the deadline for delivery of the final Park Action Plan. The extension does not change the agreement's review and approval requirements. The 60-day update review periods do not establish automatic deemed approval. The approval record will retain submitted versions, receipt dates, comments, responses and approval evidence. [BO-A04; BO-A01 §4.7]

BHS educational activities and events may use the park without charge where they do not conflict with other scheduled uses, with reservations coordinated through OCP and BHS responsible for setup, operation and cleanup as provided in the agreement. The parties will mutually promote the partnership. TreeSchool interim licensing arrangements require separate coordination. [BO-A01 §4.18.1]

Disputes concerning the agreement first go to the parties' representatives, then to non-binding mediation with costs shared equally if unresolved. Applicable restrictions, grants, authorizations and partner records should be maintained with the plan's supporting records. [BO-A01 §4.2]

1.11 Ownership and Continuing Responsibilities

BHS retains ownership of the premises. OCP manages and operates the park under the agreement and the PAP, CIP and POMP. Attached capital improvements are owned by BHS; cost responsibilities should be documented consistently with the agreement. Potential improvements do not establish funding commitments. [BO-A01 §§4.3–4.5]

BHS will transfer the equipment, personal property and animals listed in the Final PAP at no cost to OCP. The agreement and Final PAP together operate as the bill of sale. The final plan therefore requires reconciled schedules identifying the property and animals being transferred; generic descriptions do not substitute for agreed lists. [BO-A01 §§4.10–4.11]

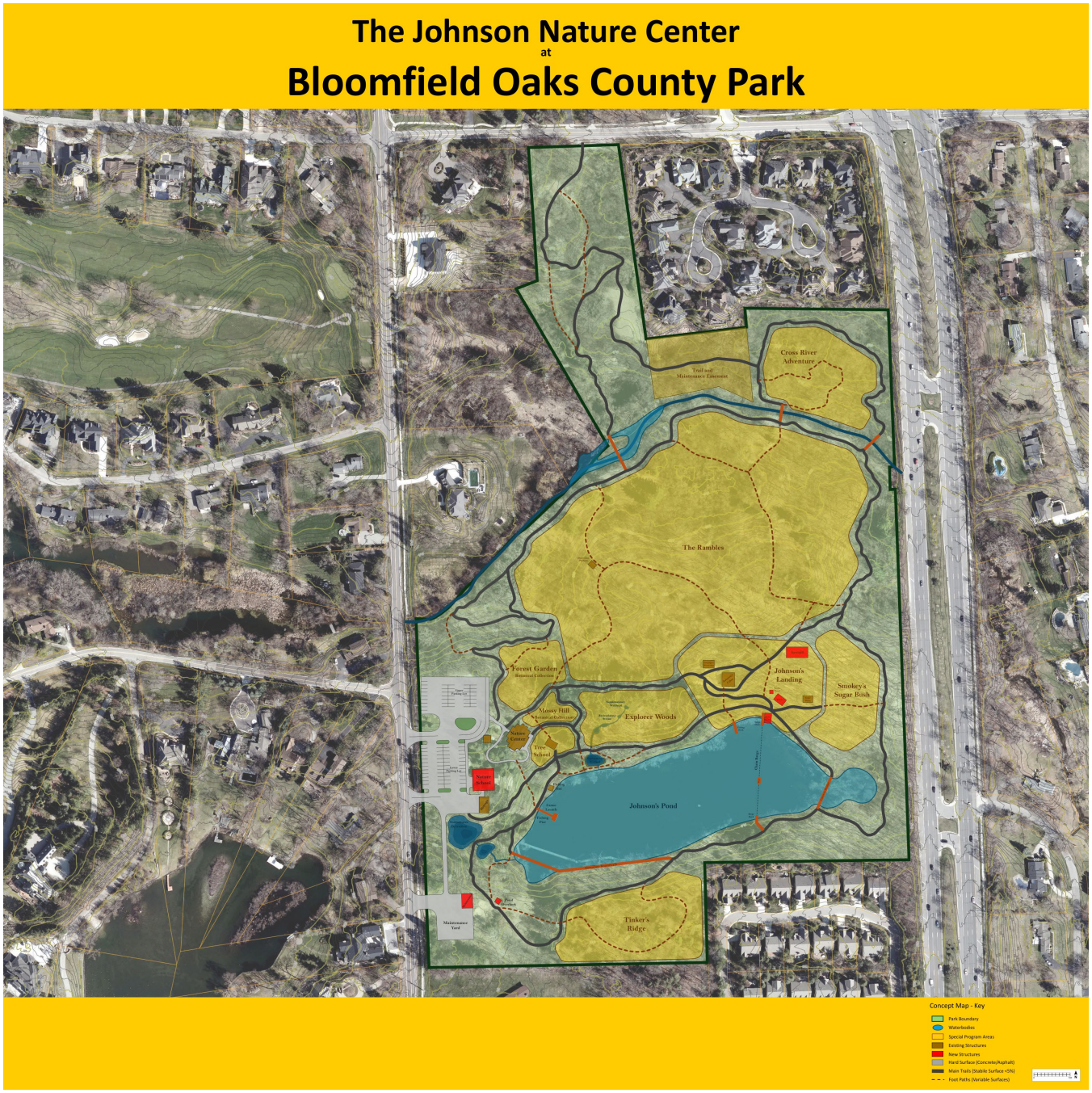
All Bloomfield Oaks equipment, personal property and animals are included in the transfer to OCP, as confirmed by Alan on October 30, 2026. The Equipment Transfer Inventory identifies all 30 source entries as Transfer to OCP: Yes. Final schedules must retain sufficient identifying details and match the versions approved with the PAP; the Animal Transfer Inventory identifies the five animals confirmed by Alan, each included in the transfer. Transfer of ownership does not itself transfer permit authority.

The POMP will identify responsibility for buildings, utilities, grounds, trails, learning spaces and animal care. Temporary or shared transition services should be distinguished from continuing responsibilities. TreeSchool licensing remains separately documented.

At expiration or termination, ownership, return of property and any applicable reimbursement will follow the agreement. This plan creates no additional reimbursement entitlement. [BO-A01 §2.7]

Attachment A Capital Improvement Plan

Conceptual Site Layout



Conceptual Site Layout. Reproduced as supplied. The map illustrates potential project locations, trail connections and program areas. Read it together with the capital scope and implementation provisions in this attachment. Depicted boundaries, alignments, grades and footprints remain subject to verification and project design. The original full-size map and accompanying description are retained in the separate appendix. [BO-V03; BO-B03]

A.1 Capital Planning Framework

The Bloomfield Oaks–Johnson Nature Center Capital Improvement Plan establishes a five-year framework for investment in facilities, accessibility, outdoor learning and natural resources. Projects should support the park's educational purpose, protect its natural character and account for the staffing and maintenance needed to sustain improvements.

The 2023 Johnson Nature Center Master Plan provides the starting project list. Its recommendations will be reconciled with completed work, current conditions, operating needs and the partnership agreement. The master plan's original schedules and cost estimates are historical planning information; they do not establish current budgets or funding commitments. Land acquisition is excluded from this plan. The unsuccessful historical preservation proposal is retained in the source register only. [BO-B01; BO-U03]

The Conceptual Site Layout and accompanying description provide an updated spatial framework for the project types described in this CIP. The following sections incorporate the proposed learning areas, facilities and infrastructure into the scope submitted for BHS project-type preapproval. Locations shown on the map are conceptual and may be refined through site assessment and design, consistent with the governing agreement and applicable property restrictions. Program-area names are working names. Funding, final design and implementation timing will be established through the processes described in this attachment. [BO-V03; BO-B03]

The project types described in Sections A.2–A.8 and the capital reconciliation table are included in the capital scope submitted for BHS preapproval. Design, cost, funding and sequencing may remain to be developed without excluding a project type from that scope. Completed components and recommendations no longer pursued will be identified through reconciliation.

Project recommendations should identify their purpose, location, anticipated use, supporting evidence, estimated cost and funding status. Evaluation should consider safety, accessibility, educational benefit, ecological effects, condition, operating costs and coordination with ongoing programs. Work affecting TreeSchool should be coordinated with the applicable staff.

Section 4.7.4 of the Johnson Nature Center interlocal agreement provides: "The CIP shall establish a five (5) year framework to identify, evaluate, and prioritize potential capital investments at the Park. The CIP serves as a planning and evaluation tool, not a guarantee of implementation. Inclusion of an item in the CIP does not constitute project approval, funding authorization, or a commitment to proceed. The CIP will set forth a process for approvals, authorizations, and commitments to proceed. Inclusion of an item in the CIP constitutes BHS pre-approval for the project type to proceed when funding is available, without requiring additional BHS approval. The CIP may be amended as set forth in the Park Action Plan, but at least every four (4) years OCPRC shall create an updated CIP, which the BHS Representative shall have at least sixty (60) days to review and approve. If the BHS Representative does not approve the CIP, the improvement may not be made, unless otherwise agreed to by the Parties. The updated CIP, approved by the BHS Representative, shall replace the existing CIP and be incorporated into the Park Action Plan as Attachment A." [BO-A01 §4.7.4]

Individual projects will advance through applicable OCP and County planning, budgeting, procurement and project-authorization processes. Recommendations will identify the intended public benefit, proposed scope, estimated capital and continuing operating costs, funding and relevant site constraints. The Director will administer implementation within delegated authority; matters reserved to the Commission or other County authorities will be submitted for approval. Projects outside the approved capital scope and amendments will follow the governing agreement.

A.2 Accessibility Trails Bridges and Boardwalks

Capital improvements may provide a more accessible, dependable and connected route through Bloomfield Oaks–Johnson Nature Center while protecting its natural character and outdoor learning experience.

The proposed capital scope includes:

- Accessible routes: construction or improvement of connections among arrival areas, the visitor center, Outdoor Classroom, pond viewing areas and other learning destinations.
- Trails: rehabilitation, selective realignment and connecting segments, including surface, grading and drainage improvements.
- Bridges and boardwalks: repair, rehabilitation or replacement, with adjustments to alignment, width, approaches and protective features where supported by assessment and design.
- Supporting amenities: wayfinding, route information, resting places and accessible viewing or gathering areas.
- Mobility equipment: acquisition or replacement of equipment that expands access, supported by provisions for storage, charging, maintenance and visitor assistance.

Trail network and connections: development of connected walking loops, selective realignment, seasonal paths and trail connections shown on the Conceptual Site Layout. Main-loop design will pursue the concept's less-than-five-percent slope objective, subject to survey and accessibility review.

Water access and observation: construction or improvement of bridges, boardwalks, fishing docks and piers, canoe access, pond overlooks and observation platforms, with associated approaches and protective features.

Project design should consider the complete visitor journey, including arrival, route continuity and access to meaningful experiences. Improvements should respond to terrain, wet conditions, habitat sensitivity and maintenance capacity. Construction affecting learning spaces should be coordinated with the applicable staff.

Accessibility investment will be informed by the documented barrier assessment and an updated review of current conditions. Project planning will connect arrival areas, buildings and outdoor learning destinations, addressing route continuity alongside individual facility improvements. Recommendations will be evaluated for current applicability, technical feasibility and compatibility with property restrictions before design and budgeting. [BO-C02]

Routine inspections, surface maintenance, vegetation clearance and temporary closures will be addressed in the POMP. Capital rehabilitation and replacement will be addressed in the CIP. Project limits, costs and sequencing will follow condition and accessibility assessments. External pathway connections remain subject to verification of alignment, ownership and feasibility.

A.3 Outdoor Learning Interpretation and Nature Play

Bloomfield Oaks–Johnson Nature Center will strengthen outdoor learning through dedicated learning spaces, nature play and interpretation. The capital scope accommodates improvements to the Outdoor Classroom, a central nature play area, selected play opportunities along trails and interpretive features. Projects will be developed around educational value, accessibility, environmental compatibility and long-term operating needs.

The proposed capital scope includes:

- Outdoor Classroom: renovation or enhancement of learning and play areas, shelter, storage, seating, fencing, gates and supporting access, drainage and sanitation infrastructure.
- Nature play: development of a central play area and selected smaller installations along trails, using landscape features and materials appropriate to the setting, intended ages, accessibility and maintenance requirements.

- Outdoor learning spaces: gathering areas, demonstration gardens, observation stations and supporting amenities for school groups, camps, families and other learners.
- Interpretation: replacement or installation of signs, exhibits and interactive features addressing local ecology, wildlife, water, seasonal change and the site's documented history.

The Outdoor Classroom is an existing learning setting supporting TreeSchool and other appropriate educational uses. Future investment may renew or enhance its learning, play, shelter, storage, enclosure and accessibility features. Project planning will distinguish existing installations from unfinished proposals and new improvements.

The mini treehouse will be evaluated as a separate potential improvement. Before implementation, its construction status, design suitability, applicable licensing and inspection requirements, funding and ongoing maintenance responsibilities will be confirmed. [BO-O01–BO-O03]

Improvements should support both facilitated programs and independent exploration. Locations and designs should preserve quiet experiences, protect sensitive habitats and allow groups to gather without obstructing trails.

Work affecting TreeSchool's licensed spaces should be coordinated with the applicable staff and evaluated against applicable licensing requirements before implementation. Capital work must account for supervision, secure boundaries, arrival and dismissal, restroom access and weather shelter. Shared use should be planned around the preschool's operating needs.

Interpretive and wayfinding improvements will build on an inventory of existing installations, with content reviewed for accuracy, current operating policies, accessibility information and appropriate partner recognition before replacement or reproduction. [BO-O04]

Permanent construction and substantial site improvements will be addressed through the CIP. Curriculum, movable learning supplies, program schedules, inspections and routine maintenance will be addressed through operating budgets and the POMP.

Conceptual Learning Areas

The capital scope includes the following learning settings shown on the Conceptual Site Layout:

TreeSchool: renewal and enhancement of the fenced Outdoor Classroom and its supporting facilities, coordinated with approved licensed spaces.

Explorer Woods: exploratory nature play, wayfinding and opportunities to climb, crawl, create and investigate.

Tinker's Ridge: a nature-based building and creative-play area using managed supplies of logs, branches, stone, sand and other suitable materials.

The Rambles: habitat-based exploration supported by trails and selected landscape features, with visitor activity areas distinguished from ecological management areas.

Cross River Adventure: a low ropes and balance-course setting with supporting access and gathering space.

Educational pods: movable structures and equipment supporting outdoor learning at Bloomfield Oaks and potentially other OCP locations.

Design and operating plans will establish appropriate supervision, inclusive participation, inspection and maintenance arrangements. Activity areas will be coordinated with quiet experiences, habitat protection and separation from maintenance operations.

A.4 Educational Animal Habitats and Care Facilities

Bloomfield Oaks–Johnson Nature Center will support educational animal experiences through appropriate habitats, dependable care facilities and accessible opportunities for observation and learning. Improvements should advance animal welfare and help visitors understand native wildlife, habitat needs and environmental stewardship.

The proposed capital scope includes:

- Animal habitats: renovation, replacement or construction of enclosures and associated shelter, containment and protective features.
- Care and support spaces: improvements for food preparation and storage, cleaning, equipment storage and animal handling, including separation spaces where warranted by care needs.
- Supporting infrastructure: water, drainage, electrical service, ventilation and temperature control appropriate to the animals and facilities.
- Visitor access and interpretation: accessible viewing areas, circulation, educational displays and barriers that support safe observation while providing animals with opportunities for retreat.

Projects should be based on a verified animal inventory, species-specific care needs, facility assessments and applicable permit requirements. Habitat design should consider animal welfare, staff access, cleaning, security, weather protection and emergency response.

The scope allows improvements to the educational animal program without committing to additional animals or species. Any proposed expansion should be evaluated for educational purpose, suitable housing, qualified staffing, veterinary support and ongoing operating costs before animals are acquired.

Habitat and care-facility improvements should be evaluated against the conditions of the applicable animal permits, including documented facilities and handling procedures. The POMP will maintain separate records for live educational animals and preserved specimens, identifying applicable authorizations, responsible permit holders, reporting deadlines and any changes needed during the operating transition. [BO-P01]

The POMP will address daily care, staffing, veterinary arrangements, inspections, emergency procedures and permit administration. Capital improvements will be coordinated with those operating requirements, including temporary care arrangements during construction.

A.5 Maple Sugaring Sugarbush and Heritage Learning

Bloomfield Oaks–Johnson Nature Center will sustain maple sugaring as a signature outdoor learning experience connecting forest health, seasonal change, food production and local history. Capital improvements should support safe operations, accessible participation and the long-term renewal of the sugarbush.

The proposed capital scope includes:

- Sugar shack: renovation, expansion or replacement of the existing facility to support processing, demonstrations, equipment storage and visitor learning.
- Production infrastructure: improvement or replacement of sap collection, transfer, storage and evaporating systems, with supporting utilities, ventilation, fire protection and sanitation appropriate to the intended use.
- Sugarbush renewal: planting, protection of young trees, invasive-species treatment and selective vegetation management supported by an updated forestry assessment.
- Visitor access and learning spaces: accessible connections, viewing and gathering areas, seating, interpretation and separation of visitors from hot equipment and operational activity.
- Supporting amenities: evaluation of restroom options, including a potential accessible composting toilet, where justified by program needs and feasible to maintain.

- Heritage resources: rehabilitation of the cabin and associated interpretive features, with improvements supporting safe access, educational use and preservation of the site's documented history.

Johnson's Landing: development of heritage-learning settings associated with woodworking, maple production, food preparation and historic movement of materials. Potential improvements include a woodshop, sawmill, wood-fired bakery, smokehouse, boathouse and a visitor-operated chain-barge with associated docks. Interpretation will distinguish documented site history from demonstrations of broader historical practices.

The chain-barge and operating demonstration facilities will receive specific design and operating review addressing staffing, participant access, equipment, emergency response and continuing maintenance. These details will be resolved before the affected facilities open.

Facility investment should be coordinated with the productive capacity and health of the sugarbush. Tree inventory, regeneration and tapping practices should inform the scale of production infrastructure. Improvements should allow visitors to observe and participate without compromising tree health or safe operations.

Sugarbush renewal will build on prior restoration planning and verified planting and treatment work. Future investment may include additional native sugar maples, protection from browsing, targeted invasive-species control and improvements supporting long-term regeneration. Project scopes and budgets will distinguish completed work, establishment care, replacement needs and additional restoration. [BO-E03–BO-E06]

The POMP will address seasonal preparation, equipment inspections, tree and tapping records, staff and volunteer training, processing practices, cleaning and storage. Capital projects will address substantial facility, equipment and landscape improvements.

Interpretation should accurately distinguish the age of the cabin structure from the historical period it represents. Proposed changes to heritage features should receive appropriate historical and technical review.

A.6 Buildings Utilities and Visitor Services

Bloomfield Oaks–Johnson Nature Center will maintain and improve buildings and supporting infrastructure to provide dependable public access, effective learning spaces and efficient operations. Capital investment should address building condition, accessibility, program needs and long-term operating costs.

The proposed capital scope includes:

- Visitor center: renovation, reconfiguration or expansion of public reception, exhibits, the Children's Corner, learning and gathering spaces, restrooms, staff work areas and storage.
- Education and support facilities: renovation or construction of indoor learning and operational spaces where existing facilities cannot adequately accommodate demonstrated needs.
- Building systems: repair or replacement of roofs, windows, doors, exterior finishes, heating and cooling, ventilation, plumbing, electrical service, lighting and fire and life-safety systems.
- Site utilities and technology: improvements to water, wastewater, drainage, communications, internet connectivity, security and building controls.
- Arrival and service areas: parking rehabilitation or reconfiguration, accessible parking and connections, group drop-off, service access, waste handling and equipment storage.
- Caretaker house and Nature School: renovation, reuse or replacement of the 2,100-square-foot residential ranch to support a use consistent with the park's purpose. The Conceptual Site Layout depicts replacement with a Nature School; renovation and reuse remain alternatives pending evaluation of condition, program needs and total costs. No alternative is yet selected, funded or scheduled.
- Visitor-service amenities: modest retail, refreshments and supporting facilities where they complement the educational experience and have a feasible operating model.

Nature School: renovation or construction of indoor space supporting TreeSchool, camps and other outdoor-learning programs near the existing visitor facilities and proposed lower parking area.

Maintenance facilities: development of a maintenance yard, building, storage and work areas near the southern Franklin Road frontage. Planning will define the extent of site-maintenance and educational-pod fabrication functions, service access and separation from visitors.

Parking and arrival: rehabilitation, reconfiguration or expansion of the upper and lower parking areas, accessible connections, group drop-off and supporting stormwater facilities. Capacity and layout will respond to program demand, circulation and site conditions.

Supporting infrastructure: utilities and facilities serving the proposed learning areas, including the supplementary wellhead, recirculating stream infrastructure and associated water systems shown on the concept, where supported by technical evaluation.

Projects should be informed by building assessments and verified infrastructure conditions. Renovation and reuse should be evaluated alongside new construction, considering functional suitability, accessibility, energy and water use, maintenance and total operating costs.

Changes affecting TreeSchool spaces should be coordinated with the applicable staff and evaluated for licensing implications. Construction planning should maintain necessary animal care, building protection and essential services, with temporary arrangements and public communication established before work begins.

Routine maintenance, inspections, custodial services and system operation will be addressed in the POMP. Capital rehabilitation, replacement and expansion will be addressed in the CIP.

A.7 Natural Resources Habitat Restoration and Water Management

Bloomfield Oaks–Johnson Nature Center will protect and restore the natural systems that support wildlife, outdoor learning and quiet recreation. Capital improvements should strengthen habitat quality, address erosion and drainage problems, and sustain the landscape’s resilience.

The proposed capital scope includes:

- Habitat restoration: substantial restoration of woodland, prairie, meadow and wetland areas through invasive-species control, native planting and follow-up establishment work.
- Woodland regeneration: tree and understory planting, protection from browsing and selective vegetation management supported by ecological assessment.
- Pond, stream and wetland improvements: shoreline and bank stabilization, native buffers, erosion control and restoration of habitat and water function where supported by assessment.
- Stormwater and drainage: rehabilitation or installation of drainage features, vegetated treatment areas and other improvements that manage runoff from buildings, parking and trails.
- Resource protection: selective trail relocation, barriers and restoration of disturbed areas where needed to reduce damage to sensitive habitats.

Botanical and habitat-learning areas: development of the Forest Garden and Mossy Hill as native-plant and woodland interpretation settings, including planting, browsing protection, accessible viewing and supporting landscape features. Exploratory wetland and other water-learning features may be developed where compatible with existing ecological conditions.

Management of The Rambles may include woodland openings, brush piles, native shrub plantings, retained fallen trees and other habitat features. Proposed excavation, borrow pits, prescribed fire and vegetation changes will be evaluated as specific management treatments. Visitor digging and manipulation of materials will be confined to designated areas.

Potential collaboration with MSU, Extension educators, Master Gardeners and other partners will be developed through agreed roles and available capacity.

Project design should respond to documented conditions and measurable restoration objectives. Vegetation removal should be coordinated with replacement planting, erosion protection and follow-up management. Work should consider wildlife cover, screening, seasonal habitat needs and the character of the visitor experience.

Projects affecting water, wetlands or drainage should receive appropriate technical review and applicable approvals before implementation. Inclusion in the CIP does not establish a need for dredging, water-level alteration or other major intervention.

Restoration budgets should account for establishment and follow-up care. Monitoring, recurring invasive-species treatment, prescribed fire where appropriate, and routine vegetation management will be addressed in the POMP. Substantial restoration projects and associated infrastructure will be addressed in the CIP.

A.8 Capital Priorities Funding and Implementation

The capital scope provides flexibility to improve Bloomfield Oaks–Johnson Nature Center over the five-year planning period. Project selection and timing will reflect verified needs, public benefit, available funding and the capacity to operate and maintain completed improvements.

Projects will be evaluated against the following considerations:

- Safety and continuity: addressing documented hazards, critical infrastructure needs and conditions affecting essential operations.
- Accessibility and public benefit: removing barriers and improving access to meaningful park experiences.
- Learning and stewardship: strengthening educational opportunities, animal welfare, habitat quality and resource protection.
- Asset condition and operating costs: extending useful life, reducing recurring failures and evaluating the full cost of ownership.
- Readiness and coordination: confirming scope, design needs, approvals, funding and opportunities to coordinate related work.

These considerations guide judgment rather than establish a rigid sequence. Urgent repairs, restoration and new learning opportunities may proceed concurrently when resources and site conditions allow.

The annual capital work program will identify each selected project's scope, intended outcome, estimated cost, funding source, operating implications, responsible lead and anticipated schedule. Estimates will be updated as projects advance. Unfunded opportunities will remain distinguishable from authorized expenditures and scheduled work.

Potential gifts, grants and partnership contributions may support implementation. Contributions will enter project budgets only after their availability, restrictions and required authorizations are confirmed. Coordination with Friends of the Johnson Nature Center should connect fundraising opportunities with shared priorities while respecting the organization's independent decisions and control of its funds.

Project sequencing should account for school programs, TreeSchool, seasonal public use, animal care and ecological conditions. Related work should be coordinated to limit repeated disruption and avoid installing improvements that would need to be removed or reconstructed for a later project.

The capital project table will identify location, intended use, scope, estimated cost, funding status, operating implications and anticipated timing as each project is developed. BHS scope approval will be recorded separately

from expenditure authorization. Historical estimates will remain in the supporting records until updated for the proposed work.

Five Year Capital Project Reconciliation

The following project groups are included in the capital scope submitted for BHS project-type preapproval. Current costs, funding and implementation years will be established as projects advance. Completed components will be recorded separately; final boundaries and locations will be confirmed during project development.

Project group and intended location	Current treatment and next definition
Accessible routes and structures throughout the site	Connected loops, trail connections, bridges, boardwalks, water access and viewing structures. Verify survey, accessibility and site conditions.
Outdoor Classroom and conceptual learning areas	TreeSchool, Explorer Woods, Tinker's Ridge, The Rambles and Cross River Adventure: nature play, low ropes and gathering spaces. Define supervision, ecological limits and separation from service operations.
Animal habitats and care areas	Define scope through animal inventory, condition, care needs and permits.
Sugar shack and production infrastructure	Evaluate renovation, expansion or replacement against production needs and sugarbush capacity.
Sugarbush and management zones	Verify planting and treatment; separate establishment care, replacement and substantial restoration.
Visitor center and education spaces	Visitor-center renewal and expansion; Nature School near lower parking and caretaker-house site. Assess program capacity, licensing and continuity.
Caretaker house	Renovation, reuse or replacement remains within scope; concept depicts Nature School replacement. No alternative selected, funded or scheduled.
Utilities parking and maintenance areas	Upper/lower parking, drop-off, stormwater and utilities; southern maintenance yard/building and potential educational-pod fabrication. Define capacity and operating roles.
Johnson's Landing and heritage features	Cabin, woodshop, sawmill, bakery, smokehouse, boathouse, chain-barge and docks. Establish interpretation and facility-specific design and operating requirements.
Botanical collections and visitor amenities	Forest Garden, Mossy Hill, exploratory wetland, recirculating stream and interpretation. Verify ecological suitability and continuing care.

Attachment B Park Operations and Management Plan

B.1 Operating Responsibilities and Coordination

The Park Operations and Management Plan establishes how Bloomfield Oaks–Johnson Nature Center will be cared for and operated to support dependable public access, outdoor learning and environmental stewardship.

OCP will manage park operations and maintenance in accordance with the partnership agreement, the approved Integrated Park Plan and applicable policies. BHS retains ownership of the premises and the responsibilities reserved to it under the agreement. Temporary transition arrangements will be identified separately from continuing responsibilities.

The operating framework will assign responsibility for:

- Public services and outdoor learning: visitor information, program delivery, reservations, school coordination and public communication.
- Facilities and grounds: buildings, utilities, custodial services, parking, trails, bridges, boardwalks and other site infrastructure.
- Natural resources: habitat management, tree care, invasive-species control, restoration follow-up and ecological monitoring.
- Educational animals and collections: daily care, veterinary coordination, enclosure maintenance, specimen records and permit administration.
- TreeSchool: program operations, licensed-space coordination and the respective responsibilities of the license holder and operating staff.
- Emergency readiness: incident response, closures, emergency access, essential-service continuity and coordination with responding agencies.

The Outdoor Learning site supervisor is the coordinating lead for site operations, supported by the Lead Naturalist for daily program delivery, visitor services and outdoor learning coordination. Responsible functions retain authority over their staff, budgets and professional decisions. Cross-unit conflicts will be elevated to the Deputy Director and, as needed, the Director within their respective authority.

The site supervisor will coordinate maintenance, programs, school use and capital work through a shared calendar and a documented process for reporting and resolving service needs. The Lead Naturalist will support daily coordination. Urgent conditions will be addressed promptly; recurring issues will inform maintenance, staffing and capital priorities.

TreeSchool licensing responsibilities will remain explicitly documented during the transition. Changes in park management or staff employment will not be treated as completing the licensing transition. The detailed TreeSchool section will establish the interim arrangements and the conditions for moving to OCP's license.

Operating assignments will be reviewed as transition services end or organizational responsibilities change. Internal assignments do not alter agreement obligations. The companion review tracker will identify the responsible role, required evidence or decision and timing gate for unresolved matters: before adoption, before the affected use or project, or routine implementation. Essential approval and operating conditions remain in this IPP.

Operating Responsibility Schedule

The schedule identifies the responsible functions. Each function will designate backup coverage and maintain current contacts, service frequencies and escalation arrangements in the staff operating schedule. The site supervisor coordinates across functions without replacing the authority of a license holder, permit holder, property owner or responsible unit.

Function	Coordinating lead	Supporting roles
Site calendar visitor services and outdoor learning	Outdoor Learning site supervisor	Lead Naturalist, Operations, BHS, applicable partners
Buildings utilities custodial services and grounds	Operations	Outdoor Learning, technical providers
Trails bridges boardwalks and accessible routes	Operations	Natural Resources, Planning, Outdoor Learning
Habitat restoration and ecological monitoring	Natural Resources within Operations	Outdoor Learning, qualified contractors, volunteers
TreeSchool operations and licensing transition	Applicable Outdoor Learning staff	BHS license holder and designated staff during interim period
Educational animals and preserved collections	Outdoor Learning	Authorized permit holders, qualified care staff, veterinary providers, Operations
Maple sugaring production	Natural Resources within Operations	Operations, trained staff and volunteers
Maple education and heritage programs	Outdoor Learning	Natural Resources, Operations, historical reviewers
Capital planning and delivery	Planning	Operations, Outdoor Learning, Finance, BHS as required
Friends and volunteer coordination	Outdoor Learning	Friends leadership, supervising staff
Inspection findings and facility corrective actions	Operations	Applicable staff, BHS, inspecting authorities
Financial reconciliation and restricted funds	Finance	Outdoor Learning, Operations, BHS, fund holders

Emergency procedures will identify the staff member responsible for coordinating the initial site response during each operating period, together with backup coverage and escalation contacts.

B.2 Public Access Visitor Services and Scheduling

Bloomfield Oaks–Johnson Nature Center will provide welcoming, dependable access to outdoor learning, trails and natural spaces. Operating schedules should support school programs, TreeSchool and public use while accounting for staffing, seasonal conditions, animal care and resource protection.

Grounds access, visitor-center hours and scheduled programs will be communicated separately so visitors can understand what is available before arriving. Changes, closures and access limitations will be posted through appropriate on-site and digital channels.

Visitor services will address:

- Arrival and orientation: clear entrances, parking information, trail maps, destination signs and guidance on available facilities.
- Accessible participation: information about route conditions, accessible amenities, available assistance and how to request accommodations.
- Scheduling: coordination of school visits, preschool operations, camps, public programs, reservations and maintenance.
- Visitor support: a clear point of contact for questions, concerns, lost property and incident reporting.
- Temporary restrictions: procedures for closing and reopening buildings, trails or activity areas when conditions require.

BHS educational activities and events will be accommodated consistent with the partnership agreement, including reservation coordination and avoidance of scheduling conflicts. The operating calendar will distinguish reserved spaces from areas available for general public use.

TreeSchool's licensed spaces and supervision needs will be reflected in scheduling and visitor circulation. Public access to shared areas will be coordinated with the applicable staff.

Routine park entry and parking will remain free for BHS and Oakland County residents as provided by the agreement. Charges for programs, rentals and other services will be communicated separately and administered under applicable fee policies. [BO-A01 §§5.1–5.2]

Visitor feedback, participation records and verified visitation information will inform adjustments to services and schedules. Hours and staffing commitments will be established through operating review and published once confirmed.

B.3 TreeSchool Operations and Licensing Continuity

TreeSchool is the nature-based licensed preschool program at Johnson Nature Center. Its operating model combines child-led exploration, play and intentional teaching through repeated experiences outdoors. Program continuity depends on qualified staff, dependable learning spaces, family communication and clearly assigned licensing responsibilities.

The documented transition plan provides for BHS to maintain the existing license until an original OCP license is approved and the formal operating transition is complete, unless the licensing authority directs otherwise. OCP's application is for a new license; the existing BHS license will not simply transfer. The intended transition is the 2027–28 school year, subject to approval and operational readiness. [BO-T01]

During the interim period, the operating arrangements will identify the licensee designee, program leadership and responsibility for compliance, staffing, records, inspections and communication with families. Employment or management changes will not, by themselves, change the licensing arrangements.

TreeSchool operations will address:

- Staffing and supervision: required qualifications, background checks, training, staffing levels, substitute coverage and supervision throughout the program day.
- Licensed spaces: verification of approved indoor and outdoor areas, capacity and permitted uses, including the Outdoor Classroom. Activities elsewhere on the property will follow applicable authorization and supervision procedures.

- Daily operations: arrival and dismissal, authorized pickup, attendance, restroom and handwashing access, food practices and coordination with other site activities.
- Health and emergency readiness: child health information, medication procedures, incident reporting, severe-weather shelter, evacuation and family notification.
- Educational practice: developmentally appropriate exploration, consistent relationships, observation of children's progress and intentional support for social, emotional and learning needs.
- Family partnership: current handbooks, enrollment information, orientation, regular communication and opportunities to discuss children's experiences and development.
- Records and administration: secure maintenance of required child and staff records, inspection findings, corrective actions and licensing correspondence.

The 2026–27 handbook serves children ages 3–5 and describes enrollment, family communication and daily procedures. Annual schedules and tuition remain in current program materials. Conflicting staffing ratios and class-day descriptions require reconciliation; licensed capacity, staffing and approved spaces remain subject to license verification. [BO-T02, pp. 6, 8–12, 20]

Before the transition to OCP's license, the applicable staff will confirm licensing approval, staffing readiness, approved facilities, records arrangements and family communication. The effective transition date and responsibilities will be documented so there is no gap in accountability or authorized operation.

B.4 Facilities Grounds and Preventive Maintenance

Bloomfield Oaks–Johnson Nature Center will maintain buildings, grounds and infrastructure to support safe, accessible and dependable operations. Maintenance will combine scheduled preventive work, routine inspections and timely responses to reported conditions.

The maintenance program will address:

- Buildings and systems: roofs, exterior surfaces, doors, windows, heating, cooling, ventilation, plumbing, electrical systems and building controls.
- Public and learning spaces: custodial services, restrooms, furnishings, exhibits, the Children's Corner and indoor and outdoor learning areas.
- Trails and structures: trail surfaces, drainage, bridges, boardwalks, steps, railings, viewing areas and signs.
- Arrival and service areas: parking, accessible routes, drop-off areas, waste collection, service access and seasonal snow and ice management.
- Specialized facilities: the Outdoor Classroom, animal enclosures, sugar shack, cabin and caretaker house, coordinated with their respective operating needs.

An asset inventory will identify equipment and facilities, their condition, maintenance requirements and available manuals, warranties and inspection records. Preventive maintenance schedules will reflect manufacturer guidance, applicable inspection requirements, seasonal use and documented conditions. The Equipment Transfer Inventory provides the initial equipment reference. Its reported conditions require field verification; confirmed assets should be added to the maintenance system with identifying numbers and service needs.

Work requests will identify the location, issue, urgency and effect on operations. Conditions presenting an immediate hazard will receive prompt protective action, including restricting access when necessary. Other work will be prioritized according to service impact, risk of further deterioration and available resources. Completion records will document the work performed and any remaining corrective action.

Maintenance affecting TreeSchool, educational animals or other occupied learning spaces will be coordinated with the applicable staff. Work planning will address access restrictions, noise, dust, tools, materials and continuity of essential services.

Grounds practices will support the nature center's ecological purpose. Mowing, vegetation clearance, snow storage and material use should protect native plantings, sensitive habitats, drainage and water quality while maintaining necessary access and visibility.

Routine repair and preventive maintenance will be distinguished from capital rehabilitation or replacement. Recurring failures and significant condition findings will inform the CIP. Buildings awaiting a future-use decision, including the caretaker house, will remain subject to appropriate inspection, security and protective maintenance.

An accessibility corrective-action schedule will distinguish completed corrections, routine maintenance, minor modifications and capital projects. Each unresolved item will identify its location, responsible role, planned response and verification status. Routine checks will include clear routes and maneuvering spaces, functioning access equipment, vegetation clearance and transitions between surfaces. [BO-C02]

Inspection findings will be maintained in a corrective-action register identifying the required response, responsible role, due date and evidence of completion. Where an inspecting authority requires reinspection or acceptance, that documentation will be retained before the item is closed. [BO-C01]

B.5 Natural Resource Stewardship

Bloomfield Oaks–Johnson Nature Center will manage its natural areas to sustain habitat, protect water and soil, and support outdoor learning. Stewardship will build on the site's documented management history, with practices adjusted to current conditions and observed results.

A management-zone map and annual work program will guide activities across woodland, prairie, meadow, wetland, pond, stream and sugarbush areas. Priorities will reflect ecological need, visitor safety, available resources and the capacity to provide follow-up care.

Routine stewardship will address:

- Invasive species: monitoring and targeted treatment, coordinated with native replacement planting and follow-up management.
- Native vegetation and regeneration: establishment and care of native plants, protection of young trees and evaluation of deer browsing or other barriers to regeneration.
- Trees and woodland: condition assessment near occupied areas and routes, succession planning and retention of standing or fallen habitat features where compatible with safety.
- Prairie and meadow: mowing, prescribed fire or other appropriate treatments based on management objectives, qualified review and required authorizations.
- Water and soil: observation of pond, stream and wetland conditions; protection of vegetated buffers; and response to erosion, sediment movement and drainage problems.
- Visitor impacts: monitoring of informal trails, trampling and disturbance, with adjustments to access or interpretation where needed.

Vegetation removal will be phased where necessary to preserve habitat cover, screening and soil stability. Treatment plans will identify the desired condition, follow-up work and how results will be assessed. Work affecting learning areas or public routes will be coordinated with the applicable staff.

Staff, contractors and volunteers will receive assignments appropriate to their qualifications, training and supervision. Specialized work will be undertaken by qualified personnel using applicable procedures and authorizations.

Management records will document treatment locations, methods, dates and results. Monitoring may include repeat photographs, native plant establishment, invasive-species recurrence, tree regeneration and erosion observations. Findings will inform the next work cycle and any substantial restoration proposed through the CIP.

The annual stewardship work program will identify previously planted trees and restored areas requiring follow-up care. Records will track planting locations, survival, condition, protective measures and maintenance needs. Any continuing partner or grant obligations will be verified and incorporated into assigned work. [BO-E04–BO-E06]

B.6 Educational Animal Care and Collections

Bloomfield Oaks–Johnson Nature Center will provide consistent, humane care for its educational animals and responsible stewardship of preserved specimens. Educational use will reflect animal welfare, applicable authorizations and staff capacity.

Separate inventories will be maintained for live animals and preserved specimens. Records will identify species, acquisition history, ownership or custody, applicable permits and supporting documentation. Historical records and exhibit labels will be reconciled with the animals and specimens currently held.

The animal-care program will address:

- Daily care: species-specific feeding, fresh water, cleaning, enrichment and observation, with documented coverage on weekends, holidays and closure days.
- Health and veterinary support: access to appropriate veterinary care, preventive practices, treatment records and procedures for responding to illness, injury or changes in behavior.
- Habitats and equipment: routine checks of enclosure security, shelter, environmental conditions, feeding equipment and staff access.
- Handling and educational use: trained and authorized personnel, appropriate handling practices, limits on public interaction and opportunities for animals to retreat from activity.
- Emergency arrangements: response to animal escape, severe weather, utility failure, enclosure damage and loss of normal access to the site.
- Staff readiness: training, demonstrated competency, substitute coverage and clear escalation procedures.

A permit register will identify each authorization, permit holder, covered species and activities, authorized personnel, expiration date, reporting obligations and relevant facility conditions. Supporting applications, amendments and correspondence will be retained with the permit.

Changes in personnel, animal custody, facilities or educational use will be checked against the applicable authorizations before implementation. Transfer of animal ownership under the partnership agreement will not be treated as transferring permit authority. [BO-A01 §4.11; BO-P01]

Preserved specimens will be managed through documented acquisition and possession records, appropriate storage and display conditions, pest monitoring and handling procedures. Proposed transfers, loans or disposal will receive review against applicable restrictions.

Animal acquisitions will require an identified educational purpose, suitable facilities, qualified care coverage, necessary authorizations and a sustainable operating budget. Capital proposals will account for temporary housing and uninterrupted care during construction.

B.7 Maple Sugaring and Heritage Operations

Bloomfield Oaks–Johnson Nature Center will operate maple sugaring as a seasonal learning experience supported by responsible forest management, dependable equipment and trained staff and volunteers. Heritage

activities will connect visitors with documented history through interpretation and appropriately managed use of the cabin and related resources.

Natural Resources within Operations will lead maple sugaring production, including seasonal preparation, tapping, sap collection, processing, equipment care and production records. Outdoor Learning will lead maple sugaring education and heritage programming, including school visits, public demonstrations and interpretation. The functions will coordinate the seasonal schedule and visitor access during production. [BO-U04]

The maple operation will address:

- Seasonal readiness: inspection, cleaning and preparation of collection systems, tanks, transfer equipment, evaporating equipment and the sugar shack before use.
- Sugarbush management: tree identification, condition observations and tapping records, with tapping practices informed by tree health and qualified guidance.
- Production: documented procedures for sap collection, transfer, storage, processing and finished-product handling, including applicable food-safety requirements.
- Safe operation: trained operators, controlled access to hot equipment and work areas, appropriate ventilation and fire precautions, and clear shutdown procedures.
- Visitor participation: designated gathering and viewing areas, supervised activities and coordination of school visits, public programs and production work.
- Season closeout: equipment cleaning, maintenance, secure storage and review of production and program results.

Operating records will connect tree and sap observations with processing activity, equipment issues and maintenance needs. Existing journals and equipment guidance will inform procedures after review for current applicability.

Staff and volunteer assignments will distinguish production duties from visitor facilitation. Public programming will be adjusted when weather, sap availability, equipment condition or staffing prevents dependable operation.

The cabin and other heritage resources will have procedures appropriate to their condition and authorized uses. Before activities involving heating, cooking, food service or public occupancy, the applicable staff will verify facility suitability and required safeguards. Interpretation will distinguish documented site history from demonstrations of a historical period.

Historical materials, furnishings and learning objects will be inventoried as appropriate, with ownership, handling and care requirements documented. Changes to heritage interpretation will draw on verified sources and appropriate historical review.

B.8 Volunteers Friends and Operating Partnerships

Bloomfield Oaks–Johnson Nature Center will engage volunteers and community partners to strengthen outdoor learning, stewardship and public participation. Assignments will support identified park priorities and reflect the training, supervision and resources needed for successful delivery.

Friends of the Johnson Nature Center is an independent community partner whose mission supports ecological conservation, community outreach, volunteerism and fundraising. OCP and Friends should coordinate priorities and opportunities while maintaining clear responsibility for park operations and the organization’s independent governance and funds. [BO-F01; BO-F02]

The partnership framework will address:

- Shared priorities: periodic coordination of potential projects, educational activities, stewardship efforts and fundraising opportunities.

- Defined responsibilities: written arrangements proportionate to the activity, identifying scope, responsible contacts, resources, scheduling and any financial commitments.
- Volunteer participation: clear assignments, orientation, appropriate screening, training, supervision and records of service.
- Fundraising and contributions: confirmation of donor restrictions, acceptance requirements, purchasing arrangements and responsibility for installation and ongoing care before commitments are made.
- Events and public activities: coordination of site use, staffing, accessibility, visitor communication, setup, cleanup and required authorizations.
- Recognition and evaluation: acknowledgment of contributions and review of participation, results and the staff effort needed to support the work.

Volunteer roles may support habitat restoration, gardens, maple sugaring, interpretation, visitor services and other approved activities. Specialized assignments involving animals, equipment, regulated work or licensed programming will require appropriate qualifications and authorization. Essential services will have dependable coverage and contingency arrangements regardless of volunteer availability.

Friends' funds will remain under the organization's control unless a contribution or other arrangement is expressly authorized. Potential fundraising proceeds will not be treated as available park revenue or committed project funding before the relevant decisions and restrictions are documented.

Other partnerships will be evaluated for alignment with the park's purpose, public benefit, operational feasibility and clear accountability. Recurring arrangements will be reviewed periodically and adjusted when needs or capacity change.

B.9 Emergency Readiness Incidents and Service Continuity

Bloomfield Oaks–Johnson Nature Center will maintain site-specific procedures for responding to emergencies, protecting visitors and staff, and sustaining essential care during disruptions. Procedures will address the needs of school groups, TreeSchool, public visitors, educational animals and personnel working throughout the property.

Emergency planning will address:

- Response and communication: emergency contacts, staff responsibilities, responder access, incident reporting and coordination with applicable agencies.
- Evacuation and shelter: designated routes, assembly locations, suitable shelter and assistance for people who may need support.
- Outdoor incidents: severe weather, missing persons, injuries on trails or near water, and communication from areas away from buildings.
- Building and utility failures: fire, power loss, water or wastewater problems, heating failures and conditions requiring restricted access.
- Specialized operations: animal escape or care emergencies, maple-processing incidents and disruptions affecting licensed preschool operations.
- Closures and reopening: authority to restrict access, methods for notifying affected users, and verification that conditions support reopening.

Staff will receive training appropriate to their assignments and participate in applicable drills or exercises. Emergency supplies, communication equipment and access provisions will be checked on an established schedule. Procedures will account for seasonal staffing and periods when buildings are closed but grounds remain accessible.

TreeSchool will maintain the emergency procedures and records applicable to its licensed operation. Site procedures will be coordinated with those requirements, including child accountability, family notification and reunification.

Continuity arrangements will identify essential functions, backup coverage and alternatives when normal facilities or services are unavailable. Animal care, building protection and other time-sensitive responsibilities will remain assigned during closures.

Incidents and significant near misses will be documented and reviewed. Corrective actions will identify a responsible role and completion status. Emergency contacts, access details and other sensitive operational information will be maintained in controlled staff resources.

B.10 Operating Resources Records and Performance Review

Bloomfield Oaks–Johnson Nature Center will maintain an annual operating work program connecting service expectations with staffing, funding, maintenance and stewardship needs. The work program will distinguish recurring responsibilities, temporary transition arrangements and new initiatives.

Operating budgets will account for program delivery and the continuing costs of caring for the site, including utilities, custodial services, maintenance, natural resources, animal care and administrative support. TreeSchool's operating requirements and licensing responsibilities will be identifiable within the budget and staffing plan.

New or expanded services will be evaluated for purpose, public benefit, staff capacity, full operating cost and funding. Where available resources cannot support the proposed service level, staff will identify practical adjustments and elevate unresolved needs for decision.

Operating records will include:

- Facilities and maintenance: asset inventories, inspections, work orders, service records and unresolved deficiencies.
- Programs and participation: attendance, school use, participant feedback, accessibility requests and available visitation information.
- Licensed and permitted activities: current authorizations, responsible roles, reporting deadlines, inspections and corrective actions.
- Stewardship and animal care: treatment records, monitoring results, daily care documentation and veterinary records.
- Financial and partnership commitments: budgets, actual expenditures and revenue, contributions, restrictions and documented partner responsibilities.
- Readiness and accountability: training records, incidents, corrective actions and continuity arrangements.

Records will be maintained in designated systems with appropriate access, retention and privacy controls. Each recurring reporting obligation will have an assigned role and deadline.

An annual operating review will assess service delivery, financial performance, asset condition, stewardship results and outstanding risks. Findings will inform the next work program, budget and CIP priorities. Measures should be practical to maintain and useful for decisions.

Anonymized, aggregated mobile location data will inform visitor-origin patterns, demographic context and relative changes in visitation. Staff will review reporting periods, site boundaries, coverage and methodology before comparing results. Changes in providers or methods will be documented, and comparability assessed before combining series or interpreting year-to-year change. Modeled estimates, recorded program participation and any direct counts will remain separately identified. The approximately 30,000 visits estimated

for 2025 are provisional and will not be treated as a verified attendance baseline. Public-facing reporting will describe the data generically; source and methodological details will be retained in supporting staff records.

Permit, License and Inspection Register

OCP will track required licenses, permits, inspections and reporting deadlines.

Area	Responsibility
TreeSchool	Coordinate the licensing transition with BHS. See the TreeSchool section for details.
Live Educational Animals	Confirm required permits, authorized staff and reporting duties; coordinate permit changes with the issuing agencies.
Preserved Specimens	Verify possession records and requirements for transfer, loan or disposal.
Fire and Building Systems	Maintain inspection and service records and document completed corrective work.
Restoration and Treatments	Maintain required qualifications, authorizations and treatment records.
Maple Production and Food Activities	Coordinate with MDARD and meet requirements applicable to processing, distribution and demonstrations.

Equipment Transfer Inventory

Source: Farm NC Equipment Inventory updated May 2026 – th, “Current Inventory NC” tab, rows 4–33. This schedule retains all 30 source entries; listed conditions are those reported in the workbook.

Transfer to OCP: Yes for all 30 entries, confirmed by Alan on October 30, 2026. Original workbook transfer cells were blank; this plan records the subsequent transfer direction. Verify identifying numbers and current condition and retain the tractor and separately listed bucket as separate entries. Final schedule approval will be documented with the PAP.

Row Y/N	Equipment and Model	Uses and Notes	Condition
4 Yes	Tractor with Bucket John Deere 855 Type: Tractor	Uses: This is the main tractor that we use for NC operations.	Good
5 Yes	Small Manure Spreader- UTV Fimco Industries- 1/2 yard Type: Grounds Equipment	Uses: Moving small manure loads and spreading in fields Notes: New in 2017; moved from Farm to NC in 2021	Good
6 Yes	Bucket for Tractor John Deere 70A Type: Grounds Equipment	Uses: Loader	Good
7 Yes	Brush Hog John Deere 513 Type: Grounds Equipment	—	Good
8 Yes	Utility Trailer Snow Bear 8' long / single axle Type: Trailer	Uses: Utility hauling on site; not for road Notes: Not for road	Good
9 Yes	Gator John Deere 4 X 2 with dump box Type: Utility Vehicle	Uses: General hauling and towing of trailer Notes: Electric dump	Good
10 Yes	Electric Golf Car Club Car DS Golf Car 2002 Type: Utility Vehicle	Uses: General hauling and towing of trailer Notes: Manual Dump,	Good
11 Yes	Lawn Mower Toro SR4 Push Mower 20" Type: Mower	Uses: Cut Grass	Fair
12 Yes	Chain Saw Stihl MS180 Type: Power Tool	—	Good
13 Yes	Chain Saw Stihl MS251C Type: Power Tool	—	Good

Blank uses or notes are shown as an em dash. Source row numbers preserve the connection to the workbook.

Equipment Transfer Inventory Continued

Source: May 2026 equipment workbook, “Current Inventory NC” tab. Transfer to OCP: Yes for every entry, confirmed October 30, 2026. Conditions are source-reported.

Row Y/N	Equipment and Model	Uses and Notes	Condition
14 Yes	Snow Blower Toro Power Clear 21" Type: Grounds Equipment	Notes: Electric Start	Good
15 Yes	Long Handle Hedge Trimmer Stihl Type: Power Tool	—	Fair
16 Yes	Hedge Trimmer Stihl H576 Type: Power Tool	—	Fair
17 Yes	Hedge Trimmer Toro Electric Type: Power Tool	—	Fair
18 Yes	Weed Wacker Stihl Type: Power Tool	—	Poor
19 Yes	Weed Wacker Shindaiwa T230X Type: Power Tool	—	Fair
20 Yes	Leaf Blower Echo PB 250LN Type: Power Tool	—	Good
21 Yes	Leaf Blower Dewalt 20V DCBL772 Type: Power Tool	Notes: Battery	Good
22 Yes	Hedge Trimmer Dewalt 20V DCHT 820 Type: Power Tool	Notes: Battery	Good
23 Yes	Circular Saw Makita 7 1/4" Type: Power Tool	—	Good

Blank uses or notes are shown as an em dash. Source row numbers preserve the connection to the workbook.

Equipment Transfer Inventory Continued

Source: May 2026 equipment workbook, “Current Inventory NC” tab. Transfer to OCP: Yes for every entry, confirmed October 30, 2026. Conditions are source-reported.

Row Y/N	Equipment and Model	Uses and Notes	Condition
24 Yes	Sawz All Dewalt Type: Power Tool	—	Good
25 Yes	Screw Gun Dewalt 20V DCD791 Type: Power Tool	—	Good
26 Yes	Screw Gun Dewalt 20V DCF 887 Type: Power Tool	—	Good
27 Yes	Screw Gun Dewalt 20V DCD778 Type: Power Tool	—	Good
28 Yes	Screw Gun Milwaukee 18V Fuel Type: Power Tool	—	Good
29 Yes	Table Saw Craftsman 10" 2.5 HP Type: Power Tool	—	Fair
30 Yes	Scroll Saw Craftsman 16" Type: Power Tool	—	Fair
31 Yes	Chop Saw Delta Shop Master 10" Type: Power Tool	—	Fair
32 Yes	Air Compresser Porta Cable 1.6 HP / 20 Gal Type: Power Tool	—	Good
33 Yes	Pressure Washer Simpson 3000PSI MS61043 Type: Power Tool	—	Fair

Blank uses or notes are shown as an em dash. Source row numbers preserve the connection to the workbook.

Animal Transfer Inventory

Source: Current animal list and quantities confirmed by Alan Jaros on October 30, 2026. All five animals are included in the transfer to OCP under the Final PAP. This schedule records the confirmed inventory and transfer direction; it does not represent that PAP approval or ownership transfer has already occurred.

Animal	Quantity	Transfer to OCP
Peregrine falcon	1	Yes
White-tailed deer	1	Yes
Great horned owl	1	Yes
Red-eared slider turtle	1	Yes
Red-bellied cooter turtle	1	Yes

Total: 5 animals. Ownership transfer does not itself transfer permit authority. Applicable permits and individual care records will remain with the operating records. The approved PAP record will identify the final version of this schedule.

Bloomfield Oaks

Johnson Nature Center

Integrated Park Plan Supporting Appendix

Oakland County Parks
Bloomfield Hills Schools

Final review reference edition

October 30th, 2026

33 indexed records and schedules

Using This Appendix

Purpose

This separate reference volume accompanies the Bloomfield Oaks Integrated Park Plan. It brings supporting records together while retaining their dates, original findings and limitations.

Navigation

The contents list gives each record’s opening appendix page. PDF bookmarks link to sections and individual records. A source cover identifies the record and its review context. Each reproduced page carries its source ID, source-page number and continuous appendix-page number.

Reading the Sources

Historical plans, estimates, invoices, proposed activities and past permits retain their original status. Inclusion does not approve a project, establish an available balance, confirm work completion or transfer permit authority. Source-page numbering remains visible; the appendix footer provides the continuous sequence.

Current Interpretation

Source covers explain limitations and current status. All 30 equipment entries are included in the transfer direction; original workbook transfer cells were blank. The Conceptual Site Layout supplement begins on page 968. The governing IPP remains the statement of proposed direction.

Reproduction Method

PDF sources are reproduced in full. Word and PowerPoint sources are converted to PDF. The program tab is transcribed field by field; the equipment schedule is reproduced from the current master. Original page proportions are preserved. Scans and two layered environmental maps are image reproductions; the maps retain the source’s visible layers. Text search is available on other text-bearing pages. Signed-page images are preserved, but this compiled PDF is a reference reproduction, not the digitally signed original.

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Johnson Nature Center Interlocal Agreement Revised March 20 2026

BO-A01

Source Record

Bloomfield Hills -Oakland County Interlocal Agreement - Johnson Nature Center 03_20_26 Clean with exhibits.pdf

Review Context

The source includes visible signature pages at source pp. 15–16 and two following exhibit sheets. This reproduction preserves the source; it does not replace survey, legal-description or amendment verification.

Reproduced source pages: 18
Appendix source-page range: 7–24

INTERLOCAL AGREEMENT BETWEEN
THE COUNTY OF OAKLAND
AND
BLOOMFIELD HILLS SCHOOLS
FOR JOHNSON NATURE CENTER

This Agreement (the "Agreement") is made between the County of Oakland, a Constitutional and Municipal Corporation, located at 1200 North Telegraph, Pontiac, Michigan 48341 ("County"), by, through, and administered by its statutory agent the Oakland County Parks and Recreation Commission ("OCPRC") and Bloomfield Hills Schools, a Michigan general powers school district, located at 7273 Wing Lake Road, Bloomfield Hills, Michigan 48301 ("BHS"). County/OCPRC and BHS may each be referred to herein individually as a "Party" and jointly as the "Parties".

INTRODUCTION AND PURPOSE OF AGREEMENT.

A. BHS is the owner of approximately 43.4+/- acres of real property, commonly known as E.L. Johnson Nature Center, with Parcel Identification Numbers of 19-09-301-051, 19-09-301-050, and as more particularly described in the attached Exhibit A and to be confirmed by survey and title in accordance with Section 3.3.3.

B. The Parties desire to have OCPRC operate, manage, plan for, and maintain the Premises as a County Park, for conservation purposes and for public recreation purposes, including, but not limited to, public recreation activities, pathways, trails, and a parking lot for such purposes.

C. To effectuate this desire, the County and BHS enter into this Agreement, pursuant to Michigan law, to delineate the duties and responsibilities of the Parties with respect to operation, management, planning, and maintenance of the Premises as a County Park.

The Parties agree to the following terms and conditions:

1. **DEFINITIONS**. The following words and expressions used throughout this Agreement, whether used in the singular or plural, shall be defined, read, and interpreted as follows:

   1.1. **Agreement** means the terms and conditions of this Agreement, and Exhibits attached hereto, and any other mutually agreed to written and executed modification, amendment, addendum, or exhibit approved in accordance with Section 2.

   1.2. **Bloomfield Hills Schools ("BHS")** means BHS, a Michigan general powers school district, its Board of Education, Board members, administrators, employees, agents, contractors, subcontractors, volunteers, and/or any such persons' successors.

   1.3. **Bloomfield Hills Schools Employee** means any BHS administrator, employee, agent, contractor, subcontractor, and/or any such person's successors or predecessors (whether such persons act or acted in their personal, representative, or official capacities). "BHS Employee" shall also include any person who was a BHS Employee at any time during the Initial Term, or Renewal Term, of this Agreement but, for any reason, is no longer employed, appointed, or elected in that capacity.

   1.4. **Capital Improvement Project** means a project that: (1) costs thirty thousand dollars ($30,000.00) or more; and (2) extends the life cycle of an existing facility or asset on the Premises; replaces, renovates, or remodels an existing facility or asset on the Premises; or adds a new facility or asset on the Premises.

1.5. **Claims** means any alleged losses, claims, complaints, demands for relief or damages, lawsuits, causes of action, proceedings, judgments, deficiencies, liabilities, injuries, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are incurred by or asserted against a Party, or for which a Party may become legally and/or contractually obligated to pay or defend against, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law.

1.6. **County** means Oakland County, a Municipal and Constitutional Corporation, including, but not limited to, all of its departments, divisions, the County Board of Commissioners, elected and appointed officials, directors, board members, council members, commissioners, authorities, committees, employees, agents, volunteers, and/or any such persons' successors. The County and OCPRC may be used interchangeably throughout this Agreement to mean either or both.

1.7. **County Employee** means any County employee, officer, manager, volunteer, attorney, contractor, subcontractor, and/or any such person's successors or predecessors (whether such persons act or acted in their personal, representative, or official capacities). "County Employee" shall also include any person who was a County Employee at any time during the Initial Term, or Renewal Term, of this Agreement but, for any reason, is no longer employed, appointed, or elected in that capacity.

1.8. **Day** means any calendar day beginning at 12:00 a.m. and ending at 11:59 p.m.

1.9. **Effective Date.** the date the last Party signs this Agreement.

1.10. **Exhibits** means the following documents, which this Agreement includes and incorporates herein by reference:

1.10.1. **Exhibit A:** describes and depicts the Premises.

1.10.2. **Exhibit B:** Preliminary Park Use and Improvement Framework.

1.11. **OCPRC** means the Oakland County Parks and Recreation Commission, as established by resolution of the Oakland County Board of Commissioners pursuant to Public Act 261 of 1965, MCL 46.351, et seq., which is a statutory agent of the County.

1.12. **Park** means the park, with the name set forth in Section 2.6, located on the Premises, which is owned by BHS and operated, maintained and managed by the County as a County Park pursuant to the terms and conditions of this Agreement, as described in Section 4.18 below.

1.13. **Park Fees and Charges** means the following fees and charges: (1) equipment/facility rental fees; (2) event program fees; (3) sponsorship of events/programs by third parties; and (4) and all other fees and charges charged and collected by OCPRC associated with the use of the Park or the Premises.

1.14. **Park Revenue** means the monies generated from the Park Fees and Charges received by OCPRC and grants, gifts, and donations received by OCPRC or by BHS for the Park or Premises.

1.15. **Premises** means the real property including any buildings and improvements that are described and depicted in **Exhibit A**.

1.16. **Transition Period** means a period of time commencing on the Effective Date and ending on June 30, 2026. Prior to June 30, 2026, the BHS Representative and OCPRC Representative (as defined in Section 4.1) may mutually agree to change the end date of the Transition Period, but in no event shall the Transition Period extend beyond September 30, 2026.

2. AGREEMENT TERM/ REAL PROPERTY DESCRIPTION & TERMINATION.

2.1. **Agreement Term.** This Agreement shall commence on the Effective Date and terminate thirty (30) years from the Effective Date of this Agreement ("Initial Term"). Prior to the expiration of the Initial Term, the Parties may mutually agree to renew this Agreement for up to thirty (30) years, upon mutual written agreement of the Parties ("Renewal Term"). The terms and conditions contained in this Agreement shall not change during the Renewal Term, unless mutually agreed to in writing by the Parties. The approval and terms of this Agreement and any amendments shall be entered in the official minutes of the governing bodies of each Party. An executed copy of this Agreement and any amendments shall be filed by the County Clerk with the Secretary of State.

2.2. **Agreement Amendments.** All amendments or modifications to this Agreement shall be in writing and approved by both Parties and filed as set forth in Section 2.1.

2.3. **Real Property Subject to Agreement.** BHS grants to the County use of the Premises for the purposes and according to the terms and conditions set forth herein.

2.4. **Use of Premises.** On the date the Transition Period ends, OCPRC shall have care, control, and use of the Premises to operate, manage, plan, maintain, and improve the Premises for public recreation activities as a County Park, or as further described and delineated herein, and to provide other recreation activities mutually agreed upon in writing by the Parties. OCPRC shall obtain BHS' prior written consent to use the Premises for any purpose not described herein, and such approved use does not require a written amendment to this Agreement.

2.5. **Fee for Use of Premises.** The County shall not pay a monetary fee to BHS for the use of the Premises pursuant to this Agreement. The Parties acknowledge that the services provided by the County during this Initial Term and Renewal Term of this Agreement are adequate consideration for this Agreement.

2.6. **Designation of Park & Name of Park.** During this Agreement, the Park shall be designated as a County Park and named: "Bloomfield Oaks" with the nature center located thereon named the "Johnson Nature Center."

2.7. **Termination/Expiration.**

2.7.1. **Termination by BHS.** BHS may terminate this Agreement, at any time, if OCPRC is notified in writing at least one hundred eighty (180) days prior to the effective date of termination and any one of the following occur: (1) the Premises is no longer being used for the purposes identified in this Agreement; (2) OCPRC provided BHS with information at any time during the Initial Term or Renewal Term of this Agreement that was false or fraudulent; or (3) OCPRC fails to perform any of its obligations under this Agreement and such failure is not cured within thirty (30) calendar days after written notice of default to OCPRC or, if such default is of a nature that it cannot be cured within the thirty (30) day period, and OCPRC does not proceed to diligently cure the default in a time period

mutually agreed to by the Parties.

2.7.1.1. **Termination by BHS in Absence of Default/Breach.** If BHS terminates this Agreement, in absence of default or breach by OCPRC, then BHS shall reimburse OCPRC the amount of the non-depreciated value of Capital Improvement Projects to the Park, paid for by OCPRC, on the date of the termination notice, or such other period as agreed to by the Parties in writing.

2.7.1.2. **Termination by BHS for Default/Breach.** If BHS terminates this Agreement for default or breach by OCPRC, then BHS does not have to reimburse OCPRC the non-depreciated value of Capital Improvement Projects to the Park paid for by OCPRC.

2.7.2. **Termination by OCPRC.** OCPRC may terminate this Agreement, at any time, if BHS is notified in writing at least one hundred eighty (180) days prior to the effective date of termination and any one of the following occur: (1) the Premises is no longer being used for the purposes identified in this Agreement; (2) BHS provided OCPRC with information at any time during the Initial Term or Renewal Term of this Agreement that was false or fraudulent; or (3) BHS fails to perform any of its obligations under this Agreement and such failure is not cured within thirty (30) calendar days after written notice of default to BHS or, if such default is of a nature that it cannot be cured within the thirty (30) day period, and BHS does not proceed to diligently cure the default in a time period mutually agreed to by the Parties.

2.7.2.1. **Termination by OCPRC in Absence of Default/Breach.** If OCPRC terminates this Agreement in absence of default or breach by BHS, then BHS does not have to reimburse OCPRC the non-depreciated value of Capital Improvement Projects to the Park paid for by OCPRC.

2.7.2.2. **Termination by OCPRC for Default/Breach.** If OCPRC terminates this Agreement for default or breach of BHS, then BHS shall reimburse OCPRC the amount of the non-depreciated value of Capital Improvement Projects to the Park, paid for by OCPRC, before the date of the termination notice, or such other period as agreed to by the Parties in writing.

2.7.3. **Disposition of Personal Property Upon Expiration/Termination of Agreement.** Upon expiration or termination of this Agreement, for any reason, each Party shall retain ownership of personal property purchased by them, unless the Parties otherwise agree in writing. "Personal property" does not include buildings or fixtures attached to the Premises.

2.7.4. **Condition of Park Upon Expiration/Termination of Agreement.** Upon the expiration or termination of this Agreement, OCPRC shall cease all Park use, planning, management, maintenance, and operation, and surrender the Premises to BHS and cooperatively work with BHS to transfer management and operation of the Premises to BHS.

2.7.5. **Payment for Non-Depreciated Capital Improvement Projects Upon Agreement Expiration**. If this Agreement is not renewed at the end of the Initial Term for the Renewal Term, then BHS shall reimburse OCPRC the amount of the

non-depreciated value of Capital Improvement Projects to the Park, paid for by OCPRC, before the date this Agreement expires, or such other period as agreed to by the Parties in writing. Upon the expiration of the Renewal Term, BHS shall not reimburse OCPRC the amount of the non-depreciated value of Capital Improvement Projects to the Park, paid for by OCPRC.

3. **TRANSITION PERIOD.**

3.1. **Transition Period.** This Agreement includes a Transition Period. During the Transition Period, the Parties shall work cooperatively to facilitate the transfer of Park planning, management, maintenance, and operations to OCPRC. Notwithstanding any other provision, either Party may terminate this Agreement, without liability, prior to the end of the Transition Period, if they are not satisfied with the plans for the transfer, planning, management, maintenance, and operations of the Park. No Capital Improvement Projects may commence during this Transition Period.

3.2. **Park Information.**

3.2.1. **Grants & Endowments.** Within thirty (30) days of the Effective Date, BHS shall provide OCPRC copies of any grant agreements, endowment agreements, or other agreements, if any, that impose restrictions and conditions upon the Premises and its use.

3.2.2 **Agreements between BHS and Third Parties.** Within thirty (30) days of the Effective Date, BHS shall provide OCPRC with copies of all third-party agreements relating to the use, management, maintenance, or operation of the Premises, if any. OCPRC is not under any obligation to assume any third-party agreements relating to the management or operation of the Premises.

3.3. **Rights and Obligations During the Transition Period.**

3.3.1. **Park Operation and Maintenance During Transition Period.** During the Transition Period, BHS shall be responsible to operate, repair, and maintain the Premises and pay all costs associated therewith, including utilities (water, sewer/sanitary, electric, and gas).

3.3.2. **County Right to Access and Perform Work on the Premises.** During the Transition Period, the County may access the Premises to plan for maintenance, restoration, repairs, security and improvements to the Premises and only provide programming, mutually agreed to by the BHS Representative and OCPRC Representative in writing.

3.3.3. **Premises Inspections.** During the Transition Period, the County shall inspect the infrastructure and conditions of the Park/Premises and the title for the Premises, including but not limited to, the condition of utilities and their connections, parking lots, trees, buildings, restrooms, pavilions, playground equipment, trails and pathways, and any other structures or buildings located on the Premises. The inspection shall be codified in a written document to illustrate the condition of the Premises at the end of the Transition Period and provided to BHS. Any damage to the Premises due to such inspections, shall be repaired by the County and the Premises shall be fully restored to a condition that existed prior to such inspections. Additionally, any changes to this Agreement that are required based upon the County's inspection of the Park/Premises, including any restrictions or encumbrances relating to title, shall be reflected in an amendment to this Agreement

which shall be mutually agreed upon and entered into by the BHS Representative and the OCPRC Representative to reflect the same prior to the expiration of the Transition Period.

3.3.4. **Preliminary Park Use and Improvement Framework.** The Preliminary Park Use and Improvement Framework, **Exhibit B**, sets forth the use and improvement plan for the Transition Period and shall form the basis of the Park Action Plan described in Section 4.7.

3.3.5. **Park Planning.** During the Transition Period, the County shall: (1) assume primary responsibility for Park planning consistent with the Preliminary Park Use and Improvement Framework; (2) regularly consult with the BHS Representative about such planning; and (3) organize public/community engagement concerning the park development, and planning. The Parties acknowledge that OCPRC has conducted previous public/community engagement regarding this Park and the additional engagement required by this Section will build upon the previous public/community engagement.

3.3.6. **Park Programming.** During the Transition Period, OCPRC may organize and host recreation programs, events, volunteer activities, and other activities on the Premises upon mutual written agreement of the Parties.

3.4. **Mutual Assistance Agreements.** During the Transition Period and thereafter and until the Final Park Action Plan is mutually agreed to by the Parties, the BHS Representative and OCPRC Representative may enter into agreements, as needed, to provide additional services for the operation, repair, maintenance, and programming for the Park and to address the costs associated therewith.

3.5. **Environmental Condition.**

3.5.1. **Environmental Assessments.** During the Transition Period, OCPRC shall examine the Premises and perform a Phase I Environmental Site Assessment (ESA), at its sole cost, and may perform additional environmental assessments that OCPRC deems necessary, in its sole discretion and at its sole cost.

3.5.2. **Copies of Environmental Assessments.** OCPRC will provide BHS with a copy of the Phase I ESA and any other environmental assessments. OCPRC shall take possession of the Premises subject to such Phase I ESA and other environmental assessments performed pursuant to this Section.

3.5.3. **Termination Related to Environmental Assessments.** Notwithstanding any other provision, OCPRC or BHS may terminate this Agreement prior to the end of the Transition Period, if either Party is not satisfied with the condition of the Premises as evidenced by the Phase I ESA or other environmental assessments performed pursuant to this Section.

4. **PARK GOVERNANCE & OPERATIONS.**

4.1. **Agreement Administration.** BHS' Superintendent or his successor or his written designee is BHS' Agreement Administrator (hereinafter "the BHS Representative"). The OCPRC Director or their successor or their written designee is OCPRC's Agreement

Administrator (hereinafter "OCPRC Representative"). Each Party must notify the other Party of any changes to their written designees.

4.2. **Disputes.** All disputes arising under or relating to the interpretation, performance, or nonperformance of this Agreement involving or affecting the Parties shall first be submitted to the BHS Representative and the OCPRC Representative for possible resolution. If the BHS Representative and the OCPRC Representative cannot resolve the dispute, then the dispute shall be submitted to non-binding mediation, and both Parties shall share equally in the costs associated with mediation. If the Parties are unable to resolve the dispute through mediation, then either Party may seek any remedy available as permitted by law, in accordance with the governing law provisions under Section 7.10 of this Agreement.

4.3. **Park Management and Operations.** Except as otherwise provided by this Agreement, OCPRC shall manage and operate the Park in a manner consistent with other OCPRC Parks, OCPRC policies, the OCPRC 5-Year Parks and Recreation Master Plan ("OCPRC Master Plan") the Park Action Plan described in Section 4.7, and any other plans and programs set forth and described herein. OCPRC shall manage, maintain, and operate the Park with OCPRC employees, volunteers, and contractors and subcontractors pursuant to the plans and programs set forth and described herein.

4.4. **Park Improvement Projects.** OCPRC shall be responsible to provide, perform and construct (either directly or through third parties) improvements for the Park. This responsibility and the costs associated therewith shall be addressed in the Park Action Plan set forth in Section 4.7, with the general understanding that OCPRC shall be responsible for the costs associated with such improvements, unless otherwise agreed to by BHS. Where applicable, all improvements and Capital Improvement Projects that are to be completed pursuant to this Agreement or as part of the Park Action Plan pursuant to Section 4.7 shall be done in a professional and workmanlike manner and in compliance with all applicable local, state, and federal laws, including, to the extent applicable, those laws pertaining to school building construction, being the Revised School Code, MCL 380.1 *et seq.*, the School Building Construction Act, MCL 388.851 *et seq.*, the Still-Derossett-Hale Single State Construction Code Act, MCL 125.1501 *et seq.*, and the Michigan Building Code (collectively the "Construction Acts"). All Capital Improvement Projects constructed pursuant to the Park Action Plan shall become an integral part of the Premises, remain on the Premises at the expiration or termination of this Agreement, and shall be owned by the BHS. As such, BHS shall account for depreciation of any Capital Improvement Projects (if constructed) on BHS' financial statements. No Capital Improvement Projects shall occur without the prior written approval of the BHS Representative, unless such Capital Improvement Project is included in the Park Action Plan created pursuant to Section 4.7.

4.5. **Park Maintenance/Repairs.** The responsibility for, provision of, and costs for Park maintenance and repairs shall be set forth in the Park Action Plan described in Section 4.7. Notwithstanding the foregoing, it is the Parties intent that OCPRC shall be responsible for the all costs associated with such maintenance and repairs, unless otherwise agreed to by BHS and the Park, at a minimum, shall be maintained in a similar manner to how OCPRC maintains its other Oakland County Parks.

4.6. **Park Utilities and Services.** OCPRC shall be responsible to provide the utilities and services, it deems necessary for the operation of the Park. The provision of and costs for

all utilities, including water, sewer/sanitary, electric, and gas, for the Park and Premises shall be the responsibility of BHS until the end of the Transition Period and shall be responsibility of OCPRC thereafter during the Initial Term or Renewal Term of this Agreement. The Parties may further delineate the responsibilities and costs applicable to the Park and Premises utilities in the Park Action Plan described in Section 4.7. Notwithstanding the foregoing, it is the Parties intent that OCPRC shall be responsible for all the costs associated with such utilities and services, unless otherwise agreed to by BHS in writing. However, OCPRC shall not authorize or approve any easements or other encumbrances to, on, or across the Park or the Premises.

4.7. **Park Action Plan.**

4.7.1. By May 1, 2026, OCPRC shall create a Preliminary Park Action Plan for the Park and by September 30, 2026, OCPRC shall create a Final Park Action Plan for the Park. The Preliminary Park Action Plan and the Final Park Action Plan shall be collectively referred to in this Agreement as "Park Action Plan." The terms of this Agreement shall apply equally to the Preliminary Park Action Plan and the Final Park Action Plan. The OCPRC Representative and the BHS Representative may agree in writing to extend the deadline for the delivery of the Final Park Action Plan.

4.7.2. The Park Action Plan shall be based on **Exhibit B**, the Preliminary Park Use and Improvement Framework and created pursuant to OCPRC's current policies and procedures. The Park Action Plan shall establish a structure to guide the stewardship, operation, and investment of the Park with the following intentions:

4.7.2.1. Guide operational and capital decisions during the first five years of implementation;

4.7.2.2. Align Park priorities with OCPRC system goals;

4.7.2.3. Provide continuity and transparency as planning, engagement, and investment activities happen; and

4.7.2.4. Ensure the Park is managed in a manner that is equitable, fiscally responsible, resilient, and sustainable over the long term.

4.7.3. The Park Action Plan will have two Attachments: (1) Attachment A, the Capital Improvement Plan ("CIP") and (2) Attachment B the Park Operations and Management Plan ("POMP").

4.7.4. The CIP shall establish a five (5) year framework to identify, evaluate, and prioritize potential capital investments at the Park. The CIP serves as a planning and evaluation tool, not a guarantee of implementation. Inclusion of an item in the CIP does not constitute project approval, funding authorization, or a commitment to proceed. The CIP will set forth a process for approvals, authorizations, and commitments to proceed. Inclusion of an item in the CIP constitutes BHS pre-approval for the project type to proceed when funding is available, without requiring additional BHS approval. The CIP may be amended as set forth in the Park Action Plan, but at least every four (4) years OCPRC shall create an updated CIP, which the BHS Representative shall have at least sixty (60) days to review and approve. If the BHS Representative does not approve the CIP, the improvement may not be made, unless otherwise agreed to by the Parties. The updated CIP, approved by the BHS Representative, shall replace the existing CIP and be incorporated into the Park Action Plan as Attachment A.

4.7.5. The POMP shall establish a framework for day-to-day Park operations, Park maintenance, Park staffing, Park programming, and Park coordination. The POMP may be amended as set forth in the Park Action Plan, but at least every five (5) years OCPRC shall create an updated POMP, which the BHS Representative shall have at least sixty (60) days to review and approve. If the BHS Representative does not approve the POMP, the change may not be made, unless otherwise agreed to by the Parties. The updated POMP, approved by the BHS Representative, shall replace the existing POMP and be incorporated into the Park Action Plan as Attachment B.

4.7.6. Once completed, OCPRC shall submit the Park Action Plan to the BHS Representative for comments and recommendations. The BHS Representative shall submit comments and recommendations to the OCPRC Representative within thirty (30) Days of receipt of the Park Action Plan. The OCPRC Representative shall review and consider the BHS Representative's comments and recommendations and shall endeavor to address all comments and recommendations. The Park Action Plan shall not be approved or implemented by OCPRC without prior written approval by the BHS Representative. If the BHS Representative does not respond within the thirty (30) day period, then the BHS Representative is deemed to have approved the Park Action Plan. Every five (5) years OCPRC shall create an updated Park Action Plan, which the BHS Representative shall have at least sixty (60) days to review and comment on.

4.8. Notwithstanding any other provision in this Agreement, if the BHS Representative and OCPRC Representative cannot agree to a Preliminary Park Action Plan by the end of the Transition Period, then OCPRC or BHS may proceed under the Dispute Resolution Section of this Agreement, Section 4.2 or terminate this Agreement. No Capital Improvement Projects may commence during this Transition Period.

4.9. **Volunteers and Employees.**

4.9.1. OCPRC shall manage and operate the Park with OCPRC employees, volunteers, and contractors and subcontractors.

4.9.2. OCPRC may use volunteers at the Park in various capacities, including existing volunteers and volunteer groups. All volunteers providing volunteer service at the Park shall become part of OCPRC's volunteer program.

4.9.3. OCPRC has no obligation to hire BHS employees to work at the Park, but OCPRC shall provide information to BHS employees, who currently work at the Premises, on how BHS employees may apply for OCPRC employment.

4.10. **Personal Property and Equipment.** At no cost to OCPRC, BHS shall transfer ownership of all personal property and equipment listed in the Final Park Action Plan. The Parties acknowledge that this Agreement and the Final Park Action Plan will operate as a bill of sale and that no further documents are required to effectuate the transfer of the personal property and equipment. The BHS Representative and the OCPRC Representative are authorized to sign any other documents needed to effectuate the transfer of the personal property and equipment.

4.11. **Animals.** At no cost to OCPRC, BHS shall transfer ownership of all animals listed in the Final Park Action Plan. The Parties acknowledge that this Agreement and the Final Park Action Plan will operate as a bill of sale and that no further documents are required to

effectuate the transfer of the animals. The BHS Representative and the OCPRC Representative are authorized to sign any other documents needed to effectuate the transfer of the animals.

4.12. **Park Access/Parking.** OCPRC shall be responsible to determine how Park patrons will access the Park (ingress to and egress from the Park) and where patrons will park while using the Park. This responsibility and the costs associated therewith shall be addressed in the Park Action Plan with the general agreement that OCPRC shall be responsible for the costs associated with such parking, unless otherwise agreed to in writing by the BHS. In no event shall any resident of BHS or the County incur any fee or charge for entering the Park or Premises or for parking a vehicle in or on the Park or Premises.

4.13. **Park Rules.** During the Initial Term or Renewal Term of this Agreement, the Park and Premises shall be subject to OCPRC Rules and Regulations and OCPRC policies and procedures, except as otherwise provided by this Agreement.

4.14. **Park Security.** Security for the Park shall be provided by OCPRC at its sole expense.

4.15. **Signs.** OCPRC shall be responsible for and is permitted to erect signs to identify the Park and features/structures located therein and to erect other signs that are typical and/or necessary at a public park of this nature. OCPRC shall be required to comply with local ordinance requirements regarding the design and placement of any new signs. OCPRC shall be responsible for the cost of signs it erects.

4.16. **Sponsorship of Events/Programs at Park by Third Parties.** Without approval from the BHS, OCPRC may solicit or accept sponsorship of events/programs at the Park by third-parties, pursuant to OCPRC policies and procedures; provided that third-party sponsorships may not be associated with alcoholic beverages or drugs (legal or illegal) while school is in session on the Premises. Any sponsorship of events/programs shall be limited to those that would not be prohibited in BHS' facilities or on BHS property (use or promotion of alcohol, drugs or other illegal activities, etc.).

4.17. **Use of Park by Third Parties.** Notwithstanding any other provision in this Agreement, OCPRC may license use of the Park to third parties for events or programs, without approval from and notification to BHS. OCPRC shall allow such use via written agreement with the third party, pursuant to OCPRC policies and procedures. To avoid scheduling conflicts at the Park, all third parties desiring to use the Park for events or programs shall schedule such use through OCPRC. The written agreement for use of the Park by third parties shall also include BHS as an indemnified party and an additional insured as well, if insurance is required.

4.18. **Use of Park by BHS.**

4.18.1. **BHS Events or Programs.** BHS may use the Park for education use or other BHS-sponsored events or programs at no cost, charge, or fee, if such use does not conflict with other scheduled events or programs. To avoid scheduling conflicts at the Park, BHS shall reserve use of the Park for its events or programs, through OCPRC. BHS shall be responsible for all costs associated with the setup, operation, and cleanup of such events or programs. Each Party shall promote activities planned by the other Party to take place in the Park in the same manner as they promote their own activities.

5. **PARK FINANCES.**

5.1. **Establishment of Park Fees & Charges.** OCPRC shall establish all Park Fees and Charges at the Park. The Park Fees and Charges shall be created, adopted, and implemented pursuant to OCPRC's current policies and procedures as may be amended by OCPRC. Notwithstanding any other provision in this Agreement, at no time shall any BHS or Oakland County resident be charged a fee for entry into the Park or the Premises or for parking at the Park or on the Premises.

5.2. **Park Revenue.** Subject to applicable law, all Park Revenue shall be paid to OCPRC and shall be deemed OCPRC's revenue, unless otherwise agreed by the Parties during the Transition Period and codified in the Park Action Plan. OCPRC shall record the monies of all Park Revenue according to generally accepted accounting principles and in a manner similar to how OCPRC records other revenue it collects and receives.

5.3. **Annual Accounting and Audits.** If requested by BHS, OCPRC shall provide BHS with an annual accounting of Park Revenue consistent with generally accepted accounting policies and procedures. BHS has the right to annually review and audit OCPRC's records related to Park Revenue, upon written request to OCPRC.

5.4. **Park Grants.** The Parties shall use their best efforts to work together to secure grant funding for Park expansion, development, improvements, operation, and maintenance. OCPRC and BHS shall work together to apply for and manage grants related to the Park. Any improvements to the Park funded via grants secured by or through BHS shall not be subject to reimbursement under Section 2.7.1.1 upon expiration or termination of this Agreement.

6. ASSURANCES/LIABILITY/INSURANCE.

6.1. **Title to Premises.** BHS warrants that it will confirm that it has fee simple title to the Premises in accordance with Section 3.3.3 and both Parties acknowledge that each Party has the authority to enter into this Agreement. Each Party shall hold the other Party harmless (including payment of attorney fees) against any third-party Claim challenging that Party's right to execute this Agreement or use of the Premises as set forth herein.

6.2. **Liability for Claims.** Except as otherwise provided herein, each Party shall be responsible for any Claims made against that Party by a third-party and for the acts or omissions of its respective BHS Employee or County Employee arising under or related to this Agreement.

6.3. **Liability for Claims Prior to the Effective Date.** To the extent permitted by law, BHS shall be solely responsible for and shall defend and hold harmless OCPRC (including payment of reasonable attorney fees) from any Claim that occurred prior to the Effective Date of this Agreement or that was incurred but not reported prior to the Effective Date of this Agreement.

6.4. **Liability for Environmental Matters.** Notwithstanding any other provision, OCPRC shall not be responsible to perform or pay for remediation or clean-up of any environmental contamination on or around the Premises, which existed on the Premises prior to the Effective Date and/or discovered by the Phase I ESA or any other environmental assessments performed pursuant to this Section 3, unless exacerbated by OCPRC during its inspections. OCPRC shall be responsible to perform or to pay for remediation or clean-up of any environmental contamination on or around the Premises, which is caused by OCPRC and, to the extent provided by law, is caused by any of its agents, employees, volunteers, officers, or officials, contractors, subcontractors or

consultants, or invitees on the Premises.

6.5. **Legal Representation.** Except as provided herein, each Party shall seek its own legal representation and bear the costs associated with such representation, including judgments and attorney fees, for any Claim that may arise from the performance of this Agreement.

6.6. **Responsibility for Costs/Fines/Fees.** Each Party shall be solely responsible for all costs, fines and fees associated with any acts or omissions by its respective BHS Employee or County Employee arising under or related to this Agreement.

6.7. **No Indemnification/Reimbursement.** Except as otherwise provided for in this Agreement, neither Party shall have any right under this Agreement or under any other legal principle to be indemnified or reimbursed by the other Party or any of its agents in connection with any Claim.

6.8. **Governmental Function/Reservation of Rights.** Performance of this Agreement is a governmental function and government service. This Agreement does not, and is not intended to, impair, divest, delegate, or contravene any constitutional, statutory, and/or other legal right, privilege, power, obligation, duty, or immunity of the Parties. Nothing in this Agreement shall be construed as a waiver of governmental immunity.

6.9. **Limitation of Liability.** In no event shall either Party be liable to the other Party or any other person, for any consequential, incidental, direct, indirect, special, and punitive or other damages arising out of this Agreement.

6.10. **Insurance.**

6.10.1. Except for the insurance set forth in Section 6.10.2 and Section 6.10.3, this Agreement does not require either Party to obtain insurance to cover loss exposures associated with this Agreement and the Park. Each Party is solely responsible to determine whether it will obtain insurance, and in what amounts, to cover loss exposures associated with this Agreement and the Park.

6.10.2. If a Party purchases a special event insurance policy for use the Premises, for whatever reason, then the Party shall name the other Party and its boards, commissions, elected and appointed officers/officials, employees, and volunteers as "additional insureds" on such policy.

6.10.3. BHS, at its sole cost, shall obtain real property insurance or self-insurance for existing buildings and structures located on the Premises and for any future buildings and structures located on the Premises whether built by BHS or OCPRC. If a building or structure that is covered by BHS' real property insurance is damaged or destroyed, OCPRC shall repair or replace the building or structure in a timely manner and the BHS shall reimburse OCPRC for all costs associated with the repair or replacement of such building or structure to the extent such repairs or replacement are covered by BHS insurance coverages. OCPRC shall invoice BHS for the costs of the repair or replacement and BHS shall pay such invoice within thirty (30) calendar days. However, OCPRC shall reimburse BHS for insurance premiums related to buildings and structures constructed on the Premises by OCPRC.

6.11. **Waste.** Neither Party shall commit or allow to be committed any waste or nuisance on the Premises and will not use, or allow the Premises to be used, for any unlawful purpose.

6.12. **Compliance with Laws.**

6.12.1. The Parties shall comply with all applicable federal, state, or local laws, regulations,

rules, and ordinances related to the operation, management, planning, maintenance, and improvement of the Premises and Park. OCPRC shall obtain any necessary permits regarding its use of the Premises.

6.12.2. OCPRC shall comply with all applicable grants and other agreements between BHS and another entity such as the State of Michigan, governing the operation of and restrictions upon the Premises, if OCPRC receives notice of such grants and other agreements from BHS.

6.12.3. The Parties acknowledges that any violations of the federal, state, or local regulations or convictions of any resource violations may be considered a default of this Agreement and the other Party may terminate this Agreement, as provided herein.

6.13. **Authorization.** The Parties have taken all actions and secured all approvals necessary to authorize and complete this Agreement. The persons signing this Agreement on behalf of each Party have legal authority to sign this Agreement and bind the Parties to the terms and conditions contained herein.

7. **GENERAL TERMS AND CONDITIONS**.

7.1. **No Interest in Premises.** Through this Agreement, OCPRC shall have no title interest in and/or to the Premises or any portion thereof and has not, does not, and will not claim any such title or any easement over the Premises.

7.2. **Delegation or Assignment**. Neither Party shall delegate or assign any obligations or rights under this Agreement without the prior written consent of the other Party. For purposes of this Section, consent for the County shall be given by the OCPRC Director or his/her successor and consent for BHS shall be given by the BHS Representative.

7.3. **No Employee-Employer Relationship**. Nothing in this Agreement shall be construed as creating an employer-employee relationship between County and BHS.

7.4. **No Third Party Beneficiaries**. Except as provided for the benefit of the Parties, this Agreement does not and is not intended to create any obligation, duty, promise, contractual right or benefit, right to indemnification, right to subrogation, and/or any other right in favor of any other person or entity.

7.5. **No Implied Waiver**. Absent a written waiver, no act, failure, or delay by a Party to pursue or enforce any rights or remedies under this Agreement shall constitute a waiver of those rights with regard to any existing or subsequent breach of this Agreement. No waiver of any term, condition, or provision of this Agreement, whether by conduct or otherwise, in one or more instances shall be deemed or construed as a continuing waiver of any term, condition, or provision of this Agreement. No waiver by either Party shall subsequently affect its right to require strict performance of this Agreement.

7.6. **Severability**. If a court of competent jurisdiction finds a term or condition of this Agreement to be illegal or invalid, then the term or condition shall be deemed severed from this Agreement. All other terms, conditions, and provisions of this Agreement shall remain in full force.

7.7. **Captions**. The section and subsection numbers, captions, and any index to such sections and subsections contained in this Agreement are intended for the convenience of the reader and are not intended to have any substantive meaning. The numbers, captions, and indexes shall not be interpreted or be considered as part of this Agreement. Any use of the singular or plural, any reference to gender, and any use of the nominative, objective or possessive case

in this Agreement shall be deemed the appropriate plurality, gender or possession as the context requires.

7.8. **Force Majeure**. Notwithstanding any other term or provision of this Agreement, neither Party shall be liable to the other for any failure of performance hereunder if such failure is due to any cause beyond the reasonable control of that Party and that Party cannot reasonably accommodate or mitigate the effects of any such cause. Such cause shall include, without limitation, acts of God, floods, fire, explosion, vandalism, national emergencies, insurrections, riots, wars, strikes, lockouts, work stoppages, other labor difficulties, or any law, order, regulation, direction, action, or request of the United States government or of any other government. Reasonable notice shall be given to the affected Party of any such event.

7.9. **Notices**. Notices given under this Agreement shall be in writing and shall be personally delivered, sent by express delivery service, certified mail, or first class U.S. mail postage prepaid, and addressed to the person listed below. Notice will be deemed given on the date when one of the following first occur: (i) the date of actual receipt; (ii) the next business day when notice is sent express delivery service or personal delivery; or (iii) three days after mailing certified U.S. mail.

7.9.1. If Notice is sent to County, it shall be addressed and sent to: OCPRC Director, 2800 Watkins Lake Road, Waterford, Michigan 48328 and the Chairperson of the Oakland County Board of Commissioners, 1200 North Telegraph Road, Pontiac, Michigan 48341.

7.9.2. If Notice is sent to BHS, it shall be addressed and sent to BHS Superintendent, 7273 Wing Lake Road, Bloomfield Hills, Michigan 48301.

7.9.3. Either Party may change the individual to whom Notice is sent and/or the mailing address by notifying the other Party in writing of the change.

7.10. **Governing Law/Consent To Jurisdiction And Venue**. This Agreement shall be governed, interpreted, and enforced by the laws of the State of Michigan. Except as otherwise required by law or court rule, any action brought to enforce, interpret, or decide any Claim arising under or related to this Agreement shall be brought in the 6th Judicial Circuit Court of the State of Michigan, the 48th District Court of the State of Michigan, or the United States District Court for the Eastern District of Michigan, Southern Division, as dictated by the applicable jurisdiction of the court. Except as otherwise required by law or court rule, venue is proper in the courts set forth above.

7.11. **Counterparts.** This Agreement may be executed in any number of counterparts, each of which shall be deemed an original agreement, but all of which together shall constitute one Agreement. Copies (photo, fax, or electronic) of signatures to this Agreement will be deemed originals and may be relied on to the same extent as originals.

7.12. **Entire Agreement**. This Agreement and the referenced Affidavit represents the entire agreement and understanding between the Parties regarding the maintenance, operation, and management of the Park and the Premises. This Agreement and the referenced Affidavit supersede all other oral or written agreements between the Parties regarding that subject matter. The language of this Agreement shall be construed as a whole according to its fair meaning and not construed strictly for or against any Party.

IN WITNESS WHEREOF, the Bloomfield Hills Schools Superintendent has been authorized by a resolution of Bloomfield Hills Schools' Board of Education, to execute this Agreement.

EXECUTED:

By: Rick West
Rick West

Its: Superintendent

Date: 4/8/2026

IN WITNESS WHEREOF, David T. Woodward, Chairperson, Oakland County Board of Commissioners, has been authorized by a resolution of the Oakland County Board of Commissioners to execute this Agreement.

EXECUTED: David T Woodward (Apr 10, 2026 08:59:40 CDT) DATE: 04/10/2026
David T. Woodward, Chairperson
Oakland County Board of Commissioners

EXECUTED: Ebony Bagley DATE: 04/10/2026
Ebony Bagley Chairperson
Oakland County Parks and Recreation Commission

EXHIBIT A
Johnson Nature Center
Oakland County, Michigan



The Parties agree that during the Transition Period OCPRC will engage a civil engineer to conduct a survey and create a legal description for the Park.

OAKLAND COUNTY PARKS
Oakland County Parks and Recreation
2800 Watkins Lake Road
Waterford, MI
248-858-0906
www.OaklandCountyParks.com


Nature
Stewardship
Discovery
Gateway
Nature
Play
Outdoor
Classroom
Nature
Center
Heritage
Woods
Sugar Shack and
Sugar Bush
Fishing Camp
and Canoe
Skills
Maintenance

JNC Trail Easement Agreement BHS Hickory Ridge

BO-A02

Source Record

JNC Trail Easement Agreement BHS Hickory Ridge.pdf

Review Context

OCR recovered operative provisions on scan pages 1, 3, 5, 7, 9, 11 and 13; full executed instrument, exhibits, recording and amendments remain to verify

Reproduced source pages: 40
Appendix source-page range: 26–65

Open Source Record in Google Drive

TRAIL EASEMENT AGREEMENT

THIS TRAIL EASEMENT AGREEMENT (this "Agreement") is made and entered into this 2ND day of May, 2019, by and between **BLOOMFIELD HILLS SCHOOLS**, a Michigan general powers school district ("BHS"), having an address of 7273 Wing Lake Road, Bloomfield Hills, Michigan 48301, and **HICKORY RIDGE VILLAGE ASSOCIATION**, a Michigan nonprofit corporation (the "Association"), having an address of 3025 East Ridge Court, Bloomfield Hills, Michigan 48302. BHS and the Association are referred to from time to time in this Agreement each individually as a "Party" and together as the "Parties".

Background Information

A. BHS is the fee simple owner of certain parcels of real property situated in Bloomfield Township (hereafter, the "Township"), Oakland County, Michigan, known as the E. L. Johnson Nature Center (the "Nature Center"), and located at 3325 Franklin Road, Bloomfield Township, Oakland County, Michigan (parcel identification numbers 19-09-301-022 ("Parcel 022") and 19-09-301-050 ("Parcel 050", and together with Parcel 022, collectively, the "Nature Center Property")), which Nature Center Property is more particularly described on **Exhibit A** attached hereto.

B. The Nature Center Property consists of an approximately 45-acre site and includes various amenities, including a visitor center with classrooms and multiple nature trails, for the purposes of providing recreational and learning opportunities for BHS students and the public, and to otherwise maintain the aesthetic beauty of the local environs.

C. Adjacent to the Nature Center Property is Hickory Ridge Village, a residential condominium project (the "Condominium") situated in Bloomfield Township, Oakland County Michigan, more particularly described on **Exhibit B** attached hereto (the "Condominium Property").

D. The general location of the Condominium Property in relation to the Nature Center Property is depicted on **Exhibit C** attached hereto.

E. The Condominium was established pursuant to the Master Deed thereof, recorded on August 9, 1990 in Liber 11502, Pages 555 through 620, both inclusive, Oakland County Records, as amended by a First Amendment to Master Deed recorded on October 28, 1991 in Liber 12144, Pages 290 through 296, both inclusive, Oakland County Records, as amended by a

Second Amendment to Master Deed recorded on December 11, 1995 in Liber 15874, Pages 712 through 718, both inclusive, Oakland County Records, as amended by a Third Amendment to Master Deed recorded on January 26, 1996 in Liber 15978, Pages 269 through 277, both inclusive, Oakland County Records, as amended by a Fourth Amendment to Master Deed recorded on June 10, 1997 in Liber 17279, Pages 573 through 578, both inclusive, Oakland County Records, and as further amended by a Fifth Amendment to Master Deed recorded on August 10, 2010 in Liber 42277, Pages 795 through 830, both inclusive, Oakland County Records (collectively, the "Master Deed").

F. The Association is the association of co-owners of the Condominium responsible for the management, maintenance, operation and administration of the Condominium as provided for in the Master Deed, the bylaws of the Association and the Michigan Condominium Act.

G. There is a stream tributary of the Rouge River located on the Nature Center Property which runs along the northerly boundary of Parcel 022 with the Condominium Property and which also branches off into Parcel 050 (the "Stream").

H. Among the common elements of the Condominium Property are a detention basin (the "Detention Basin") and a wetlands area to the south of the Detention Basin (the "Wetlands") which are located immediately to the north of the Stream. The Detention Basin has an outflow into the Wetlands to enable storm water to discharge into the Wetlands.

I. There is a recognized floodplain associated with the Stream known as the Long Lake-Forest Lake Drain.

J. The Oakland County Water Resources Commissioner's Office (the "WRC") owns, operates and maintains a drain known as the Case Drain which runs north and south along the easterly property line of the Condominium Property.

K. The Nature Center Property is also currently subject to a sanitary sewer easement in favor of the Township (the "Township Sewer Easement") which runs along the Case Drain, crosses the Stream and generally runs along the southern shore of the Stream to the east and west within Parcel 022.

L. In accordance with, and to further advance, the Nature Center's mission, BHS desires to develop a ten (10) foot wide walking and hiking nature trail running alongside the north shore of the Stream (the "Trail") which will connect Parcel 050 with the northeasterly portion of Parcel 022, by way of crossing the Wetlands located within the common elements of the Condominium Property.

M. The Trail is to remain generally in a natural state and will consist mainly of a woodchip path and/or boardwalk, but it is anticipated to also include two (2) bridges over certain portions of the Wetlands where necessary. The bridges will be located only on the Nature Center Property.

N. The Association is willing to grant BHS a perpetual easement for the purposes of constructing, inspecting, operating, maintaining, repairing and replacing that portion of the Trail

which will be located on the Condominium Property in accordance with the terms and provisions of this Agreement.

Statement of Agreement

NOW THEREFORE, for $1.00 and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree to the foregoing Background Information and as follows:

1. Definitions. The following terms shall have the meaning ascribed to each of them below:

(a) "Parcel" and "Parcels" shall mean, individually and together respectfully, the Nature Center Property and the Condominium Property.

(b) "Person" shall mean an individual or any partnership, corporation, limited liability company, association or other entity.

(c) "Responsible Person" shall mean the then-current fee simple owner or owners of a Parcel, provided that so long as the Association exists for the purposes of managing and operating the common elements and affairs of the Condominium, the Association shall be deemed the "Responsible Person" for the Condominium Property.

2. Grant of Perpetual Trail Easement.

(a) The Association hereby grants and declares to and for the benefit of BHS and the current and future Responsible Person of all or any portion of the Nature Center Property, and their respective successors, assigns, lessees/tenants, mortgagees, agents, contractors, employees and invitees (and the customers, employees, agents and invitees of the lessees/tenants), a perpetual, non-exclusive easement in, on, over, upon, across and through that portion of the Condominium Property depicted and described on **Exhibit D** attached hereto and made a part hereof (the "Trail Easement") for the purposes set forth herein. The Association makes no representations or warranties of any kind and expressly disclaims any warranties regarding the Trail Easement; it being acknowledged and agreed by the Parties that the grant of the Trail Easement is AS-IS, WHERE-IS, WITH ALL FAULTS.

(b) The Parties acknowledge and agree that the Trail Easement shall be for the purposes of enabling BHS and the current and future Responsible Person of all or any portion of the Nature Center Property to access the Condominium Property to construct, operate, maintain, repair, re-construct and replace the Trail and the Trail Facilities (as hereinafter defined) upon the Trail Easement in perpetuity in accordance with the terms of this Agreement.

(c) Within the Trail Easement, BHS and the current and future Responsible Person of all or any portion of the Nature Center Property, subject to applicable permits, laws, ordinances, rules and regulations, shall be permitted to construct and maintain the following (collectively, the "Trail Facilities"):

(i) The Trail, which shall generally not exceed approximately ten (10) feet in clear tread width, which shall consist of a hard-packed woodchip path and/or boardwalk and the bridges (each a "Bridge", and collectively, the "Bridges") in the general locations depicted on **Exhibit D**.

(ii) Foundations, waterbars, erosion control structures, steps, culverts and other patch surface structures as may be necessary or required to construct and maintain the structural integrity of the Trail and the Bridges.

(iii) Such signs as reasonably determined by the Responsible Person for the Nature Center Property as necessary to mark the Trail, to provide information related to the Trail and for educational purposes.

(iv) Fencing, gates, barriers and signs as reasonably determined by the Responsible Person for the Nature Center Property as may be necessary to control access to the Trail, to prevent trespassing off of the Trail Easement and to prevent unauthorized motorized vehicles from accessing the Trail.

(v) Benches and trash receptacles at such locations as the Responsible Person for the Nature Center Property determines are appropriate as an accommodation to those using the Trail.

(d) Neither the Association nor any of the co-owners of the Condominium shall erect any structures, landscaping or other improvements within the Trail Easement which would interfere with BHS's use of the Trail Easement for the purposes described herein or take any action which is inconsistent with the terms of this Agreement.

3. Construction, Maintenance, Operation and Permitted Uses of the Trail.

(a) The construction, operation, maintenance, repair and replacement of the Trail, the Trail Facilities and the Trail Easement shall be the sole responsibility of BHS and the current and future Responsible Person of all or any portion of the Nature Center Property at its sole cost and expense. The Association shall have no obligation or responsibility whatsoever to construct or maintain the Trail or Trail Facilities. BHS shall be responsible for obtaining the prior approval of the Township, the WRC, and any other governmental authority having jurisdiction, in connection with construction of the Trail over and/or within the Case Drain and the Township Sewer Easement. BHS shall further be responsible, at its sole cost and expense, for obtaining any and all permits required by the Township, the Michigan Department of Environmental Quality ("MDEQ"), and any other governmental authority having jurisdiction, in connection with the construction of the Trail within the Long Lake-Forest Lake Drain floodplain and the Wetlands. The Association agrees to reasonably cooperate and assist BHS, at no cost to the Association, in obtaining any municipal, county and/or state permits necessary for the construction and on-going maintenance of the Trail and Trail Facilities. BHS shall keep the Trail in a good condition and state of repair at all times and in a safe and hazard-free condition.

(b) In connection with the initial construction and the on-going maintenance, repair and replacement of the Trail Facilities within the Trail Easement, the Association hereby grants and declares to and for the benefit of BHS and the current and future Responsible Person

of all or any portion of the Nature Center Property, and their respective successors, assigns, lessees/tenants, mortgagees, agents, contractors, employees and invitees (and the customers, employees, agents and invitees of the lessees/tenants), a temporary, non-exclusive construction easement (the "Construction Easement") in, on, over, upon, across and through that portion of the Condominium Property extending [fifteen (15)] feet to each side of the Trail Easement and an area within a radius of [fifteen (15)] feet of the Bridge abutments located on the Condominium Property (collectively, the "Construction Easement Area"). The Construction Easement shall be for the purposes of (i) access, passage and staging, as applicable, of construction equipment and materials as appropriate to complete the clearing, trailblazing, filling, compacting and grading of the Trail within the Trail Easement Area, as necessary in connection with the construction of the Trail Facilities, (ii) the construction, installation, erection, inspection, maintenance, repair and replacement of the Trail Facilities, and (iii) any other construction and maintenance associated with the Trail Facilities for which access upon the Construction Easement Area is reasonably necessary. The Construction Easement shall only be available during the periods in which such rights are being exercised by the Responsible Person of all or any portion of the Nature Center Property, and their respective successors, assigns, lessees/tenants, mortgagees, agents, contractors, employees and invitees. BHS and the current or future Responsible Person of all or any portion of the Nature Center Property shall take all reasonable steps to minimize any interference or disturbance to the Construction Easement Area and shall restore any portion of the Construction Easement Area damaged or disturbed in connection with the performance of such work to substantially the same condition as existed immediately prior to such damage or disturbance, at its sole cost.

(c) Subject to all applicable laws, ordinances, codes, rules and regulations, and in connection with the construction, installation, erection, inspection, maintenance, repair and replacement of the Trail Facilities and Trail Easement, BHS and the current or future Responsible Person of all or any portion of the Nature Center Property, and their respective successors, assigns, lessees/tenants, mortgagees, agents, contractors, employees and invitees (and the customers, employees, agents and invitees of the lessees/tenants), shall be permitted to (i) cut, clear and remove trees, bushes, shrubbery and other vegetation directly within the Trail Easement, (ii) trail blaze, fill, compact, grade and apply soil and woodchips to the Trail Easement, and (iii) construct, install and erect the Trail Facilities, including but not limited to the Bridges, within the Trail Easement. BHS shall use commercially reasonable efforts to save native plant and tree species and to avoid the removal of trees. Notwithstanding anything to the contrary contained herein, BHS and the current or future Responsible Person of all or any portion of the Nature Center Property shall be permitted to use motorized vehicles and machinery within the Trail Easement and Construction Easement Area as reasonably necessary in connection with its construction and on-going maintenance of the Trail Facilities and Trail Easement.

(d) The Trail shall only be used for pedestrian walking, hiking, jogging, bird watching and nature study and other non-motorized access for the purposes of providing educational and recreational opportunities in the natural environment. Bicycling, snowmobiling and horseback riding are expressly prohibited upon the Trail. Power-drive mobility devices for use by those who have mobility impairments shall be permitted.

(e) Use of the Trail shall be open to the members of the public in a manner consistent with the mission of the Nature Center and the other natural trails located on the Nature



Center Property. The Nature Center shall be permitted to adopt reasonable rules and regulations from time to time governing the use and operation of the Trail, including but not limited to, the hours for which the Nature Center and the Trail are open to the public. The Nature Center shall use commercially reasonable efforts to enforce such rules and regulations and to minimize any disturbance to the Condominium Property. The Responsible Person for the Nature Center Property shall also be permitted to temporarily close the Trail from time to time for the purposes of inspecting, maintaining and repairing the Trail Facilities in accordance with the terms of this Agreement. The members of the Association, being the co-owners of the Condominium and their permitted guests and invitees, shall be permitted to access the Trail from the Condominium Property during the hours the Trail is open to the public, but members of the general public shall not be permitted to access the Trail from the Condominium Property.

(f) Use of any portion of the Trail by members of the general public is at their own risk. The Association, by entering into this Agreement, assumes no duty to or for the benefit of the general public for defects in the location, design, installation, construction, maintenance, repair or replacement of the Trail Facilities; for unsafe conditions within the Trail Easement; or for the failure to inspect for or warn against possibly unsafe conditions; or to close the Trail to public assess when unsafe conditions may be present.

(g) Notwithstanding anything the contrary contained herein, the Trail Easement shall automatically terminate and be of no further force and effect in the event that the Nature Center Property is no longer used as a nature center providing recreational and educational opportunities to members of the public.

4. Self-Help. In addition to all other remedies available at law or in equity, upon the failure of a Responsible Person (the "Defaulting Person") to perform any of its obligations under this Agreement, which failure is not cured within thirty (30) days after written notice thereof is given to such Defaulting Person by the other Responsible Person (the "Non-Defaulting Person") (unless, with respect to any such failure, the nature of which cannot reasonably be cured within such thirty (30) day period, the Defaulting Person commences such cure within such thirty (30) day period and thereafter diligently prosecutes such cure to completion), the Non-Defaulting Person shall have the right to cure such failure and to invoice the Defaulting Person for the Defaulting Person's share of such costs reasonably incurred for such cure. Notwithstanding the foregoing, in the event of an emergency or the blockage or material impairment of any easement rights granted hereunder, the Non-Defaulting Person may immediately cure the same with such notice as soon as reasonably possible under the circumstances.

5. Construction Liens; Restoration.

(a) If any construction liens are filed against a Parcel, or any portion thereof, in connection with any work performed by or on behalf of the other Responsible Person pursuant to an easement created herein, the Responsible Person that performed the work in question shall either cause said liens to be promptly discharged of record or shall take such actions as may be required to reasonably and legally object to such liens. Such actions may include, at the option of the Responsible Person that performed the work, bonding over the liens.

(b) A Responsible Person performing any work on a Parcel of the other Responsible Person pursuant to an easement created herein shall (i) take all reasonable steps to minimize any inconvenience to the use or operation of such Parcel and (ii) promptly restore any portion of such Parcel damaged or disturbed in connection with the performance of such work to substantially the same condition as existed immediately prior to such damage or disturbance, at its sole cost.

6. Insurance; Liability for Losses and Litigation Expenses.

(a) BHS shall maintain or cause to be maintained in full force and effect commercial general liability insurance with a combined single limit of liability of not less than One Million Dollars ($1,000,000.00), per occurrence and Two Million Dollars ($2,000,000.00) in the aggregate for bodily injury, personal injury, and property damage. The Association, and its successors and assigns to its Parcel, shall be named an additional primary, non-contributory insured under such policy.

(b) Any contractor and/or vendor engaged by a Responsible Person to fulfill such Responsible Person's obligations under this Agreement upon the Parcel of the other Responsible Person (including exercising the self-help remedy provided for in Section 4 herein) shall obtain commercial general liability insurance in compliance with the requirements of Section 6(a) above and shall furnish certificate(s) evidencing such insurance coverage to the Responsible Person for the Parcel for which such contractor or vendor will be entering upon prior to such entry.

(c) If a claim for any Loss (as hereinafter defined) for personal injury or property damage occurring within the Trail Easement or Construction Easement Area (a "Public Access Claim") is asserted against either the Responsible Person for the Nature Center Property or the Responsible Person for the Condominium Property, or both, it is anticipated that they will assert such defenses (including immunity under Section 73301 of the Natural Resources and Environmental Protection Act, being Act 451 of the Michigan Public Acts of 1994, as amended (MCL 324.73301)) as are available to them under applicable law. The phrase "Public Access Claim" excludes all claims (collectively, "Owner Responsibility Claims") for Losses and Litigation Expenses (as hereinafter defined) arising from, relating to or associated with: (i) personal injury or property damage occurring prior to the date of this Agreement; (ii) activities or uses engaged in by the Association, and their guests, invitees, contractors, agents, and tenants or anyone else entering the Condominium Property by, through, or under the express or implied invitation of any of the foregoing; or (iii) structures, facilities and improvements within the Trail Easement or Construction Easement Area (other than the Trail Facilities). The term "Loss" as used herein means any liability, loss, claim, settlement payment, cost and expense, interest, aware, judgement, damages (including punitive damages), diminution of value, fines, fees and penalties or other charge other than a Litigation Expense. The term "Litigation Expense" means any court filing fee, court cost, arbitration fee or cost, witness fee, and each other fee and cost of investigating and defending or asserting any claim of violation or for indemnification under this Agreement, including, in each case, attorneys' fees, other professionals' fees and disbursements.

(d) To the extent permitted by law and if immunity from a Public Access Claim is for any reason unavailable to the Responsible Person for the Condominium Property,

BHS shall defend, indemnify and hold harmless the Responsible Person for the Condominium Property and its directors, managers, members, officers, agents and employees against any and all Losses and Litigation Expenses arising out of any Public Access Claim.

7. Covenants Running with the Land. The easements herein granted and the agreements herein contained are perpetual and shall be easements and covenants running with the Parcels and shall inure to the benefit of, and be binding upon, the Parties and their respective successors and assigns, including successors in title to all or any portion of the Parcels.

8. No Rights to Public. Nothing contained in this Agreement shall be deemed to be a gift or a dedication of any property to the general public or for any public use or purpose whatsoever.

9. Amendments. No amendment of this Agreement shall be effective until a proper instrument in writing has been executed by each Responsible Person and recorded with the Oakland County Register of Deeds.

10. No Joint Venture. Nothing contained in this Agreement shall be construed to make the Parties hereto, or their successors and assigns, partners or joining ventures or to render any of said parties liable for the debts or obligations of the other, except as in this Agreement expressly provided.

11. Waiver. No delay or omission by either of the Parties, or their successors and assigns, to exercise any right or power accruing upon any non-compliance or failure of performance by the other Party under the provisions of this Agreement shall impair any such right or power or be construed to be a waiver thereof. A waiver by either of the Parties, or its successors or assigns, of any of the covenants, conditions or agreements hereof to be performed by the other shall not be construed to be a waiver of any succeeding breach thereof or of any other covenant, condition or agreement contained herein.

12. Headings. The section and any subsection headings herein are for convenience and reference only and in no way define or limit the scope and content of this Agreement or in any way affect its provisions.

13. Notices. Any notice, request, demand, approval or consent given or required to be given under this Agreement, shall be in writing and shall be deemed as having been given when mailed by United States registered or certified mail, postage prepaid or by reputable overnight courier to the other party at the addresses stated below or at the last changed address given by the Party to be notified as hereinafter specified:

As to the Association: Hickory Ridge Village Association
Attn: Anthony Carmen
3025 East Ridge Court
Bloomfield Hills, Michigan 48302

43902 Woodward Avenue, Suite 260
Bloomfield Hills, MI 48302

As to BHS:

Bloomfield Hills Schools
c/o E. L. Johnson Nature Center
Attn: Dan Badgley
3325 Franklin Road
Bloomfield Hills, Michigan 48302

With a copy to:

Clark Hill PLC
Attn: Richard A. Sundquist, Esq.
500 Woodward Avenue, Suite 3500
Detroit, Michigan 48226

14. Governing Laws. This Agreement shall be construed in accordance with the laws of the State of Michigan.

15. Exhibits. All exhibits referred to herein and attached hereto shall be deemed part of this Agreement.

16. Severability. If any term, provision or condition contained in this Agreement shall, to any extent, be invalid or unenforceable, the remainder of this Agreement (or the application of such term, provision or condition to persons or circumstances, other than those in respect of which it is invalid or unenforceable) shall not be affected thereby and each term, provision or condition of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

17. Counterparts. This Agreement may be executed in one or more counterparts, but all of which together shall constitute one and the same instrument.

18. Recitals. The recitals set forth above in the "Background Information" are incorporated herein as if a full part of this Agreement.

19. Exempt. This Agreement is exempt from real estate transfer tax pursuant to MCL 207.505(a) and 207.526(a).

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed the day and year first above written.

HICKORY RIDGE VILLAGE ASSOCIATION, a Michigan nonprofit corporation

By: _____

Name: Anthony J. Carmen

Its: President

STATE OF MICHIGAN)
) ss.
COUNTY OF Oakland)

The foregoing instrument was acknowledged before me this 2nd day of May, 2019, by Anthony J. Carmen the President of Hickory Ridge Village Association, a Michigan nonprofit corporation, on behalf of the nonprofit corporation.

MEGAN M SALINA
Notary Public - State of Michigan
County of Oakland
My Commission Expires Sep 13, 2024
Acting in the County of Oakland

Megan M Salina
Megan M. Salina, Notary Public
Oakland County, Michigan
My commission expires: 9-13-2024
Acting in Oakland County

[SIGNATURES CONTINUED ON FOLLOWING PAGE]

BLOOMFIELD HILLS SCHOOLS, a Michigan general powers school district

By: Christina M. Kostuk

Name: Christina M Kostuk

Its: Assistant Superintendent for Finance + Operations

STATE OF MICHIGAN)
) ss.
COUNTY OF OAKLAND)

The foregoing instrument was acknowledged before me this 3RD day of JUNE, 2019, by CHRISTINA KOSTIUK, the ASSISTANT SUPERINTENDENT FINANCE + OPERATIONS of Bloomfield Hills Schools, a Michigan general powers school district, on behalf of the school district.

Sue A. Arnold

SUE A. ARNOLD, Notary Public
OAKLAND County, Michigan
My commission expires: 07/07/2021
Acting in OAKLAND County

SUE A. ARNOLD
NOTARY PUBLIC, STATE OF MI
COUNTY OF OAKLAND
MY COMMISSION EXPIRES Jul 7, 2021
TING IN COUNTY OF OAKLAND

Prepared by, and when recorded, return to:

Richard Sundquist
Clark Hill PLC
500 Woodward Avenue, Suite 3500
Detroit, Michigan 48226

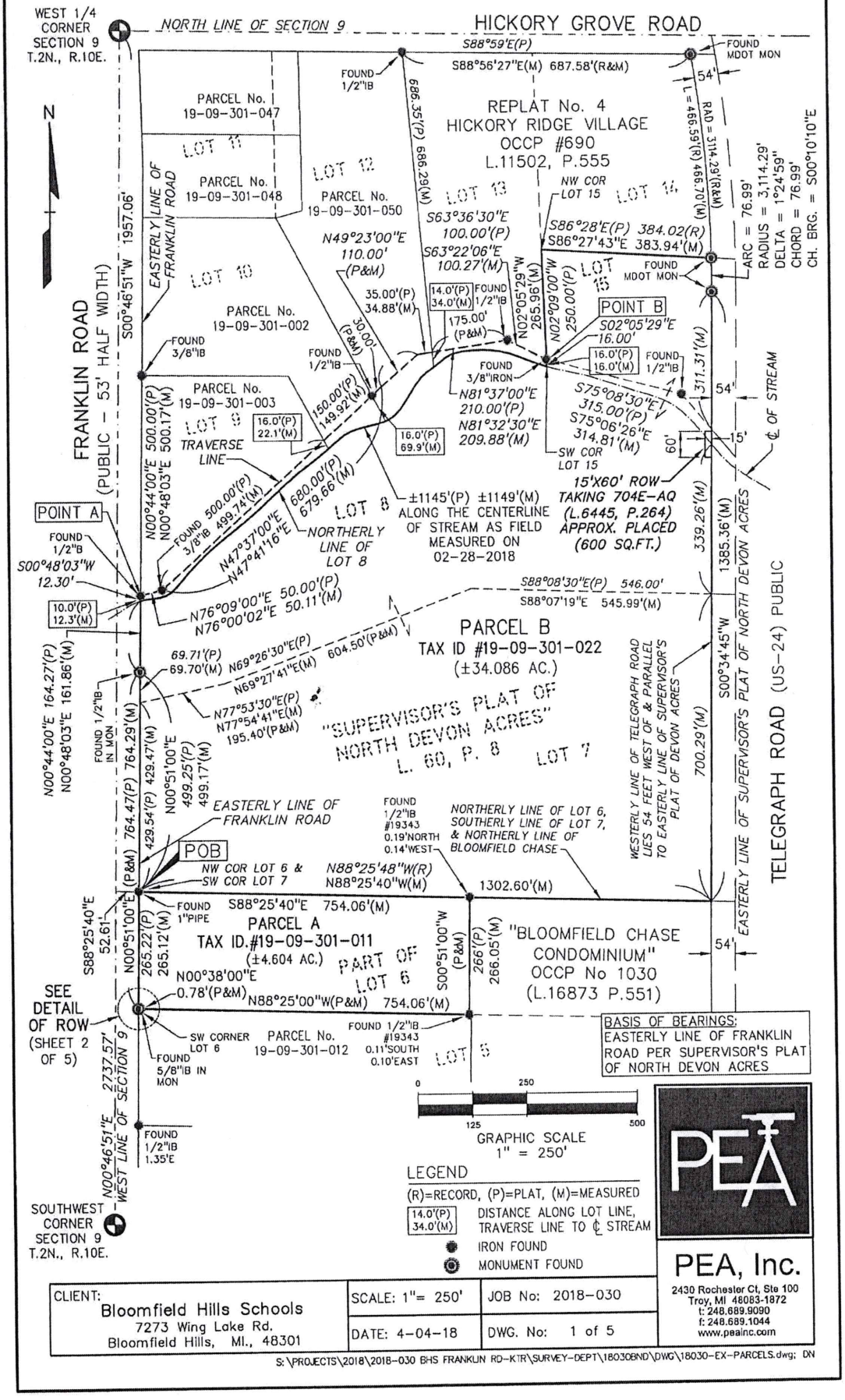
[Signature Page to Trail Easement Agreement]

220444738.3 21974/165848

(A)

EXHIBIT 4

SKETCH OF EXISTING PARCEL A & PARCEL B



CLIENT: Bloomfield Hills Schools, 7273 Wing Lake Rd., Bloomfield Hills, MI., 48301	SCALE: 1"= 250'	JOB No: 2018-030
	DATE: 4-04-18	DWG. No: 1 of 5

PEA, Inc.
2430 Rochester Ct, Ste 100
Troy, MI 48083-1872
t: 248.689.9090
f: 248.689.1044
www.peainc.com

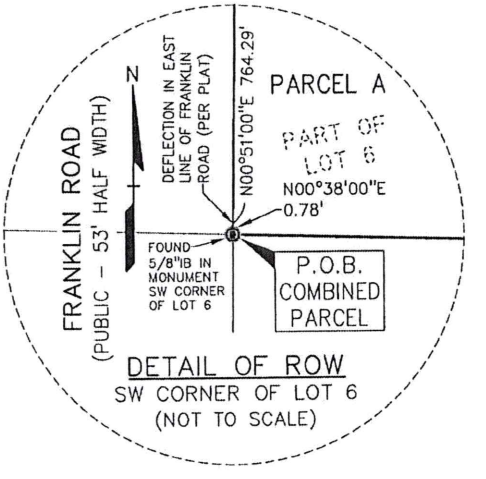
S:\PROJECTS\2018\2018-030 BHS FRANKLIN RD-KTR\SURVEY-DEPT\18030BND\DWG\18030-EX-PARCELS.dwg; DN

LEGAL DESCRIPTION – PARCEL A

PARCEL A:
(As Surveyed By PEA)

The west 754 feet of Lot 6 of "Supervisors Plat of North Devon Acres" as recorded in Liber 60, Page 8, Oakland County Records; being more particularly described as:

COMMENCING at the West 1/4 Corner of Section 9, Town 2 North, Range 10 East, Bloomfield Township, Michigan; thence along the west line of said section S00°46'51"W, 1957.06 feet; thence S88°25'40"E, 52.61 feet to a found 1" diameter iron pipe on the easterly line of Franklin Road (53' half width) and the POINT OF BEGINNING, said point also being the northwest corner of said Lot 6; thence continuing S88°25'40"E, 754.06 feet along the northerly line of said Lot 6 to the westerly line of "Bloomfield Chase" Condominium, being Oakland County Condominium Subdivision Plan Number 1030, as recorded in Liber 16873, Page 551, O.C.R.; thence along said westerly line, also being the easterly line of the west 754 feet of said Lot 6, S00°51'00"W, 266.05 feet to the southerly line of said Lot 6; thence along said southerly line, N88°25'00"W, 754.06 feet to a found 5/8" iron bar in a concrete monument on the aforementioned easterly line of Franklin Road; thence along said easterly line, as monumented, the following two (2) courses: N00°38'00"E, 0.78 feet and N00°51'00"E 265.12 feet, (platted as N00°51'00"E, 265.22 feet) to the POINT OF BEGINNING. Containing 4.604 acres of land more or less.



DETAIL OF ROW
SW CORNER OF LOT 6
(NOT TO SCALE)

PEA, Inc.
2430 Rochester Ct, Ste 100
Troy, MI 48083-1872
t: 248.689.9090
f: 248.689.1044
www.peainc.com

CLIENT: Bloomfield Hills Schools, 7273 Wing Lake Rd., Bloomfield Hills, MI., 48301	SCALE: 1"= 250'	JOB No: 2018-030
	DATE: 4-04-18	DWG. No: 2 of 5

S:\PROJECTS\2018\2018-030 BHS FRANKLIN RD-KTR\SURVEY-DEPT\180308ND\DWG\18030-EX-PARCELS.dwg; DN

LEGAL DESCRIPTION – PARCEL B

PARCEL B:
(As Surveyed By PEA)

Lots 7, 8, and 15 of "Supervisors Plat of North Devon Acres" as recorded in Liber 60, Page 8, Oakland County Records; EXCEPT the easterly 54 feet thereof taken for highway purposes, being more particularly described as:

COMMENCING at the West 1/4 Corner of Section 9, Town 2 North, Range 10 East, Bloomfield Township, Michigan; thence S00°46'51"W, 1957.06 feet along the west line of said Section 9; thence S88°25'40"E, 52.61 feet to a found 1" diameter iron pipe on the easterly line of Franklin Road (53' half width) and the POINT OF BEGINNING, said point also being the southwest corner of the aforementioned Lot 7; thence N00°51'00"E 499.17 feet *(platted as 499.25 feet)* along the easterly line of Franklin Road, as monumented, to a found 1/2" iron bar in a concrete monument; thence continuing along said easterly line N00°48'03"E, 161.86 feet *(platted as N00°44'E, 164.27 feet)* to a point at the intersection of the easterly line of Franklin Road and the centerline of a stream, said stream centerline being the northerly line of the aforementioned Lot 8, said intersection lying S00°48'03"W, 12.30 feet *(platted as 10.0 feet)* from a 1/2" iron bar found at the intersection of the easterly line of Franklin Road and the westerly end of a TRAVERSE LINE lying northerly of said stream, said 1/2" iron bar also being reference POINT A; thence 1149 feet, more or less, *(platted as ±1145 feet)* northeasterly along the centerline of said stream, also being the northerly line of said Lot 8, to the southwest corner of the aforementioned Lot 15; said point lying S02°05'29"E, 16.00' (platted as S02°09'E, 16.0 feet) from a found 3/8" iron bar at the intersection of the easterly end of the aforementioned TRAVERSE LINE and the westerly line of Lot 15, said 3/8" iron bar also being POINT B;

said TRAVERSE LINE being described from POINT A as; N76°00'02"E, 50.11 feet (platted as N76°09'E 50.0 feet) to a found 3/8" iron bar; thence N47°41'16"E, 679.66 feet (platted as N47°37'E 680.0 feet) passing through a 1/2" iron bar at 649.66 feet; thence N49°23'00"E, 110.00 feet; thence N81°32'30"E 209.88 feet (platted as N81°37'E 210.0 feet) to a found 1/2" iron bar; thence S63°22'06"E 100.27 feet (platted as S63°36'30"E 100.0 feet) to the aforementioned POINT B;

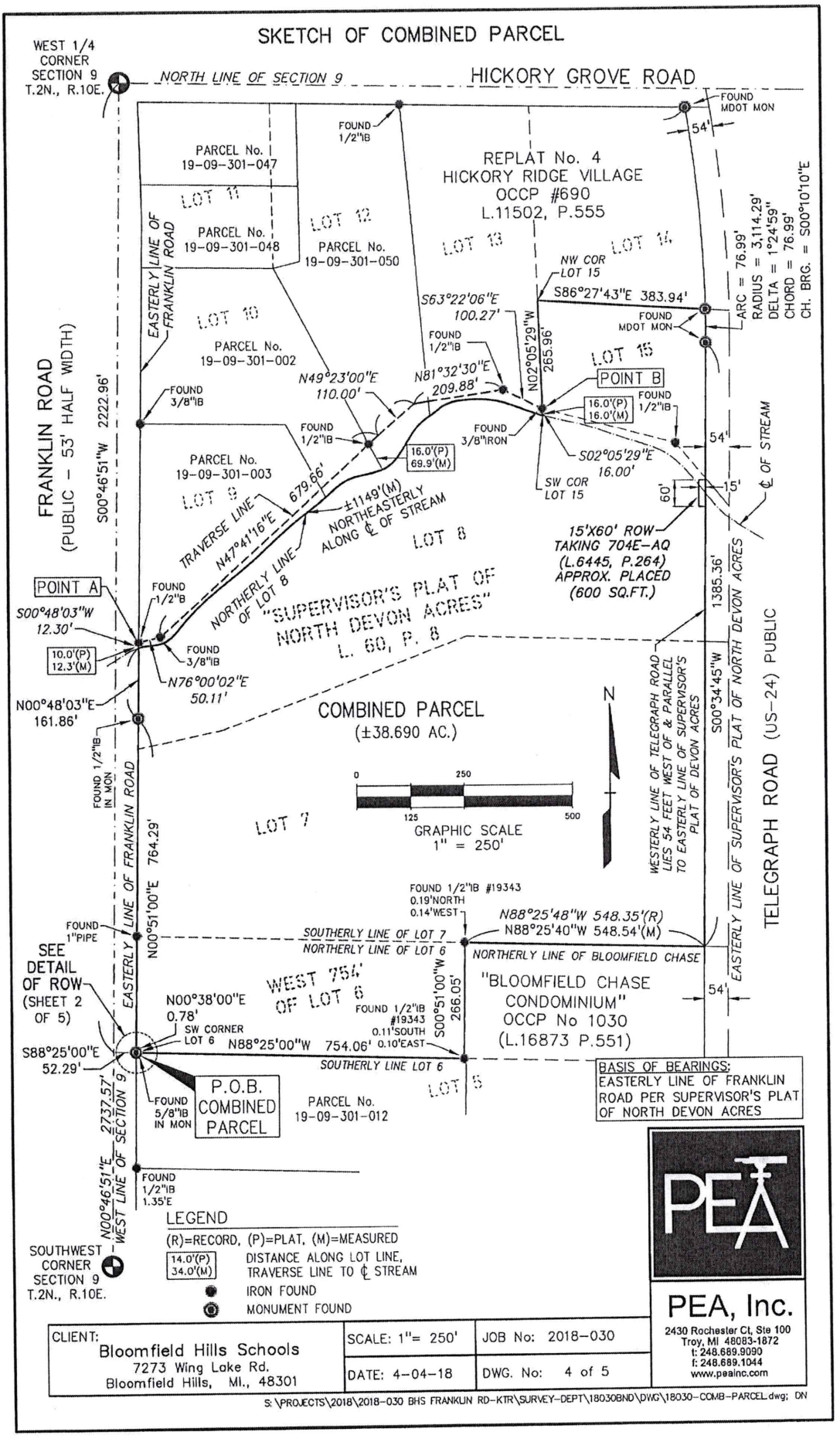
thence continuing from the aforementioned southwest corner of Lot 15, N02°05'29"W, 265.96 feet (recorded as N02°09'00"W, 266.00 feet) along the westerly line of Lot 15, also being the easterly line of Replat No. 4 of Hickory Ridge Village, Oakland County Condominium Plan Number 690, as recorded in Liber 11502, Page 555 of Oakland County Records to the northwest corner of Lot 15; thence S86°27'43"E, 383.94 feet (platted as S86°28'E, 384.02 feet) along the northerly line of Lot 15, also being the southerly line of said Hickory Ridge Village condominium to a found concrete highway monument lying at the intersection of the northerly line of Lot 15 and the westerly line of Telegraph Road, as monumented, said westerly line lying parallel to and 54.00 feet westerly of the easterly line of the aforementioned "Supervisor's Plat of North Devon Acres"; thence along said westerly line of Telegraph Road 76.99 feet on the arc of a non–tangent curve to the right, having a radius of 3,114.29 feet, a central angle of 01°24'59", and a chord which bears S00°10'10"E 76.99 feet to a found concrete highway monument; thence continuing along said westerly line of Telegraph Road S00°34'45"W, 1385.36 feet to the northerly line of Lot 6, also being the southerly line of Lot 7, also being the northerly line of "Bloomfield Chase Condominium", Oakland County Condominium Plan Number 1030, as recorded in Liber 16873, Page 551 of Oakland County Records; thence along said line, N88°25'40"W, 1302.60 feet *(recorded as N88°25'48"W)* to the POINT OF BEGINNING.

ALSO EXCEPT a strip of land 15 feet westerly of and parallel to the westerly line of Telegraph Road, and extending 60 feet in a north–south direction, approximately centered on the stream intersecting said westerly line of Telegraph Road, as recorded in Right–of–Way taking 704E–AQ, on May 5, 1975, in Liber 6465, Page 264, as shown on MDOT Right–of–Way Map File No. 63–R–1, project number 63–21, Control Section 63031, Sheet No. 94, last revised February 2006.

Containing 34.086 acres of land more or less.

CLIENT: Bloomfield Hills Schools 7273 Wing Lake Rd. Bloomfield Hills, MI., 48301	SCALE: 1"= 250'	JOB No: 2018–030	PEA, Inc. 2430 Rochester Ct, Ste 100 Troy, MI 48083-1872 t: 248.689.9090 f: 248.689.1044 www.peainc.com
	DATE: 4–04–18	DWG. No: 3 of 5	

S:\PROJECTS\2018\2018–030 BHS FRANKLIN RD–KTR\SURVEY–DEPT\18030BND\DWG\18030–EX–PARCELS.dwg; DN


SKETCH OF COMBINED PARCEL
WEST 1/4 CORNER SECTION 9 T.2N., R.10E.
NORTH LINE OF SECTION 9
HICKORY GROVE ROAD
FOUND MDOT MON
54'
FOUND 1/2"IB
PARCEL No. 19-09-301-047
LOT 11
LOT 12
REPLAT No. 4
HICKORY RIDGE VILLAGE
OCCP #690
L.11502, P.555
LOT 13
LOT 14
PARCEL No. 19-09-301-048
PARCEL No. 19-09-301-050
EASTERLY LINE OF FRANKLIN ROAD
NW COR LOT 15
S86°27'43"E 383.94'
ARC = 76.99'
RADIUS = 3,114.29'
DELTA = 1°24'59"
CHORD = 76.99'
CH. BRG. = S00°10'10"E
S63°22'06"E 100.27'
FOUND MDOT MON
FOUND 1/2"IB
N02°05'29"W 265.96'
LOT 10
PARCEL No. 19-09-301-002
LOT 15
POINT B
N49°23'00"E 110.00'
N81°32'30"E 209.88'
FOUND 3/8"IB
16.0'(P) 16.0'(M)
FOUND 1/2"IB
FOUND 1/2"IB
FOUND 3/8"IRON
S02°05'29"E 16.00'
54'
SW COR LOT 15
60'
15'
℄ OF STREAM
FRANKLIN ROAD (PUBLIC - 53' HALF WIDTH)
S00°46'51"W 2222.96'
PARCEL No. 19-09-301-003
LOT 9
679.66'
TRAVERSE LINE
N47°41'16"E
±1149'(M) NORTHEASTERLY ALONG ℄ OF STREAM
16.0'(P) 69.9'(M)
LOT 8
15'X60' ROW TAKING 704E-AQ (L.6445, P.264) APPROX. PLACED (600 SQ.FT.)
POINT A
FOUND 1/2"B
NORTHERLY LINE OF LOT 8
"SUPERVISOR'S PLAT OF NORTH DEVON ACRES" L. 60, P. 8
S00°48'03"W 12.30'
10.0'(P) 12.3'(M)
FOUND 3/8"IB
N76°00'02"E 50.11'
1385.36'
S00°34'45"W
WESTERLY LINE OF TELEGRAPH ROAD LIES 54 FEET WEST OF & PARALLEL TO EASTERLY LINE OF SUPERVISOR'S PLAT OF DEVON ACRES
N00°48'03"E 161.86'
COMBINED PARCEL (±38.690 AC.)
N
0
250
125
500
GRAPHIC SCALE 1" = 250'
FOUND 1/2"IB IN MON
LOT 7
EASTERLY LINE OF FRANKLIN ROAD
764.29'
N00°51'00"E
FOUND 1/2"IB #19343 0.19'NORTH 0.14'WEST
N88°25'48"W 548.35'(R)
N88°25'40"W 548.54'(M)
FOUND 1"PIPE
SOUTHERLY LINE OF LOT 7
NORTHERLY LINE OF LOT 6
NORTHERLY LINE OF BLOOMFIELD CHASE
EASTERLY LINE OF SUPERVISOR'S PLAT OF NORTH DEVON ACRES
TELEGRAPH ROAD (US-24) PUBLIC
SEE DETAIL OF ROW (SHEET 2 OF 5)
WEST 754' OF LOT 6
N00°38'00"E 0.78'
FOUND 1/2"IB #19343 0.11'SOUTH 0.10'EAST
S00°51'00"W 266.05'
"BLOOMFIELD CHASE CONDOMINIUM" OCCP No 1030 (L.16873 P.551)
54'
SW CORNER LOT 6
S88°25'00"E 52.29'
N88°25'00"W 754.06'
SOUTHERLY LINE LOT 6
BASIS OF BEARINGS: EASTERLY LINE OF FRANKLIN ROAD PER SUPERVISOR'S PLAT OF NORTH DEVON ACRES
FOUND 5/8"IB IN MON
P.O.B. COMBINED PARCEL
PARCEL No. 19-09-301-012
LOT 5
2737.57'
N00°46'51"E
WEST LINE OF SECTION 9
FOUND 1/2"IB 1.35'E
LEGEND
(R)=RECORD, (P)=PLAT, (M)=MEASURED
14.0'(P) 34.0'(M) DISTANCE ALONG LOT LINE, TRAVERSE LINE TO ℄ STREAM
IRON FOUND
MONUMENT FOUND
SOUTHWEST CORNER SECTION 9 T.2N., R.10E.
PEA
PEA, Inc.
2430 Rochester Ct, Ste 100
Troy, MI 48083-1872
t: 248.689.9090
f: 248.689.1044
www.peainc.com
CLIENT: Bloomfield Hills Schools
7273 Wing Lake Rd.
Bloomfield Hills, MI., 48301
SCALE: 1"= 250'
JOB No: 2018-030
DATE: 4-04-18
DWG. No: 4 of 5
S:\PROJECTS\2018\2018-030 BHS FRANKLIN RD-KTR\SURVEY-DEPT\18030BND\DWG\18030-COMB-PARCEL.dwg; DN

LEGAL DESCRIPTION

COMBINED PARCEL:

(As Surveyed By PEA)

The west 754 feet of Lot 6, also all of Lot 7, Lot 8, and Lot 15 of "Supervisors Plat of North Devon Acres" as recorded in Liber 60, Page 8, Oakland County Records; EXCEPT the easterly 54 feet thereof taken for highway purposes, being more particularly described as:

COMMENCING at the West 1/4 Corner of Section 9, Town 2 North, Range 10 East, Bloomfield Township, Michigan; thence S00°46'51"W, 2,222.96 feet along the west line of said Section 9; thence S88°25'00"E, 52.29 feet to a found 5/8" iron bar in a concrete monument on the easterly line of Franklin Road, said monument also being the southwest corner of Lot 6; thence along said easterly line, as monumented, the following three (3) courses: N00°38'00"E, 0.78 feet and N00°51'00"E 764.29 feet, (platted as N00°51'00"E, 764.47 feet) to a found 1/2" iron bar in a concrete monument and N00°48'03"E, 161.86 feet (platted as N00°44'E, 164.27 feet) to a point at the intersection of the easterly line of Franklin Road and the centerline of a stream, said stream centerline being the northerly line of the aforementioned Lot 8, said intersection lying S00°48'03"W, 12.30 feet (platted as 10.0 feet) from a 1/2" iron bar found at the intersection of the easterly line of Franklin Road and the westerly end of a TRAVERSE LINE lying northerly of said stream, said 1/2" iron bar also being reference POINT A; thence 1149 feet, more or less, (platted as ±1145 feet) northeasterly along the centerline of said stream, also being the northerly line of said Lot 8, to the southwest corner of the aforementioned Lot 15; said point lying 02°05'29"E, 16.00' (platted as S02°09'E, 16.0 feet) from a found 3/8" iron bar at the intersection of the easterly end of the aforementioned TRAVERSE LINE and the westerly line of Lot 15, said 3/8" iron bar also being POINT B;

said TRAVERSE LINE being described from POINT A as; N76°00'02"E, 50.11 feet (platted as N76°09'E 50.0 feet) to a found 3/8" iron bar; thence N47°41'16"E, 679.66 feet (platted as N47°37'E 680.0 feet) passing through a 1/2" iron bar at 649.66 feet; thence N49°23'00"E, 110.00 feet; thence N81°32'30"E 209.88 feet (platted as N81°37'E 210.0 feet) to a found 1/2" iron bar; thence S63°22'06"E 100.27 feet (platted as S63°36'30"E 100.0 feet) to the aforementioned POINT B;

thence continuing from the aforementioned southwest corner of Lot 15, N02°05'29"W, 265.96 feet (recorded as N02°09'00"W, 266.00 feet) along the westerly line of Lot 15, also being the easterly line of Replat No. 4 of Hickory Ridge Village, Oakland County Condominium Plan Number 690, as recorded in Liber 11502, Page 555 of Oakland County Records to the northwest corner of Lot 15; thence S86°27'43"E, 383.94 feet (platted as S86°28'E, 384.02 feet) along the northerly line of Lot 15, also being the southerly line of said Hickory Ridge Village condominium to a found concrete highway monument lying at the intersection of the northerly line of Lot 15 and the westerly line of Telegraph Road, as monumented, said westerly line lying parallel to and 54.00 feet westerly of the easterly line of the aforementioned "Supervisor's Plat of North Devon Acres"; thence along said westerly line of Telegraph Road 76.99 feet on the arc of a non-tangent curve to the right, having a radius of 3,114.29 feet, a central angle of 01°24'59", and a chord which bears S00°10'10"E 76.99 feet to a found concrete highway monument; thence continuing along said westerly line of Telegraph Road S00°34'45"W, 1385.36 feet to the northerly line of Lot 6, also being the southerly line of Lot 7, also being the northerly line of "Bloomfield Chase Condominium", Oakland County Condominium Plan Number 1030, as recorded in Liber 16873, Page 551 of Oakland County Records; thence along said line, N88°25'40"W, 548.54 feet (recorded as N88°25'48"W, 548.35 feet); thence S00°51'00"W, 266.05 feet (recorded as S00°51'00"W, 265.98 feet) along the westerly line of said "Bloomfield Chase Condominium", also being the easterly line of the west 754 feet of said Lot 6, to the southerly line of Lot 6; thence along said southerly line, N88°25'00"W, 754.06 feet to the east line of Franklin Road and the POINT OF BEGINNING.

ALSO EXCEPT a strip of land 15 feet westerly of and parallel to the westerly line of Telegraph Road, and extending 60 feet in a north-south direction, approximately centered on the stream intersecting said westerly line of Telegraph Road, as recorded in Right-of-Way taking 704E-AQ, on May 5, 1975, in Liber 6465, Page 264, as shown on MDOT Right-of-Way Map File No. 63-R-1, project number 63-21, Control Section 63031, Sheet No. 94, last revised February 2006.

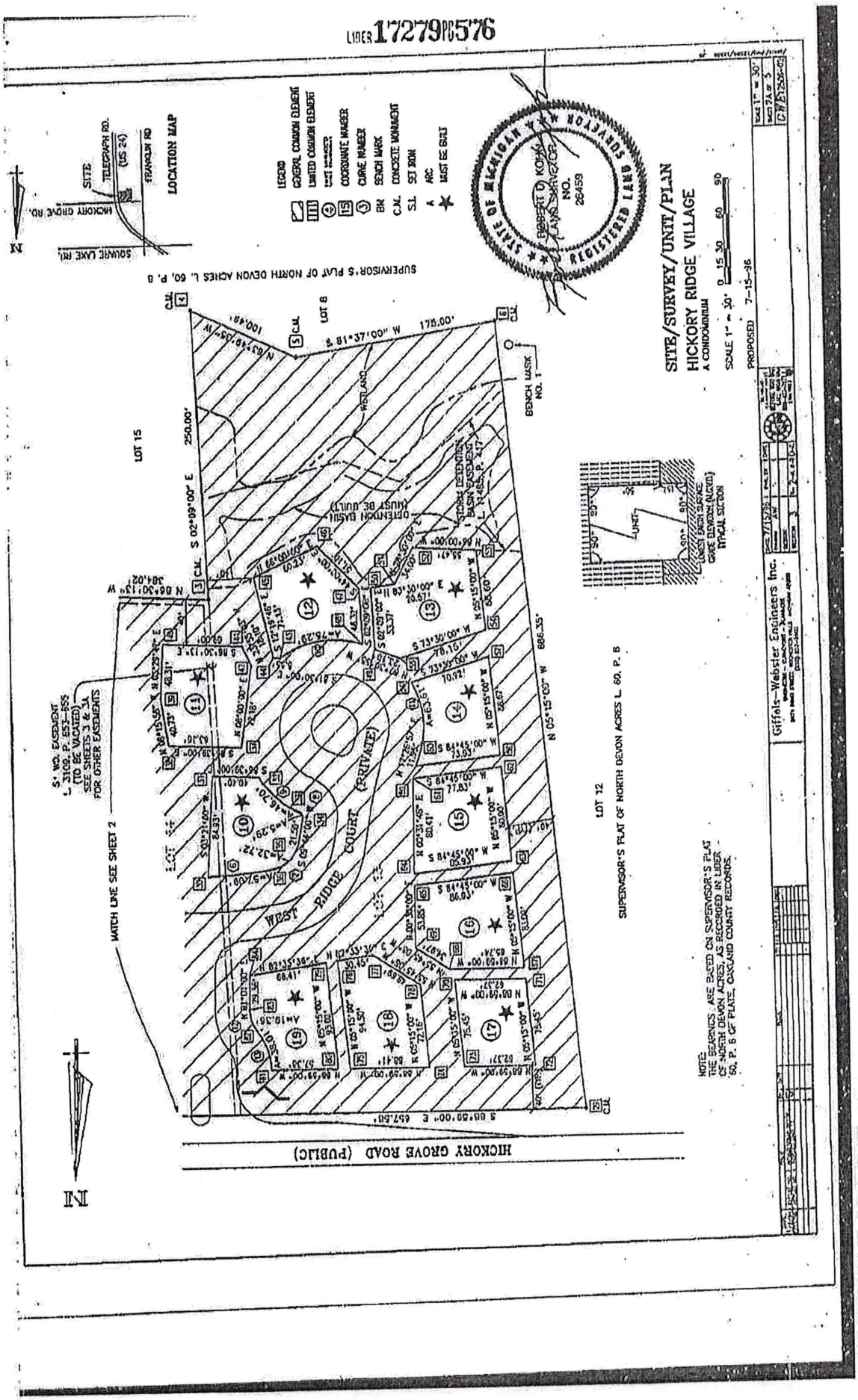
Containing 38.690 acres of land more or less.

CLIENT: Bloomfield Hills Schools 7273 Wing Lake Rd. Bloomfield Hills, MI., 48301	SCALE: 1"= 250'	JOB No: 2018-030	PEA, Inc. 2430 Rochester Ct, Ste 100 Troy, MI 48083-1872 t: 248.689.9090 f: 248.689.1044 www.peainc.com
	DATE: 4-04-18	DWG. No: 5 of 5	

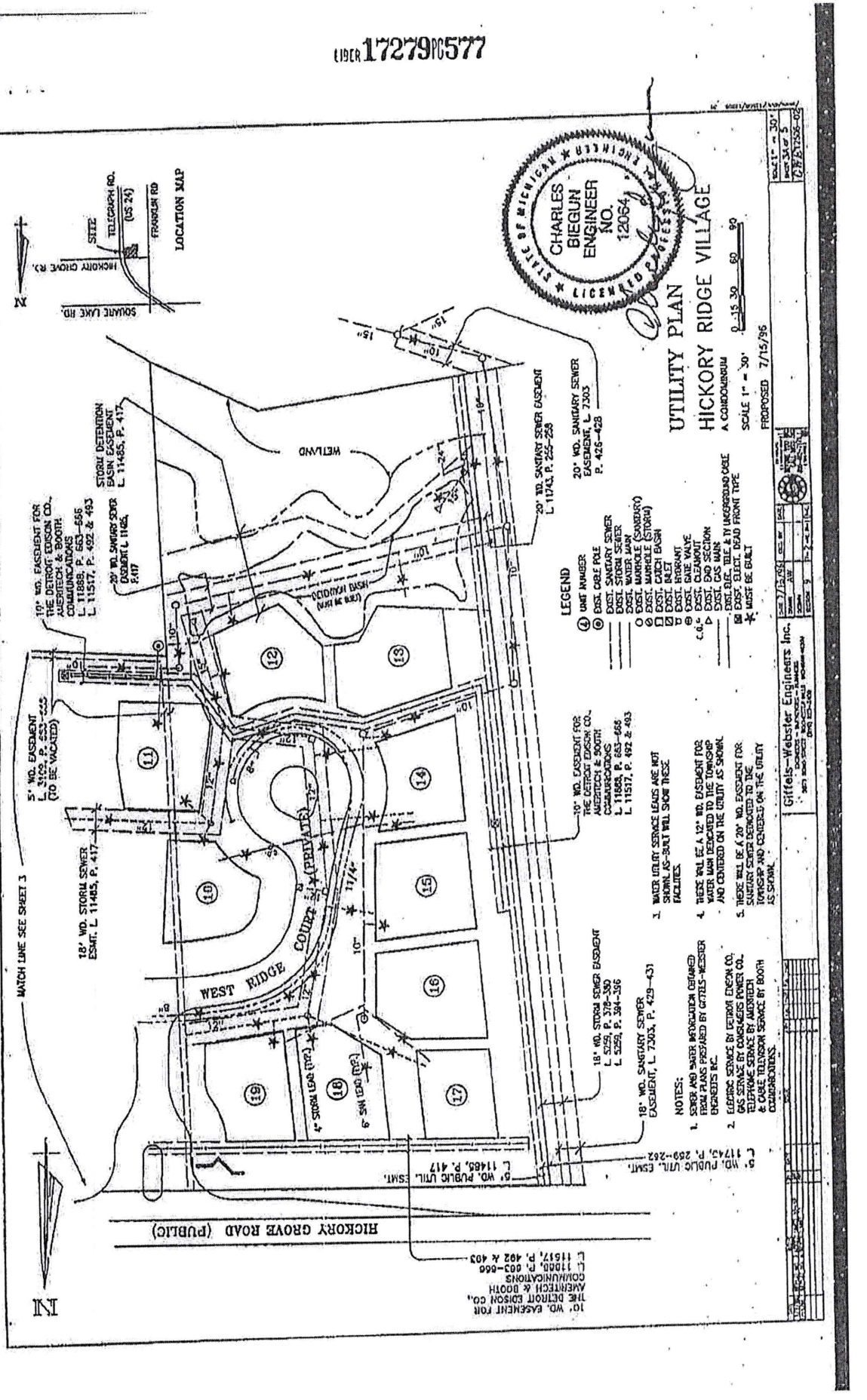
S:\PROJECTS\2018\2018-030 BHS FRANKLIN RD-KTR\SURVEY-DEPT\18030BND\DWG\18030-COMB-PARCEL.dwg; DN

EXHIBIT B

LIBER 17279 PG 576

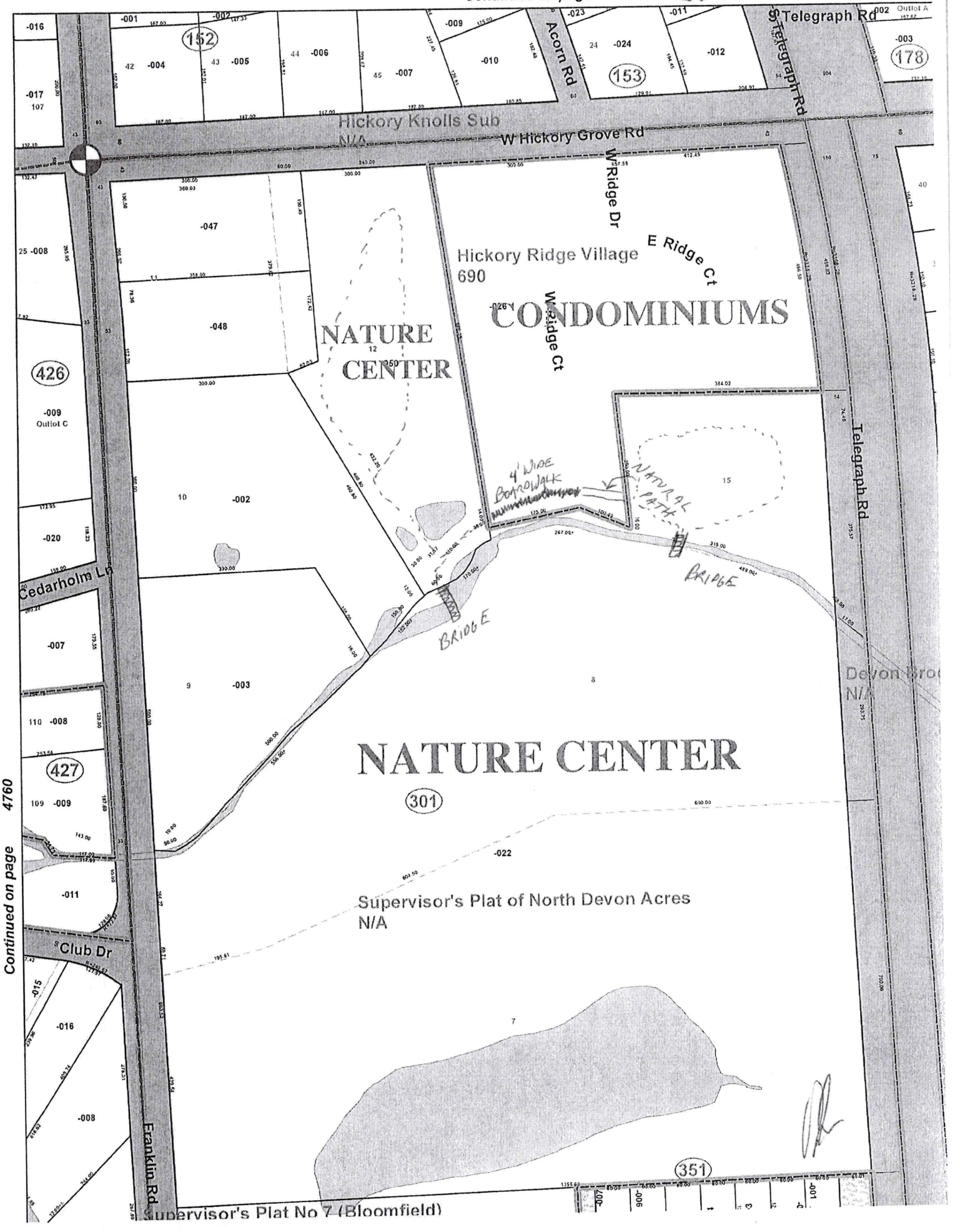


LIBER 17279 PG 577



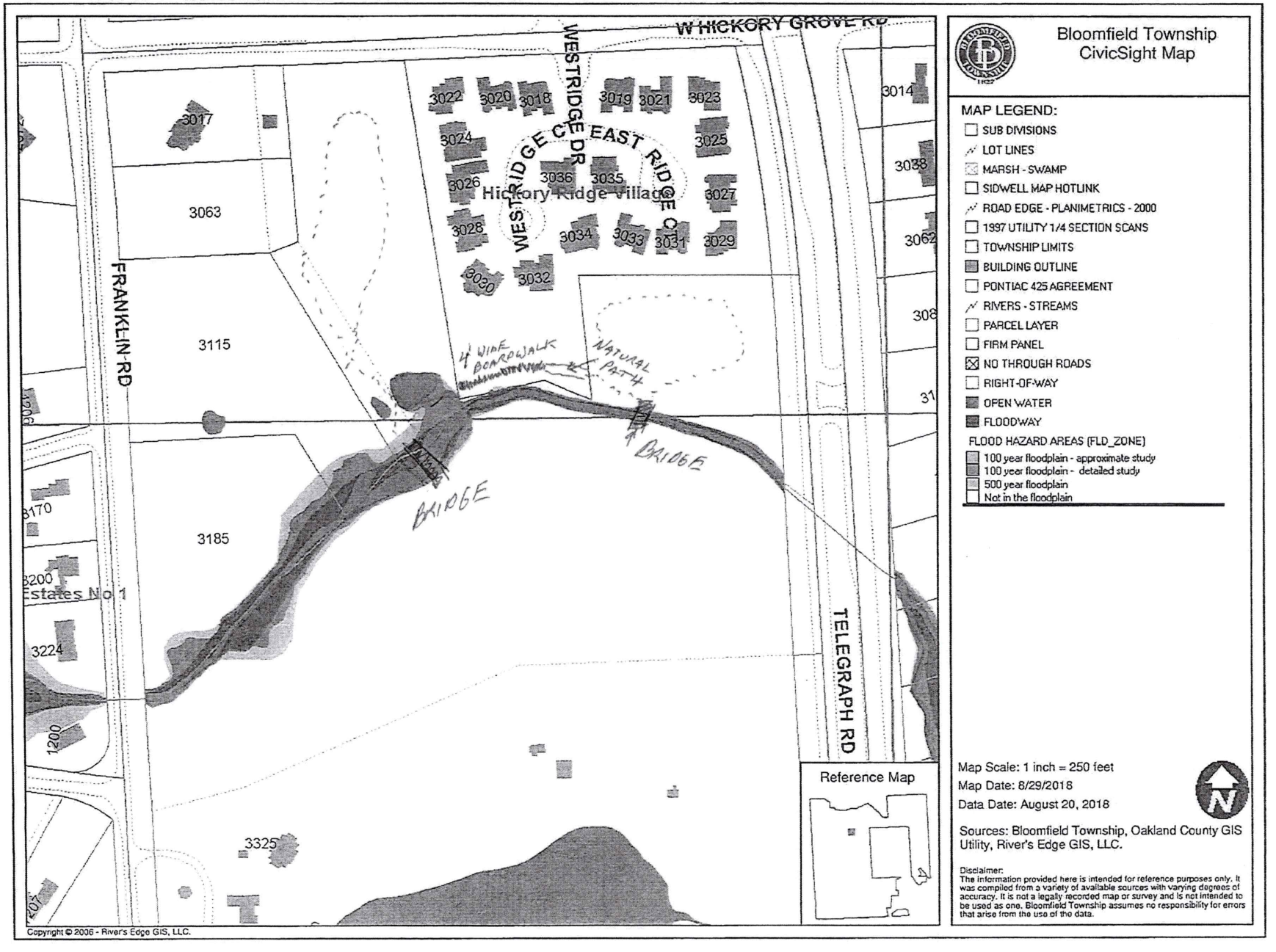
Continued on page 4641

EXHIBIT C



Continued on page 4760

EXHIBIT D


W HICKORY GROVE RD
WESTRIDGE DR
EAST RIDGE CT
Hickory Ridge Village
FRANKLIN RD
TELEGRAPH RD
3017
3022
3020
3018
3019
3021
3023
3014
3024
3025
3026
3036
3035
3027
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3034
3033
3031
3029
3030
3032
3063
3115
3038
3062
308
31
4' WIDE BOARDWALK
NATURAL PATH
BRIDGE
BRIDGE
3170
3185
3200
Estates No 1
3224
1200
3325
Reference Map
Bloomfield Township
CivicSight Map
MAP LEGEND:
SUB DIVISIONS
LOT LINES
MARSH - SWAMP
SIDWELL MAP HOTLINK
ROAD EDGE - PLANIMETRICS - 2000
1997 UTILITY 1/4 SECTION SCANS
TOWNSHIP LIMITS
BUILDING OUTLINE
PONTIAC 425 AGREEMENT
RIVERS - STREAMS
PARCEL LAYER
FIRM PANEL
NO THROUGH ROADS
RIGHT-OF-WAY
OPEN WATER
FLOODWAY
FLOOD HAZARD AREAS (FLD_ZONE)
100 year floodplain - approximate study
100 year floodplain - detailed study
500 year floodplain
Not in the floodplain
Map Scale: 1 inch = 250 feet
Map Date: 8/29/2018
Data Date: August 20, 2018
N
Sources: Bloomfield Township, Oakland County GIS Utility, River's Edge GIS, LLC.
Disclaimer:
The information provided here is intended for reference purposes only. It was compiled from a variety of available sources with varying degrees of accuracy. It is not a legally recorded map or survey and is not intended to be used as one. Bloomfield Township assumes no responsibility for errors that arise from the use of the data.
Copyright © 2006 - River's Edge GIS, LLC.

Executed and Notarized Declaration and Notice

BO-A03

Source Record

Executed and Notarized Declaration and Notice.pdf

Review Context

Declaration and notice with accompanying property exhibits. Reconcile its restrictions, parcel descriptions and recorded interests with the governing agreement and current survey.

Reproduced source pages: 7
Appendix source-page range: 67–73

Open Source Record in Google Drive

DECLARATION AND NOTICE

This Declaration made this 25 day of March, 2021, by **BLOOMFIELD HILLS SCHOOLS**, a Michigan general powers school district, formerly known as Bloomfield Hills School District No. 2, a Michigan municipal corporation, having an address of 7273 Wing Lake Road, Bloomfield Hills, Michigan 48301 (hereafter called ("**BHS**"), being the owner of the property commonly known as E. L. Johnson Nature Center ("**Property**") which is owned by BHS and commonly known as 3325 Franklin Road, Bloomfield Township, Oakland County, Michigan (parcel identification numbers 19-09-301-051 (formerly parcel identification numbers 19-09-301-022 and 19-09-301-011) and 19-09-301-050), hereby makes the following Declaration regarding uses to which the Property may be put.

WITNESSETH:

The Declaration contained herein is based on the following factual recitals:

A. BHS developed the Property, in part, through the grant of money from the Michigan Natural Resources Trust Fund.

B. As a condition of the grant by the DNR, BHS has agreed to impose certain restrictions on the Property.

The legal description and boundary map of the Property are attached as Appendix A and Appendix B, respectively.

NOW, THEREFORE, BHS hereby declares that the Property is and shall be held, transferred, sold, conveyed, leased, occupied and used subject to the obligation hereinafter set forth, all of which shall run with the land.

The lands in this Declaration were developed, in part, by BHS with funding assistance from the Michigan Natural Resources Trust Fund pursuant to Project Agreement TF03-092 between the Michigan Department of Natural Resources and BHS executed on May 31, 2005, as amended by Amendment No. 1 effective November 15, 2005, and Amendment No. 2, effective as of February 17, 2021. The Project Agreement, in part, describes certain requirements to ensure the use of the Property for public outdoor recreation. BHS is placing this notice on record as confirmation of its obligations as set forth in the Project Agreement, including the requirement that the consent of the Michigan Department of Natural Resources and the Michigan Natural Resources Trust Fund Board of Trustees is required prior to the conveyance of any rights or interest in the Property to another entity, or for the use of the Property for purposes other than public outdoor recreation.

BLOOMFIELD HILLS SCHOOLS,
a Michigan general powers school district

By: Patrick Watson
Name: Patrick Watson
Title: Superintendent

STATE OF MICHIGAN)
) ss.
COUNTY OF OAKLAND)

The foregoing instrument was acknowledged before me this 25TH day of March, 2021, by Patrick Watson, the Superintendent of the Bloomfield Hills Schools, on behalf of Bloomfield Hills Schools, a Michigan general powers school district.

Sue A. Arnold
SUE A. ARNOLD, Notary Public
OAKLAND County, MICHIGAN
My commission expires: 07/07/2021
Acting in OAKLAND County, MICHIGAN

Drafted by:

Richard A. Sundquist
Clark Hill PLC
500 Woodward Avenue, Suite 3500
Detroit, Michigan 48226

When recorded, return to:

Richard A. Sundquist
Clark Hill PLC
500 Woodward Avenue, Suite 3500
Detroit, Michigan 48226

SUE A. ARNOLD
NOTARY PUBLIC, STATE OF MI
COUNTY OF OAKLAND
MY COMMISSION EXPIRES Jul 7, 2021
ACTING IN COUNTY OF OAKLAND

21974\165848\262151005.v1

Grant Number: TF03-092
Grant Name: E. L. Johnson Nature Center Visitor's Center
Agency Name: Michigan Department of Natural Resources
County: Oakland

APPENDIX A Revised Legal Description

Legal Description – Part of Lot 6 and all of Lots 7, 8 and 15 - From PEA Survey dated April 4, 2018 – Job No. 2018-030

The west 754 feet of Lot 6, also all of Lot 7, Lot 8, and Lot 15 of "Supervisors Plat of North Devon Acres" as recorded in Liber 60, Page 8, Oakland County Records; EXCEPT the easterly 54 feet thereof taken for highway purposes, being more particularly described as:

COMMENCING at the West 1/4 Corner of Section 9, Town 2 North, Range 10 East, Bloomfield Township, Michigan; thence S00°46'51" W, 2,222.96 feet along the west line of said Section 9; thence S88°25'00" E, 52.29 feet to a found 5/8" iron bar in a concrete monument on the easterly line of Franklin Road, said monument also being the southwest corner of Lot 6; thence along said easterly line, as monumented, the following three (3) courses: N00°38'00"E, 0.78 feet and N00°51'00"E 764.29 feet (platted as N00°51'00"E, 764.47 feet) to a found 1/2" iron bar in a concrete monument and N00°48'03"E, 161.86 feet (platted as N00°44'E, 164.27 feet) to a point at the intersection of the easterly line of Franklin Road and the centerline of a stream, said stream centerline being the northerly line of the aforementioned Lot 8, said intersection lying S00°48'03"W, 12.30 feet (platted as 10.0 feet) from a 1/2" iron bar found at the intersection of the easterly line of Franklin Road and the westerly end of a TRAVERSE LINE lying northerly of said stream, said 1/2" iron bar also being reference POINT A; thence 1149 feet, more or less, (platted as ±1145 feet) northeasterly along the centerline of said stream, also being the northerly line of said Lot 8, to the southwest corner of the aforementioned Lot 15; said point lying 02°05'29"E, 16.00' (platted as S02°09'E, 16.0 feet) from a found 3/8" iron bar at the intersection of the easterly end of the aforementioned TRAVERSE LINE and the westerly line of Lot 15, said 3/8" iron bar also being POINT B;

said TRAVERSE LINE being described from POINT A as: N76°00'02"E, 50.11 feet (platted as N76°09'E 50.0 feet) to a found 3/8" iron bar; thence N47°41'16"E, 679.66 feet (platted as N47°37'E 680.0 feet) passing through a 1/2" iron bar at 649.66 feet; thence N49°23'00"E, 110.00 feet; thence N81°32'30"E 209.88 feet (platted as N81°37'E 210.0 feet) to a found 1/2" iron bar; thence S63°22'06"E 100.27 feet (platted as S63°36'30"E 100.0 feet) to the aforementioned POINT B;

thence continuing from the aforementioned southwest corner of Lot 15, N02°05'29"W, 265.96 feet (recorded as N02°09'00"W, 266.00 feet) along the westerly line of Lot 15, also being the easterly line of Replat No. 4 of Hickory Ridge Village, Oakland County Condominium Plan Number 690, as recorded in Liber 11502, Page 555 of Oakland County Records to the northwest corner of Lot 15; thence S86°27'43"E, 383.94 feet (platted as S86°28'E, 384.02 feet) along the northerly line of Lot 15, also being the southerly line of said Hickory Ridge Village condominium to a found concrete highway monument lying at the intersection of the northerly line of Lot 15 and the westerly line of Telegraph Road, as monumented, said westerly line lying parallel to and 54.00 feet westerly of the easterly line of the aforementioned "Supervisor's Plat of North Devon Acres"; thence along said westerly line of Telegraph Road 76.99 feet on the arc of a non-tangent curve to the right, having a radius of 3,114.29 feet, a central angle of 01°24'59", and a chord which bears S00°10'10"E 76.99 feet to a found concrete highway monument; thence continuing along said westerly line of Telegraph Road S00°34'45"W, 1385.36 feet to the northerly line of Lot 6, also being the southerly line of Lot 7, also being the northerly line of "Bloomfield Chase Condominium", Oakland County Condominium Plan Number 1030, as recorded in Liber 16873, Page 551 of Oakland County Records; thence along said line, N88°25'40"W, 548.54 feet (recorded as N88°25'48"W, 548.35 feet); thence S00°51'00"W, 266.05 feet (recorded as S00°51'00"W, 265.98 feet) along the westerly line of said "Bloomfield Chase Condominium", also being the easterly line of the west 754 feet of said Lot 6, to the southerly line of Lot 6; thence along said southerly line, N88°25'00"W, 754.06 feet to the east line of Franklin Road and the POINT OF BEGINNING.

ALSO EXCEPT a strip of land 15 feet westerly of and parallel to the westerly line of Telegraph Road, and extending 60 feet in a north-south direction, approximately centered on the stream intersecting said westerly

line of Telegraph Road, as recorded in Right-of-Way taking 704E-AQ, on May 5, 1975, in Liber 6465, Page 264, as shown on MDOT Right-of-Way Map File No. 63-R-1, project number 63-21, Control Section 63031, Sheet No. 94, last revised February 2006.

Containing 38.690 acres of land more or less.

Parcel I.D. Numbers: 19-09-301-011 (West 754 feet of Lot 6) and 19-09-301-022 (as to Lots 7, 8 and 15)

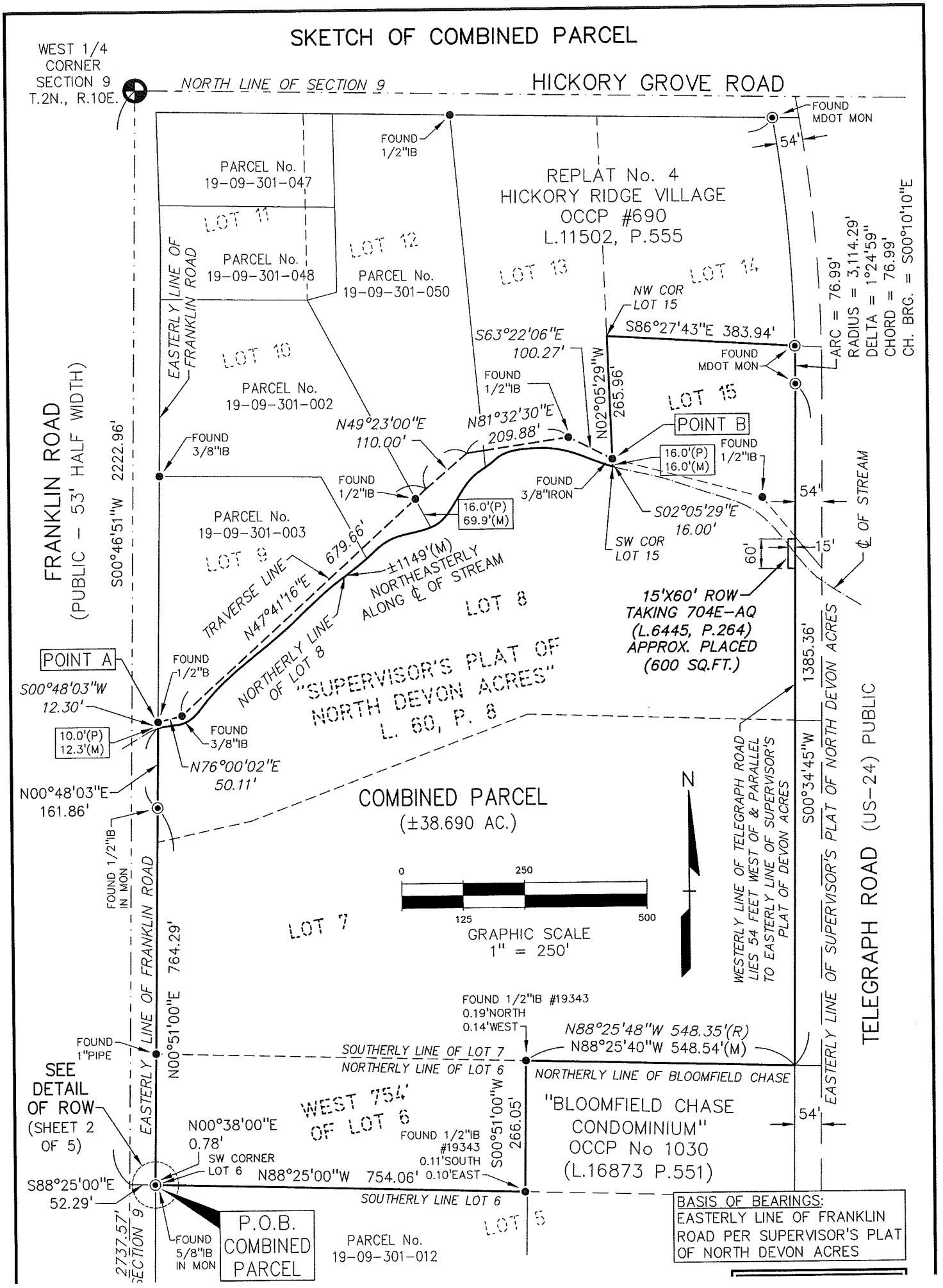
Legal Description - Lot 12 – From Warranty Deed dated July 30, 1966 and recorded August 4, 1966 in Liber 4921, Page 180

Lot 12 excepting the Westerly 60 feet as measured at right angles to W'ly and S.W'ly lot lines, "Supervisor's Plat of North Devon Acres," a Subdivision of part of the W. ½ of the S.W. ¼ of Section 9 and part of the N.W. ¼ of the N.W. ¼ of Section 16, Town 2 North, Range 10 East, Bloomfield Township, Oakland County, Michigan, according to the plat thereof as recorded in Liber 60 of Plats, Page 8, Oakland County Records.

Parcel I.D. Number: 19-09-301-050

Grant Number: TF03-092
Grant Name: E. L. Johnson Nature Center Visitor's Center
Agency Name: Michigan Department of Natural Resources
County: Oakland

APPENDIX B Revised Boundary Map


SKETCH OF COMBINED PARCEL
WEST 1/4 CORNER SECTION 9 T.2N., R.10E.
NORTH LINE OF SECTION 9
HICKORY GROVE ROAD
FOUND MDOT MON
54'
FOUND 1/2"IB
PARCEL No. 19-09-301-047
REPLAT No. 4
HICKORY RIDGE VILLAGE
OCCP #690
L.11502, P.555
LOT 11
LOT 12
LOT 13
LOT 14
PARCEL No. 19-09-301-048
PARCEL No. 19-09-301-050
EASTERLY LINE OF FRANKLIN ROAD
NW COR LOT 15
S86°27'43"E 383.94'
ARC = 76.99'
RADIUS = 3,114.29'
DELTA = 1°24'59"
CHORD = 76.99'
CH. BRG. = S00°10'10"E
S63°22'06"E 100.27'
N02°05'29"W 265.96'
FOUND MDOT MON
LOT 10
PARCEL No. 19-09-301-002
FOUND 1/2"IB
LOT 15
POINT B
FRANKLIN ROAD
(PUBLIC - 53' HALF WIDTH)
S00°46'51"W 2222.96'
N49°23'00"E 110.00'
N81°32'30"E 209.88'
FOUND 3/8"IB
16.0'(P) 16.0'(M)
FOUND 1/2"IB
FOUND 1/2"IB
FOUND 3/8"IRON
54'
PARCEL No. 19-09-301-003
16.0'(P) 69.9'(M)
S02°05'29"E 16.00'
SW COR LOT 15
60'
15'
℄ OF STREAM
LOT 9
679.66'
TRAVERSE LINE
N47°41'16"E
±1149'(M) NORTHEASTERLY ALONG ℄ OF STREAM
15'X60' ROW TAKING 704E-AQ (L.6445, P.264) APPROX. PLACED (600 SQ.FT.)
LOT 8
POINT A
FOUND 1/2"IB
S00°48'03"W 12.30'
"SUPERVISOR'S PLAT OF NORTH DEVON ACRES" L. 60, P. 8
NORTHERLY LINE OF LOT 8
10.0'(P) 12.3'(M)
FOUND 3/8"IB
N76°00'02"E 50.11'
1385.36'
S00°34'45"W
WESTERLY LINE OF TELEGRAPH ROAD LIES 54 FEET WEST OF & PARALLEL TO EASTERLY LINE OF SUPERVISOR'S PLAT OF DEVON ACRES
EASTERLY LINE OF SUPERVISOR'S PLAT OF NORTH DEVON ACRES
TELEGRAPH ROAD (US-24) PUBLIC
N00°48'03"E 161.86'
COMBINED PARCEL
(±38.690 AC.)
N
FOUND 1/2"IB IN MON
0
250
125
500
GRAPHIC SCALE
1" = 250'
LOT 7
FOUND 1/2"IB #19343
0.19'NORTH
0.14'WEST
N88°25'48"W 548.35'(R)
N88°25'40"W 548.54'(M)
FOUND 1"PIPE
SOUTHERLY LINE OF LOT 7
NORTHERLY LINE OF LOT 6
NORTHERLY LINE OF BLOOMFIELD CHASE
SEE DETAIL OF ROW (SHEET 2 OF 5)
EASTERLY LINE OF FRANKLIN ROAD
N00°51'00"E 764.29'
WEST 754' OF LOT 6
"BLOOMFIELD CHASE CONDOMINIUM" OCCP No 1030 (L.16873 P.551)
N00°38'00"E 0.78'
FOUND 1/2"IB #19343 0.11'SOUTH 0.10'EAST
S00°51'00"W 266.05'
54'
SW CORNER LOT 6
S88°25'00"E 52.29'
N88°25'00"W 754.06'
SOUTHERLY LINE LOT 6
BASIS OF BEARINGS:
EASTERLY LINE OF FRANKLIN ROAD PER SUPERVISOR'S PLAT OF NORTH DEVON ACRES
2737.57' SECTION 9
FOUND 5/8"IB IN MON
P.O.B. COMBINED PARCEL
PARCEL No. 19-09-301-012
LOT 5

Joint Final PAP Deadline Extension

BO-A04

Source Record

BHS_OCP Joint Letter - IPP Deadline Extension.pdf

Review Context

The supplied letter bears signatures dated September 30, 2026 and extends delivery of the Final Park Action Plans to December 15, 2026.

Reproduced source pages: 1
Appendix source-page range: 75–75

Open Source Record in Google Drive

JOINT AGREEMENT TO EXTEND
FINAL PARK ACTION PLAN DEADLINE

Date: September 9, 2026

Re: Discovery Oaks – Bowers Farm and Bloomfield Oaks – Johnson Nature Center

Pursuant to Section 4.7.1 of the respective Interlocal Agreements between Oakland County and Bloomfield Hills Schools for Bowers Farm and Johnson Nature Center, the undersigned BHS Representative and OCPRC Representative mutually agree in writing to extend the deadline for delivery of the Final Park Action Plans from September 30, 2026, to December 15, 2026.

The additional time will allow the parties to complete review of recently available planning, engineering, environmental, operational, and community-engagement information and incorporate that information into the final five-year plans for each park.

This extension applies only to the deadline for delivery of the Final Park Action Plans. All other terms and conditions of the respective Interlocal Agreements remain unchanged.

We remain committed to the successful long-term partnership between Bloomfield Hills Schools and Oakland County Parks and to the continued stewardship of Bowers Farm at Discovery Oaks and the E.L. Johnson Nature Center at Bloomfield Oaks as valued educational, recreational, and community resources.

Agreed and acknowledged:

Rick West _____

Rick West
Superintendent
Bloomfield Hills Schools
BHS Representative
Date: 9/30/2026

_____

Chris Ward
Director
Oakland County Parks and Recreation
OCPRC Representative
Date: 9/30/2026

Johnson Nature Center Aerial

BO-V01

Source Record

Bloomfield Hills E.L. Johnson Aerial.pptx

Review Context

Context map; not a survey or verification of agreement boundaries.

Reproduced source pages: 1
Appendix source-page range: 77–77

Open Source Record in Google Drive

Bloomfield Hills E.L. Johnson Nature Center



Donor and Trail Map Artwork

BO-O04

Source Record

Donor-Trail Map (Diptych) (1).pdf

Review Context

Historical donation/membership/rules text and map reviewed. No installation proof or current policy certification. Accessibility Friendly Walk label not accessibility verification.

Reproduced source pages: 1
Appendix source-page range: 79–79

Open Source Record in Google Drive

Johnson Nature Center Trails

Our trails are supported by donations and membership.
Your contribution is appreciated.

Suggested donation of $5 per person
or
Join us by becoming a Member

We hope you enjoy a bit of the natural world!
Place your donation in the box below or scan the QR code.

Donate Here | **Become a Member Here**



Please help us protect this beautiful sanctuary by following these simple guidelines:

- *No pets allowed*
- *Do not feed wildlife*
- *No bikes allowed on trails*
- *Collecting natural materials and picking wildflowers are prohibited*
- *For the protection of the wildlife, balloons and confetti are NOT permitted on the property*
- *Commercial photography requires prior approval*
- *Help us keep the area clean by packing out any refuse*
- *Fishing and canoeing are only allowed on advertised dates*
- *All groups (schools, camps, homeschools, religious organizations, etc.) must schedule a program to visit – call 248.341.6485 for more information*
- *Supervise children at all times*



Consider joining Friends of Johnson Nature Center to work alongside Bloomfield Hills Schools to care for and maintain the natural environment, supporting the continued mission to connect people with nature.

Find out more under Membership.

Friends of the JOHNSON NATURE CENTER

JOHNSON NATURE CENTER
BLOOMFIELD HILLS SCHOOLS



Trail Map Artwork

BO-O05

Source Record

Trail Map (YAH-4) (1).pdf

Review Context

Text identifies loops and amenities; lengths, alignment, current signs and accessible status require field verification.

Reproduced source pages: 1
Appendix source-page range: 81–81

Open Source Record in Google Drive

Trail Map

JOHNSON
NATURE CENTER
BLOOMFIELD HILLS SCHOOLS

MAP LEGEND

- Pond Loop — *0.4 miles*
- Nature Loop — *1 mile*
- History Loop — *0.3 mile*
- Prairie Loop — *0.5 mile*
- Pine Loop — *0.3 mile*
- Hidden Loop — *0.1 mile*
- Tributary Walk — *0.3 mile*
- Connector Paths
- Accessibility Friendly Walk
- Steps/Stairs
- Boardwalk/Dock
- Bench
- Restrooms
- Parking

W HICKORY GROVE ROAD

PONDS

YOU ARE HERE

ROUGE RIVER TRIBUTARY

PRAIRIE

PRAIRIE

TOWER

ROUGE RIVER TRIBUTARY

MEADOW

PRAIRIE

LOG BARN

LOG CABIN

SUGAR BUSH

SUGAR SHACK

ANIMAL AMBASSADORS

PARKING

VISITOR CENTER

RESTROOMS

OUTDOOR CLASSROOM

FACILITY OPERATIONS

POND

OWL

FRANKLIN ROAD

ENTRANCE

EXIT

TELEGRAPH ROAD

N

Bloomfield Hills Johnson Nature Center Property PR

BO-H04

Source Record

Bloomfield Hills Johnson Nature Center Property PR.docx

Review Context

Preliminary property evaluation; aerial observation dates do not establish exact construction dates. History sections incomplete.

Reproduced source pages: 9
Appendix source-page range: 83–91

Open Source Record in Google Drive

Contacts and Information....1
Existing Site Characteristics....1
Project Opportunities....2
Appendix A – Property Map....3
Appendix B – Review of Historical Aerials....5
Appendix C – Existing Conditions Photos....6
Appendix D – Natural Resources Evaluation....7
Appendix E – Property History....7
Appendix F – Historical Significance Evaluation....7

Contacts and Information

OCP staff contacts:

Name	Role/Action	Dates of Actions
Simon Rivers	Property evaluation	3/24/25

Property contacts:

Contact	History of communication

Other information:

Provide references to publications that reference this property, website links and links to internal documents

Project Opportunities

Notes based on internal OCP discussion and communication with potential project partners.

Opportunity Statement

What is the opportunity? What is the problem that this property could solve?

Long Term Vision

How could this property fit into our long-term vision for the park system. Or state why it does not.

Project Scope

What are we proposing to do with this property? Would it be an acquisition or an interlocal partnership project? Give reference to current plans. Would this be a grant funded project?

Update: October 29, 2026

Alternatives

Have we considered other approaches to this property?

- Is another agency a better fit to acquire or partner?
- How can OCP assist local community without acquiring or partnering?

Opportunities for Additional Investment

Would we do the project differently if we had additional resources? What are the grant opportunities? Can we design the project with different outcomes based on funding?

Other Considerations

Anything not included in previous sections that should be discussed? Are there parties who should be informed or invited to participate?

Existing Site Characteristics

This AGO and web database section and Appendices A & B should take one hour or less by Planning staff.

CVT:
City of Bloomfield Hills

Township and Range:
https://www.arcgis.com/apps/View/index.html?appid=019dd6f39fda4d3b811abfab0878b63b
Township 2N Range 10E Section 09

Parcel ID(s) and Acreage(s):

Parcel ID	Acreage
19-09-301-050	4.37 acres
19-09-301-051	38.73 acres

Owner:
BLOOMFIELD HILLS SCHOOL DISTRICT NO 2, E JOHNSON BLOOMFIELD HILLS NATURE CENTER
4175 ANDOVER RD BLOOMFIELD HILLS MI 48302-1903

Lease or management contract:
Unknown

Easements, conservation or wetland easements, grant agreement or other restrictions:
https://gis-michigan.opendata.arcgis.com/datasets/egle::egle-conservation-easements/explore
No EGLE wetland conservation easements.

Environmental assessments or other information:
https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=c220c67462e14763a8e0c4df75550278
No underground storage tanks on EPA website.

Site topography:

Property slopes towards the bodies of water near the center and south, with the highest point of 941’ and the lowest point of 907’.

Watershed /subwatershed:
Rogue Watershed / Main 1-2 subwatershed

Water bodies or significant natural features:
Retention ponds and a Rouge River tributary run through the property.

Existing buildings:
- Visitor center/nature center
- Facility operations
- Sugar shack
- Log cabin
- Log barn

Existing infrastructure:
Bridges, docks, boardwalks, paved parking lot

Existing or potential trail connectivity:
Multiple short trails/paths

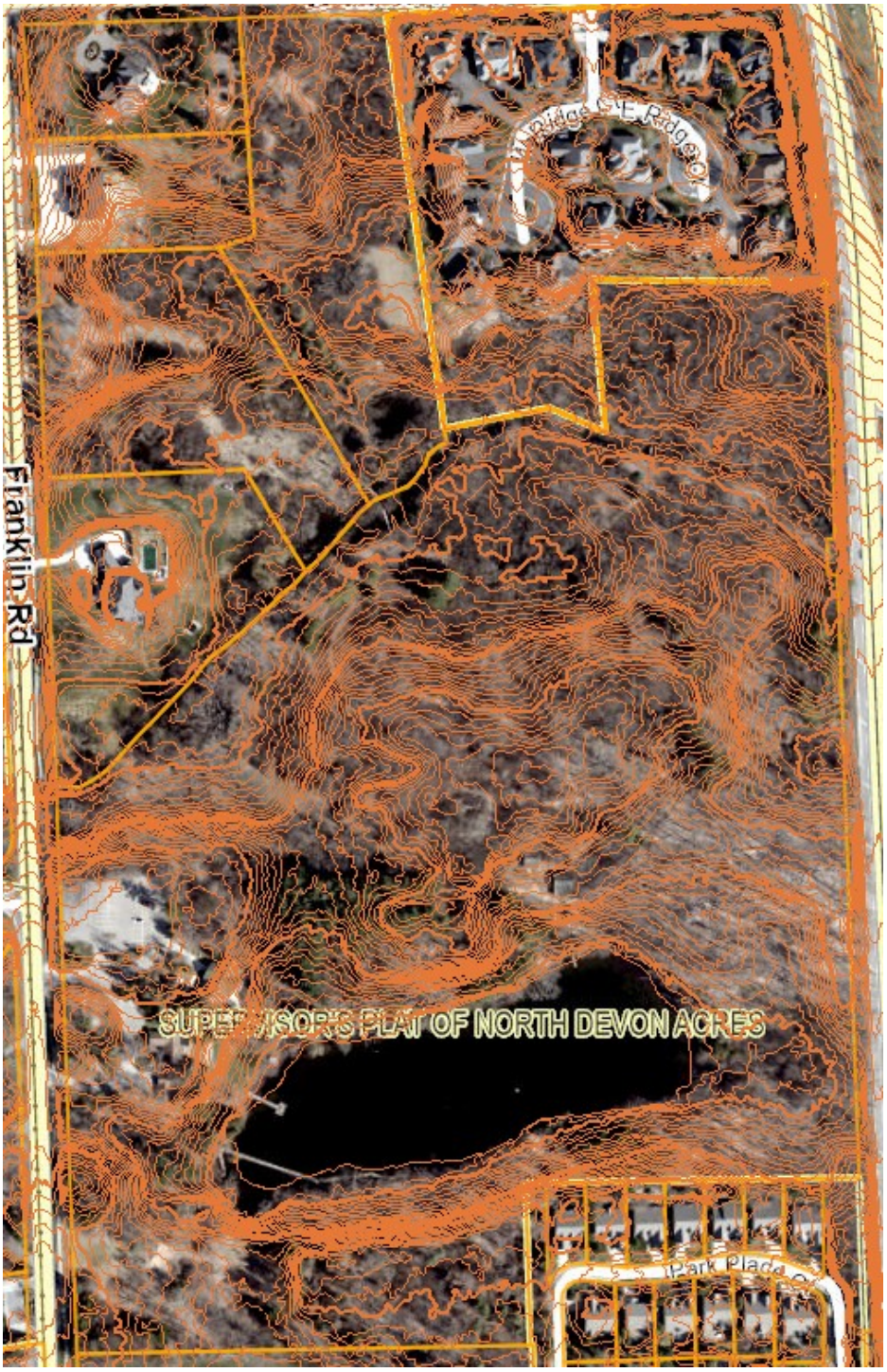
Natural resources evaluation:
Not investigated by Natural Resources unit.

Historical asset evaluation:
Not investigated by Carol Bacak Egbo.

Appendix A – Property Map

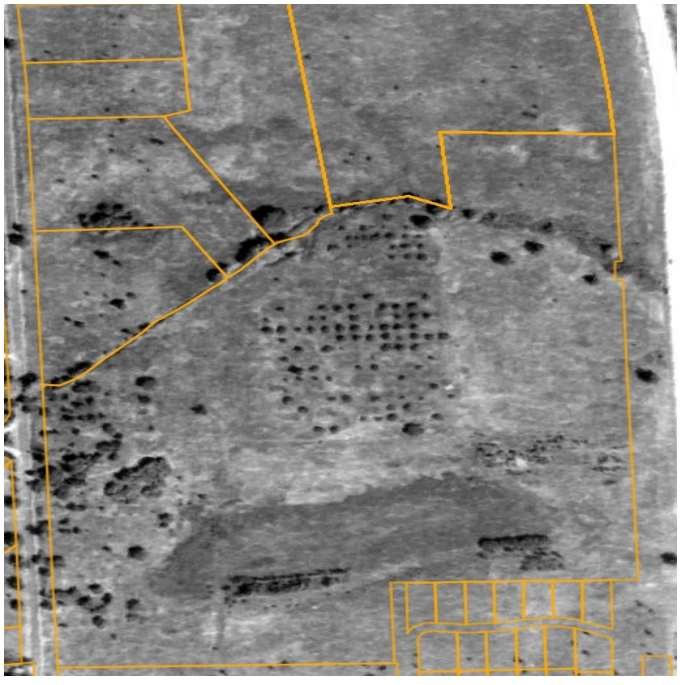


Update: October 29, 2026

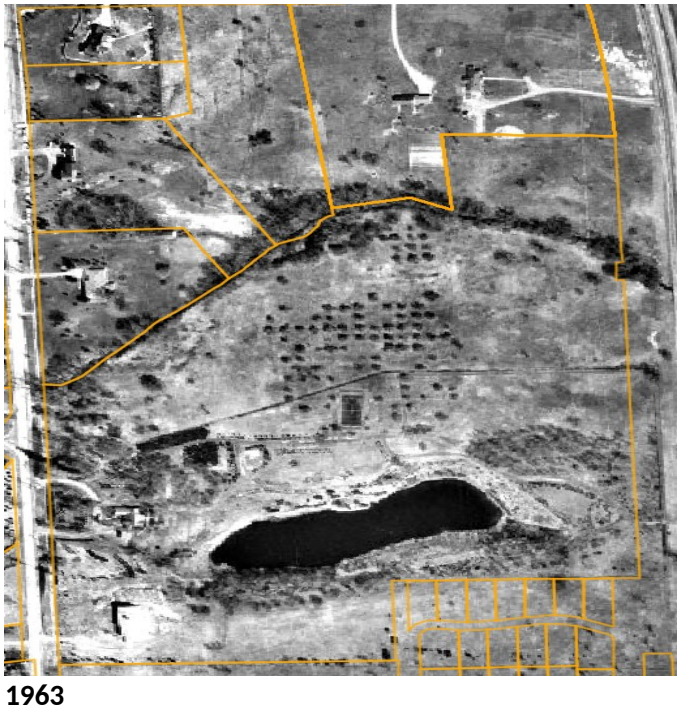


Update: October 29, 2026

Appendix B – Review of Historical Aerials



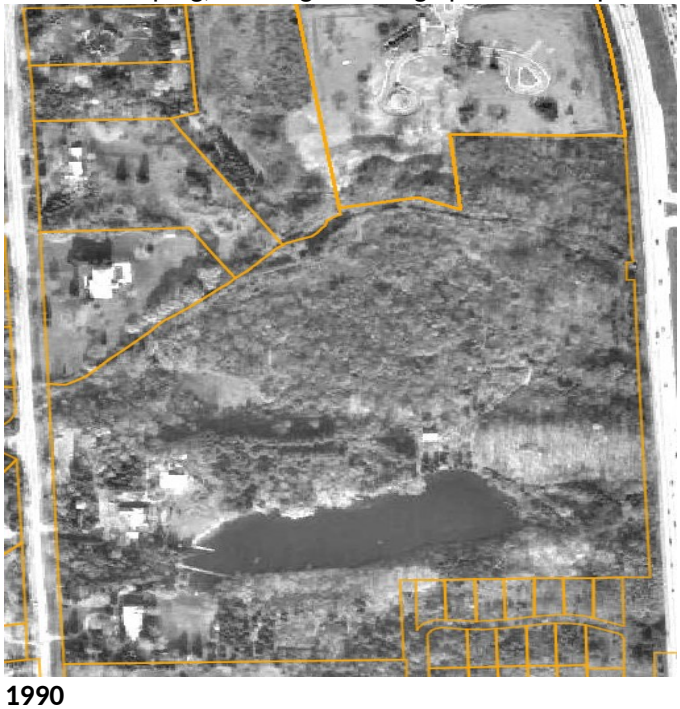
1940
Agricultural fields



1963
Farm developing, buildings and large pond developed.



1980
Several buildings developed.



1990
Trails developed

Update: October 29, 2026



2000
Southern retention pond added.



2006
Northern pond added.



2010
Visitor center/parking lot constructed



2020
Additional buildings/structures constructed

Update: October 29, 2026

Update: October 29, 2026

Appendix C – Existing Conditions Photos

Photo cropped to 3.5” x 3.5”

Caption / date

Photo cropped to 3.5” x 3.5”

Caption / date

Appendix D – Natural Resources Evaluation

Add and date section

Appendix E – Property History

Add and date section – documentation from Carol if needed

Update: October 29, 2026

Bowers School Farm and Johnson Nature Center Joint Strategic Plan, March 2018

BO-B02

Source Record

Bowers Farm and Johnson Nature Center Joint Strategic Plan 2018.pdf

Review Context

Historical joint strategic plan. Includes both sites; Bowers Farm content is context, not authority for Bloomfield Oaks operations. Historic costs, staffing and projects are not current commitments.

Reproduced source pages: 80
Appendix source-page range: 93–172

Open Source Record in Google Drive

Charles L. Bowers School Farm and E. L. Johnson Nature Center Joint Strategic Plan

March 2018

Charles L. Bowers School Farm and E. L. Johnson Nature Center are both owned and administered by the Bloomfield Hills School District. While each fulfills a unique role in supporting the curriculum of Bloomfield Hills Schools and the community needs in Bloomfield Township, our two sites share a common purpose to inspire authentic learning through hands-on experience. We also operate from a set of shared values and beliefs. For these reasons, we have chosen to create a shared strategic plan. The plan identifies what we consider to be the most significant questions facing us in the foreseeable future, and determines the strategies we will use to address those questions.

BIG QUESTION: How can we be more intentional to increase impact in our instructional programs for learners? And how will we know we've been successful?

STRATEGIES:

1. Farm and nature center educators and classroom teachers will engage in deliberate collaboration to develop learning outcomes starting with the end in mind.
    - Offer and participate in professional learning
    - Consult with curriculum leaders to vertically align program objectives, looking at all standards (Michigan standards, Next Generation Science Standards, etc.)
    - Use inquiry-based pedagogy as a foundation for programs
    - Doable, feasible → outside-the-box to actual reality
    - Logistics and resources—time, money, and stuff
2. Create a program schedule that better fits classroom curriculum timing.
3. Take the time necessary to provide impactful programs.
4. Perform and share formative and summative assessment of student learning between site and school.

BIG QUESTION: How do we create and sustain a preschool at both sites?

STRATEGIES:

1. Create new Bloomin' sites at both the nature center and farm, using current resources and knowledge of farm, nature center, and Bloomin' staff and the IB framework already used in Bloomin'.
2. Convene District committee to move this forward, including:
    - Finance
    - Facilities
    - Learning Services
    - Communications
    - Farm/nature center staff
    - Bloomin' team
    - Michigan State University

BIG QUESTION: How do we ensure that we meet community expectations well enough to retain their financial and political support?

STRATEGIES:

1. Create a conduit for community involvement and conversation.
    - Council, forum, membership
    - Result in awareness, communication, advocacy
    - Nature center and farm
    - Specialized membership "perk"-type incentives
    - Maintain some gateway to non-member program
    - A "funnel"
2. Create an active school/community partnership council to foster communication, linking home, school, and community through collaboration.
3. Create a network between agencies, civic organizations, and citizens for the purpose of identifying opportunities and concerns that will support and promote specific programs, groups, and projects.
4. Offer more community-based programs.
5. Utilize the Communications Department. Point person at each site to send info to Shira/Lauren.
    - Local publications (Eagle, Beacon)
    - Social media
    - Libraries
    - Senior centers
    - Etc.
6. Offer more consistent volunteer opportunities for interested community members.

BIG QUESTION: What should be the role of Community Services (Recreation Department) in programming at the farm and nature center?

STRATEGIES:

1. The role of Recreation/Community Services should be to support the programs by:
    - Publicity
    - Registration
    - Equipment usage
2. Create more open lines of communication between the two sites and Recreation Department.
3. Create our own farm/nature center break-even community programs with full-time staff.

BIG QUESTION: How can the farm and the nature center better coordinate programs so they are complementary?

STRATEGIES:

1. Build staffing structure that values collaboration between both sites. Think about Subject Matter Experts and roles/shared leadership.
2. Coordinate efforts to assure consistency with curriculum, pricing, and schedule.
3. Hire specialized staff for shared administrative leadership.
4. Create a shared curriculum map for both facilities and a collaborative web-based resource folder and calendar.

BIG QUESTION: How do we improve customer service? Service standards? Public relations?

STRATEGIES:

1. Implement service standards of the district.
    - Generate revenue to reduce costs for Bloomfield staff, students, and community members.
    - Increase advertising to bring new users to the farm/nature center.

BIG QUESTION: How do we build a more engaged staff?

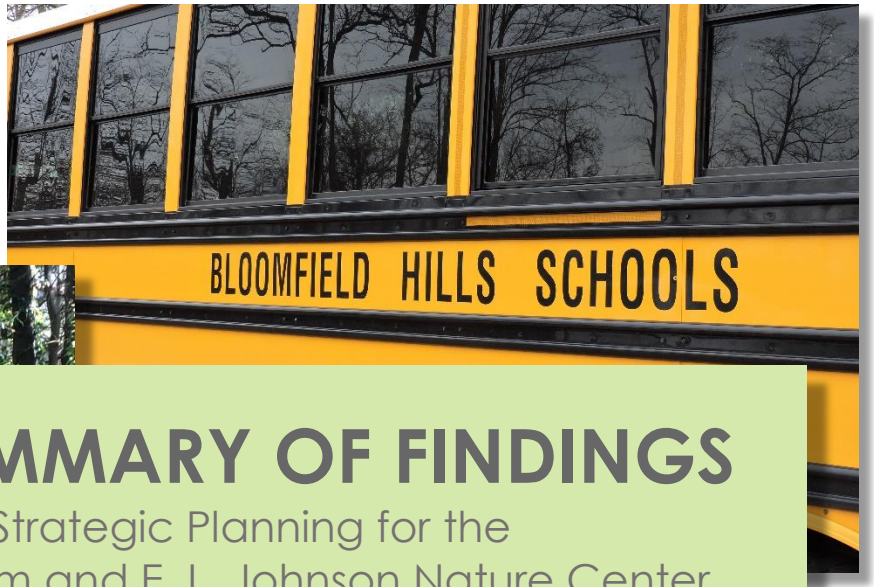
STRATEGIES:

1. Offer a fair, equitable, and livable wage and benefits.
2. Invest in professional learning opportunities. (Offer educational tuition assistance.)
3. Evaluate staff and set performance standards.

BIG QUESTION: How do we address the need for periodic capital expenditures at both sites?

STRATEGIES:

1. Request to be added to the District's facilities timeline.
2. Conduct a capital needs assessment (of existing structures) of both facilities.
3. Determine the need for capital improvements through bringing on an expert.





APPENDIX A: SUMMARY OF FINDINGS

Background Information for Strategic Planning for the Charles L. Bowers School Farm and E. L. Johnson Nature Center





PRODUCED FOR:

Bloomfield Hills Schools

BOWERS SCHOOL FARM

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Executive Summary

This document collects in one place information that will serve to guide joint strategic planning for two Bloomfield Hills School District educational sites, Bowers School Farm and the E. L. Johnson Nature Center. The information falls into three categories: the mission and goals of the school district with which the plan should be consistent, the wide range of resources that will serve as inputs to the plan, and the needs of the customers whom the plan will serve. Because customer needs are usually the most poorly understood of the three, special attention has been focused on assessing these.

A middle section provides brief case studies of several organizations that, like Bloomfield Hills Schools, operate both a nature center and farm, in order to gain some understanding of how they have meshed the two functions.

The final section suggests some of the implications of the facts collected in the earlier sections. These represent the consultant's professional assessment of the key challenges for planning:

1. The nature center and farm are integral to the mission of the Bloomfield Hills Schools . . . for now.
2. The most important role of both the nature center and the farm is to support academic success for Bloomfield Hills Schools students. Providing for the recreational needs of the community, while important, comes second.
3. Requiring school classes to use the farm and nature center has both positive and negative implications.
4. The community at large may not understand the prioritization in #2, and this may lead to difficulties in the future.
5. Community-oriented programs and activities should be as financially self-sustaining as possible.
6. Both the nature center and farm are underutilized. This is true for both the school markets and the community markets.
7. School programming, in order to reach its full potential, will require better integration with classroom-based work, and greater interaction between site educators and their counterparts in the schools.
8. Better coordination between the farm and the nature center will lead to better utilization of the unique resources of each, and to a more well-rounded experience for users.
9. It will be difficult to achieve the full potential of both sites utilizing primarily part-time employees. This contributes to poor morale and staff churn.
10. Big staffing changes likely on the near horizon for the nature center will make for both opportunity and risk.
11. Invasive plant species at the nature center, if left unmanaged, will significantly impact the plant, animal and habitat type diversity on the site.

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Introduction

Planners, if they are to be successful, have to begin their work with a thorough understanding of three things. They must come to consensus on the ***mission and goals*** of the organization. They must have a realistic grasp of the ***resources available*** to invest in the finished plan. And they must understand the ***needs and desires of the audience*** that the plan is intended to serve—the organization's customers.

The task of the planners is then to create a plan that fits all three: it should achieve the organization's mission and goals, effectively draw on the available resources within the organization and its community of support, and provide things that customers actually want.

This is not as easy as it sounds. Too often, organizations become so focused on what they *believe* their customers should have that they create products and services that go unused. Or they are so responsive to customer demands that they lose track of the organization's mission. Or they attempt to build projects they don't have the resources to pay for.

Effective plans aim for the area of overlap highlighted in Figure 1.



Fig. 1. A simple planning model.

This document is an attempt to summarize, in one place, information about the Bloomfield Hills Schools' mission and goals, available resources, and customer needs that will inform strategic planning for two of the organization's key assets: the E. L. Johnson Nature Center and Charles L. Bowers School Farm.

Methodology

The purpose of this document is to summarize and interpret information available about the **mission and goals** of the Bloomfield Hills Schools as they relate to the Johnson Nature Center and Bowers Farm, the **resources** available to the organization in planning for the nature center and farm, and the **needs** of the people who use (or might use) those facilities.

I used a number of approaches to compile this information.

Information about the **mission and goals** of the school district comes from two main sources: written plans developed by the district and the opinions and views of the school board trustees and district administrators who have been tasked with interpreting those documents and following through on their intent. The written documents are available online. To learn about how they are put into practice, I interviewed three board members and a number of administrators, in person or occasionally by phone if a face-to-face meeting was not possible. (The names of all interviewees are included in Appendix A.)

Information about the **resources** available to planners, either currently or potentially, came from online sources, written reports and documents provided by nature center and farm staff, and through interviews with staff, volunteers, and representatives of partner organizations.

Because information about the **needs** of customers is often in the shortest supply in organizations, I spent a disproportionate amount of my time exploring them. In addition to reviewing online sources (including user reviews of the nature center and farm), studying relevant documents, and conducting interviews with staff, volunteers, and representative customers, I also investigated competing organizations (to learn about how they are satisfying the needs of the same or similar customers) and conducted short online surveys. The two versions of the survey—one for the nature center and one for the farm—were essentially the same, but distributed to different subsets of people. (Note that the surveys were completed by self-selected respondents, so they do not have the same statistical validity as Gallup polls or similar studies. They do, however, provide interesting insights into key customers. The survey results are found in Appendices B-G.)

To get some idea of how similar organizations have gone about planning for their nature centers and farms, I also interviewed key representatives by phone. The results of those conversations are detailed in a separate section in this report.

Throughout the report, I have included direct quotes taken from the interviews and surveys conducted as the core of my research. To protect the anonymity of the commenters and allow them the chance to speak more freely than they might otherwise, I indicated during the interviews that their quotes would not be attributed to individuals. In a few instances, I have indicated the category to which the speaker belongs, if doing so helps clarify the significance of their comment.

Findings

This section attempts to summarize the information that I believe will be most useful to planners. In some instances, I have relegated more detailed content to the Appendices. Readers who especially like detail, or who have special interest in certain sections, are referred there.

Organization Mission and Goals

The Bloomfield Hills School District has explicitly included the Johnson Nature Center and Bowers School Farm in its strategic planning for many years. The District's "originating Strategic Plan Document 2008"[1] mentioned both in the following objective:

Objective # 4: Build and Maintain Lighthouse Facilities

- *Measured by a periodic survey, our facilities will be the pride of our community.*
- *Measured by a new resident survey, our facilities will draw new families into our community.*
- *The integration of our unique assets (e.g. the Farm, the Nature Center, the Stone Schoolhouse) for educational use will contribute to a national reputation for educational innovation.*

The most recent iteration of the District's planning documents includes a more specific objective:[2]

Objective 3: BHS will enhance educational experiences & opportunities at the nature center, farm, and recreation

- *Leverage resources available via the strategic partnership with MSU Extension and plan next steps of the partnership*
- *Create a strategic plan and structure for outdoor education spaces, Farm & Nature Center*

The "Key Performance Indicators" are:

- *Future goal: Create and implement survey to gather feedback on farm, nature center, and recreation*
- *Future goal: Impact numbers - # of students, visitors, etc.*

[1] https://www.bloomfield.org/uploaded/Board_of_Education/Originating_Strategic_Plan_Document_2008.pdf
[2] https://docs.google.com/document/d/e/2PACX-1vT4mdIoWYTKEGArDMINAUouL85k58PVOvTf-s0Bij2HIwS6zHlRRszdcc909ZkZnY0ZEauDZnEf2qNE/pub

These guiding documents underscore the district's support of the nature center and farm in a general way. However, they leave a number of details open to interpretation.

How do the nature center and farm fit into the Bloomfield Hills Schools mission?

Over the years that the district has owned the nature center and farm, people—both inside and outside of the organization—have asked if it is appropriate for a school district to invest in such facilities. The skepticism was especially prominent (and public) when bond issues were on the ballot in the late 1990s.

> *"Sell [the nature center] to a different owner and get it off the BHS books." (Survey comment)*

In my interviews with board members and administrators, I asked various versions of the question, "How do you justify owning the farm and nature center?" Some acknowledged the farm and nature center might justifiably be seen as lower in priority than more traditional avenues of instruction.

> *"If I was pushed to have only the core that the state requires, protecting the farm and the nature center becomes harder to do."*

In general, however, all were supportive of the farm and nature center as integral to the school district's mission.

> *"We are very special in that we have our farm and nature center."*
> *"Children need to learn about those things."*
> *"I'm a very big proponent of experiential learning and immersive experiences."*
> *"Can I justify the care of a lot of farm animals as part of our K-12 operating budget? I have and will continue to do so as long as I am able. . . . I think it's vitally important that children have the experiences offered by those places."*
> *"We have a unique opportunity to leverage the farm and nature center as part of our core identity."*

A common sentiment was that the best way to justify the value of the farm and nature center to skeptics will be to improve them and enhance their integration with school curriculum.

> *"It's by strengthening the educational components of the program."*
> *"Not just improving what we're doing, but re-imagining these two gems that we have in the district."*
> *"[Each is] a gem waiting to be appreciated and re-positioned."*
> *"As long as we're going to keep the properties, [make] sure they're the best they can be."*

How does the district balance serving education versus community recreation needs?

Bloomfield Hills School District is highly unusual in that it functions in many respects as the *de facto* parks and recreation department for Bloomfield Township, which has no parks department of its own.

> *"The Township has historically been of the 'country club' mentality, not into public works projects."*

The district provides open space—the nature center and farm are prime examples—as well as programming, including sports, dance, arts and crafts, theater, aquatics, and other special interest pursuits. Only a small fraction of the district's programming is offered at the nature center and farm, but these sites are disproportionately important for special events and passive recreation like walking, bird-watching, and nature photography. As a result, they are more "dual-purpose" than most other district facilities.

> *"[The farm and the nature center] are different from the rest of the system. . . . They're square pegs in round holes."*

I asked a number of interviewees about how much priority should be given to community recreation versus education at the nature center and farm. All were clear that education is the most important work they do.

> *"Both facilities are there to enhance the educational experience of our students."*
> *"They are definitely extended classrooms and laboratories to me."*
> *"The priority would be the education."*
> *"We are more of an educational facility directly connected to the schools."*
> *"Being connected to the school district, we have a responsibility [to connect to the curriculum.]"*
> *"The district is a school district."*

Some pointed out that the question is not "either/or"—that much of the work done by the district's Recreation & Community Service Department addresses the whole child and whole community, and therefore has an educational function in the broad sense.

> *"It takes a village to raise a child. . . . I see all of our facilities as primarily educational facilities. . . . It's important to me that we are optimizing our resources for our students first. . . . I see [educating the community] as part of a whole."*

A challenge for BHS is that the district no longer has a millage earmarked for recreation, so any funds it spends solely for recreation-related activities need to be offset by income, or they draw money from the education side of the ledger. This poses an

important question for the farm and nature center: To what degree do the community-oriented activities need to be underwritten by earned income like admissions, program fees, rentals, and sales?

Interviewees generally indicated that community-oriented activities should generate revenue to offset their costs, but there was less agreement on how much.

> *"They should pay for themselves."*
> *"We've got to look at every single penny [when charging fees for service]."*
> *"There will always be a net cost, in my mind. We're just trying to offset it."*

In general, recreation and community-service programs are expected to be self-supporting on a district-wide basis, even if not every individual activity is. The farm and nature center are not currently required to demonstrate a balance between income and expense for community-focused programs.

How do the farm and nature center fit in the BHS organizational structure?

The nature center and farm each have an on-site person in charge of the facility. Beyond that, though, they are administered differently in the district's current structure. The "Farm Educational Leader/MSU Extension Educator" (Alan Jaros) reports to the Assistant Superintendent of Business Services (and also to Michigan State University Extension). The nature center "Manager" (Dan Badgley) reports to the Assistant Superintendent of Instruction. This inconsistency has developed over time, and is the result of a variety of non-strategic factors (like the capacity of potential supervisors). It has led to (or at least permitted) other inconsistencies:

- The farm charges for parents who accompany school groups; the nature center does not.
- Both sites have historic (or "faux historic") buildings and use them to do history-related programming that may or may not duplicate one another.
- The financial arrangements for staff who live on site are different.

These differences won't be addressed directly by strategic planning, but they do prompt one strategy-level question: "Does the current organizational arrangement make sense as we go forward?" Part of the answer to that question is determined by the goals, objectives, and philosophies of the BHS administration. In general, I found that field staff are happy having site-specific leadership. Most everyone I interviewed was open to some different structure at the administrative level.

> *"I would hope they [the farm and the nature center] didn't join. I'd hate to have one manager for both places."*
> *"It's all open for discussion. I think there should be consistency [in how the sites are supervised.]"*
> *"The biggest thing would be to have one person running both [the farm and the nature center]. . . . One umbrella."*

"I see them fulfilling two different roles, but under the same umbrella."
"There still needs to be more communication between recreation and farm staff. From a community service standpoint, it would be best served to work more together."

The untapped potential of the farm and nature center

This was not a topic I raised during interviews, but the subject came up enough times that it seems to represent a common thought, especially at the board and administrative level.

"There is the potential for lots of things to happen at the nature center."
"I feel like this place [the farm] has infinite potential."
"[The farm] is untapped, in many ways. . . . Underutilized."
"We're not fully optimizing either of these venues."
"They're probably at 10% of their potential."

In general, the perception was that the physical resources of the two sites—the land, buildings, and other facilities—are underutilized. Interviewees were also reflecting on the amount of demand they feel exists for more activities at the nature center and farm.

Serving Bloomfield Hills School District residents versus outsiders

As an outside observer, I was struck by the fact that residents of the Bloomfield Hills School District and non-residents are treated pretty much the same with respect to community programs and services, despite the fact that the former pay taxes to the district while the latter do not. Non-residents are assessed an extra $5 fee for programs (which is very nominal compared to most local government-operated recreation services in southeast Michigan, where non-resident premiums as high as 50% are charged). However, the nature center is open to everyone at no charge, community garden plots at the farm are available to all, and the Birmingham schools—which sent nearly 2,000 students to the Johnson Nature Center alone last year—pay program fees that are significantly subsidized. Interviewees, though, were for the most part not troubled by this trend. "I think our district residents have to have priority," said one, but the general feeling was that non-residents should be welcomed.

What other things at the farm and nature center might contribute to the mission?

Interviewees mentioned several things that could be added to operations at the farm and/or the nature center that they thought could help achieve the BHS mission. Several suggested that a nature-based preschool might be developed in either place. Another proposed a jogging path around the circumference of the farm. Others were not specific about ideas, but thought there was room for new things that would be mission-oriented.

"Why is there not a preschool at the nature center?"

"Farm, nature center, Lahser—these are opportunities to be entrepreneurial . . . that could pump the revenue up and be self-sustaining."

Available Resources

Plans require resources. When we talk about "return on investment," what we're investing is resources. For the purposes of this report, I define "resources" in the broadest sense: They include anything that advances (money, staff, etc.) or hinders (regulations, threats) the work you do to achieve your objectives.

Money

Money is one of the most significant resources, because it can be used to acquire most all the other inputs necessary for successful operations.

Current costs of the facilities

It cost BHS approximately $502,000 in the most recent fiscal year to operate the farm, based on figures from June 30, 2017, and not including the indirect costs of the school district like human resources and legal support, etc. (See Appendix H for details.) The nature center expenditures in the same fiscal year were approximately $184,000. (See Appendix I for details.)

Both sites have income as well. In FY2017, the farm had earned revenues of approximately $275,000 and the nature center recorded a bit over $73,000.[3] These figures represent 54.8% and 39.7% of their operating budgets, respectively—figures that are within the norms for nonprofit nature centers and similar institutions (although it should be noted that these numbers do not account for indirect costs for services like legal and human resources support that are not charged to individual site budgets).

In general, the current levels of funding for the nature center and farm are probably sustainable, and did not seem to worry anyone with whom I spoke, especially since most of the activities (and related expenditures) support curriculum in the schools.

"My perception is what's costing us [is] Bowers Academy [and] the fixed costs of operating the farm."
"It doesn't really cost us anything for our residents to come and enjoy [the facilities]. . . . It increases our reputation as a school district."
"Both the properties are luxuries that fortunately we can afford."

Several interviewees characterized the expenditures on the farm and nature center as relatively small in the context of the overall budget for the school district.

[3] These income numbers represent all earned revenues generated at the respective sites—both instructional fees (Fund 101) and recreation activities (Fund 230).

"If the costs were significant—I don't know what that dividing line would be—and we're robbing Peter to pay Paul to do what we need in the classrooms, that would be different. . . . [Currently, it's] not a make-or-break factor."

Earned revenues at the nature center and farm

While no interviewees focused on funding as an issue of concern, many did draw a distinction between money that covers curriculum-related expenditures and money that pays for community services--the "auxiliary entities" in the budget, as one put it.

"We want to minimize how much they take from our general fund."

Every administrator to whom I put a direct question about how to pay for community recreation had a version of the same response—that the goal is to make those activities pay for themselves.

"I do think we need to ask them to find ways to do as much self-support as possible."
"If that is costing money and not self-sustainable then it's at risk."

No one put this goal into concrete terms for the nature center and farm, however.

"There is no specific target."

Part of the reluctance to specify income targets is related to the difficulty of establishing exactly what the income and expenses of community programs have been. Going forward, administrators would like a clearer picture of those figures.

"Once we have some year-over-year numbers, [the farm and nature center might have projections]. . . . Without that type of data, it would be unfair to ask them to hit targets."

More than one administrator, though, acknowledged there is still room for entrepreneurial ideas to be tried.

"Sometimes you have to invest some money up front."
"If you've got to run some programs at a loss for a while, no problem."

In the long term, at least some are thinking about ways to shift the responsibility for funding parks and recreation for the community to some other entity. It is recognized that Bloomfield Township can't (by law) raise any more revenue through millage. But there is some interest and shifting sense that the Township should get into parks in some way.

Raising charitable dollars

In addition to charging fees for service, it is also possible to raise charitable dollars to offset the capital and operating costs of the farm and nature center. To some extent, this is done already on a small scale: Both sites receive contributions on an occasional basis, amounting to an average of $4,000-$6,000 a year at the nature center and a somewhat smaller amount at the farm. In addition, the Friends of the Nature Center has over $22,000 currently on hand to support the center's activities, and the farm also has a Friends group that raises funds (see "Partnerships," below). As far as I could discover, though, no large-scale fundraising campaign has been successfully undertaken by any group that works with the school district.

Overarching responsibility for raising contributed funds for BHS as a whole belongs to the Bloomfield Hills Schools Foundation. Several interviewees stressed that any fundraising done for the farm or nature center should be coordinated by the Foundation.

> *"It should be going through the Foundation. They should be working with [Executive Director] Cathie Badalamenti."*

Staff

People are a critical resource for any organization that delivers services. Their numbers, skill sets, level of experience, and other more intangible elements go into the contributions that staff members make to the organization's success.

Farm and nature center staff

The leadership positions at both the farm and nature center are in the hands of staff who are well regarded. At the farm, Farm Educational Leader/MSU Extension Educator Alan Jaros is relatively new, having been brought over about a year and a half ago from nearby Tollgate Farm in a partnership arrangement with Michigan State University Extension that allots 80% of his time to Bowers Farm. One concern: June 30, 2018, is Jaros's contract expiration date (although Extension expressed willingness to discuss continuing the relationship).

> *"[Alan is] really forward-looking and -thinking."*
> *"He is a vibrant thinker."*
> *"It's become much more user-friendly at the farm with Alan being there."*
> *"Alan is phenomenal to work with and a great guy."*
> *"We have a really great working relationship."*

At the nature center, Dan Badgley has served as Manager for 29 years. He is respected especially for his institutional knowledge, his long perspective, and the passion he brings to his work. As with Jaros, though, there is some uncertainty regarding the remaining

length of his tenure at the center, because he is eligible for retirement (though he has made no decision regarding how long he will continue in his position).

"Dan's phenomenal to work with."
"Dan is super. . . ."
"Mr. Badgley is amazing." (Survey comment)

In addition to the leadership, there are nine staff who work at the farm (not including those at Bowers Academy) and six at the nature center. Most of the farm staff and all of the nature center staff are educators and are part-time (see the next section for more about part-time status). Within the BHS organization, all were given high marks, and they impressed me favorably as well. They demonstrated a great deal of engagement in their work.

"We love each other, and we really love this place a lot. I think we have a lot of pride, too."

Customers, though, made comments both in interviews and on surveys that offered front-line staff mixed reviews.

Most came from comments written on surveys. In answer to the question, "What is your favorite thing about Bowers School Farm?" asked on the farm version of the survey, 14.2% of respondents cited staff and volunteers, sometimes by name. The same question tailored to nature center respondents prompted 4.2% to mention staff and volunteers.

"The [farm] staff, Amy Cardin especially, is very nice and inviting." (Survey comment)
"The [nature center] trails are amazing, staff very friendly and knowledgeable." (Survey comment)

(Note that a much smaller percentage of nature center visitors interact with staff, since the nature center—unlike the farm—is open to the public when staff are not present.)

More telling, though, were responses to versions of the question, "If you could change one thing about Bowers School Farm, what would you change?" Only one respondent to the farm survey (out of 125 comments) mentions a staff concern. On the nature center version of the questionnaire, however, five (out of 72 comments) express displeasure with staff.

"Make the [farm] staff less creepy (went to a thing and a guy working with kids had his fly down)" (Survey comment)
"The group leaders for school trips [to the nature center] are not very patient with little kids. Very unfriendly." (Survey comment)

"The nasty attitude the woman who 'teach' the children have! Those woman are awful! 'Don't touch this,' 'Put your hand down.' I mean the kids can't even have fun or ask questions, [the nature center] is more like a prison not a learning experience!" (Survey comment)

"When attending school field trips the majority of the [nature center] guides seem irritated that the kids are there...and the kids can see this very clearly." (Survey comment)

Similar (though more tempered) concerns emerged in the interviews, where some nature center educators were described as having "old ways" and "old expectations."

Issues with part-time staff

One question I asked frequently in interviews was some version of, "If you could make one change at the nature center and/or the farm, what would it be?" Common responses from part-time and full-time staff alike had to do with the limits of using part-time, hourly employees in positions at both sites.

"For me, 100%, it would be investing in staff."

"Have more staff available, so we don't feel like we're having to be here all the time. Probably another teacher."

"We're very understaffed [at the farm]."

"Part-time doesn't make you invested. It makes you overworked and under-appreciated, sometimes."

"I don't make enough money to be independent. . . . It's sad and it's frustrating."

Part-time staff reported putting in time for which they were not paid—things like working at home, going to the store, and doing set-up and tear-down early or late in the day. They expressed the concern that being paid primarily to present programs left few opportunities for planning or just keeping up with the day-to-day changes at their sites that allow them to prepare for "teachable moments." Administrators worried about the recruitment and training costs of "staff churn," an issue even at the nature center (where educators have been on staff for many years) because many employees are currently eligible to retire.

Volunteers

In addition to staff, both sites count heavily on the contributions of volunteers. Many hours are contributed by partner organizations, especially Master Gardeners at the farm (1,203 hours contributed in FY2017). A cadre of over 130 volunteers contributed 585 hours at the nature center during the same period. Scouts and corporate groups also get involved on a regular basis at both locations.

"It's been a huge help for us. . . . Wherever I look around the farm, I can see stuff done by a Scout or group of Scouts."

Partners

Both the farm and nature center rely on partnerships to help them achieve their objectives, and those partners bring their own sets of resources to the table.

MSU Extension

In July of 2016, BHS formed a strategic partnership with Michigan State University (MSU) Extension in order to combine the strengths of both organizations—the school district's suburban farm site, and Extension's expertise and links to university resources. The goal was to develop a comprehensive outdoor science learning center. The partnership was contractually binding and includes leadership and management support. Most significantly, MSU agreed to fund 80% of Alan Jaros's time as the leader of the program at the farm.

"I think we're just scratching the surface of the partnership possibilities."

Friends groups

Both the nature center and farm have volunteer-based Friends groups. The Friends of the Nature Center has existed since 2006. Its main role in recent years has been to put on public interpretive events at the center. According to one interviewee, there are approximately 50 or 60 dues-paying members. The Friends leadership reports having trouble recruiting new members, although they believe there are lots of people who care about the nature center. As noted in the section on "Money," the group has raised over $20,000 that they held in case the funds were needed to help acquire the lots on the nature centers southern boundary. (The school board recently decided to swap other BHS property for these lots.)

"Money is involved, but also time. We all cook for [special events]."

The Friends of the Farm organized in 2010. Its stated mission is "to support, preserve and enhance the Bowers Farm property, programs and activities through financial support, community outreach and volunteerism." The group has a mailing list of about 120 people. They helped do a renovation of the barn in 2010. The group has a special interest in the horse leasing program. They are active in volunteering and fundraising through product sales and special events.

Preservation Bloomfield

Preservation Bloomfield's website describes the group as "a non-profit, all-volunteer community organization formed to preserve and protect two historically relevant homes in Bloomfield, Michigan." Those two homes—the Barton Farm House and Craig Log Cabin—have been moved to Bowers Farm, where they are available for use with

educational programming. Preservation Bloomfield continue to improve the structures, and retains control of their use.

> *"It is our hope that the preservation of the farmhouse and cabin, along with the educational programs provided by the Bloomfield Hills schools, will help future generations remember and appreciate the lives of the Metro Detroit's early colonial settlers." (Preservation Bloomfield website)*

Others

Master Gardeners have worked at the farm for 14 years. There are 700 Master Gardeners in Oakland County, the largest group in Michigan, and Bowers Farm is their largest project. About 45 of them work at the farm. The farm staff "makes us want to be here." In 2017, they contributed over 1,200 hours of volunteer labor at an estimated value of nearly $28,000.

The Oakland County Conservation Stewards provide similar assistance at the nature center.

Also an important farm partner, Macomb County Community College runs a large-animal veterinary technology class there, pays for it and provides veterinary care to the farm's livestock.

Buildings and Related Structures

Both the farm and nature center rely to a great extent on buildings and related structures to enhance or even make possible the work they do. Here is a summary of the structures at each site:

Bowers School Farm—building and structures inventory

- Animal barn (built around 1908)—Used daily.
- Cottage (built in the early 1950s)—Used today for storage and the occasional program.
- Tool shop, outdoor restrooms, poultry barn and horse barn (all built in the early 1980s)—All used daily.
- Outdoor horse arena (originally created in 1993 with new fencing in 2016)—Used frequently by horse lease participants in the summer.
- Farm Activity Building & adjacent garage (1990)—A Recreation building, very rarely used. Book sale done annually. The farm recently got approval to use the garage as storage.
- Gazebo (1987)—Used for events.
- Learning Center and Bowers Academy (2011)—Incorporates classrooms, a laboratory, greenhouse, and offices. Used daily. The greenhouse is mostly used for starting plants for spring planting.

- Craig Log Cabin (brought to the farm by Preservation Bloomfield in 2008)—The goal is to use this building for educational programs.
- Barton Farm House (brought to the farm by Preservation Bloomfield in July of 2008)—The goal is to use this building for educational programs.



Fig. 2. Bowers School Farm Learning Center and Bowers Academy.

Johnson Nature Center—building and structures inventory

- Caretaker residence (1947)—A 4-bedroom ranch on a cement slab, includes a two-car garage for caretaker and additional garage storage for nature center equipment including a tractor, utility vehicle, log splitter, and other equipment and supplies.
- Visitor Center/Classroom Building (2006)—Includes an exhibit room, restrooms, small kitchen, two classrooms, small library, Manager's office, and storage. A total of 5,000 square feet on two levels. Parking lot accommodates 50 cars.
- Pioneer Log Cabin (1988)—Built to provide a space to offer living history programs for students. Furnished with 1800's era décor, wood stoves. Has one electrical outlet and "electrified lanterns" for lighting. Hand pump located outside.
- Log barn (1994)—Used to support the living history programs. Houses a variety of old farming and logging tools giving students a hands-on experience. Has one outlet and "electrified lanterns" and a wood stove.
- Sugar Shack (1980)—The maple sap "wood-fired" evaporator is housed here where boiling maple sap is practiced in February-March every year. Students come inside the shack to see the process. No electricity.
- Tool sheds—Two sheds that house an electric utility cart, lawn mower and attachments, and a variety of tools used on the property including rakes, shovels, root jacks, hand tools, etc.

- Fishing dock (1996)—Used for fishing programs and many instructional programs. A favorite gathering spot for visitors.
- Pond bridge (1987)—This bridge gives access to the south side of our pond. Used extensively.
- Outdoor classroom (2013)—Accommodates approximately 40 students. Has a fire ring for campfires.
- Several boardwalks, benches, sampling docks, and a look-out tower are found along the trails.



Fig. 3. Johnson Nature Center visitor center/classroom building.

Unused capacity

Interviewees often mentioned what they saw as underutilization of resources at both sites (especially the farm). Usually they singled out buildings, including the Activity Building and the Learning Center at the farm.

> *"We used to have teen dances [in the Activity Building] . . . karate classes . . . sledding hill warming."*
> *"I see wasted capacity in that [farm] building."*
> *"The greenhouse should be a beehive of activity."*
> *"With the right set-up [in the greenhouse], we could grow a lot of lettuce . . . maybe hydroponically."*

Despite the existing buildings, I did hear some complaints about inadequate spaces.

"In the big picture, we have the space," said one interviewee. But projects, labs, etc., for the Career Technical Education (CTE) course at the farm are tough to fit because the space isn't student-friendly.

Historic structures

The farm has two historic structures. BHS owns a third historic building, the Wing Lake School, that at least one interviewee thinks should be considered a resource for strategic planning.

> *"Part of our Michigan curriculum has been to spend a day at the Wing Lake School."*

The historic programming at all facilities needs to have a "collective vision," said another interviewee. Currently, restoration work is still underway on the interior of the Barton Farmhouse, and neither it nor the Craig Log Cabin are used much for farm activities.

Other stuff

Interviewees had several comments about perceived shortcomings in existing buildings and other structures.

> *"You've got a lot of things that need proper care and maintenance. . . . The boardwalk. The paths. . . . There's so much maintenance that needs to be done here [at the nature center]. [Mentions the steps of the log cabin.] It seems scruffy. . . . It needs more input from the district."*
> *"The signage [for the farm] is horrible. That needs to change."*

Equipment

The farm in particular relies upon expensive specialized equipment in its operations. Alan Jaros offered the following commentary on the farm's equipment:[4]

> *Certain implements typical to a working farm are not available for use. Row planters, no-till drills and other similar planting equipment are standard in similar small farm integrated operations. Some of the field and farm equipment is outdated. A capital outlay may be necessary to purchase new equipment and keep the tools in operation. This includes two New Holland tractors, farm implements, and small utility vehicles. The equipment is stored outdoors in the elements without shelter. This decreases the longevity and degrades even the newest implements.*

[4] Alan Jaros, "Analytical Organizational Assessment of Bloomfield Hills School District, Charles L. Bowers School Farm," (Internal report, 2016), p. 10.

The report also notes that there is currently no equipment inventory or replacement plan.[5]

The Land and Other Living Resources

The nature center and the farm exist for site-based education, so as you might expect, the sites themselves are vital to the outcomes Bloomfield Hills Schools seek there. This section provides a quick summary of the land and other living resources of each site.

Bowers School Farm

Key features of the property:

- It occupies an 89.8-acre urban site.
- It is a working farm that incorporates forest land, rolling fields, a large pond, horticultural gardens, vegetable production, and community gardens.
- The community gardens contain 69 tilled plots and 10 no-till plots.
- There are a number of specialized plantings, including butterfly, sensory, and shade gardens.
- Sheep, horses, llama and a donkey graze the pastures. The farm also houses poultry of all types, rabbits, and goats. (See Appendix J for a complete inventory of livestock.)



Fig. 4. Community garden plots at Bowers Farm.

[5] Ibid, p. 13.

Johnson Nature Center

Key features of the property:

- It consists of 40 acres (soon to be 45) of diverse habitats including forest, restored prairie/savanna, wetlands, and riparian areas.
- The woodlands harbor a large variety of trees including stands of pine, hardwoods, and a sugar bush.
- The property has significant issues with invasive plant species, most notably common buckthorn (*Rhamnus cathartica*), which has taken over large swaths of the understory, especially down near the stream. Significant efforts have been made over many years to remove invasives and replace them with native species with notable success, but the work remains ongoing.
- It has frontage on a tributary of the Rouge River.
- The main aquatic feature is a four-acre pond with good water quality and a diverse fish population.
- Live animal displays include one white-tailed deer, a red-tailed hawk, and two great horned owls.
- There are approximately two miles of trails of varying lengths.



Fig. 5. Johnson Nature Center four-acre pond.

Location

Location—especially good location that makes a site accessible to potential users—is an important resource. Both the farm and the nature center are blessed with excellent

locations. Both have prominent frontage on one of southeast Michigan's largest arterials (Interstate 75 for the farm, Telegraph Road/US-24 for the nature center), and both have excellent direct access to well-known surface streets (Square Lake Road in the case of the farm, Franklin Road in the case of the nature center). In addition, the sites are among the largest green spaces in Bloomfield Township, a jurisdiction where publicly-owned green space is at a premium.

Legal Constraints

The nature center has significant limiting constraints on what can and cannot be done there, the most significant of which are a part of the agreement that governs the $475,000 grant made to finance the center building by the Michigan Natural Resources Trust Fund in 2005. That agreement (see Appendix K), administered by the Michigan Department of Natural Resources (MDNR), requires Bloomfield Hills Schools to:

- Use the facilities funded by the grant (essentially, the nature center building and disabled-accessible pathways) "solely for the purposes specified" in its application. The application specifies they will be used "to provide barrier-free access to enhance and expand educational and recreational opportunities for the public, and promote preservation of ecological resources." Public fishing for Boy Scout troops, day camp groups, and persons with disabilities is specifically identified as a use. The application also specifies that, "The facility will be open seven days a week all year," though "facility" is not specifically defined.
- "Operate the project facilities for a minimum of their useful life as determined by the DEPARTMENT, to regulate the use thereof to the satisfaction of the DEPARTMENT, and to appropriate such monies and/or provide such services as shall be necessary to provide such adequate maintenance. . . ."
- "Provide to the DEPARTMENT for approval a complete tariff schedule containing all charges to be assessed against the public utilizing the project area and/or any of the facilities constructed thereon. . . ."
- "Acquire and maintain insurance. . . ."
- "Obtain prior written authorization from the DEPARTMENT before implementing a change that significantly alters the project facilities as constructed and/or the project area, including but not limited to discontinuing use of a project facility or making a significant change in the recreational use of the project area. . . ."
- Agree that "the project area or any portion thereof will not be converted to other than public outdoor recreation use without prior written approval by the DEPARTMENT and the BOARD and implementation of mitigation approved by the DEPARTMENT and the BOARD, including but not limited to replacement with land of similar recreation usefulness and fair market value."

The agreement also stipulates that "membership or annual permit systems are prohibited," and that "differences in admission and other fees may be instituted on the basis of residence," although there are limitations on the amount of the differences.

It also includes some bookkeeping requirements. The school district must:

- "Separately account for any revenues received from the project area which exceed the demonstrated operating costs and to reserve such surplus revenues for the future maintenance and/or expansion of the GRANTEE"S park and recreation program.
- "Furnish the DEPARTMENT, upon request, detailed statements covering the annual operation of the project area and/or project facilities. . . ." (None have been requested.)

There has been only one follow up by MDNR regarding the school district's compliance with the terms of the agreement, a brief written questionnaire a couple of years ago. "We're in good standing with them," says Manager Dan Badgley.

Security Issues

Security issues at the nature center and farm merit comment because both sites are set up to house on-site caretakers (although the residence at the farm is currently unoccupied). Neither site has a significant history of vandalism, crime, or other security-related problems, but both (especially the farm) have valuable assets potentially subject to theft or damage.

> *"People coming in and doing mischievous stuff [at the farm] has been minimal over the years."*
> *"Park security. On a recent [nature center] visit, witnessed families breaking rules and misbehaving." (Survey comment)*

The main buildings at the farm and the nature center have security systems, but one interviewee notes, "You can't really lock the barn up." It and the log cabin and other buildings at the nature center are not alarmed.

Staff at both sites value the on-site presence of caretakers. A significant concern at the nature center is the risk of drowning in the lake, which is up to 10 feet deep in areas. Staff also want to and protect the lake from unauthorized fishing. At the farm, animals need to be fed on weekends, participants in the horse-leasing program are in and out, 4-H members come to care for their animals, and customers stop by for produce or eggs left at the stand for them. Another concern was people dropping off animals, which I was told has occurred a handful of times over the years.

> *"They do treat us as a dumping ground for woodchucks."*

Staff contends that the district could run the farm without a person in residence, but would still need someone nearby.

"For peace of mind, you're going to want someone living here [at the farm] . . . not just for security."

Customer Needs

While it would be possible to divide the customers of the farm and nature center into any number of market segments, because of the district's emphasis on serving students first and the community second, it is perhaps most useful for our purposes to describe their needs in terms of those two categories.

School Classes

Johnson Nature Center provided programs for 6,289 BHS students (and teachers and chaperones) in FY2017. At Bowers Farm, the number was 6,601. Most of the programs at both sites were relatively short—two hours or less, with some designed to run an hour or an hour and a quarter. Most have hands-on components—gathering eggs, dissecting animals, handling and examining geological specimens, etc. All are intended to address state educational standards at the grade levels for which they are offered.

Unlike most nature centers and educational farms, the district-owned sites benefit from a "captive audience." All BHS pre-K through 5th-graders go twice a year to the farm, and twice a year to the nature center, while 6th and 7th grades visit each location once.

The farm educators believe that most Bloomfield Hills teachers (65-70%, they estimate) are more supportive than not of coming to the farm, either because they see curriculum value, or just welcome a field trip to break up normal classroom routine. It is likely that a similar statistic applies to the nature center as well.

"They love coming here [to the nature center]. . . . The parents like to come, too."
"They both [the farm and nature center] have so much to offer. There's so much richness there."
"I love them as they are. . . . Keep the fact that everything they teach matches the curriculum."
"I also love the educational programming [at the nature center]. I loved it as a student, teacher, and now as a parent. Such a great resource for bringing curriculum to life!" (Survey comment)

That is the broad overview. In my interviews with BHS board, administrators, teachers, and field staff, there were a handful of specific topics relevant to strategic planning that came up repeatedly.

Are the programs too short?

A concern voiced by both teachers and field educators was that programs at both the nature center and farm, as they are presently designed, are too short.

"I feel like what they're trying to do is turn-and-burn."
"We have such a short period of time to really be effective."
"I feel that the teachers don't take these field trips as seriously as we'd like them to. Maybe because it's a short program, they say, 'It's only an hour.'"

Now, the experience is treated as more of a "destination field trip" by classroom teachers, a perception that is inconsistent with the belief of field educators.

"It's not a field trip. It's an extension of what they're doing in the classroom."

The all-day programs recently inaugurated for select grade levels "are way better." Somewhat surprisingly, both classroom teachers and field educators expressed a preference for longer visits to the farm and nature center.

"Another wish list is that they're here longer . . . like a half a day."

Is requiring all BHS students to visit the nature center and farm regularly a good thing?
Field staff report that they can detect differences between BHS students, who visit their sites regularly, and out-of-district students who come only once in a great while. To some extent, they said, classes from other school districts see a trip to the nature center as more special, and demonstrate more enthusiasm than their BHS counterparts.

"I hear sometimes [BHS] kids say, 'Oh, we're always here.' I've heard that sometimes from students, and sometimes from parents."

Given the desire many educators expressed for longer programs, and the greater pressure such a change would put on available time slots, perhaps it would be good to "weed out" those teachers who don't really want to take field trips and who fail to prepare their students as a result.

On the other hand, other interviewees noted that Bloomfield Hills kids are comfortable at the nature center and farm, and that the lack of novelty is a good thing. (Research supports the contention that novelty gets in the way of learning.)

"It's a nice thing to see that familiarity."

Coordination between teachers and site educators is inadequate
A number of comments made by both teachers and field educators during my interviews suggest that they don't interact much in the development of field experiences that fit the curriculum. They generally feel the coordination between classroom teachers and site-based staff is not thorough enough, for a variety of reasons.

Teachers wish the field experiences aligned more closely with what they are teaching in the classroom, and that there was a stronger presence of field educators in preparing students for their visit.

> *"Over the years the program at the farm has done a better job aligning to our curriculum."*
> *"I would love to see a richer science curriculum in both places [the nature center and farm]."*
> *"I would love to have the chance for some of the [farm and nature center] staff to come in and do some of the grunt work, prep work. . . .They have another voice. . . . With 5th graders . . . they are viewed as the be-all, know-all expert."*
> *"In a perfect world . . . we [nature center educators and teachers] should be all on the same page."*

Field educators wish school groups arrived better prepared for their experiences at the farm and nature center, and that there was more classroom follow-up after their visits.

> *"We [nature center educators] asked to go in and do orientation in the classroom."*
> *"It totally depends on the teacher [how prepared students are]. . . . We have to do so much intro, which is tough."*
> *"We hope for both the before and after. It's not guaranteed. . . . It depends on the teacher."*
> *"We probably would need some training . . . to get classroom teachers brainstorming about how they could use both of these [sites] better. . . . It should be seamless."*

They also bemoan the fact that some teachers and chaperones seem disengaged from the start.

> *"We have a few teachers [at the farm] that either send a sub or they go upstairs and do their work. So you know they're not into it."*
> *"Parents come with a cell phone in one hand and a Starbucks in the other."*

How programs are scheduled in blocks

School programs at both the nature center and farm are scheduled in blocks, with each topic and grade level offered during a single designated week-and-a-half. Far in advance, teachers receive a schedule of program offerings, and they must request a slot to fit their classes into that schedule. Why book in time blocks, rather than permit teachers to sign up for field trips whenever it suits them?

> *"It has to do with planning and set-up."*

Field staff explained that many of the programs they do require elaborate preparation. At the farm, conservation and plant science take the most set-up. Sometimes it involves acquiring and preparing food ingredients. They feel that customizing the schedule for individual teacher's schedules would be impossible. At the nature center, the geology program is especially time consuming to prepare for. The staff change posters, rearrange furniture, and bring out dozens of specimens.

> *"Then it gets a little tricky. Right now we're setting up for geology. It takes two days. . . . The whole room is a big geology museum."*

Classroom teachers complain about this scheduling system because it forces them to tailor their curriculum to the field sites' timetables, or be resigned to field experiences that don't coincide with the material they are teaching.

> *"Sometimes it matches what we're doing, sometimes it doesn't."*
> *"Every teacher kind of wants you to tailor to them."*
> *"If there is an issue, that would be it."*

Evaluation of success

One of the questions I posed to field staff was whether or not they evaluate students after their site visits.

> *"We don't, we don't!"*
> *"We're not getting critical feedback that we can measure. . . . It just hasn't happened. . . . It makes it very hard."*

I asked the nature center educators, "What is your measure of success?"

> *"If the kids are excited. . . ."*
> *"If they behaved well, then they've learned something. If they're paying attention and smiling, then it's a good day."*

Concern about overlap of farm and nature center programming

Because the farm and nature center have some similar resources—everything from historic structures to captive mammals to beehives can be found in both locations—and because coordination between the educators at each site is minimal, there is concern (real or imagined) that programming is redundant.

> *"The increasing theme of pioneer life at the farm is a problem—that's what we do here [at the nature center]."*
> *"There should be a certain amount of exclusivity. . . . I don't think you should duplicate."*
> *"Not duplicating is important."*

"They have an opportunity to take the house and log cabin [at the farm] and create a different kind of program—do different programs but not exactly duplicate."
"I think there should be coordination."

Bowers Academy

Bowers Academy, founded to address the needs of at-risk older students, shares a campus, a building, and a name with Bowers School Farm. Historically, though, the Academy has not been well integrated into the farm operation—one interviewee described the Academy as "an alternative education program that happens to be on a farm." While there has been improvement recently, the relationship remains problematic in the eyes of many of the people I interviewed.

"Bowers [Academy] has underutilized the farm."
"I'd like to see that relationship improve."
"I find it odd that [the farm and the Academy] don't work closer together. . . ."

Exactly how things might change, though, is a matter of little consensus, at least among those with whom I spoke. Some would like to see the Academy expand both in size and in engagement with the farm, attracting students from outside the district, filling more places in more course offerings, and engaging in work-based learning.

"I see the Academy as being the life of the farm. It's that relationship that elevates the farm's status in the District. . . . We get student agency out of that."
"I think Bowers Academy should have more ownership of the farm."
"I would love to have more kids involved in the agriscience."
"If we can get students coming because they don't want to miss it, that's the ideal."

Others, though, talked about the farm without addressing its relationship with the Academy at all. The disparity suggests an unresolved status for the Academy.

Other issues and ideas

Several other issues and suggestions were mentioned during the interviews.

Several people expressed a desire to see Career Technical Education (CTE) programs expanded at the farm.

"We should have four or five of them [CTE programs] out there."

Another suggested that farm educators work with district schools to assist with their gardens and help their cafeterias use more locally-grown foods.

Several expressed enthusiasm for the role the district robotics team had played in the development of an automated chicken door at the farm, and for future opportunities to remain involved there. They would like to see robotics projects integrated into the programs at the farm, both during the school year and in summer day camps.

"[Robotics is] partly the grassroots resurgence of shop class."
"Through this farm project we're giving 'digital people' an analog experience."
"The kids already have ideas . . . crop yields . . . soil analysis . . . hydroponics."

Community Users

The customers of the nature center and farm are the students of Bloomfield Hills schools . . . and everybody else. But who exactly is "everybody else," and what do we know about their needs?

Other schools are significant customers

As noted earlier in this report, other schools from outside the Bloomfield Hills School District receive programming at both the nature center and farm. In FY2017, the nature center provided programs for 2,318 out-of-district students, and the farm did programs or farm tours for 10,940. (There are more competing nature centers in the area than competing educational farms, which may explain the discrepancy in the totals.) The highest numbers were from Birmingham, but schools from all over southeast Michigan were represented. Clearly, the demand for experiences at the BHS sites goes beyond the district itself, which means that there is a source of external dollars for the farm and nature center, but also competitors for the limited time slots and program staff available.

Most programs at the farm charge $8/student, while those at the nature center charge $6/student. (There are higher fees for longer programs.) While the cost per student is the same for district and out-of-district schools, the revenue implications are different because the farm and nature center transfer part of the money received from district schools to the transportation department to cover the cost of buses.

While the BHS budget does not apportion indirect (or overhead) costs to the various programs, my experience with other clients suggests to me that the program fees paid by out-of-district schools do not cover the full cost of providing them programs. I suspect BHS is subsidizing those programs.

The needs of the community at large

One way to get a sense of the needs of community members is to eavesdrop on their conversations and listen to the things they focus on. In this age of social media, the easiest way to do that is to study the reviews and comments people post online about the services the district already provides.

For this report, I copied-and-pasted the texts of all the online reviews I could find about the Johnson Nature Center and Bowers Farm into a word cloud generator. This produced pictures in which those words have been sized proportionally to the number of times they were used. The results can be seen in Fig. 6 (nature center) and Fig. 7 (farm).

The first thing to notice is that both sets of reviews are overwhelmingly positive. The word clouds differ, though, in that the one for the nature center emphasizes passive, "non-educational" uses of the site ("walk," "trails," "relax," etc.) while the one for the farm focuses on animals and components of programs and special events ("corn maze," "wagon ride," etc.)


Walk
Beautiful
Love
Nice
Relax
Trails
Lake
Pets
Woods
See
Kids
Great
Deer
Pond
Frogs
Animals
Hawk
Marked
Trails
Explore
Very
Nice
Awesome
Not Packed With People
Mostly Well Maintained
Birds
Turtles
Easy
Little
Warm
Inside
Fish
Owls
Annoying Bugs
Amazing View
My First Time
Very Impressive
Maple
Learn
Native Animals
Discover Nature
Small Lake
Maple Tree Tapping
Acre
Deer Kids
Stupid Park Workers
Well Kept
Feeder
Serene
Bathrooms
Nature Island In The City
Cross Country Skiing
Very Good Place To Study
Label The Trails More Distinctly
Lots To See And Do
Enjoyed
Horrible
Historical Artifacts
Full Time Naturalist On Premises
Pioneer Style Cabins
Good For Young Children
Open Dawn To Dusk
Not Commercial At All
Old Trees
Amazing
Hawk
Mean
Love
Resource
Pond
Grandkids
Easy To Find
Walk
Watching
Deer In Pen
Building Isn't Open Often
Peaceful
Children
Relatively Quiet
Little
Amazing
Birds
Marked Trails
Inside
Relax
Woods
Enjoyed
Serene
Acre
Stupid
Some Traffic Noise
Feeding Fish
Running
Children
Resource
Beautiful
Very Nice
Love
Relatively Quiet
Pioneer Style Cabins
Bathrooms
Frogs
Feel
Great House On The Prairie Feel
Small
Kids
Marked Trails
Native Animals
Explore
Stupid
Discover Nature
No Pets Winter Activities
Many Different Birds
Learn
Mostly Well Maintained
Open Dawn To Dusk
Lots To See And Do
Licensed To Rehabilitate
Very Relaxing
Trails
Deer In Pen
Maple Tree Tapping
Beautiful
Many Different Birds
Small Lake
See
Maple Tree Tapping
Maple Syrup Making
Acre
Deer Kids
Stupid Park Workers
Historical Artifacts
Hawk
Lake
Easy
Maple
Kids
Great
Feeder
Well Kept
Mean
Hawk
Very Nice
Very Good Place To Study
Learn
Watching
Cross Country Skiing
Turtles
Very Impressive
Explore
Bathrooms
Nature Island In The City
Grandkids
With Or Without The Kids
Label The Trails More Distinctly
Maple
Very Impressive
Amazing
Hawk
Walked Right Up To A Deer And Pet It
Building Isn't Open Often
Love
Mean
They Kicked Us Off The Park For Stepping On A Bug
Annoying Bugs
Amazing View
Not Commercial At All
Old Trees
Good For Young Children
Winter Activities
Nature Island In The City
Open Dawn To Dusk
Horrible
Good For Young Children
Pioneer Style Cabins
Historical Artifacts
Full Time Naturalist On Premises
Enjoyed
Lots To See And Do
Running
Great
Won't Come Here Again
Conveniently Located
Serene
Animals
Well Kept
Feeder
Mean
Hawk
Small Lake
Very Nice
Turtles
Frogs
Pond
Deer
Animals
Love



Fig. 7. Word cloud of online reviews of Bowers Farm. The size of the words is proportional to the number of times they were used in the reviews.

The positive sentiments evident in the online reviews are echoed in the survey results. One question in the survey used standardized wording to determine if the visitors to each of the sites would be willing to recommend that site to friends and colleagues. This produces a Net Promoter® Score (NPS) ranging from -100 to +100 that can be compared with the scores from other sites. According to SurveyMonkey, the 2017 global benchmark (based on NPS scores from 191,878 organizations) was +16, while the 2017 benchmark score from 4,623 Education organizations was +30. By comparison, the Bowers Farm score was +72 and the Johnson Nature Center score was +75. Both were within the top 25% of scores for Education organizations.

Who are the community users?

Results from the survey suggest that the "typical" farm customer is a woman (86.8%), 40-49 years old (36.8%), with a graduate degree (46.0%), who has visited the farm 1-3 times in the past year (49.7%).

They suggest that the "typical" nature center customer is very similar: a woman (75.7%), a slightly older 40-49 years old or 50-59 years old (both 25.7%), with a graduate degree (49.3%), who has visited the nature center 1-3 times in the past year (36.7%).

While it is common for respondents to the several surveys I have conducted to skew female, older, and highly educated, these data represent the most predominantly female, youngest, and most well-educated I have encountered.

Where do community users come from?

As Figs. 8 and 9 illustrate, most respondents to both surveys are relatively local, but substantial numbers come from outside the boundaries of the Bloomfield Hills School District (though it isn't possible to measure this number exactly, since the district boundaries do not coincide with zip code boundaries).

> *"We are a neighborhood nature center. We get some regional visitation . . . [but] I would not call us a regional center at all."*

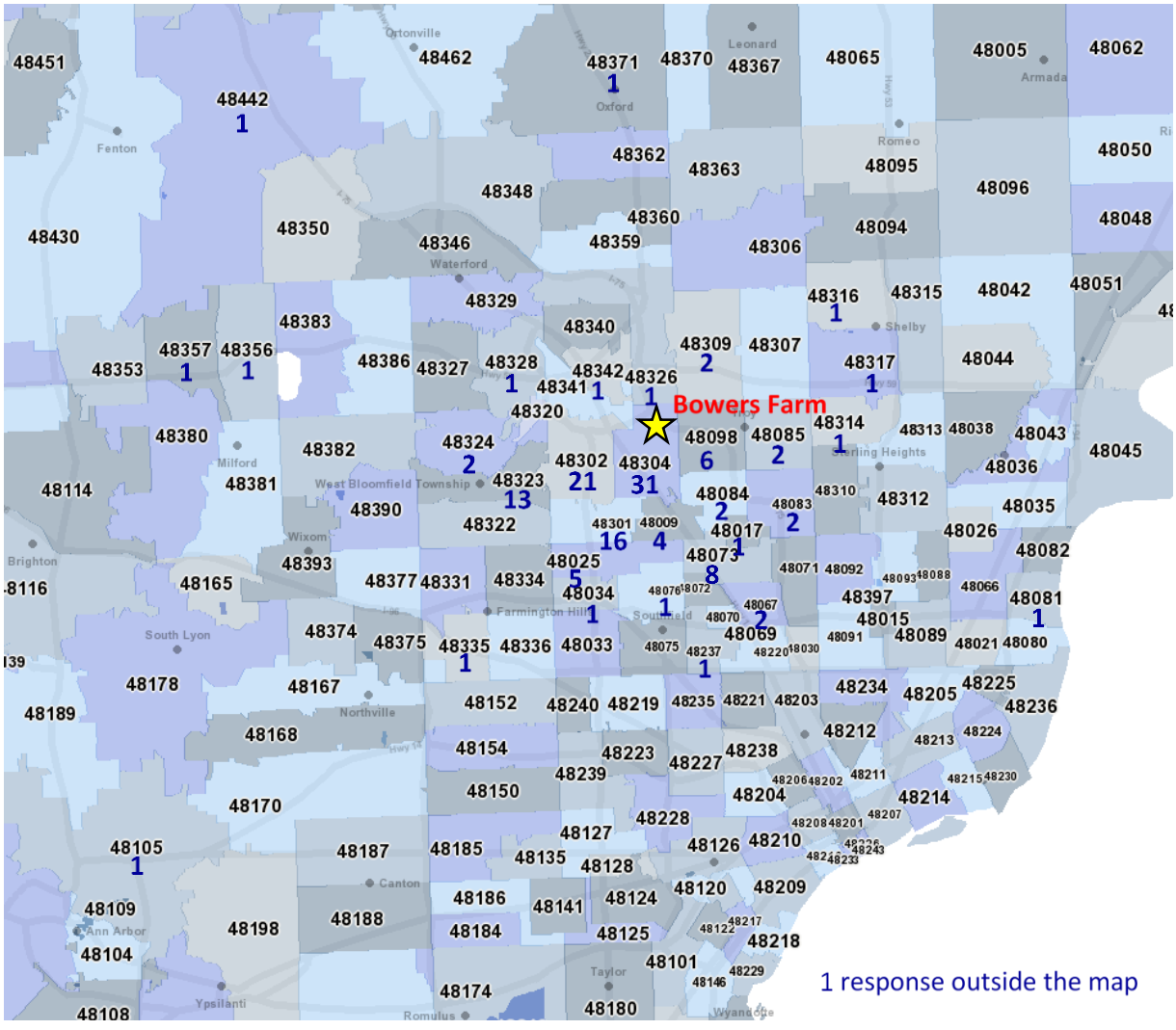

Fig. 8. Home zip codes of Bowers Farm survey respondents.

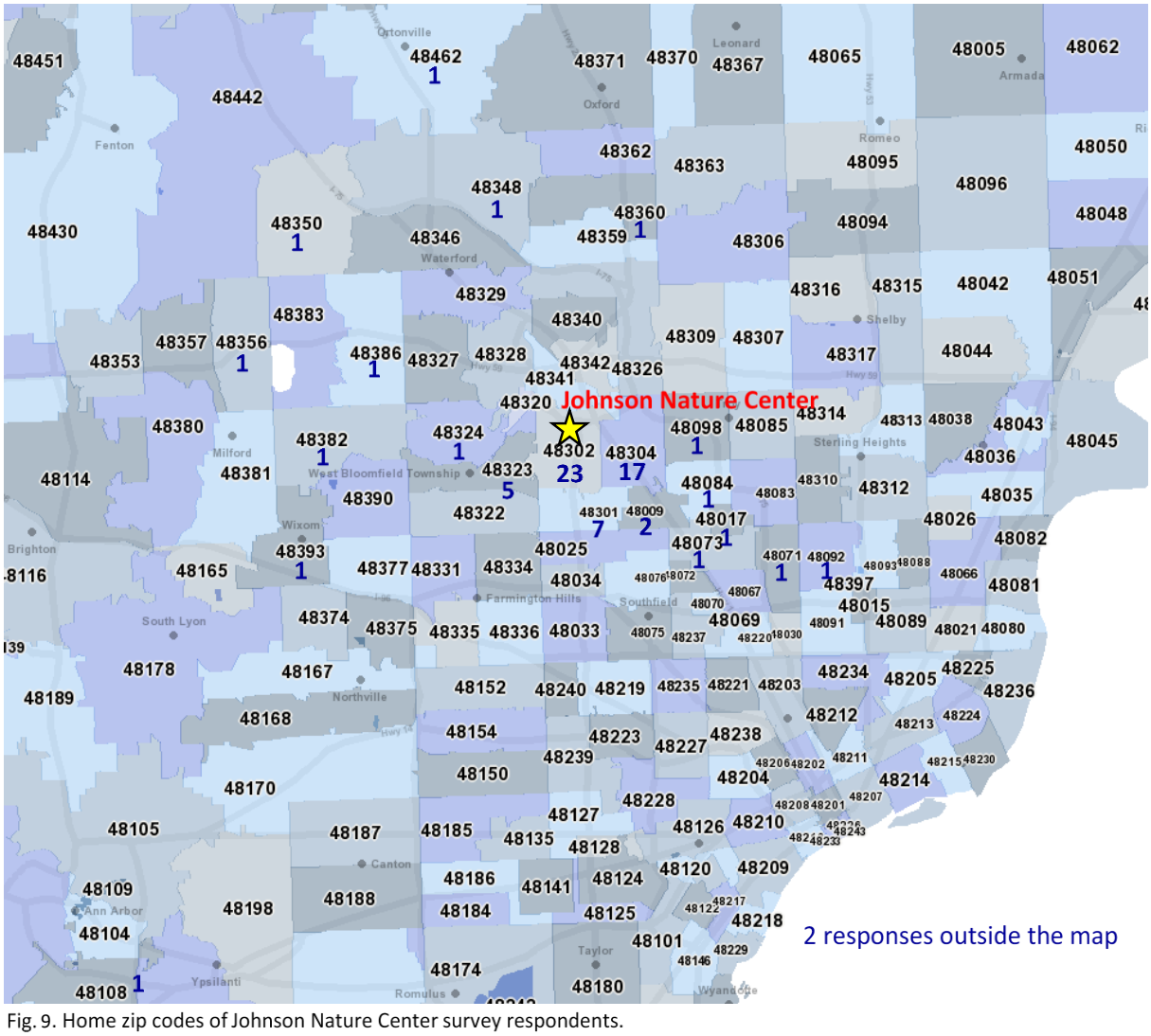

Fig. 9. Home zip codes of Johnson Nature Center survey respondents.

What motivates community users?

Dr. John Falk, a prominent researcher into the interactions between visitors and museums (which includes nature centers and educational farms, at least to a considerable degree), describes five types of motivation for their visits. Individuals may have different primary motivations during different visits, but Falk believes that typically one motivation will predominate during any one visit. He characterizes these motivations as follows:

- The *Explorer* visits because of "curiosity or a general interest in discovering more about the topic/subject matter of the institution."
- The *Facilitator* comes "in order to satisfy the needs and desires of someone they care about other than themselves," typically children, grandchildren, students (in the case of teachers), or out-of-town company.
- The *Professional/Hobbyist* has "a strong knowledge and interest in the content of the institution" and comes "with an eye toward enhancing his or her profession,

avocation, or hobby." Bird-watchers, photographers, and gardeners are three of the more common examples.

- The *Experience Seeker*, often someone from outside the area, is motivated to visit "primarily to 'collect' an experience, so that they [can] say they've 'been there, done that.'" They are often driven by the expectations or recommendations of other people.
- The *Spiritual Pilgrim* visits "in order to reflect, rejuvenate, or generally just bask in the wonder of the place."[6]

For the purposes of this project, I added a sixth category that I would call *Exerciser*, since it is a motivation not typical to the museums that Falk studies but common wherever there are trails (though I think Falk may well consider these users *Spiritual Pilgrims*, since they could exercise anywhere but choose to come to the nature center for reasons other than fitness).

On the survey, I asked respondents to characterize the primary motivation of their most recent visit.

The farm and nature center produced substantially different results. Of respondents to the farm survey, fully 70.7% indicated they were *Facilitators*, suggesting that their motivation in visiting was to provide an experience to people accompanying them (most likely children or grandchildren). At the nature center, on the other hand, while 38.0% fit the *Facilitators* profile, an equal number (38.0%) fit the profile of *Spiritual Seekers*.

Community programming

The surveys and interviews both underscore that most community use of the farm and nature center is driven by school programming. Of the respondents to the farm survey, 54.4% said they learned about Bowers Farm because "my child attended a school program there," and 41.8% of nature center respondents learned about the center in the same way.

> *"Our youth programs are key to our success."*
> *"The most trusted partner to [parents] is their school. . . . I think we have a great opportunity there."*
> *"Darn near half our senior class gets their picture taken at the nature center."*

Visibility in the community

In general, the nature center and farm have comparatively low profiles in the community. When survey respondents were asked how they learned about the sites and invited to mark all the answers that apply, fewer than 10% indicated that they

[6] John H. Falk and Beverly K. Sheppard, *Thriving in the Knowledge Age: New Business Models for Museums and Other Cultural Institutions*, AltaMira Press, 2006

learned about either place through radio, television, magazines, newspapers, websites, or social media.

"So many people don't even recognize we have these jewels right next store."
"I think this resource [the nature center] for the community is invaluable. But not enough people know about it."
"[The farm] needs more exposure in the BHS and other media."(Survey comment)
"People don't know we're a part of Bloomfield Hills Schools. . . ."
"I think [the nature center] is not publicized as well as maybe it should be."
"We have the opportunity to get a lot more people here."
"I have a feeling [the nature center] is underutilized as a public resource."
"I would like more awareness out in the community."

Despite the above comments, there are some people who acknowledge these facilities are not well known . . . and prefer it that way.

"I don't want this place [the nature center] to become a Metropark."
"I wouldn't want to see too much change."

Drop-in visitors

Drop-in visitors are, as the term suggests, people who stop by for a recreational or educational experience unannounced and on their own. Dan Badgley estimates the nature center received about 5,000 drop-ins in FY2017. By the standards of most urban and suburban nature centers, this is a comparatively small number (if accurate). Nonetheless, they make up a significant portion of the center's total users.

"If you need a nature fix, and you only have an hour, you come [to the nature center]."
"There is constant foot traffic [at the nature center]. . . . Whenever I go, the parking lot has four to five cars in it."
"When you walk the [nature center] trails, you're often alone."
"I do think it gets used for geocaching. The people I know don't use the nature center a ton on weekends."

The farm, on the other hand, is not open to drop-in visitors. At one time, the farm did permit cross-country skiing in certain areas, but that practice was discontinued. Many people wish that drop-in visits were permitted. On the survey, some version of "more access to the general public" was written in as a desired change by 22 respondents (17.6%)—the most frequent suggestion made. This may explain one interviewee's observation that when sidewalks were installed along Square Lake Road, people started using them to "access" the farm.

"When I'm here [at the farm] on the weekends, I get so many people who just show up."

"One of the most common questions is, 'When can I come?' It's a little awkward to me that at the farm you need a tour, but [at the nature center] you don't."

"Just having access would be the biggest thing."

"Walking dogs is always a concern."

"Definitely wish is was more accessible to the public!!! Aside from going there on a school/group field trip, there are NO opportunities to visit the farm (aside from one open house a year which is too crowded!)" (Survey comment)

Special programs and uses at the farm

Most of the comments about special community uses of the farm were related to the horse programs and facilities there. It was pointed out that they once had 22 horses instead of nine (like now) because they make money. A multi-purpose building that was a riding arena with a recreation room was mentioned several times during interviews. Some version of "More opportunities with horses" (including comments about adding an indoor facility) was mentioned by 11 survey respondents (8.8%).

"If we had an indoor riding arena, we could do more with horses."

"This county's big for horses. . . . We always have people on a waiting list for horses."

"[An equestrian center] would be awesome. It would be a nice private way to be making money."

Weddings were also mentioned as an activity of interest to the community. The ambience of the barn is a draw. Staff have been married here. The gardens are a draw, too. There are lots of photo ops "all over the place."

Competitive Assessment

Competitors influence strategic planning because they corner resources that your institution hopes to acquire. Those resources can come in many forms. Money from paying customers is the most obvious. However, sometimes the competition is for resources like grant funding, volunteers, or even talented staff. Public sector leaders like school district administrators are sometimes uncomfortable thinking in terms of "competitors"—they prefer to think of themselves and others as "collaborators." However, regardless of how benign their motives and innocent their intents, other organizations that serve the same customers and draw on the same resources as Bowers Farm and the Johnson Nature Center should be seen as competitors. Tables 1 and 2 provide a quick reference to the most obvious ones. However, particularly if BHS strategic planning leads the farm and/or the nature center into new markets (like horse arenas or nature-based preschools), further investigation will likely be warranted to understand better those competitive arenas.

Table 1. Johnson Nature Center competitors.

NAME	LOCATION	OWNER	DISTANCE	WEBSITE	HOURS	FEES	NOTES
The Roeper School	Bloomfield Hills	501(c)(3)	2 m	www.roeper.org/DayCampHome	9:00-3:10, M-F	$680/two wks	A competitor primarily in the summer. Pools, gym, other activities. Woods and creek. Before and after care available.
Cranbrook Institute of Science	Bloomfield Hills	501(c)(3)	2 m	https://science.cranbrook.edu/	10am-5pm T-Th, 10am-10pm Fri-Sat, 12pm-4pm Sun. Day camps 9:30am-3:30pm M-F	Admission $13/adult, $9.50 child. $12/student for school programs (includes admission). Teachers and chaperones are free. Day camps $365-$500/wk (discounts for members)	A natural history museum. Main competition is educational programs and summer camps. Programs are 45 minutes. Birthday parties, rentals. Before- and after-care available for camps.
Stage Nature Center	Troy	City-owned, 501(c)(3)-operated	5 m	http://troynaturesociety.org/	9am-3pm T-F, 10am-4pm Sat. Day camps 9am-4pm, T-F	Free admission. $4.50/person for school programs. Day camps $175/wk (discounts for members)	Most programs are 90 minutes. Birthday parties, rentals. Earned revenues were 24.1% of total income in FY2015, 27.7% in FY2016.
Drayton Plains Nature Center	Waterford Township	Township	7 m	www.waterfordmi.gov/Facilities/Facility/Details/Drayton-Plains-Nature-Center-1	6am-9pm Apr. 15-Oct. 15, 9am-8pm Oct. 16-Apr. 14 Bldg. Saturdays, 10am-6pm (warm months only)	Free admission. Bldg rental fees (extra fee for non-residents).	No alcohol.
Hawk Woods Nature Center	Auburn Hills	City	8 m	http://www.auburnhills.org/departments/parks_and_recreation/parks_and_facilities/hawk_woods_nature_center.php	Trails open 365 days/yr	$25/class	Overnight accommodations available in cabins.
Farmington Hills Nature Center	Farmington Hills	City	9 m	http://www.fhgov.com/Activities/Parks-Facilities/Nature-Center.aspx	10am-5pm, M-Sat, 12pm-5pm Sun	Free admission. $3-$5/person for school programs	Programs for pre-K with an adult.

Dinosaur Hill Nature Preserve	Rochester	501(c)(3)	10 m	http://www.dinosaurhill.org/	9am-4pm T-F during the school year. Trail open all daylight hours.	Free admission. $5/person for school programs. Public programs vary (discounts for members).	Lots of pre-K programs. Most school programs are 1.5 hrs.
Red Oaks Nature Center	Madison Heights	Oakland County Parks	11 m	https://www.oakgov.com/parks/parksandtrails/Red-Oaks/Pages/Red-Oaks-Nature-Center.aspx	10am-5pm, T-Sat, 1pm-5pm Sun (longer in summer)	Oakland County Parks motor vehicle pass required ($30/yr for residents). Most public programs $5-$7/person.	School, scout, and public programs. Birthday parties.
Burgess-Shadbush Nature Center	Shelby Township	Shelby Township	12 m	http://www.shelbytwp.org/departments/prm/burgess-shadbush_nature_center/index.html	10am-6pm, W-Sat Noon-5pm Sun	Most public programs $3/person. Pre-K programs $2/person.	School, scout, and public programs. Birthday parties.
Wint Nature Center	Clarkston	Oakland County Parks	13 m	https://www.oakgov.com/parks/parksandtrails/Independence-Oaks/Pages/Wint-Nature-Center.aspx	10am-5pm, Fri-Sat, 1pm-5pm Sun (six days a week in summer)	Oakland County Parks motor vehicle pass required ($30/yr for residents). Most public programs $5-$7/person.	School, scout, and public programs. Birthday parties.
Sterling Heights Nature Center	Sterling Heights	City of Sterling Heights	13 m	https://www.sterling-heights.net/302/Nature-Center	1pm-5pm, Tue-Fri 10am-5pm Sat	Public programs Free-$16 (varies by program). 50% additional fee for non-residents.	School programs are offered in the mornings. Many public programs are offered as series. Birthday parties.
Indian Springs Environmental Discovery Center	White Lake	Huron-Clinton Metroparks	13 m	http://www.metroparks.com/facilities-education/indian-springs-environmental-discovery-center/	9am-5pm daily.	Metroparks vehicle pass required ($35/yr or $10/day), $3-$6/person for school programs	School, scout, and public programs. Summer day camps. Rental space. No alcohol.

Stony Creek Nature Center	Shelby Township	Huron-Clinton Metroparks	14 m	http://www.metroparks.com/facilities-education/stony-creek-metropark-nature-center/	1pm-5pm M-F, 10am-5pm Sat-Sun (longer in summer)	Metroparks vehicle pass required ($35/yr or $10/day), $3-$6/person for school programs	School, scout, and public programs. Summer day camps. Rental space. No alcohol.
Kensington Metropark Nature Center	Milford	Huron-Clinton Metroparks	18 m	http://www.metroparks.com/facilities-education/kensington-nature-center/	1pm-5pm M, 10am-5pm T-Sun	Metroparks vehicle pass required ($35/yr or $10/day), $3-$6/person for school programs	School, scout, and public programs. Summer day camps. Rental space. No alcohol.



Fig. 10. Stage Nature Center in Troy.

Table 2. Bower School Farm competitors.

NAME	LOCATION	OWNER	DISTANCE	WEBSITE	HOURS	FEES	NOTES
Dutton Farm	Rochester	501(c)(3)	7 m	https://duttonfarm.org	Summer camp is 9am-3pm, M,T,W, F	$40/day	Specific emphasis is persons with developmental disabilities. Day program has a waiting list.
Hess-Hathaway Farm	Waterford Township	Township	11 m	www.waterfordmi.gov/242/Hess-Hathaway-Park-Events-Rental-Informa	10am-8pm Apr. 15-Oct. 15, 10am-4pm Oct. 16-Apr. 14 (closed Wed & Thurs)	Free admission, but fees for programs and donations requested for special events. Bldg rental fees (extra fee for non-residents).	Park has other amenities, including picnic pavilions, playgrounds, etc. Community gardens. Events include sheep-shearing, parties, dances.
Upland Hills Farm	Oxford	Private	14 m	www.uplandhillsfarm.com	Closed in winter. Summer camp is 9:30-3:30, M-F.	$9/person for summer tours, $10 for fall. Day camp $260/wk.	Includes a lake with beach, swimming, and canoes. Some weekend events. Birthday parties, weddings, etc.
Tollgate Farm	Novi	Michigan State University Extension	14 m	https://www.canr.msu.edu/tollgate/	Grounds open 9am-8pm M-Sat. Summer camp is 9am-4pm, M-F	$10-12/student, depending on the program. Day camp is $300-$350/wk depending on session	School programs, 4-H, adult programs, on-site preschool, summer day camps (with aftercare available), rentals, CSA. Earned revenues covered 35.4% of the budget in 2015.
Maybury Farm	Northville	501(c)(3) (Northville Community Foundation)	20 m	https://www.northvillecommunityfoundation.org/mayburyfarm-c1f2v	Seasonal (Mar-Oct), with two weekends in December. Hours vary by season. Summer camp is 9am-4pm T,W,Th.	$6.50-$9 per student, depending on the program. Wagon rides an extra $2.50. Corn maze is $7. Day camp is $195/wk.	Offers educational tours for groups from throughout SE Michigan. Also summer day camps, parties, rentals, and special events including a corn maze.
Kensington Farm Center	Milford	Huron-Clinton Metroparks	22 m	www.metroparks.com/facilities-education/kensington-farm-center	9am-4pm	Vary by type and length of program, higher for those outside the five-county area	Sugar bush, farm tours, pumpkin patch, summer day camps, farmers' market, school and scout programs

Comparable Facilities

When undertaking strategic planning, it is frequently enlightening to examine comparable facilities to see how they have approached similar challenges. There are many educational farms and nature centers throughout the U.S., of course. However, nature centers and educational farms operated by school districts are comparatively rare, and I have not yet been able to find any other examples of school districts that operate *both* a nature center *and* a farm (which would be the closest comparable situation to that of Bloomfield Hills Schools). The next closest match is some other organization that operates both a nature center and a farm, since how to mesh the two is one of the special challenges of this planning process. This section profiles several such organizations.

Delaware Nature Society, Hockessin, Delaware

The Delaware Nature Society (DNS), a 501(c)(3) nonprofit whose mission is environmental conservation, operates three nature centers and one educational farm scattered throughout their small state. Their Coverdale Farm site is located two-and-a-half miles from their Ashland Nature Center, in a fairly rural area.

- The farm site has been donated over the last 25 years by one family. The donors started by giving natural areas. It is soon to be 377 acres, with a last tract coming this year. The agricultural part was acquired 14 years ago, and is the biggest chunk.
- The farm has its own endowment.
- DNS adapted a barn to a classroom and began farm education programs 14 years ago. They started as what Executive Director Brian Winslow characterizes as a "Noah's Ark" program: a diverse menagerie of animals with pens close together for easy viewing—more of a petting zoo than a true agricultural operation. That approach lasted 10 years.
- About eight years ago they began a Community Supported Agriculture (CSA) operation. It has 125-140 members (families), with about 100 half shares and 20 full shares. "It's gone down." There is more competition now, so they have to find other markets.
- Their emphasis is regenerative agriculture that protects water and uses natural buffers. They see this as consistent with their mission as a conservation organization.
- "We're not in the business of selling vegetables—we're in the business of showing people how their food's grown," says Executive Director Brian Winslow. "We also want to grow a new generation of farmers."
- Originally, there was no one manager of the farm—educators answered to one person, and the conservation team handled the land. Now, each of DNS's four sites, including the farm, has its own manager. They report to a single Director of

Sites. Winslow's goal was to have this integrate the sites, and he believes it is beginning to work that way. DNS has overarching goals (like "clean water") and all the sites achieve that in their own way. Site directors meet as a group, and are beginning to plan some joint activities. "Unless you get them in the room as a group, that doesn't really happen," says Winslow.

- They try to keep the activities distinct, so there is reason for visitors to go to both the farm and the nearby Ashland Nature Center. For instance, the nature center wanted to add a beehive (which the farm already had), and Winslow said, "No—that's agriculture—let's keep it at the farm."
- The various sites are not budgeted as separate cost centers yet, though Winslow says he is embarrassed to admit it. They are currently working toward that end. "We need those numbers. . . . [Farming education] is expensive." Financially, the farm doesn't do very well, though some elements of its programs are more financially successful than others. Its kitchen has "gone gangbusters." Anything with cooking and food does well. Also, summer camps there are successful.
- They are moving away from the "Noah's Ark" approach. They are going to get rid of their dairy cow, for instance, because they don't have a dairy. "It's a pretty expensive exhibit." They are going to introduce a grass-fed beef operation, and the education program will be more focused on that. They'll have 30 Red Devon beef. "We're even growing mushrooms in the woods," Winslow says. He refers to the raising of shiitake mushrooms as "an artisan operation." They have focused on production agriculture for two to three years. "We're still in the pilot phase."

(Information from Brian Winslow, Executive Director)

Kalamazoo Nature Center, Kalamazoo, Michigan

The Kalamazoo Nature Center (KNC), also a conservation-focused nonprofit, operates an educational program at its DeLano Farms site, located less than a mile west of the nature center itself.

- The farm features the 1800's DeLano Homestead, farm animals (in the summer), beehives, learning gardens, a log cabin, and miles of hiking trails. According to their website, DeLano Farms' focus is on "land ethics and historical resource education."
- In addition to school programs, DeLano Farms also offers summer day camps, special events (including Fall Fest, Holidays at the Homestead, and the Maple Sugar Festival) as well as regular open houses and wagon rides throughout the summer.
- The farm program constitutes one of the center's "top one or two" programming draws, partly because of the history focus it incorporates.
- They had a CSA operation for five years, but quit in 2016. "We haven't figured it out yet."

- The farm has never fit well into the organization. "It's always been a struggle . . . the farm is not a total fit culturally and in terms of the mission," says President Bill Rose. "They're the 'black sheep,'" adds Chief Operating Officer Jenn Wright.
- The nature center is still refining its ability to track income and expenses for the farm separately, especially in accounting for indirect costs. "I know it loses money. I'm sure of that," says Wright.
- Just one operations crew covers the farm, nature center, and other sites owned by KNC. (They also operate a nature-based preschool, a field station, an urban nature park, and a remote preserve.) The current farm director does not have operations skills, and it stretches their crew to cover an agricultural operation. "It's still not perfect," acknowledges Wright.
- Delano Farms and the nature-based preschool both have their own directors, although some staff go back and forth from the nature center to those sites. Says Wright: "I think it works."

(Information from Bill Rose, President & CEO, and Jenn Wright, Chief Operating Officer)

Cincinnati Nature Center, Cincinnati, Ohio

The nonprofit Cincinnati Nature Center owns a property called Long Branch Farm, which is located about nine miles from the nature center. For many years the organization operated an agricultural educational program at the farm. The nature center still owns the farm, but has discontinued the educational program there because it was not financially viable.

- The farm is 775 acres, long and narrow. Less than a third is agricultural. It is located outside of Cincinnati's urban area.
- The agricultural portion is now leased to a local farmer on a per-acre basis (as opposed to crop shares). It generates some revenue—"probably less than $10,000."
- The property was donated to the nature center many years ago, and opened in the early 1970s. Farm-based education was done there until the early 2000s. The emphasis was "agricultural ecology," and it focused on livestock. Programming included a 4-H program that served "half-a-dozen kids." They also did special events like a "farm babies weekend" and "Firefly Fiddlefest." "It was really a neat program . . . a really effective program." It was also very volunteer-intensive.
- In the early 2000s, the finances "came apart." School visits decreased. Four full-time staff were reassigned to other locations. The livestock program was shut down.
- Now, the site is available for hiking to Cincinnati Nature Center members only. It is also used for a summer camp and select other programs. It is being developed as a native plant nursery, propagating native plants from seed for the nature center's use and—eventually—for sale to the public. There is also a "foraging forest" planted with paw-paws and gooseberries. "We really don't have a farm program any longer."

- It was not controversial to end their farm education program. Some questioned why they were in the farm business. Indeed, it had been suggested internally at one point that the property be sold.

(Information from Bill Hopple, Executive Director)

Implications for Planning

The previous sections of this report are mostly factually-based observations or quotes of the opinions of others. This section is my opportunity to apply my professional judgment, and to attempt to predict the planning implications of the rest of the material in these pages.

There are, of course, many implications contained in the previous sections. I address here only those that strike me as most important to strategic planning for Bowers School Farm and the Johnson Nature Center.

1. **The nature center and farm are integral to the mission of the Bloomfield Hills Schools . . . for now.**
   Nobody, especially at the site level, currently feels much pressure to justify the existence of a farm and a nature center on the balance sheets of a school district. Indeed, nothing I have seen or heard suggests that there is any urgency to do so. Both Bowers School Farm and the Johnson Nature Center enjoy broad and passionate support from the BHS board and administration. However, circumstances –and their associated politics—are always changing. The day may come when your sites' seemingly unassailable position as key components of the school system may be challenged, and that day may come with little advance warning. A stock market crash, a change in school board trustees, a natural disaster—any of these could make a school district-run farm or nature center suddenly seem like a fierce extravagance. I think a sound strategic plan should drive you to do two things to prepare for that day: (1) Become as integral to the curriculum and business model of BHS as possible, and (2) Ensure that your community service programs are financially self-sustaining or demonstrably and defensibly mission-driven. The wealthy community of Birmingham once had a school district-owned nature center, too. It doesn't any more.

2. **The most important role of both the nature center and the farm is to support academic success for Bloomfield Hills Schools students. Providing for the recreational needs of the community, while important, comes second.**
   This message came pretty clear from the BHS board and administration.

3. **Requiring school classes to use the farm and nature center has both positive and negative implications.**
   I don't feel strongly about this issue one way or the other. I just think that it has always been a given that BHS students will be required to participate in field experiences at both the nature center and the farm. There are good reasons for this—site-based field experiences are inherently valuable, it's good to be known by and (presumably) have the support of all the teachers in your district's elementary

and middle schools, and there is a certain predictability and economy of scale that comes with a large, guaranteed audience. I just think you should be open-minded on this point. If the choice is between a full roster of slam-bam, production-line, hour-long programs with lots of teachers who would rather not be there, and a more selective slate of full-day sessions attended strictly by enthusiasts, the second option may make more sense.

4. **The community at large may not understand the prioritization in #2, and this may lead to difficulties in the future.**
   As #2 notes, the BHS board and administration is quite clear that the district's education mission takes precedence over its community service and recreation one. Everyone I talked to agreed . . . except for some Friends group members, who all said the two missions were "50-50." The same dichotomy was apparent, I understand, when the BHS proposed land sales and the recent land swap: BHS saw itself as a school district accessioning excess property, while neighbors and other community members saw it as a parks department reneging on its duty to protect open space. If the farm and nature center want to avoid conflicts that are spawned by this misunderstanding, a good and consistent communication plan will be vital.

   "As a taxpayer of the Township, I feel I should have more access to this [farm] facility." (Survey comment)

5. **Community-oriented programs and activities should be as financially self-sustaining as possible.**
   I discussed this contention in #1. Most everyone agrees with this premise. The real issue is that right now you don't know the degree to which your public programs *are* self-sustaining. It sounds like BHS as an organization is working to make the finances clearer. You should embrace that effort.

6. **Both the nature center and farm are underutilized. This is true for both the school markets and the community markets.**
   A number of people in a position to know said this; I'm just agreeing with them. The challenge will be that, in order to maximize the potential of your physical resources (which is where the underutilization dwells), you'll have to invest money . . . because I certainly don't see any excess capacity in your personnel. That's all the more reason to get a better handle on your costs and benefits.

7. **School programming, in order to reach its full potential, will require better integration with classroom-based work, and greater interaction between site educators and their counterparts in the schools.**
   Awkward schedule blocks, poorly-prepared students and teachers, rushed programming due to short field trip time slots, duplication and repetition of program content within and between sites, an absence of realistic success metrics—all are issues with your current school programming, and all of them can be improved

through better communication. Farm and nature center staff need to be working more closely together, and then should be more fully engaged with teachers, curriculum coordinators, and school administrators in order to make things better for everyone. You've got a head start—there are lots of talented people on the BHS team. It's just a matter of making it a priority.

8. **Better coordination between the farm and the nature center will lead to better utilization of the unique resources of each, and to a more well-rounded experience for users.**
   And, if the past is any indication, you'll all have more fun!

9. **It will be difficult to achieve the full potential of both sites utilizing primarily part-time employees. This contributes to poor morale and staff churn.**
   This is a significant issue for both of your sites, even though the pain is currently felt more acutely at the farm. It is, of course, a situation driven mostly by the numbers—permanent employees cost a lot more than temporary ones even when the aggregate number of hours they put in is the same. If it is any consolation, this same flawed (in my view) business model is rampant in the nature center/educational farm business. But BHS needs to figure it out.

10. **Big staffing changes likely on the near horizon for the nature center will make for both opportunity and risk.**
    As near as I can tell without checking birthdays and asking everyone about their personal plans, it appears that most of the nature center staff will be leaving over the next few years. They will take with them the combination of bad habits and deep wisdom that we all have, leaving a pretty clean slate. Good strategic planning now followed by thoughtful and fortunate hiring later will pay off in many ways, including some currently unforeseen. But bad planning—or an absence of planning—and careless hiring could create a real mess. Begin now to manage this process.

11. **Invasive plant species at the nature center, if left unmanaged, will significantly impact the plant, animal and habitat type diversity on the site.**
    Buckthorn in particular is prone to form impenetrable thickets that squeeze out native plants and make passage very difficult. This in turn may have a detrimental effect on some aspects of current educational programming, especially those that focus on natural diversity. While staff and volunteers have worked with success to push invasives out and replace them with native species, such progress will be ephemeral without continued management.

Addenda

[Addenda accompany the electronic version of this report as separate files.]

APPENDIX B:

Charles L. Bowers School Farm and E. L. Johnson Nature Center
Strategic Planning Retreat Sessions
Final Report
March 16, 2018



Introduction

The Bloomfield Hills School District operates two outdoor sites whose primary purpose is to complement school curricula with site-based, hands-on learning. Those sites are the E. L. Johnson Nature Center and Charles L. Bowers School Farm. Despite their similarities of purpose and approach, in recent years the two sites have been operated mostly independently from one another. In 2017, the determination was made to conduct a joint strategic planning effort, in order to achieve better coordination between the two. That process began with a thorough analysis of both sites and the customers they serve (detailed in the "Summary of Findings" report), and culminated in two all-day planning retreats held on February 2 and March 1, 2018.

The strategic planning process for Johnson Nature Center and Bowers Farm brought together staff from both facilities, as well as other school district personnel and stakeholders from important partner organizations. This document summarizes the process and results of those planning retreats.

PLANNING RETREAT: DAY ONE
FEBRUARY 2, 2018

PARTICIPANTS:
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Dan Badgley, BHS
Todd Bidlack, BHS Administration
Amy Cardin, BHS
Sandy Cohen, BHS
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Josh Gunn, Michigan State University Extension
Mary Hillberry, BHS
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Amy Kiesel, BHS/Friends of the Nature Center
Jessica Koczynski, BHS
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Blanche Wicke, BHS

Methodology

The group was convened by facilitator David Catlin, and proceeded to work throughout the day in both full-group and small-group settings. The Purpose, Consensus definition, and Agenda were determined in advance and presented to the participants, as were most of the Ground Rules. (Several of the latter were added by the group.)

Purpose: To make strategic decisions that impact the farm and the nature center in a way that advances the mission of the school district.

Consensus means "I can live with that and support it." (It does not mean. "I think this is the best solution.")

Ground Rules:

1. Everybody participates.
2. No idea is dumb.
3. Use "headlines."
4. Silence cell phones.
5. Start on time—end on time.
6. Use "Parking Lots."
7. Limit side conversations.

Agenda on Friday:

- Welcome back/Introductions
- Strategy criteria tool
- Brainstorm the Big Questions
- Prioritize the Big Questions
- Define Strategies
- Develop Strategies for the Big Questions
- Define Measures of Success
- Develop Measures of Success for the Strategies
- Identify Next Steps
- Close

Strategy Criteria

What are the organizational values and criteria that will guide all of the strategies we use? This tool, still in draft form, can be used to evaluate both the strategies currently proposed and those that might be generated at a later time to address future

challenges and opportunities. Several of the criteria were suggested by the facilitator, while others were suggested by participants.

STRATEGY CRITERIA: We will undertake strategies that . . .

	STRATEGY A	STRATEGY B	STRATEGY C	STRATEGY D
1. Are consistent with the BHS mission.				
2. Can be achieved with available resources.				
3. Meet the needs of the intended customers.				
4. Are in partnership or collaboration rather than competition with similar organizations				
5. Financial resources are part of the decision—what is the financial risk?				
6. Attract, engage, and excite educators and community members regularly at both locations.				
7. (Design—foster—engineer) greater integration not just between the centers but throughout the system.				
8. Conserve and protect green spaces and promote environmental stewardship.				

Big Questions and Strategies to Address Them

The next step in the strategic planning retreat was to generate key questions affecting the farm and nature center and identify (through a voting process) those that the group considered the highest priority. Several of the Questions were generated by Alan Jaros and Dan Badgley prior to the retreat, while others were suggested by retreat participants. Some Big Questions are accompanied by related questions, independently generated by retreat participants and determined by them to be similar. Subsequent steps developed strategies to address the highest-ranking questions and measures that could be used to gauge success in their application. Along the way, we also captured ideas related to the Big Questions and strategies, and those are also recorded below.

Some questions determined to be of lower priority did not receive attention in the later small group work.

BIG QUESTION #1: How can we be more intentional to increase impact in our instructional programs for learners? And how will we know we've been successful? (34 VOTES)

Related questions

- How do we create programs that enhance help/teach the curriculum? That goes beyond what we can do in the classroom?
- How to nurture excitement for visits to these two sites on a consistent basis?
- How can we improve the position of the farm and nature center to enhance learning for our students?
- How will BHSD ensure the farm and nature center are integrated into our curriculum so they will always be valued and relevant by our educators and community?
- Can we identify and prioritize programs that balance needs of services to students/schools and needs of services to community?
- What opportunities exist for developing innovative teaching practices and evaluation that combine formal and non-formal settings?
- How can we teach students to have a passion to explore and learn experientially throughout their lives?
- How can we increase engagement and authentic learning?
- How can we utilize the farm and nature center to increase authentic learning for all students?
- How do we use both facilities to increase critical thinking, civic-mindedness and environmental stewardship in society?
- How can my students and the community get more out of these two properties?
- How can we best align our instructional programs with classroom instruction?
- How do we increase student engagement and learning opportunities for all ages of students?
- How do we enhance/develop/create instructional spaces that align with our curriculum and allow students the most opportunity to be living what they are learning?
- How do we best support student learning?

Strategies

We will . . . deliberate collaboration of all parties (educators) to develop learning outcomes starting with the end in mind.

- Professional learning
- Vertical alignment looking at all standards
- Inquiry-based pedagogy
- Doable, feasible → outside-the-box to actual reality
- Logistics and resources—time, money, and stuff

Other ideas

- University research partners for evaluation
- Collaboration with University researchers
- Partners in higher education
- Paired teaching between content experts (farm and nature center) and teachers
- Sustained exposure over time
- Professional development
- Delivery process and content (content is process, process is content)
- Look for connections from all standards
- Physical sites: school, farm/nature center, other schools in district
- Making sure we have inquiry
- Think about different "visit" platforms
- Carry over to own campus
- Inception of ideas to practical practice

Measures of success

- Growth (collaboration) meetings and units (outcomes) developed
- Timely pre/post knowledge/experience data
- Share information with farm/nature center
- Effectiveness of logistics

BIG QUESTION #2: How can the farm and the nature center better coordinate programs so they are complementary? (5 VOTES)

Related questions

- How will staff between both facilities collaborate?

Strategy

- Build staffing structure that values collaboration between both sites. Think about SMEs and roles/shared leadership.

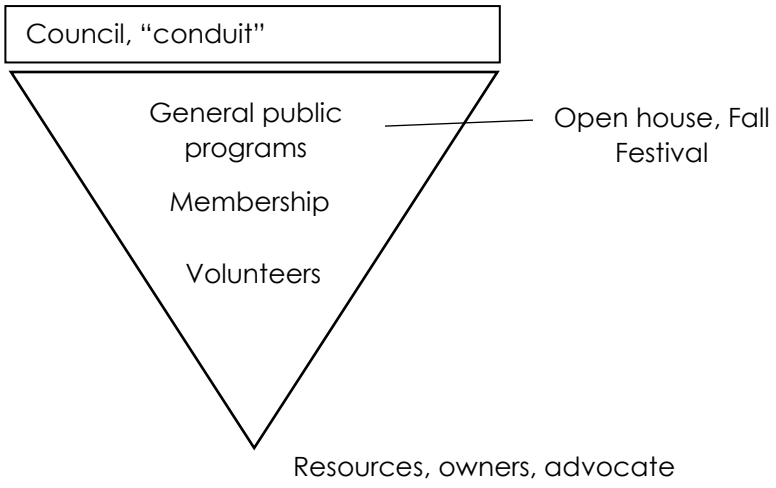
BIG QUESTION #3: How do we ensure that we meet community expectations well enough to retain their financial and political support? What should be the role of Community Services in programming at the farm and nature center? (14 VOTES)

Related questions

- Re: community involvement—How to convert interest and expectations from the community into resources for the farm and the nature center?
- How do we proactively and strategically communicate our efforts and vision?
- This is about migrating the community from a place of ambient curiosity or indifference to a place of informed ownership and advocacy.

Strategies

- Create a conduit for community involvement and conversation.
  - Council, forum, membership
  - Result in awareness, communication, advocacy
  - Nature center and farm
  - Specialized membership "perk"-type incentives
  - Maintain some gateway to non-member program
  - A "funnel"
- Create an active school/community partnership council to foster communication, linking home, school, and community through collaboration.
- Create a network between agencies, civic organizations, and citizens for the purpose of identifying opportunities and concerns that will support and promote specific programs, groups, and projects.



Other ideas

- The demand for community programs is there . . . we need to capitalize on it!
  - Cooking
  - Art
  - Photography, etc.
- Develop framework for Community Forum.
- Identify participating Bloomfield Hills organizations: BHS, farm, nature center, senior center, library.
- Set up kick-off meeting.
- Further define framework for forum: determine organizations involved; when, where, how often to meet; create mechanisms for community outreach.
- Welcoming signage—a system for integrating and orienting people for a public visit.
- Involve the TV of Bloomfield in making a downtown feed for community outreach.
- Utilize Barton farmhouse and Craig log cabin.

Measures of success

- Establishment of community council—who, what, why formally organized
- Develop mission
- First meeting invitation (next three months)
- Determine chairperson (very small chair committee)
- Growth of council

BIG QUESTION #4: How do we create and sustain a preschool at both sites? (8 VOTES)

Strategy

Create new Bloomin' sites at both the nature center and farm, using current resources and knowledge of farm, nature center, and Bloomin' staff and the IB framework already used in Bloomin'.

Convene district committee to move this forward

- Finance
- Facilities
- LST
- Comm.
- Farm/nature center staff
- Bloomin' team
- MSU (prior experience in this!)

Other ideas:

- Get kids outside away from screens, to see and feel what they're learning
- Team to develop curriculum
- Comprehensive facilities review between farm/nature center, Facilities, Barton Malow, etc.
- Marketing strategy
- Explore best practices and attract talent to design and build nature-based preschool model
- Great Start Readiness Program (GSRP) financial assistance
- Who is the director for the preschool at the farm and nature center?

Measures of success

- Have results from comprehensive site surveys
- Financial plan (with identified funding sources) and contingency plan
- Human resources plan—hiring/staff allocation (with help from MSU)
- Public relations—interest survey and results, focus groups
- LST—plan for instruction model and delivery with understanding of how it would work within greater K-12 operation (with help from MSU)
- Comprehensive marketing plan
- PD for co-teaching (with help from MSU)

BIG QUESTION #5: How [do we] increase public access to both sites safely—safely for the plants and animals, safely for the humans? If not accessible, how can we make people care about the two sites? How can we offer more casual recreation use at the farm/nature center (ex. walking paths, etc.)? (3 VOTES)

Strategy
Deepen partnership with MSU Extension to fully operationalize strategic plan.

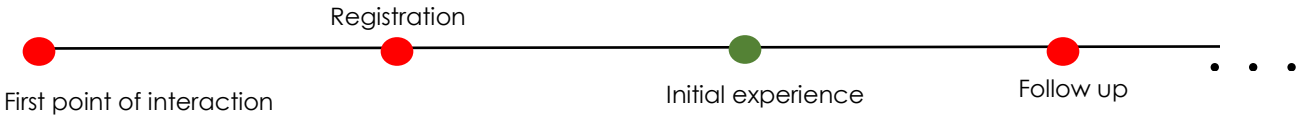
BIG QUESTION #6: How do we improve customer service? Service standards? Public relations? (12 VOTES)

Related questions

- How do we best promote and utilize these facilities as truly unique and special experiences for both Bloomfield community/staff/students AND external users?
- How do we get away from outdated registration/scheduling system, become more customer-friendly, and remove inconsistencies between Farm/nature center (i.e. pricing)?

Strategy
[Implement] service standards of the district.

- Generate revenue to reduce costs for Bloomfield staff, students, and community members.
- Increase advertising to bring new users to the farm/nature center.



Measures of success

- Convened and completed Service Standards sessions
- Actions taken and ongoing (Examples: registration process enhancement, signage enhancement)
- Metrics possibilities
  - Registration # increase
  - Repeat customer increase
  - Less pop-ins (farm-specific)
  - More pop-ins (nature center specific)
  - More audience engagement

BIG QUESTION #7: How do we rely on our big partners to further our mission? (2 VOTES)

No further work was done on strategies for this question due to the low priority assigned to it by participants.

BIG QUESTION #8: How do we address staff turnover? (2 VOTES)

No further work was done on strategies for this question due to the low priority assigned to it by participants.

Next Steps

In order to "get the ball rolling" on the strategies identified, the small groups identified at least one identifiable step that could be undertaken for each, along with a responsible party and deadline.

BIG QUESTION #	TASK	RESPONSIBLE PARTY	BY WHEN?	NOTES
1	1. Share plan with LST → 2. Determine seasonal cycle → 3. Plan collaboration meetings →	1. Todd! 2. Alan and Dan 3. Kristen and Noelle	June 15, 2018	Implement some units by next school year
3	1. Create Community Education Council 2. Create mission 3. Schedule meeting	1. Approval of School Board/ Administration 2. Cathie/Rachel/+? 3. ???	1. Following the first April Board mtg. 2. April 15 3. May 31	
4	Convene team	Cabinet	May 31	Frontload community survey with questions to determine interest
6	Schedule Service Standards process	Shira Good	June 30, 2018	Include farm and nature center staff who are day-to-day employees

"Parking Lots"

Ideas and questions generated by discussions that didn't directly relate to the question of developing strategies for both the nature center and farm were recorded for possible later use.

Farm-related Questions and Ideas

- Farmers market
- Wine, beer, etc., tasting
- Cooking classes for students and adults
- Music on the farm events
- Brunch/dinner with Santa or other holiday events
- Garden walks
- How-to-raise-chickens class

- Birthdays
- Nerf wars (like paintball)
- Barn dance
- Partner with Oakland University (classes)
- Vet camp
- Combined camps for both locations
- Add signage explaining in friendly manner why farm isn't open to public so people who stop by understand.
- Didn't want this to be overlooked . . . the need for full-time staff positions at the farm and more hours for part-time.
- How to increase public access to the farm safely—permanent staff presence?
- Sunsets at farm gazebo one time/month. Bring your own beverage and share an appetizer.

Nature Center-related Questions and Ideas

- Geology camp
- Combined camps for both locations
- Longer K-12 programs
- Outreach to schools
- Project-Based Learning projects—pre-built social studies and science (and ELA and math) PBL units/field trips
- PBL science camp
- Differentiated field trips
- Replace departing key staff members—are there internal candidates?
- How do we transition/change staff at the nature center, which will ensure the continuation of land management practices and quality programs?
- How do we maintain land management practices that are environmentally sound?
- How to improve the natural habitat by controlling invasive species and planting native species. Staff needed.
- Open moonrise on the deck—viewing, or by the pond campfire? Bring your own beverage and share an appetizer.
- Interpreter evaluation sheets filled out by teacher or leader.

PLANNING RETREAT: DAY TWO
MARCH 1, 2018

PARTICIPANTS:
Dan Badgley, BHS
Amy Cardin, BHS
Sandy Cohen, BHS
Jackie Doran, BHS
Karen Fenwick, BHS
Michelle Golembieski, BHS
Alan Jaros, BHS
Jessica Koczynski, BHS
Ellen Koehler, Michigan State University Extension
Corinne Mathis, BHS
Mike Mathis, Michigan State University Extension
Isabella Tillman, BHS
Blanche Wicke, BHS

Methodology

Staff determined that the first strategic planning retreat session—the only session originally scheduled—did not adequately address several of the issues important to a joint farm/nature center plan. For that reason, a second session was added a month later. Most of the participants in the follow-up session had participated in the first session; several additional participants were added to represent field staff at the farm and nature center, since most of the issues to be covered in the follow-up session were especially relevant to site-specific personnel. David Catlin again facilitated.

Edits made to the Purpose, Ground Rules, Strategy Criteria, Big Questions, and Strategies that were originally drafted as part of the initial retreat are shown below in red.

Purpose: To finish making strategic decisions that impact the farm and the nature center in a way that advances the mission of the school district.

Consensus means "I can live with that and support it."

Ground rules:

1. Everybody participates.
2. No idea is dumb.
3. Use "headlines."
4. Mind your e-manners.
5. Start on time—end on time.
6. Use "Parking Lots."
7. Check in later about weather concerns. [NOTE: Snow was in the day's forecast.]
8. Be patient with others' ideas.

Shared Values of the Nature Center and Farm

At the suggestion of Alan Jaros and Dan Badgley, the group spent some time identifying and discussing the values and beliefs shared by the farm and nature center. A list of values was created through a brainstorming process, and participants voted for those they felt should be given the highest priority.

"At Johnson Nature Center and Bowers Farm, we believe that . . . "	VOTES
1. Children are innately curious.	0
2. We share a land ethic.	0

3. We provide a unique setting for hands-on learning by experience.	5
4. Having a positive experience in the out-of-doors is our highest priority.	5
5. Each child should leave with a smile on their face.	1
6. Both facilities bring to life classroom subject matter.	2
7. The customer is key to our success.	3
8. We need more time.	1
9. We are an extension of the school classroom.	4
10. Our experience cannot be done in the classroom.	1
11. Authentic learning through experience is most effective.	8
12. Heritage is important.	1
13. Experience can be the best method of teaching.	2
14. If we can teach children to care about and respect the natural world, they are our best hope.	6
15. Informal education is an important component of a well-rounded education.	2
16. Children are the ambassadors of the outside.	1
17. Showing relevance (real world connections) while having fun is critical.	4
18. Our purpose is unknown to many.	3
19. We have tremendous untapped potential.	1
20. Partnerships increase potential impact.	4
21. We are the experts in inquiry learning.	6
22. People should be prepared with 21st century skills.	7
23. Without plants and animals we cannot be successful.	1
24. We create memorable, meaningful experiences in the outdoors.	4
25. We are co-learners with our visitors.	0
26. Our passion drives value for our customers.	4
27. We're seen as the experts in inquiry-based learning.	0
28. We're always striving to be better.	0

Strategy Criteria

The Strategy Criteria drafted before and during the first retreat was refined by Alan Jaros and Dan Badgley prior to the follow-up session, and presented to the group as a guideline for evaluating strategies.

STRATEGY CRITERIA: We will undertake strategies that . . .

1. Are consistent with the BHS mission and our shared values.	HIGH MED LOW
2. Can be achieved with available resources (money, staff skills, available time, structures, natural resources, etc.).	HIGH MED LOW
3. Meet the needs of the intended customers (students, educators, community members, etc.).	HIGH MED LOW
4. Design, foster, and engineer greater integration between the centers and throughout the District.	HIGH MED LOW
5. Are in partnership or collaboration rather than competition with similar organizations outside the District.	HIGH MED LOW
6. Conserve and protect green spaces and promote environmental stewardship.	HIGH MED LOW

7. Have a SMART way to measure success.	HIGH MED LOW
8. Have a high probability of success.	HIGH MED LOW
9. Have a champion.	HIGH MED LOW

Big Questions and Strategies to Address Them

BIG QUESTION #1: How can we be more intentional to increase impact in our instructional programs for learners? And how will we know we've been successful?

This Question, which received small-group attention during the first planning session, was revisited and refined during the second session. Additional potential strategies were brainstormed, and participants voted to indicate those they felt should have the highest priority.

Strategies

STRATEGY	VOTES
1. Farm and nature center educators and classroom teachers ~~We~~ will ~~..~~ .engage in deliberate collaboration ~~of all parties (educators)~~ to develop learning outcomes starting with the end in mind. • Offer and participate in ~~P~~professional learning • Consult with curriculum leaders to ~~V~~vertically align~~ment~~ program objectives, looking at all standards (Michigan standards, Next Generation Science Standards, etc.) • Use ~~i~~inquiry-based pedagogy as a foundation for programs • Doable, feasible → outside-the-box to actual reality	24

• Logistics and resources—time, money, and stuff	
2. Invite farm and nature center staff to attend building grade level meetings—tell us how we help your programs.	15
3. Engage District curriculum leaders.	19
4. Create a program schedule that better fits classroom curriculum timing.	31
5. Hire full-time staff.	11
6. Perform and share formative and summative assessment of student learning between site and school.	16
7. Increase formative assessment throughout programs.	0
8. Create experience-based programs with real-world relevance.	1
9. Instill cognitive, psychomotor, and affective educational objectives.	0
10. Take the time necessary to provide impactful programs.	24
11. Increase communication between instructors and teachers.	0
12. Promote impactful work and learning and communicate our value.	0
13. Host a Field Day or Teacher Training at our sites (in August).	14
14. Develop summit.	0
15. Provide staff with knowledge and skills to become expert in their field.	0
16. Provide follow-up materials for students and teachers.	0
17. Make staff guides part of the new hire interview process.	0

BIG QUESTION #2: How can the farm and the nature center better coordinate programs so they are complementary?

This Question did not receive small-group attention during the initial planning retreat, but was deemed important enough by the nature center and farm managers to merit discussion at the follow-up session. Participants brainstormed possible strategies, and selected those they felt were most important.

STRATEGY	VOTES
1. Build staffing structure that values collaboration between both sites. Think about Subject Matter Experts and roles/shared leadership.	26
2. Coordinate efforts to assure consistency with curriculum, pricing, and schedule.	11
3. Physically observe each facility's programs.	6

4. Coordinate between both facilities on a continuum programming by grade level.	7
5. Offer all-day programs for all grades—no pre-K. Include 8th grade.	18
6. Combine staff meetings for each program. Build a curriculum leadership team to collaborate on programs.	0
7. Better communication regarding high school science class at the nature center and farm to increase enthusiasm.	1
8. Participate in prior introductions (in classroom) before programs.	2
9. Hire specialized staff for shared administrative leadership.	21
10. Build a joint operations team for outdoor sites.	0
11. Articulate shared values.	0
12. Create a shared curriculum map for both facilities and a collaborative web-based resource folder and calendar.	12
13. Twice a year, meet together to give an overview of all programs so staff knows what each site does.	0
14. Create a master guide of classroom curriculum to be shared between teachers and nature center/farm staff—each year.	0
15. Begin a program at one site, move to other site.	0

BIG QUESTION #3A: How do we ensure that we meet community expectations well enough to retain their financial and political support?

In the February 2 planning session, two questions related to providing services for the community were linked together as Big Question #3. During the March 1 session, participants elected to separate the two and discuss them further. They are inserted here as Big Questions 3A and 3B.

STRATEGY	VOTES
1. Create a conduit for community involvement and conversation. • Council, forum, membership • Result in awareness, communication, advocacy • Nature center and farm • Specialized membership "perk"-type incentives • Maintain some gateway to non-member program • A "funnel"	0

2. Create an active school/community partnership council to foster communication, linking home, school, and community through collaboration.	0
3. Create a network between agencies, civic organizations, and citizens for the purpose of identifying opportunities and concerns that will support and promote specific programs, groups, and projects.	0
4. Offer public program(s) each month . . . alternating sites. Open to public, all age groups. Facility OPEN (e.g. 2nd Saturday of the month, 10am-1pm, FREE). Planned/special activities offered.	3
5. Utilize the Communications Department. Point person at each site to send info to Shira/Lauren. • Local publications (Eagle, Beacon) • Social media • Libraries • Senior centers • Etc.	26
6. Offer more consistent volunteer opportunities for interested community members.	23
7. Seek community input and feedback on what they want to see at the farm/nature center.	1
8. Give back to community.	3
9. Develop signage.	6
10. Relate our purpose to our community.	0
11. Offer more community-based programs.	28
12. Encourage staff to be more visible and approachable before, during, and after EVERY program.	1
13. Offer weddings.	0
14. Reduce risk by offering strong, quality community programs.	0
15. Encourage staff to put electronics away during entire program.	0
16. Add registration and nominal fee (so we know counts and can just charge "family fee").	2
17. Create scholarship fund for those who can't afford bus/entrance fee.	11

BIG QUESTION #3B: What should be the role of Community Services (Recreation Department) in programming at the farm and nature center?

Participants generated several possible strategies for this question, but time did not allow for discussion or voting on them.

STRATEGY	VOTES
1. The role of Recreation/Community Services should be to support the programs by: • Publicity • Registration • Equipment usage	--
2. Create more open lines of communication between the two sites and Recreation Department.	--
3. Create our own farm/nature center break-even community programs with full-time staff.	--

BIG QUESTION #8: How do we build a more engaged ~~address~~ staff ~~turnover~~?

This Question was included in the February 2 list in its original form, but did not receive enough priority votes to merit its own small-group discussion. The wording was revised by the site managers prior to the March 1 session, and addressed at that time.

STRATEGY	VOTES
1. Offer a fair, equitable, and livable wage and benefits.	37
2. Create job titles reflective of the work conducted. (Compare titles to other similar organizations.)	1
3. Invest in professional learning opportunities. (Offer educational tuition assistance.)	27
4. Involve staff in important decision-making.	9
5. Recognize staff for accomplishments.	3
6. Focus on a culture of excellence.	3
7. Make staff relevant to the system and District staff.	0
8. Ensure there is an ongoing evaluation of staff salaries.	0
9. Evaluate staff and set performance standards.	14
10. Have fun!	6
11. Communicate with staff.	3
12. Work as a team with program development between managers and staff.	0
13. Provide benefits.	0
14. Conduct 360° evaluation.	0
15. Evaluate part-time/full-time need based on individual's personal need and desire.	0

16. Make sure that staff feels valued and all input is heard and considered.	0
17. Allow more opportunities for staff's special interest and programs and projects to be offered.	0
18. Staff rewarding other staff regularly.	0
19. Conduct regular combined meetings with both nature center and farm staff (re: programming).	0
20. Create Qualtrics survey for teacher feedback regarding staff performance, per program.	0
21. Recruit staff with specific experience and intention.	1

BIG QUESTION #9: How do we address the need for periodic capital expenditures at both sites?

This Question was not a part of the discussions during the February 2 planning session, but was added by site managers prior to the March 1 session and discussed at that time.

STRATEGY	VOTES
1. Create our own timeline and bring it to the Board.	0
2. Fundraise with the community.	4
3. Request to be added to the District's facilities timeline.	26
4. Increase the value of the farm and nature center to be equal to core facilities.	0
5. Ask to have a nature center/farm representative on the decision-making body.	7
6. Determine the need for capital improvements through bringing on an expert.	12
7. Put it in the strategic plan.	0
8. Evaluate what they spend on other schools.	0
9. Increase our understanding of the District's capital expenditure process and increase communication with those who determine it.	4
10. Meet with Superintendent, Business office, and head of building and grounds.	7
11. Conduct a capital needs assessment of both facilities.	19
12. Highlight safety issues; make our voice loud and clear.	9
13. Get grants for capital expenditures.	0
14. Develop a long-term capital improvement calendar.	0

Johnson Nature Center Master Plan 2027 July 2023

BO-B01

Source Record

Johnson Nature Center Full Master Plan 2027.pdf

Review Context

Historical July 2023 planning baseline. Costs, visitor estimates, proposed projects and acquisition concepts are not current authorizations. The failed 3115 Franklin Road proposal is excluded from the current IPP.

Reproduced source pages: 138
Appendix source-page range: 174–311

Open Source Record in Google Drive



BLOOMFIELD HILLS SCHOOLS JOHNSON NATURE CENTER

JOHNSON NATURE CENTER MASTER PLAN 2027

Phase 1: Facility & Market Analysis
Phase 2: Strategic Plan
Phase 3: Master Plan Report

July 2023

FELIS consulting

JOHNSON NATURE CENTER
BLOOMFIELD HILLS SCHOOLS

Monumental Strides



Phase 1 Report: Facility & Market Analysis

FELIS consulting

JOHNSON NATURE CENTER
BLOOMFIELD HILLS SCHOOLS

Monumental Strides

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STRATEGIC & MASTER PLANNING

3 PHASE PROCESS

Phase 1
Facility & Market Analysis
(Aug – Nov 2022)

Phase 2
Strategic Planning
(Nov 2022 – Jan 2023)

Phase 3
Master Planning
(Jan 2023 – May 2023)

Define our starting point

- Assess current site, facilities and operations
- Assess current market performance
- Identify SWOT

Define our Destination

- Identify goals and vision for next 5 yrs.
- Define the strategies and action plan to reach these goals

Create a Roadmap for Implementation

- Design the program and site plan for Nature Center improvements
- Identify key stories and overarching messages for guest experience
- Phased diagrams and illustrations to build stakeholder excitement and assist with fundraising efforts

PHASE 1 EXECUTIVE SUMMARY

The Johnson Nature Center is a unique asset for the Bloomfield Hills communities - rich in history and showcasing landscapes and ecosystems found in southeast Michigan. Since acquiring the land in 1968, Bloomfield Hills Schools has transformed this property into a large outdoor classroom, allowing students and community members hands-on learning opportunities to experience and connect with nature. Welcoming all ages primarily from within a fifteen-minute drive, the nature center seeks to inspire lifelong curiosity and positive change through engaging and meaningful experiences with nature, food, and sustainable natural resources.

SITE & FACILITY ANALYSIS

Sited on almost 43 acres, developments supporting the nature center's operations are primarily focused in one defined area centrally located at the west edge along Franklin Rd. These developments include a Visitor's Center, PREP House and animal enclosures. There are other small structures (Cabin, Barn and Sugar Shack) located on the north side of the lake, but otherwise 90% of the parcel is intentionally left undeveloped with walking trails throughout the forests. Keeping most of the area natural and minimizing man-made improvements is a directive from all stakeholders moving forward.

Many of the facility's buildings and infrastructure systems are aging or no longer serve the needs of the Nature Center. Of particular importance is the entry sequence, which is confusing, inefficient, and does not allow tracking of visitation easily. Additionally, through a team evaluation of the facilities based on age/condition, functionality/efficiency, and guest experience, the PREP House, garage, bridge, docks, and the East Loop trail were all identified as the most critical elements to be addressed in future plans.

An Accessibility Evaluation was completed by an Inclusive Recreation and Accessibility Consultant (Cynthia Burkhour) who evaluated the site and all facility spaces for accessibility compliance. The site is currently very limiting for people of varying abilities, especially those with limited mobility. Some key recommendations include:

- Redesigning select pathways for appropriate slopes and surface materials to facilitate accessibility for all abilities.
- Providing information about accessibility on the Nature Center's website, at the Visitor Information Center and on signs located across the site.
- Providing all-terrain wheelchairs to help with navigating less accessible routes.

CURRENT PROGRAMS

While most of the education and community programs currently target K-5 students, Johnson Nature Center does offer programs and events focused on engaging the community and adults throughout the year. While visitors and non-visitors alike request more of these programs and at a lower price point, program capacity is currently limited due to lack of staffing. However, the most popular activities attracting visitors to the site focus on opportunities to connect with nature - trail hiking, looking at the pond, and viewing/interacting with animals.

PERFORMANCE ANALYSIS

The Felis Consulting team analyzed attendance data and revenue data to understand how the site/facilities and business overall is performing. Our attendance analysis confirmed that the toilet and parking capacities meet the Nature Center's needs for daily operations (not including events), but a restroom should be added within the property to shorten the travel distance for small children and visitors who have mobility impairments. The business analysis highlights the complications in the current public-private hybrid management and funding structure and conveys the need for additional revenue streams to support education and community programs.

COMPETITION & BENCHMARKING

Competitors for Johnson Nature Center don't just include other nature centers in the area but also parks, botanical gardens and institutions that provide visitors the opportunity to connect with nature. When looking at the competitive landscape, we identified the following top competitors:

- Leslie Nature Center has strong student education programs and is a frequent destination for school field trips.
- Stage Nature Center is a notable competitor due to its proximity to Johnson Nature Center and its volunteering opportunities.
- Belle Isle Nature Center is a popular attraction since visitation is often grouped with the area's other nearby attractions.

Additionally, Kalamazoo Nature Center was identified as a strong benchmark within the state of Michigan and will be referenced in future discussions regarding growing our nature center.

Competition assessment included site visits and online research and was focused on helping the Nature Center understand what makes them unique. Qualities that differentiate the Johnson Nature Center experience from others include the following.

- Unique assets
- Engaging experiences
- Successful educational programs

BRAND & PUBLIC PERCEPTION

The Felis Consulting team conducted a stakeholder workshop and a public engagement survey to gather data supporting the perception of the Nature Center, as well as brainstorm ideas for improvement. The community recognizes and values the roles the Nature Center plays in supporting education efforts (BHS and nature-related) as well as providing opportunities for community members to unwind and experience nature. Non-visitor perceptions were more focused on the educational aspect while visitor perceptions understand a balance between education and nature-based experiences. Further, visitors do not want future developments to compromise these characteristics. One of the most noted barriers for visitation is a lack of awareness (far greater than Bowers School Farm), especially related to events, programs, and generally what there is to do at the Nature Center.

SWOT

Using feedback from our public engagement efforts and internal workshops with key stakeholders, we outlined the Nature Center's internal strengths and weaknesses as well as external opportunities (trends/events that the Nature Center can use to support its growth) and threats (trends/events that can derail growth efforts.) These will be key in Phase 2 as we identify the Strategic Plan goals and strategies for 2027.

STRENGTHS

Nature Center Features, Programs & Attractions

Publicly accessible trails

Site, historic structures and unique programs communicate stories of the past, present and future

Flexible Visitor Center space

Wing Lake Building has potential for greater use

Strong partnerships with BHS K-5 curriculum

Education Support & Career Pathways program

Successful community events

Trust grant in place to preserve the land

Team & Internal Culture

Strong, talented, motivated and effective team

Friendly & welcoming staff focused on educating and engaging visitors

Strong creative problem-solving skills among all team members

Passionate and engaged volunteer groups

Active Friends of JNC group

Partnerships with local libraries, businesses and organizations

Brand & Public Perception

Peaceful and safe retreat for people to connect with nature in the city/suburbs

Authentic and experiential environment that welcomes all

Birmingham resource

Strong community support

WEAKNESSES

Team & Internal Culture

Additional staff needed for any future growth

Current hiring constraints and limited HR capacity makes hiring new employees a difficult process

Nature Center would benefit from stronger representation and positioning in BHS

BHS has limited resources to assist with conservation efforts

Nature Center Features, Programs & Attractions

Site is landlocked with limited expansion options

Parking is a limiting factor for events

Facility is not designed for competing uses to occur simultaneously (e.g. education, public use, events, etc.)

Few hands-on exhibits in the Visitor's Center

Limited revenue streams to supplement BHS funding

Lack of data on general attendance visitors limits JNC's ability to quantify annual visitation and understand current audiences

Nature Center doesn't know the maximum visitor capacity for balancing visitor experiences and guest impacts on the site

Limited information available for current trail system

Physical accessibility of the site

Community based programs are limited due to cost, staffing and marketing

School educators leading tours & school experiences lack the fundamental knowledge about JNC site and facilities

Brand & Public Perception

Stronger marketing strategy needed to inform the community about current attraction offerings, programs and events

Public doesn't understand the Center's funding structure

OPPORTUNITIES

New Markets

Commercial Photography

Public demand for the following could provide new visitors and sources of revenue

- Public fishing
- Overnight camping
- Food experiences
- Private rentals for events

Customer and volunteer pools are growing among the following groups

- Retiring Boomers who are looking for something to do
- People looking to recover from burnout and stress

Funding and Growth

Economic downtowns result in increased BHS student enrollment

Large pool of potential donors in the Bloomfield Hills area

Grants available through the Dept. of Natural Resource to assist with improving accessibility issues and other site improvements

Corporate partnerships are looking to give donations and volunteer hours

Growing Friends of the JNC group with an ongoing focus to strengthen community support

Several upcoming opportunities for land acquisition (including parcels adjacent to the current Nature Center property)

THREATS

BHS Board & Community

Private school attendance continues to limit the following.

- Financial support
- Students reached through field trips and BHS programs

Competition with municipal funded facilities and programs

Connection with BHS can hinder some grant and donor funding eligibility

Operations

The following issues impact staffing

- Retaining current staff and attracting new staff as many are looking elsewhere for jobs that pay more for less work
- Hiring process and training takes time

Wooded environment and open accessibility to public present opportunities for criminal activity

Conservation Efforts

The following could negatively impact the site's ecological footprint.

- Activity upstream on the Rouge River
- Residential fertilization and run-off
- Climate change
- Invasive species
- Increases in wild animal populations
- Noise pollution from adjacent roads

SECTION 1:
WHAT IS THE NATURE CENTER TODAY?



VISION & MISSION STATEMENT

Vision

We are growing a better future by:

- Cultivating community
- Inspiring learners to find purpose & create change
- Engaging visitors through meaningful & memorable experiences

Mission Statement

To promote conservation and stewardship through meaningful experiences in nature

Both the Farm and the Nature Centers share a common purpose - to inspire authentic learning through hands-on experiences.



CORE VALUES

We are committed to building a community focused on health, healing and the sustainability of all life on earth.

- Place: We will cultivate attention to the beauty and wonder of nature, the harvest and the interconnectedness of all living things.

- Inquiry: We will partner with all members of our community to draw in a wide range of strengths and knowledge in order to design and provide educational experiences that promote equity and compassion for all. We will do so through a process that is rooted in inquiry and reciprocity.

- Civic engagement & action: We will develop awareness and inspire positive change by welcoming, engaging and supporting our local community members and visitors.

SITE ANALYSIS

What is the current state of the physical facility?

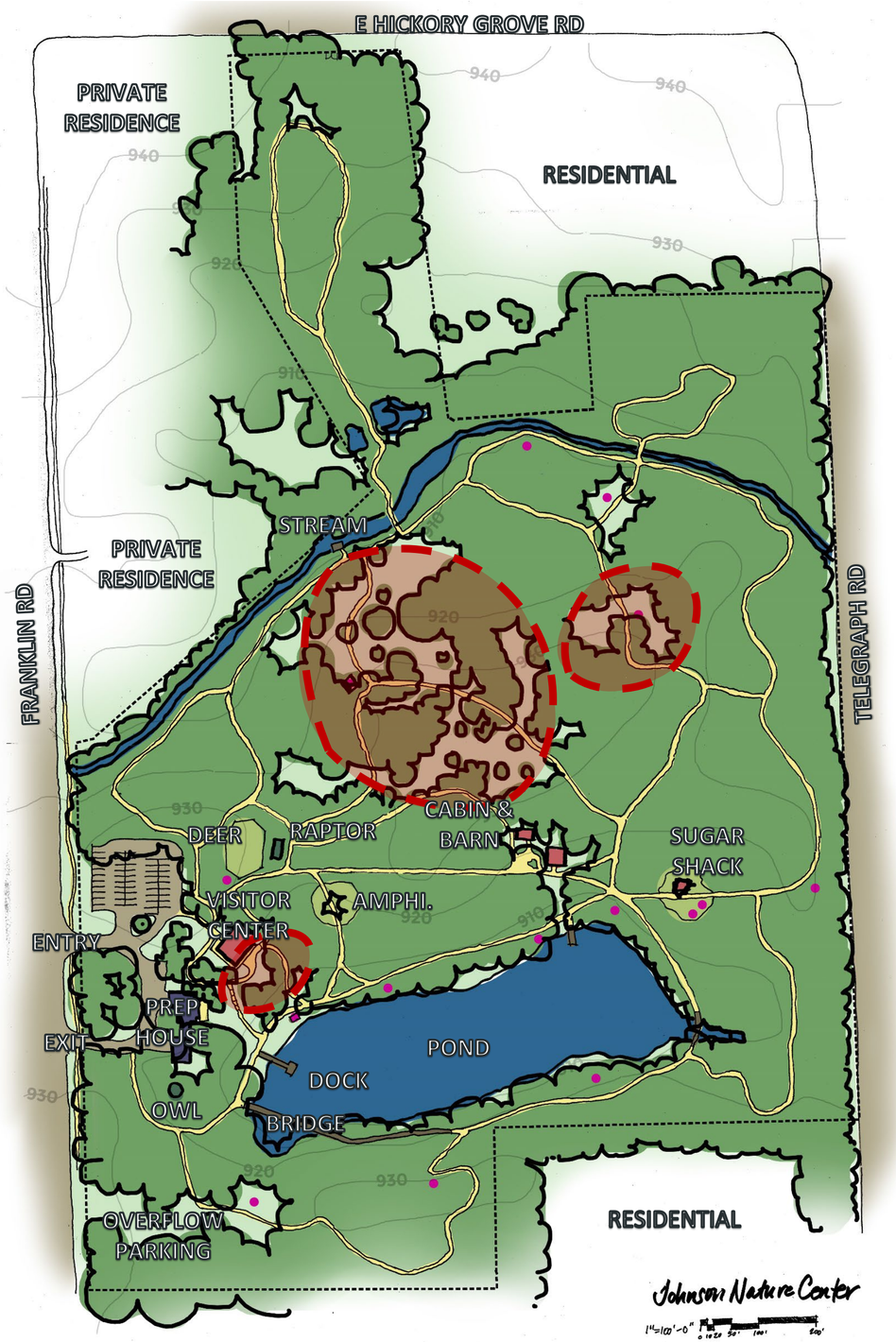
What are potential opportunities and challenges to development?

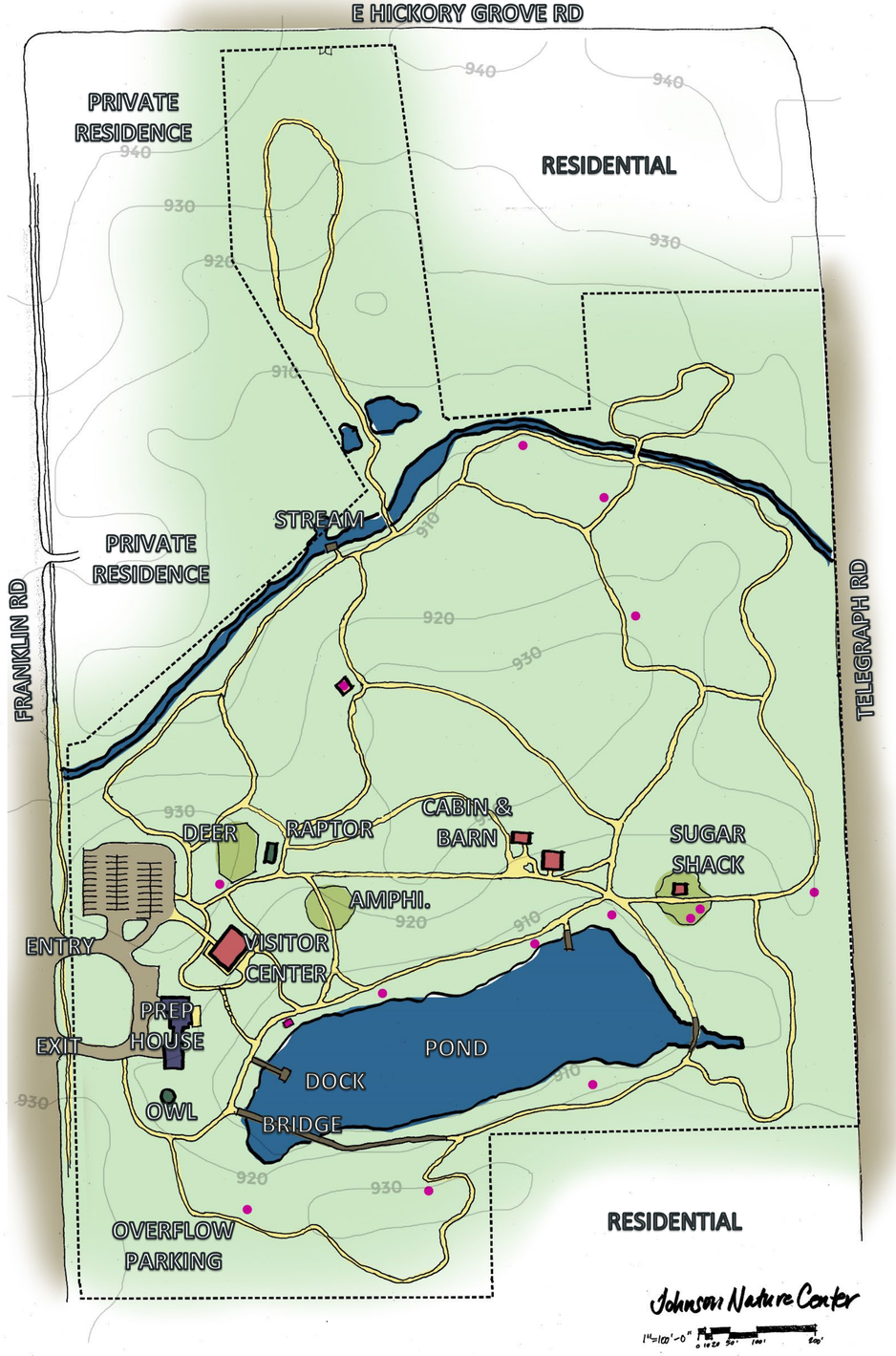


EXISTING SITE PLAN

~43 total acres

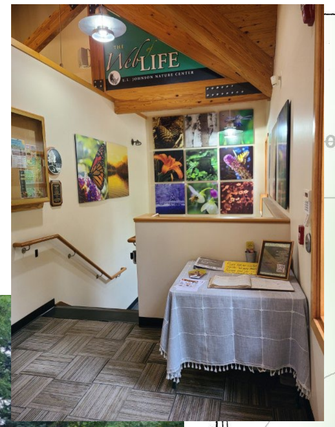
75% tree coverage





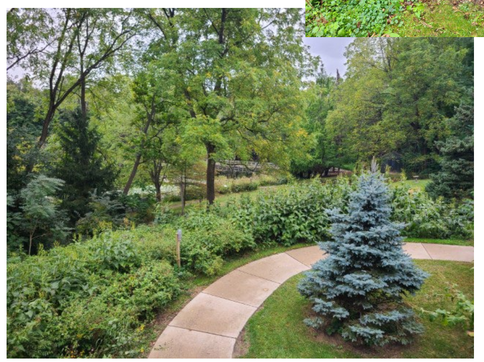
- BENCH
- GUEST PATH
- ROADS & PARKING
- GUEST ACCESS BUILDINGS
- BACK OF HOUSE BUILDINGS
- ANIMAL SHELTERS
- POINTS OF INTEREST
- TREES & VEGETATION
- WATER
- PRESCRIBED BURN

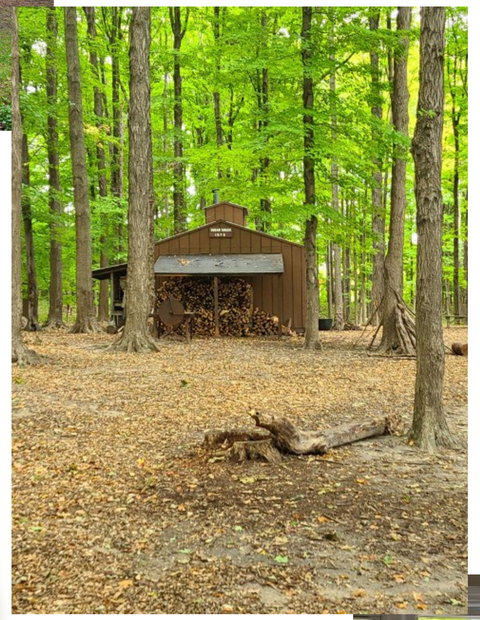
EXPERIENTIAL ANALYSIS











NOISE

GOOD VIEW

NEGATIVE VIEW

CONFUSION

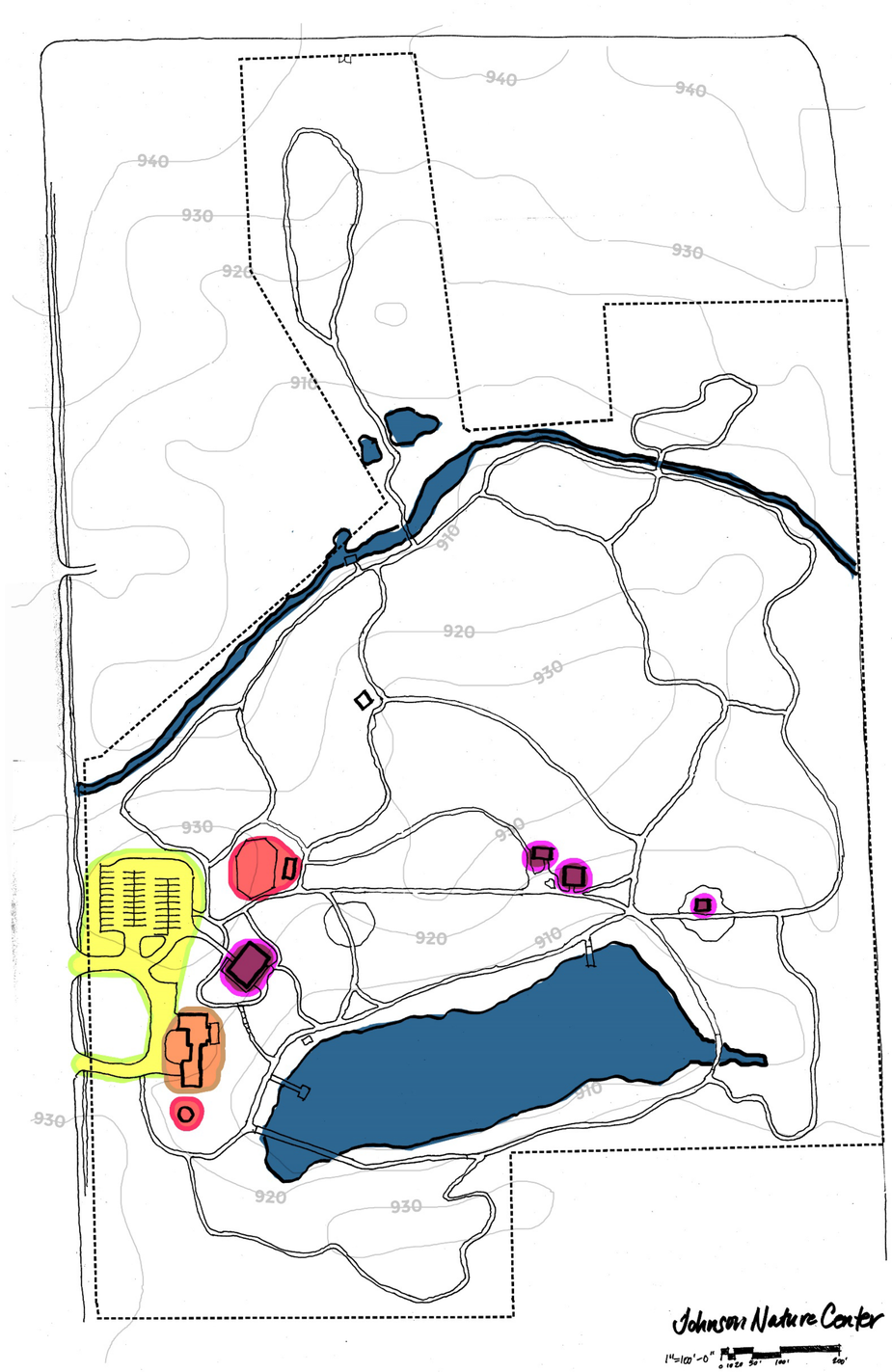
BENCH



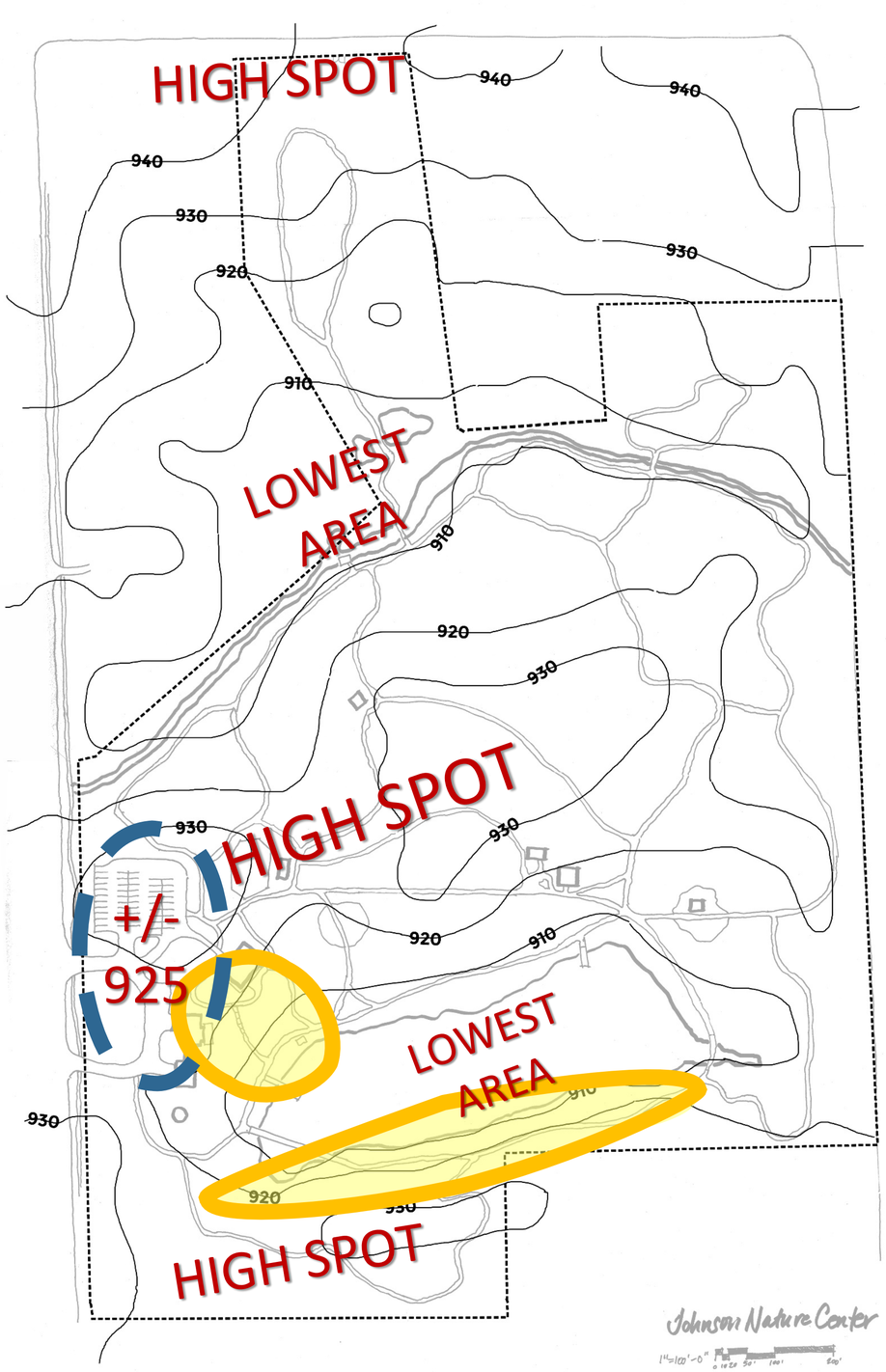


SITE USAGE

~90% of site is natural areas



PERCENT OF TOTAL	
9.4%	WATER
1.4%	ROADS & PARKING
0.5%	ANIMAL
0.3%	GUEST INDOOR
0.3%	BOH

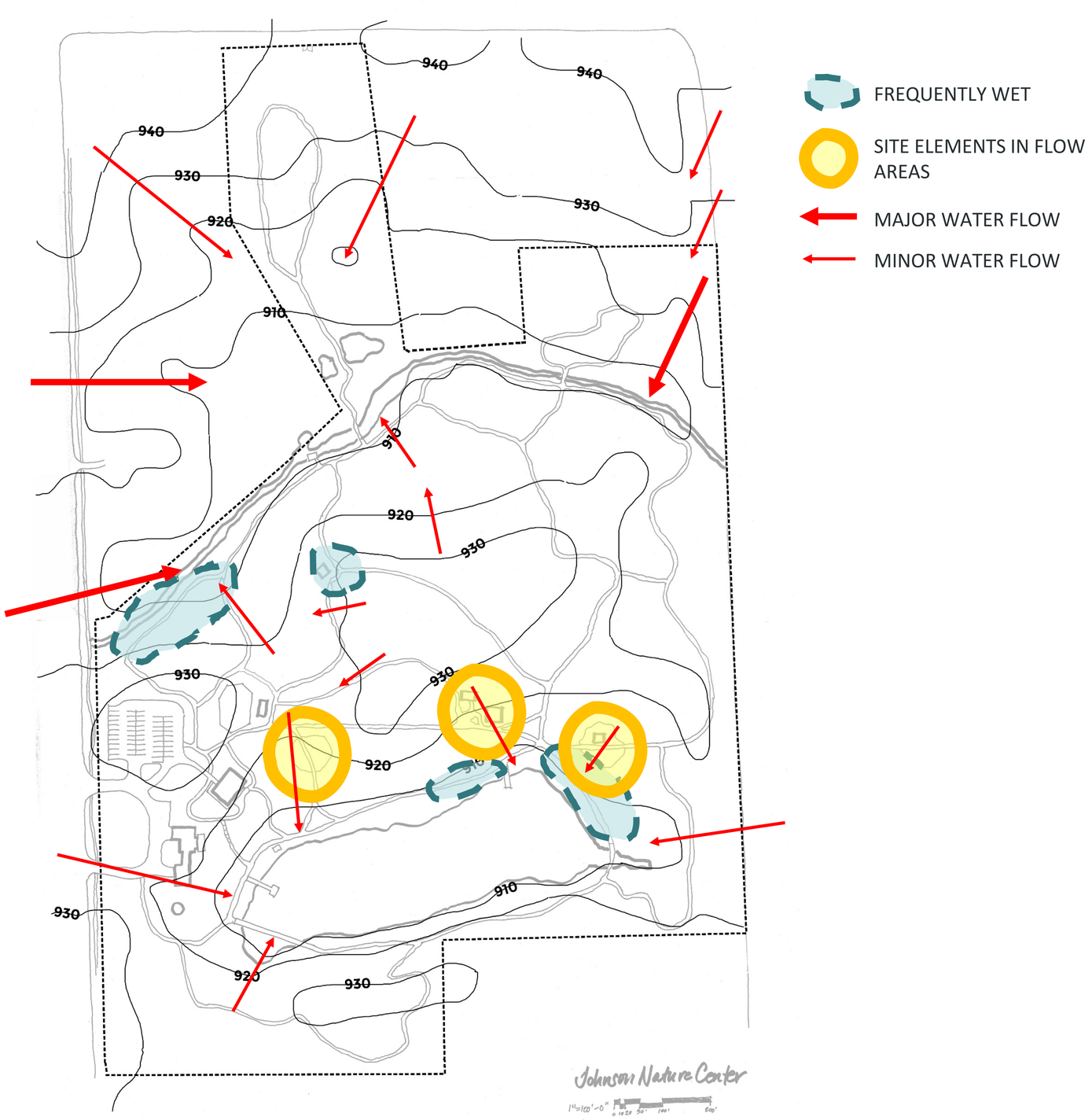


TOPOGRAPHY

10’ INTERVALS FROM USGS

- Total change across site is +/- 20’
- Low areas are where water gathers into pond / stream
- Parking, BOH, and Visitor Center are all located on high spots
- Two most challenging areas are: 1) Moving between the upper Visitor Center and down to the pond edge—natural slope is 9% 2) Walking along the southern edge of pond where slopes are 13%+ *(8% is ramp; 5% is max ADA)*

HYDROLOGY



FREQUENTLY WET

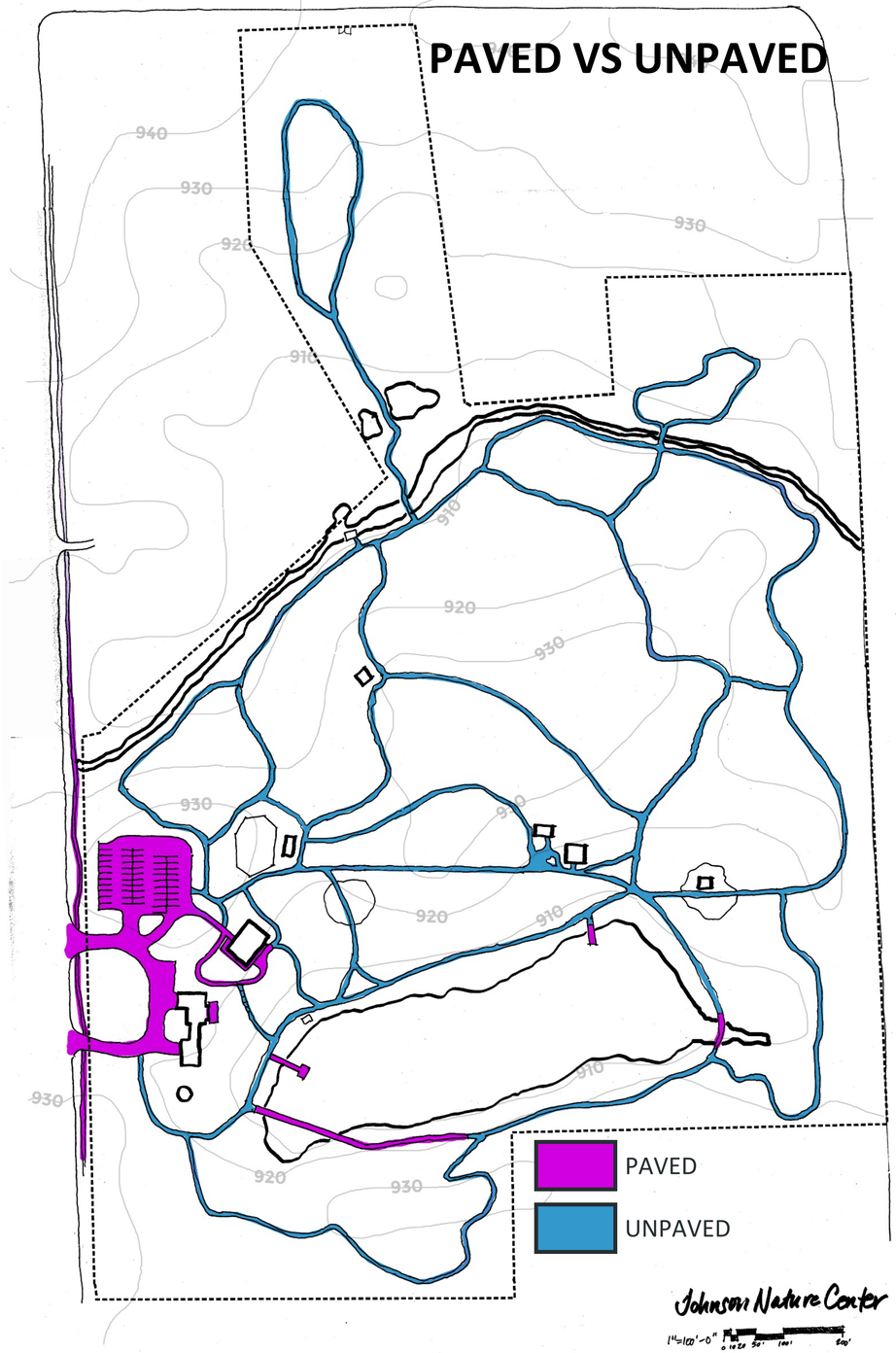
SITE ELEMENTS IN FLOW AREAS

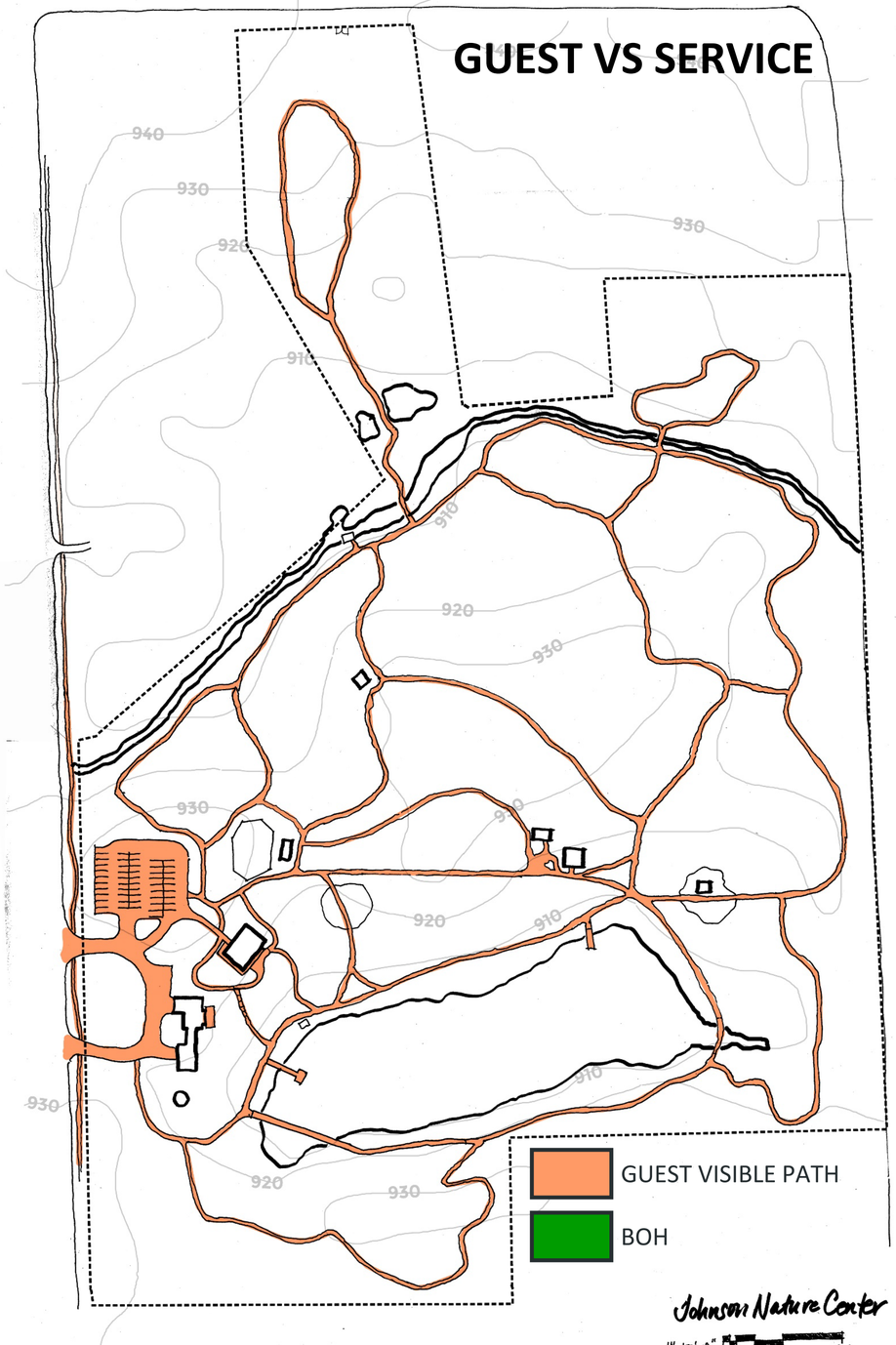
MAJOR WATER FLOW

MINOR WATER FLOW

- Lots of flow on-site from adjacent roads and possibly golf course
- Some key site elements are prone to flooding:
  1) Amphitheater
  2) Cabin & Barn
  3) Sugar Shack
- Several pathways tend to flood in heavy rains

PATHS





- Most paths on site are natural surface, except near Visitor Center and BOH
- No dedicated BOH paths
- No trail is ADA accessible today

FACILITY EVALUATION

JNC	Ave / Priority	Age / Condition	Functionality / Efficiency for Current Use	Guest Experience	Known Improvements Needed
Prep House	1.0	1	1	N/A	
Garage	1.0	1	1	N/A	Roof & Electrical; Bigger--30x40 w/ 10' lean-to; Taller
Bridge & Docks	1.0	1	1	1	T-floating dock aged but okay; bridge / boardwalk--doesn't account for seasonal changes of pond water; slippery; need canoe / kayak launch
East Loop	1.0	1	1	1	Too narrow; old wildlife trail; spooky
Sugar Shack	1.3	2	1	1	Too small; hard to see; no bottling area; Could be much better experience
Picnic Area	1.3	1	1	2	Near Prep House / "Grey thing"; Not accessible; Pretty
Connector Trail from Tower to Stream	1.3	1	1	2	Unusable during wet times
Woodland Trail (by pond)	1.3	2	1	1	Steep
Owl Habitat	1.7	1	2	2	Hard to find
Trail along Telegraph	1.7	2	2	1	Noisy
Coyote Den (first room at stair)	1.7	3	1	1	Traffic flows through this classroom from upstairs and outside; bathroom inside
Bat Cave	1.7	3	1	1	Meeting space…not a classroom really; workspace shared inside the meeting room; overflow program staging / storage
Restroom	1.7	2	2	1	
Deer Habitat	2.0	2	2	2	Location is not best for animal well-being
Raptor Habitat	2.0	2	2	2	
Outdoor Classroom	2.0	1	2	3	
Tower	2.0	2	2	2	Aged, but safe; capacity is 12 elementary aged kids or 6-8 adults; weird bench in the middle
Guest Toilets	2.0	2	2	2	Short for kids; capacity is small for large groups for programs; only one sink
Visitor's Center (Upper Level)	2.3	3	2	2	Exhibits need updating; Not enough staff space; Deck expansion; Retail and snacks
Sugar Bush	2.3	1	3	3	Very old and needs succession planting; 20 years…won't have maple sugaring (need 40+ old trees)
Trails	2.3	2	2	3	Accessibility; material
Log Cabin	2.7	3	2	3	Not accessible; Limited hours make it difficult to experience; Visitor flow is awkward
Cabin Barn	3.0	3	3	3	
Kitchen / Library (downstairs)	3.0	3	3	N/A	Doesn't support events--shallow sink; 'tea room'

SITE ACCESSIBILITY

The JNC site and facilities were evaluated for accessibility compliance and recommendations were made to remove barriers for people of all abilities to better use the environment. Recommendations focus on achieving full inclusion – ALL share the same experience at the same time. Refer to *BHS Johnson Nature Center ADA Access Barrier-Removal Recomm Rpt Oct '22* for comprehensive report. Summaries of the Top Findings and Top Recommendations are summarized below.

Top Findings

- No connected accessible routes to outdoor classrooms and individual experiences (Cabin, Sugar Shack, wildlife enclosures, floating docks, etc.)

- No accessibility information about the Nature Center trails, facilities, programs and experiences are posted on the website.

- Woodchip trail surface is neither firm nor stable.
  - Remove and/or do not replace in the future
  - Replace with ¼" crushed aggregate

- Some steep routes should be redesigned to improve accessibility and runoff drainage management.



SITE ACCESSIBILITY

Top Recommendations

- Invest in all-terrain wheelchairs to make pathways and routes more accessible; wheelchairs should be available to students and guests.

- Communicate trail condition information.
  - Virtual and printed maps should be available noting accessible routes to key experience locations.
  - Signs should be placed at trailheads and intersections noting trail information (route slopes, trail lengths, resting locations, surface condition, etc.) for users to make informed decisions.

- Consider automated systems to present sign information in audio format for guests who cannot read or have vision impairment.

- Develop a maintenance program to keep route conditions repaired and clear of obstacles (overgrown vegetation, large debris, etc.)



CURRENT PROGRAMS & AUDIENCES

What programs & events does the Nature Center currently offer?

Who is visiting the Nature Center today (and which groups are missing?)









EDUCATION PROGRAMS

Date: Year-Round (Differs by Program Type)

Programs / Activities

- Nature walks / exploration / play
- Animal feeding & encounters
- Maple sugaring
- Candle making
- Life in the 1800’s
- Birding
- Early childhood & adult training
- Summer camps
- PREP & Wing Lake programs

Target Audience

- Kindergarten – 5th grade students
- Young adults 18-26 yrs. old with developmental, emotional and physical disabilities (PREP Program)

Program Goals

- Support formalized education with nature exploration and hands-on experiences
- Connect students with Michigan’s natural resource systems
- Support ongoing research and conservation efforts



COMMUNITY ACTIVITIES

Date: Year-Round (Differs by Program Type)

Programs / Activities

- Nature walks / exploration
- Animal encounters
- Cabin exploration
- Birding
- Visitor's Center
- *Fishing Clubs
- *Photography
- *Canoeing
- *Book Hikes
- *Snow shoeing

*Denotes paid activity

Target Audience

- Local community residents

Program Goals

- Connect community members with Michigan's natural resource systems
- Provide a safe and peaceful retreat from urban / suburban environments
- Increase community engagement



SPECIAL EVENTS

Date: Year-Round (Differs by Program Type)

Programs / Activities

- Maple Sugaring
- Earth Day
- Forest to Table

Target Audience

- Local families
- Adults
- Foodies

Program Goals

- Increase community engagement
- Generate revenue
- Provide opportunities for visitors to engage with their environment differently

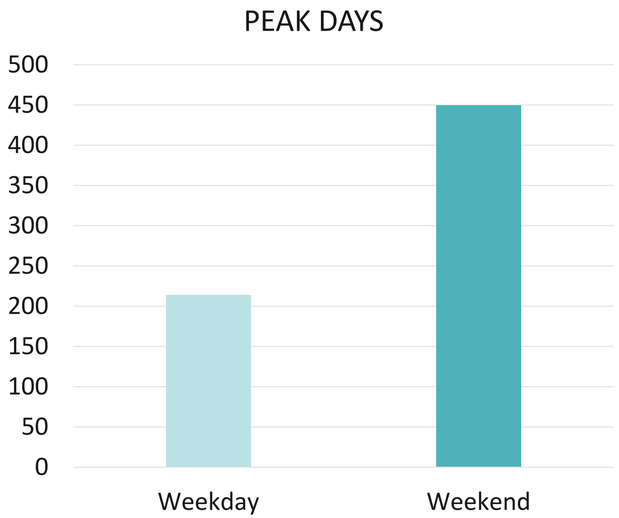
PERFORMANCE ANALYSIS

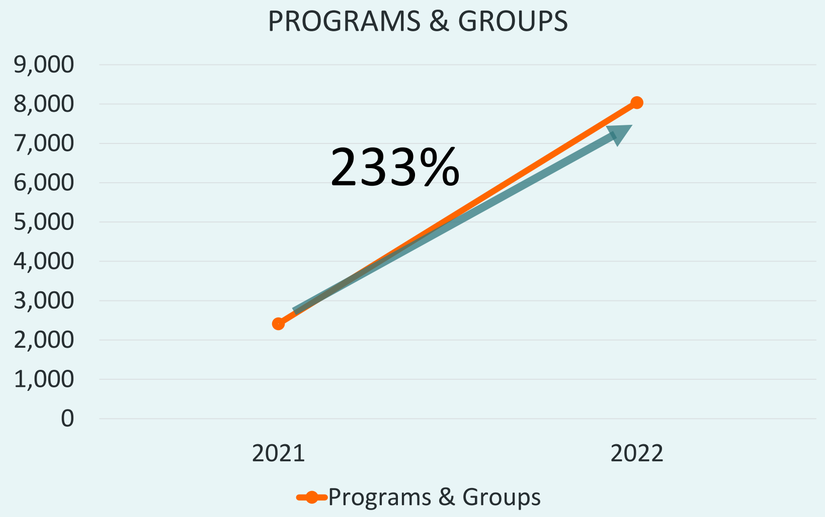
What trends are we seeing with attendance and finances?

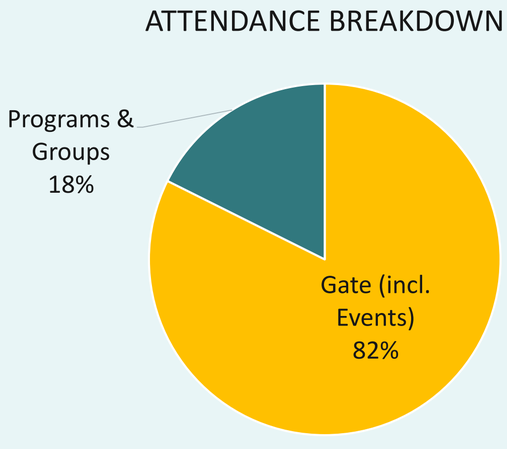
What are the successes and potential areas of growth in the market?

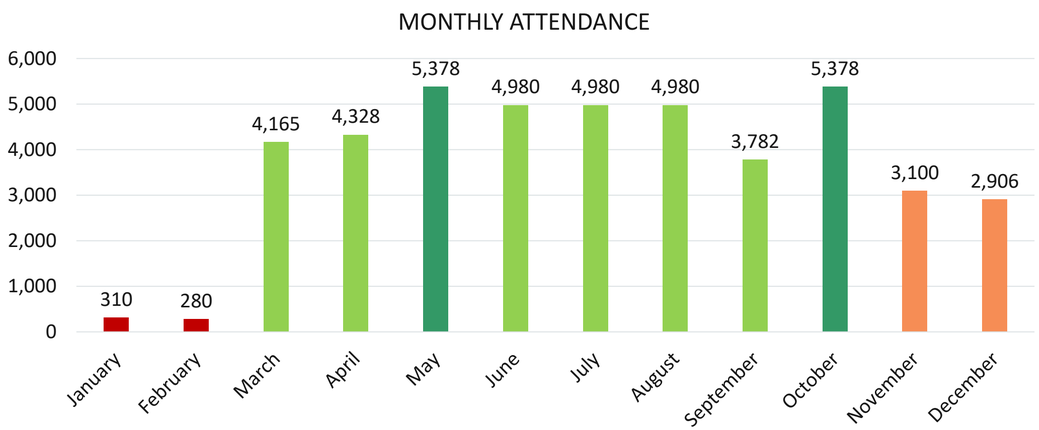


ATTENDANCE TRENDS









Total Annual Attendance: 44,567

Calculating Attendance:

- 214 guests 3x weekdays Sept. - Dec. & March – May (programs & casual)
- Summer Weekends: 60% of days hit 450 guests (all casual)
- Summer Weekdays: 200 guests
- March Weekends: 3 days of 261 for Maple Sugar
- April Weekends: 50% of days with 300 guests
- Sept., Nov., Dec. Busy Weekends: 50% of days with 200 guests
- Oct. Weekends: same as Summer weekends
- Non-Peak Not Busy Weekend & Weekday Days: 10 guests (Nov, Dec, Jan, Feb); 40 guests for all others
- Sept. Weekends: Slow down due to school restarting

DAILY ATTENDANCE PATTERNS

Understanding Design Day—Summer Weekend

	Arrival		Departure		In Park	
Before 8:00 AM	1%	4	0%	0	1%	4
8:00 AM	10%	38	3%	11	8%	30
9:00 AM	17%	64	5%	19	20%	76
10:00 AM	8%	30	7%	27	21%	80
11:00 AM	1%	4	8%	30	14%	53
12:00 PM	1%	4	9%	34	6%	23
1:00 PM	8%	30	9%	34	5%	19
2:00 PM	10%	38	9%	34	6%	23
3:00 PM	17%	64	9%	34	14%	53
4:00 PM	10%	38	12%	45	12%	45
5:00 PM	8%	30	11%	42	9%	34
6:00 PM	5%	19	10%	38	4%	15
7:00 PM	3%	11	6%	23	1%	4
8:00 PM	1%	4	2%	8	0%	0
	100%		100%			
Maximums	17%	**64**	12%	**45**	21%	**80**
				Length of Stay		**1.20**

Design Day tells us the total attendance for an average busy day, which will become the basis for evaluating capacity of existing site. This data has application during master planning to appropriately size new facilities.

Overall, JNC's Design Day should be considered a busy Summer Weekend day (as compared to a busy Program Weekday).

Annual Attendance:	44,567	FY 2022 (programs & gate)
Ave Peak Day:	450	Average of top 25 days
Maximum Day:	550	Beautiful summer weekend day
Design Day:	375	0.8% of total (typ 0.5-1% for theme parks)
Design Day, Peak in Park:	80	
Length of Stay:	1.22	

Peak Arrival = 9am & 3pm
Peak Departure = 4pm
Peak in Park = 10am

DAILY ATTENDANCE PATTERNS

Understanding Design Day—Program Weekday

	Arrival		Departure		In Park	
Before 8:00 AM	2%	4	1%	2	1%	2
8:00 AM	5%	11	4%	9	2%	4
9:00 AM	50%	107	6%	13	46%	98
10:00 AM	5%	11	5%	11	46%	98
11:00 AM	5%	11	4%	9	47%	101
12:00 PM	6%	13	3%	6	50%	107
1:00 PM	5%	11	6%	13	49%	105
2:00 PM	5%	11	50%	107	4%	9
3:00 PM	6%	13	7%	15	3%	6
4:00 PM	5%	11	7%	15	1%	2
5:00 PM	4%	9	3%	6	2%	4
6:00 PM	2%	4	3%	6	1%	2
7:00 PM	0%	0	1%	2	0%	0
8:00 PM	0%	0	0%	0	0%	0
	100%		100%			
Maximums	50%	**107**	50%	**107**	50%	**107**
					Length of Stay	**2.52**

Annual Attendance:	44,567	FY 2022 (programs & gate)
Ave Peak Day:	214	Average of top 25 days
Maximum Day:	214	Peak is same as DD
Design Day:	214	Total of programs + guests
Design Day, Peak in Park:	107	
Length of Stay:	2.5	Despite students staying ~4.5 hrs.

Peak Arrival = 9am with students
Peak Departure = 2pm with students
Peak in Park = 12pm

CAPACITY ANALYSIS

Parking & Toilets



PARKING

Design Day Weekend (3.2 ppc) = 25 spots
Max Arrival: Forest to Table (2 ppc) = 100 spots

Design Day Weekday is insignificant due to student bussing.

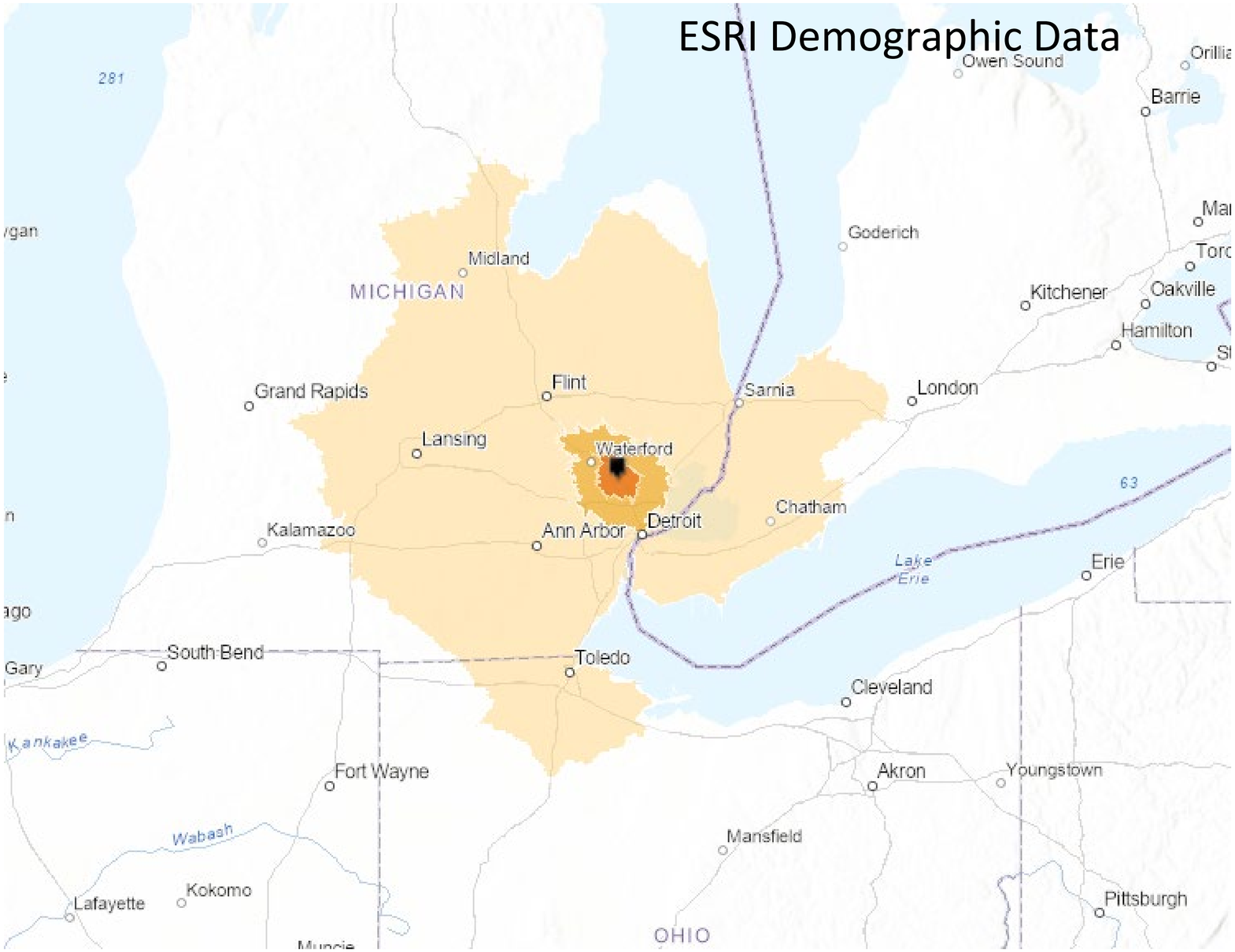
TOILETS

Based on highest PIP (weekday), need 2 total restrooms in park, and should be located at entry to service Arrival and Departure.

For comfort and convenience, should add at least one family restroom inside the park.

POTENTIAL MARKET

ESRI Demographic Data



15 MIN DRIVE TIME FROM NATURE CENTER

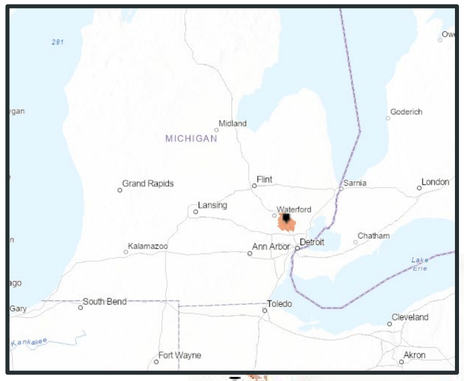
30 MIN DRIVE TIME FROM NATURE CENTER

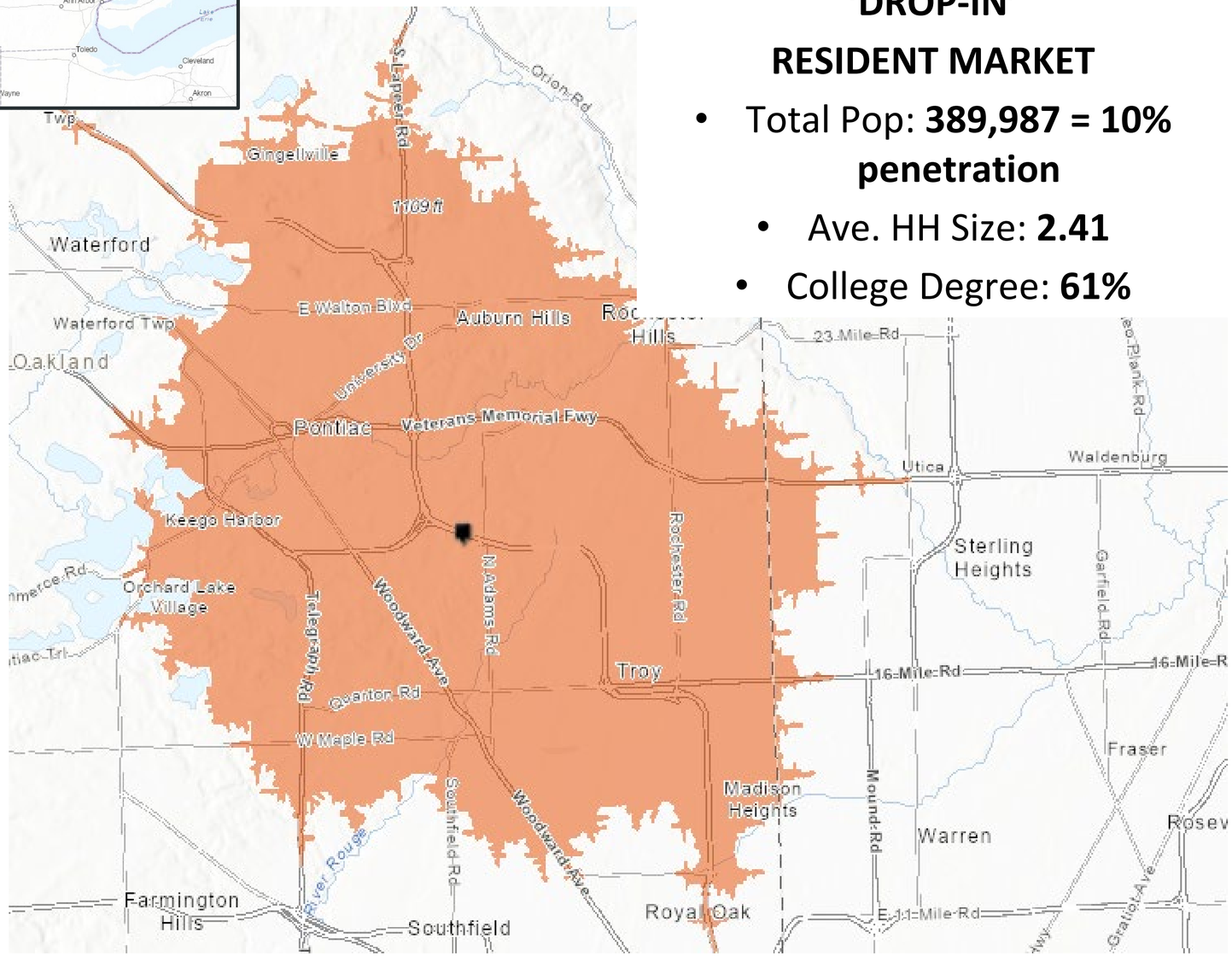
2 HOUR DRIVE TIME FROM NATURE CENTER

LOOKING FOR GROWTH

- Residential market 15 & 30 min drive time
- Regional tourism 2-hour drive time
- Who lives here gives insight into expectations and type of experiences to draw more visitors
- Compare to existing attendance / audience to reveal any pockets of growth potential

POTENTIAL MARKET



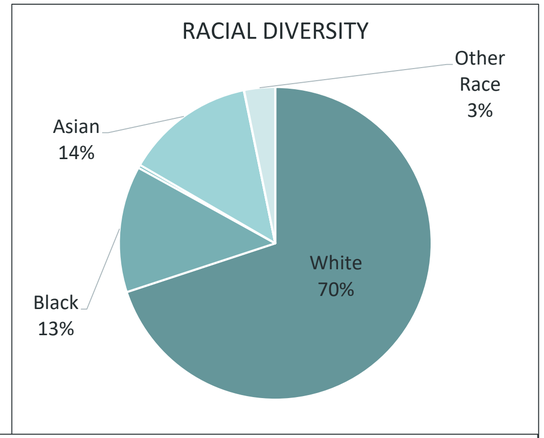


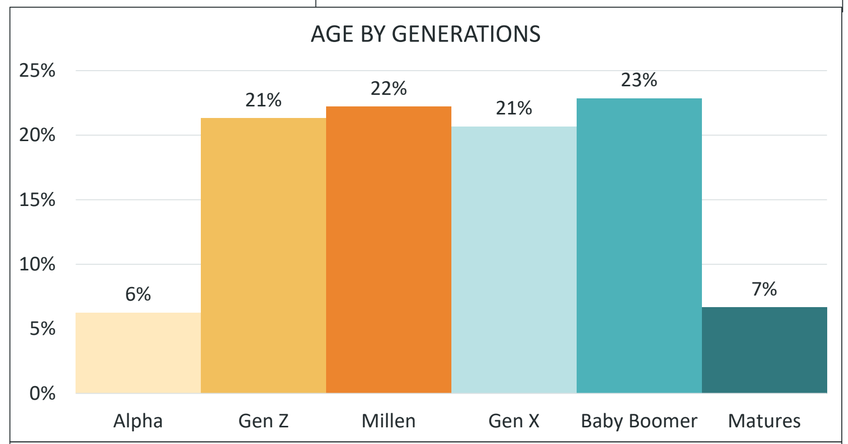
15 Minute Drive Time

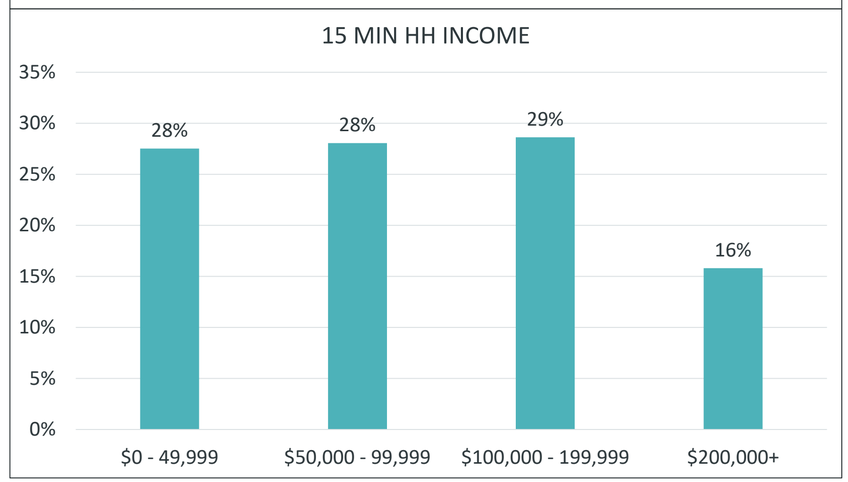
'DROP-IN'

RESIDENT MARKET

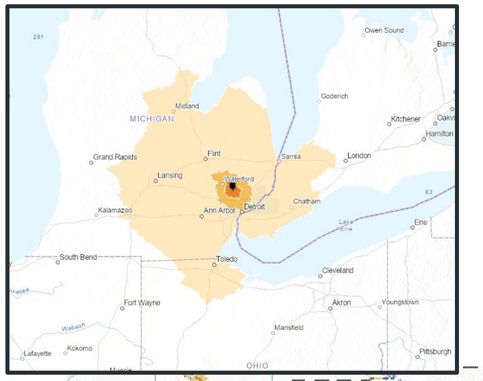
- Total Pop: **389,987 = 10% penetration**
- Ave. HH Size: **2.41**
- College Degree: **61%**







POTENTIAL MARKET

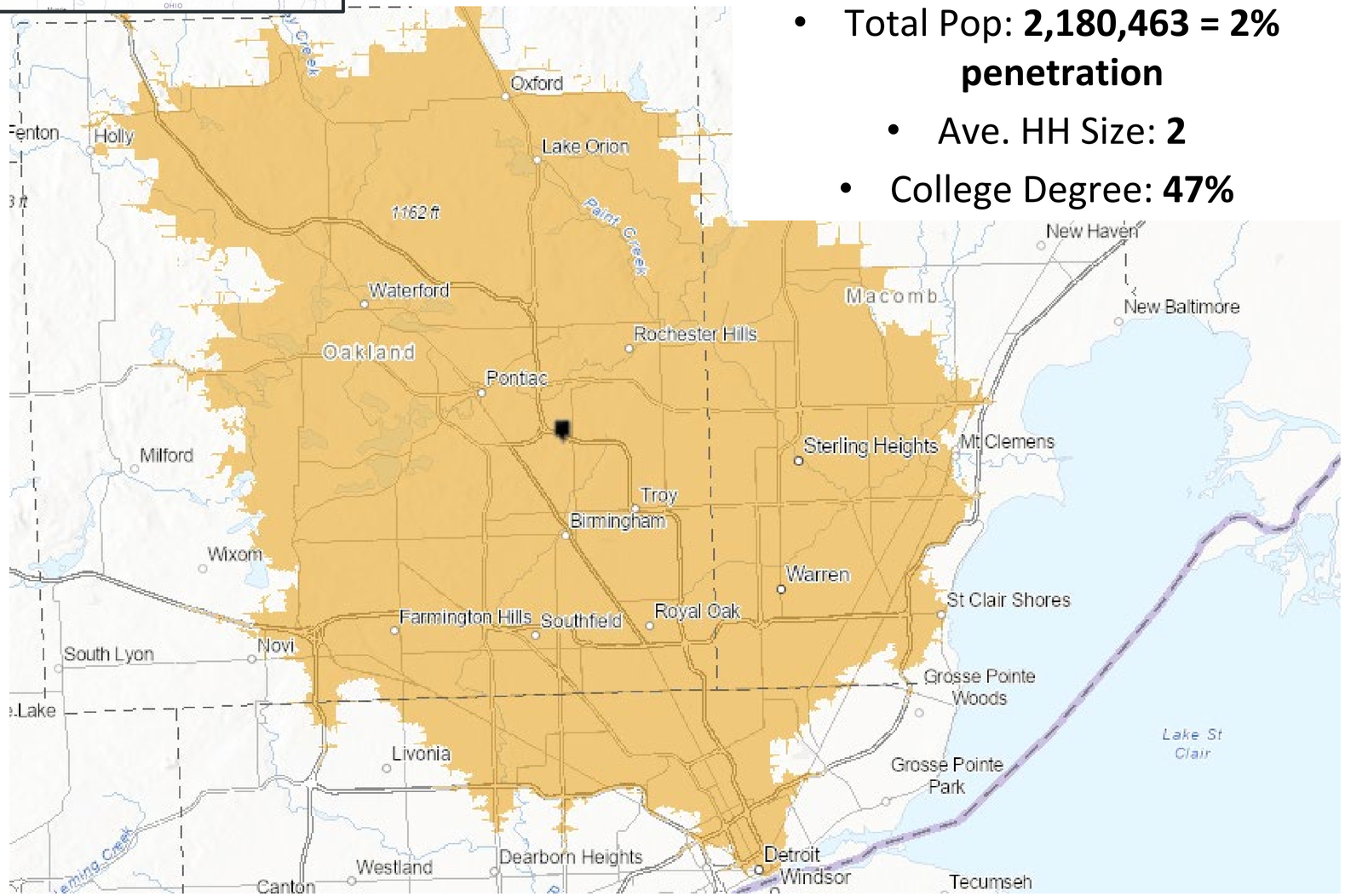


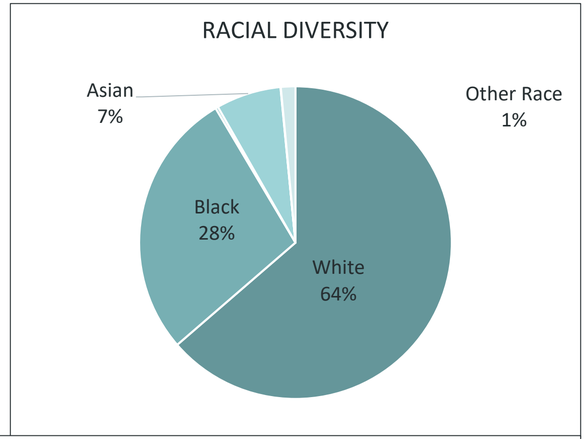
30 Minute Drive Time

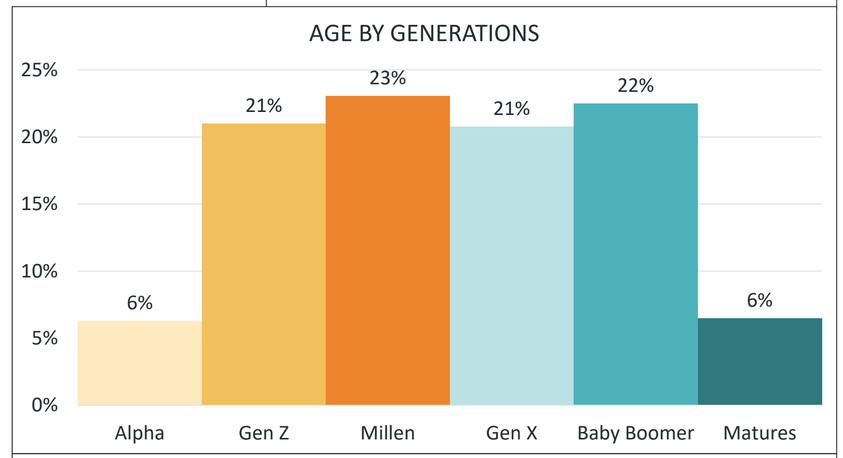
'PLANNED VISIT'

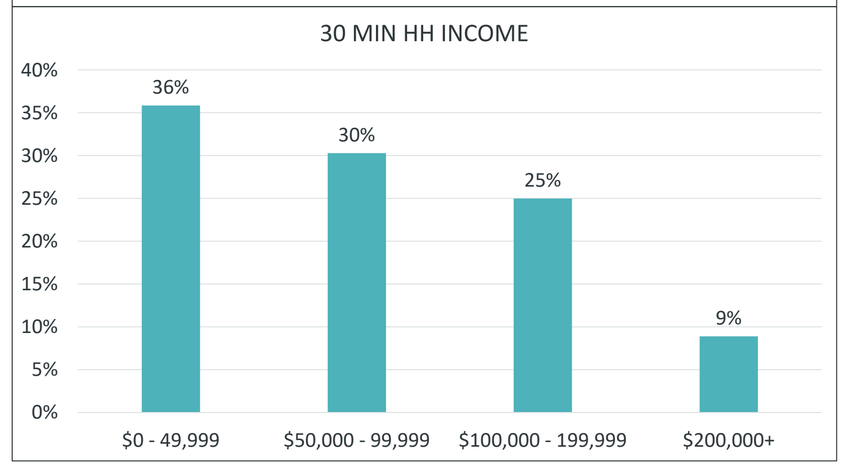
RES. MARKET

- Total Pop: **2,180,463 = 2% penetration**
- Ave. HH Size: **2**
- College Degree: **47%**









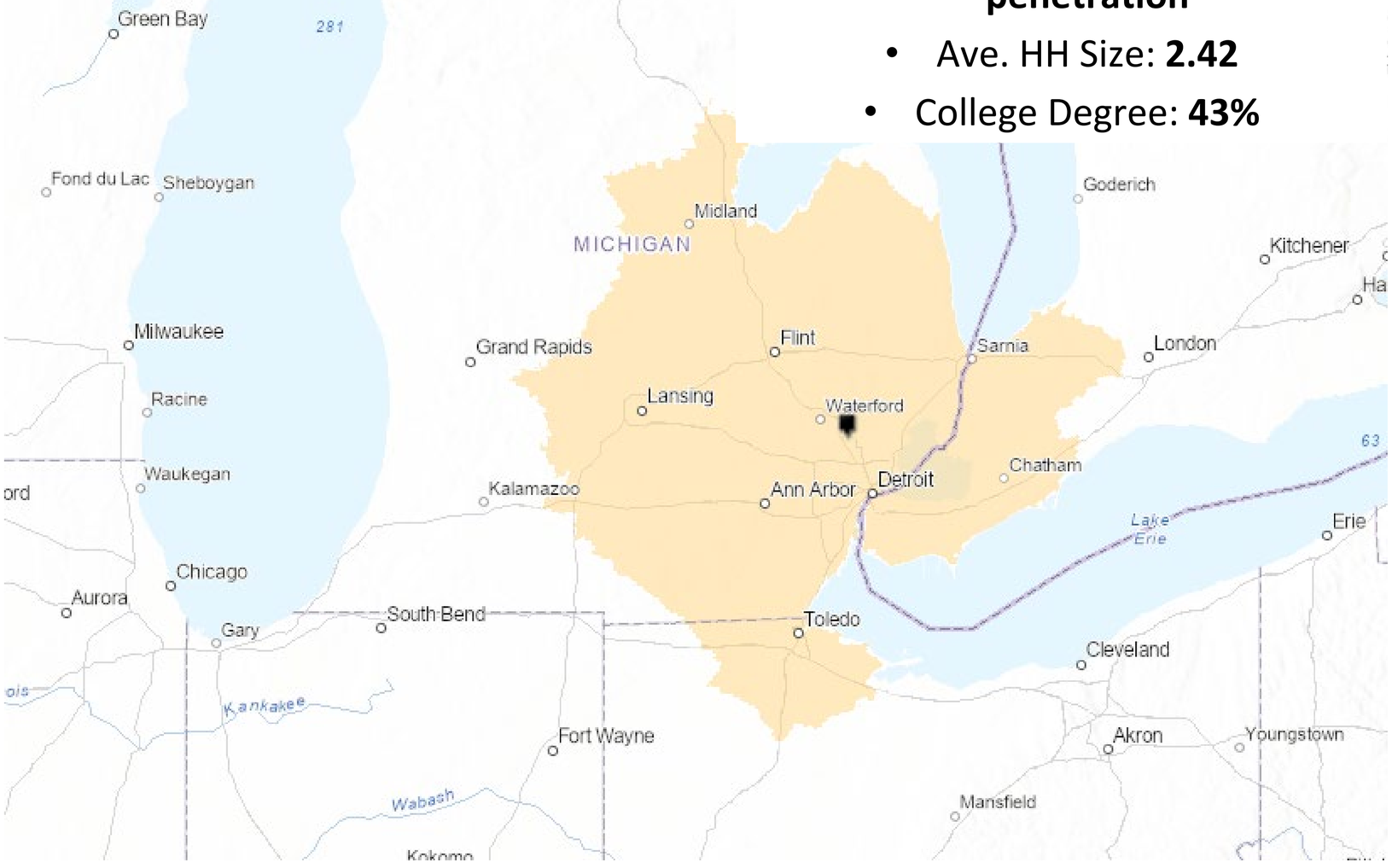
POTENTIAL MARKET

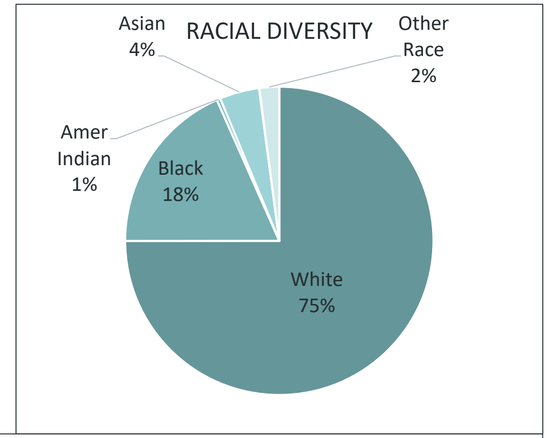


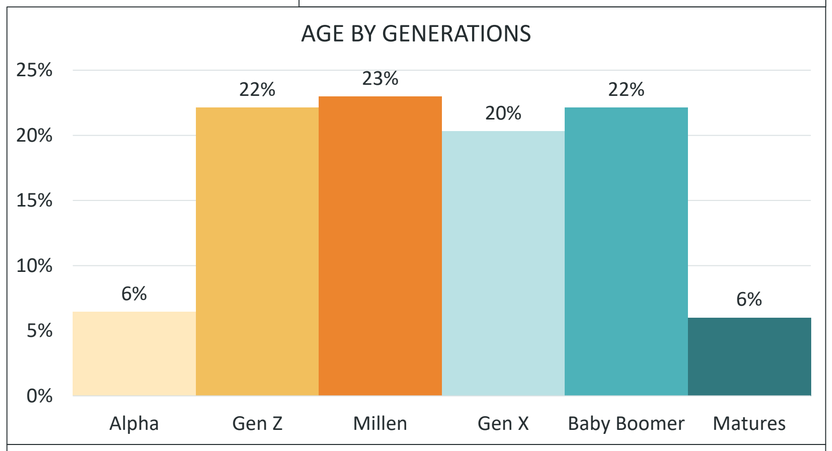
2 Hour Drive Time

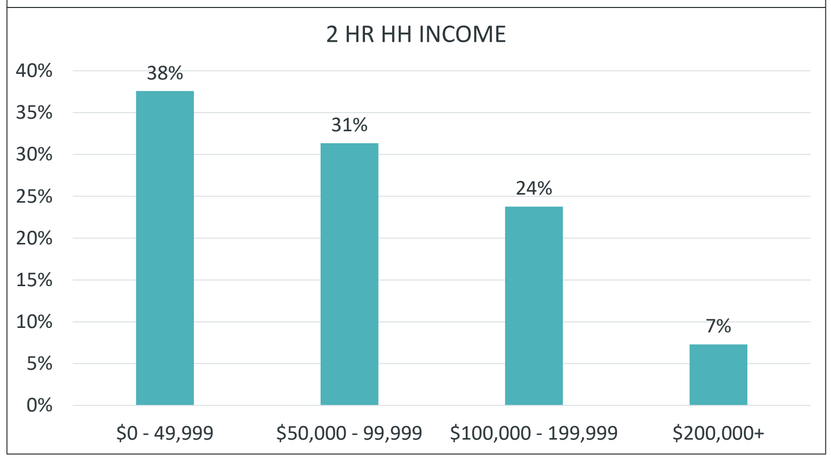
‘LOCAL TOURIST’ MARKET

- Total Pop: **7,485,405 = 0.5% penetration**
- Ave. HH Size: **2.42**
- College Degree: **43%**









REVENUE ANALYSIS

GENERAL OPERATING REVENUE & EXPENSES			
Fiscal Year	Actual Revenue	Actual Expenses	Profit
2016	$9,510	$154,312	-$144,802
2017	$15,500	$166,922	-$151,422
2018	$16,834	$183,240	-$166,406
2019	$0	$243,885	-$243,885
2020	$0	$240,826	-$240,826
2021	$0	$305,771	-$305,771
2022	$0	$488,166	-$488,166

-237%

COMMUNITY REVENUE & EXPENSES			
Fiscal Year	Actual Revenue	Actual Expenses	Profit
2016	$0	$0	$0
2017	$0	$0	$0
2018	$0	$0	$0
2019	$20,576	$743	$19,833
2020	$26,523	$226	$26,297
2021	$12,624	$22,726	-$10,102
2022	$71,890	$107,909	-$36,019
2023*	$114,705	$129,491	-$14,786

-281%

-17

5%

- Financial activity is accounted for in two separate funds: General and Community Services.
- *General Fund:* The funding for the educational programs and overall operating costs of the Johnson Nature Center is made possible through the General Fund of the district. The General Fund is the district's primary operating fund and spending must comply with Michigan laws. Educational services to students and direct expenses to fulfill the District's mission are covered by the General Fund. Since 2019, in-district schools were no longer charged for Nature Center programming, which was offset by an expense to the in-district school resulting in a zero net effect for the General Fund. The School Education component is and will always be an expense to BHS; however, a portion of future net profits from programs and services to the community will offset the net cost to BHS.
- *Community Services Fund:* 'Community' relates to all out-of-district programs, community programs, camps, site rentals, and events. Expenses across the board have increased significantly since 2019, primarily focused on an investment into future community offerings that necessitated a restructuring of the nature center's staffing roles, responsibilities as well as certain capital related costs.

- Forest to Table (FTT) event in FY23 brought $42k in profit via the Friends group

- Projection FY23: 20% incr in Expenses; Actual Revenues (FTT22 + FY22 Revenue)

- The Nature Center, like the Farm are both considered an integral part of our educational programming similar to cocurricular opportunities and choices provided to BHS students, including arts, music, athletics, clubs and more providing a full experience for our students.

COMPETITION & BENCHMARKING

Who/what are we competing against for visitation and funding?

How are we performing compared to similar attractions?

Who is your competition?

What can we learn from them?

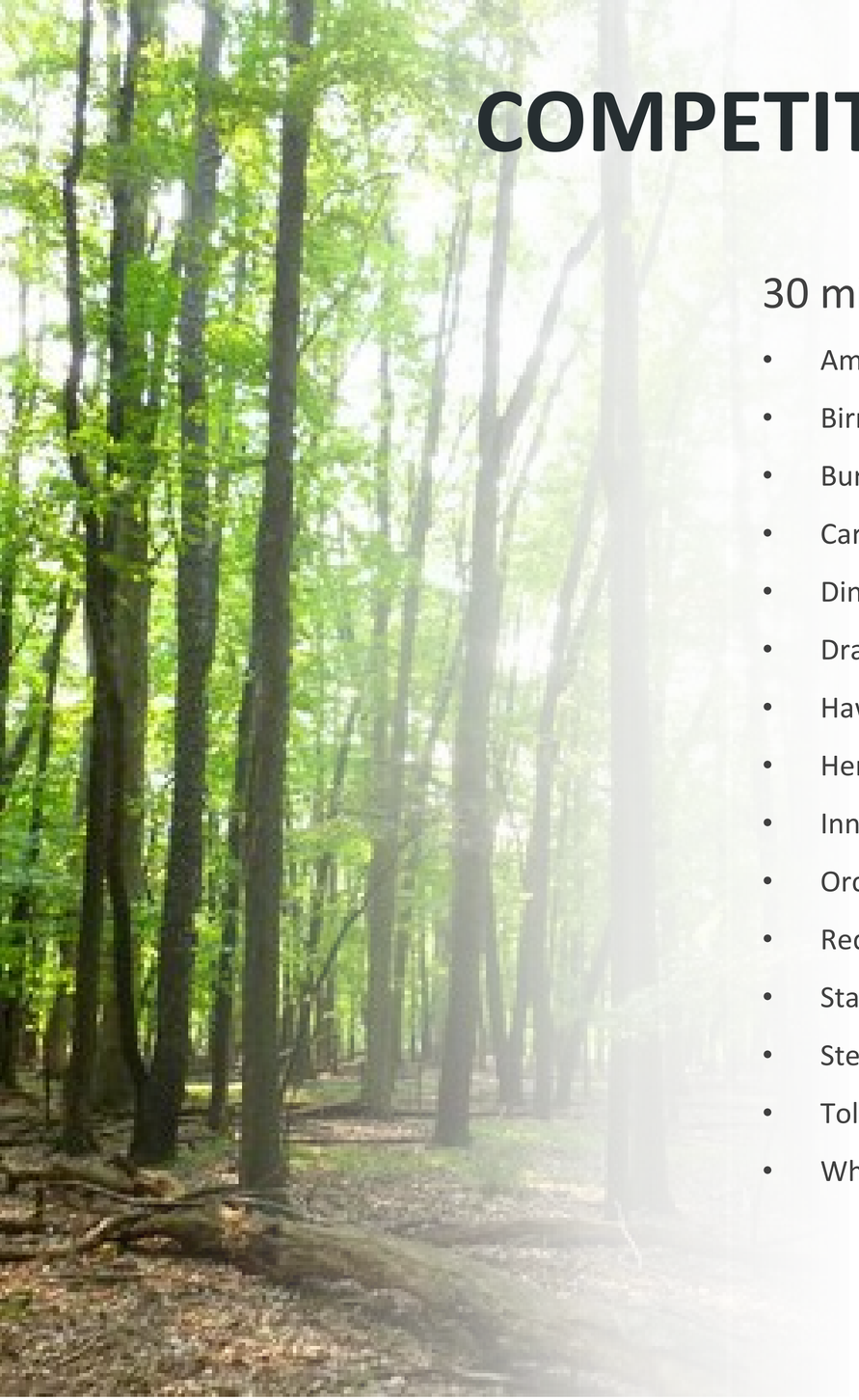
How is the Johnson Nature Center unique?

Competition Criteria

- Appeals to the same local target audiences
- Outdoor activities
- Animal and/or nature component
- Strong educational message







COMPETITION – LOCAL NATURE CENTERS

30 min Drive Time

- American Commerce Centre Nature Preserve
- Birmingham Nature Center
- Burgess-Shadbush Nature Center
- Carpenter Lake Nature Preserve
- Dinosaur Hill Nature Preserve
- Drayton Plains Nature Center
- Hawk Woods Nature Center
- Heritage Park & Nature Center
- Innovation Hills
- Orchard Lake Preserve
- Red Oaks Nature Center
- Stage Nature Center
- Sterling Heights Nature Center
- Tollgate Farm and Education Center (MSU)
- Whispering Woods Kiwanis Park

60 min Drive Time

- Belle Isle Nature Center
- Detroit River International Wildlife Refuge
- Howell Nature Center
- Indian Springs Environmental Discovery Center
- Kensington Nature Center
- Lake St. Clair Nature Center
- Leslie Nature Center
- Nicholson Nature Center
- Ojibway Nature Center
- Rouge River Greenway Trail
- Seven Ponds Nature Center
- Stony Creek Nature Center
- Tamarack Adventure & Retreat Center



COMPETITION VISITS

The Felis Consulting team and Johnson Nature Center steering committee visited key competitor nature centers in the area.

3 Local Nature Centers Visited

- Heritage Park & Nature Center
- Howell Nature Center
- Stage Nature Center



HERITAGE PARK & NATURE CENTER

Key Takeaways

- Immersive and relevant exhibits in the Visitor's Center
- Interactive kids' play area; splash pad available for summer months
- Curated views of bird exhibit
- Healthy live animal collection
- Robust marketing for current and upcoming programs
- No cost for entry with resident/non-resident program pricing
- Incentivizing attendance with prizes
- Informational signs available for trails

Municipally funded



HOWELL NATURE CENTER

Key Takeaways

- More “Native Zoo” than Nature Center
- “Education Light” experiences
- Animal collection showcasing Michigan native animals
- Strong animal advocacy piece in the interpretive signs
- Unique pop-up experience into a groundhog exhibit
- Fun kids’ play area with a fairy garden
- Global Village showcases cultures and native house construction techniques from around the world
- Homegrown feel with little visual cohesion
- Engaging program for Teens (Naturalist Clubs)
- Great community gathering space

501(c)(3) funded



STAGE NATURE CENTER

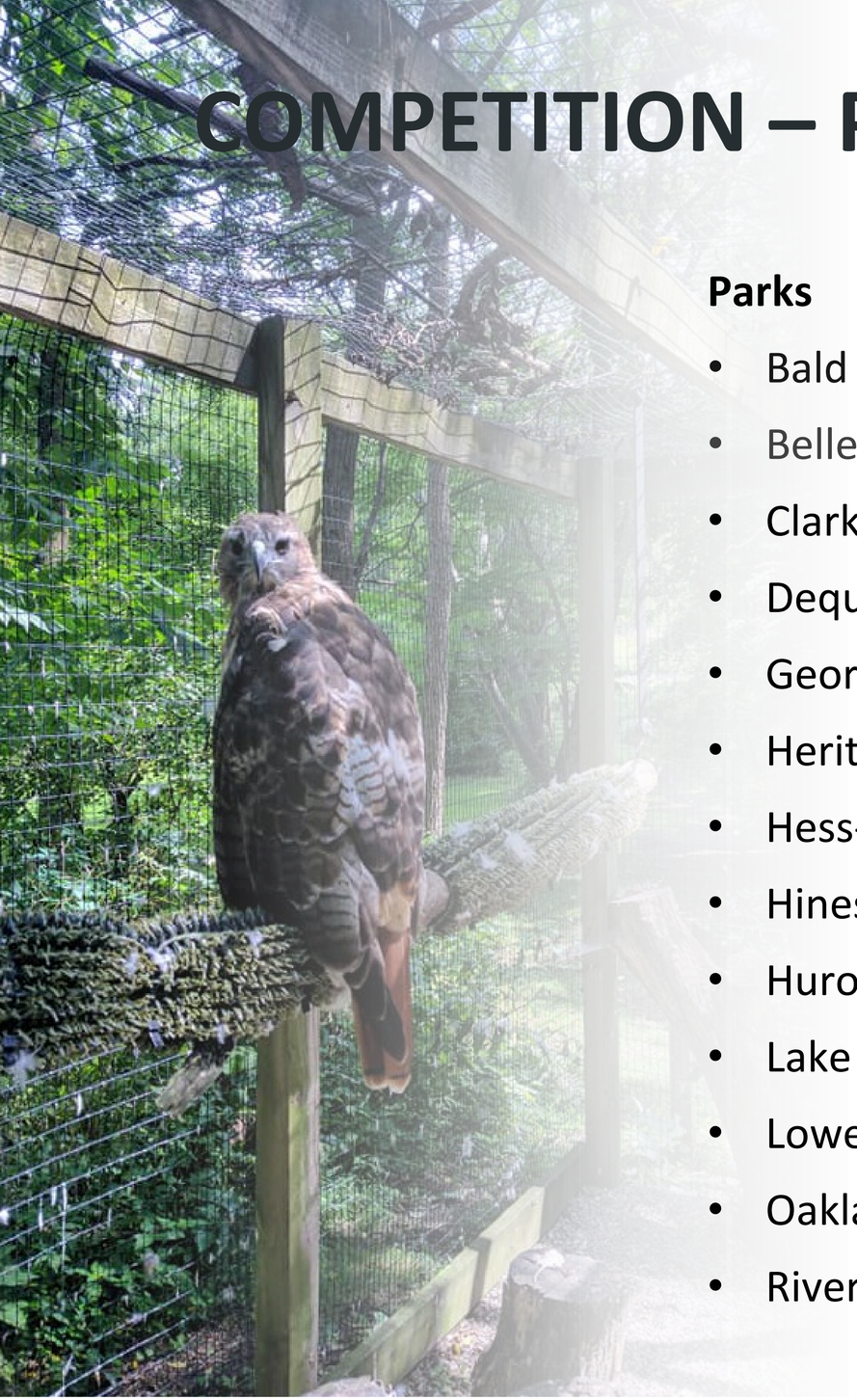
Key Takeaways

- Strategic planning for new programs and funding opportunities
- Strong partnerships and sponsorships
- Impressive Visitor's Center building with dedicated information desk
- All visitors are directed through Visitor's Center when building is open
- Relaxing and dedicated reading area
- Trails are natural with curbing and benches
- Trail environment is overly managed, resulting in an openness that reduces intimacy and discovery

Hybrid funding model from 3 sources

- **501(c)(3)**
- **Troy Municipality**
- **DNR Grants**

COMPETITION – PARKS, BOTANICAL GARDENS & OTHER



Parks

- Bald Mountain State Parks
- Belle Isle Park
- Clark Park
- Dequindre Cut Greenway
- George George Memorial Park
- Heritage Park
- Hess-Hathaway Park
- Hines Park
- Huron-Clinton Metroparks
- Lake Erie Metropark
- Lower Huron Metropark
- Oakland County Parks
- River Bends Park

Parks Cont.

- Rouge Park
- William G Milliken State Park and Harbor
- West Bloomfield Parks & Recreation

Botanical Gardens

- Anna Scripps Whitcomb Conservatory
- Edsel & Eleanor Ford House
- Cranbrook House & Gardens

Other

- Outdoor Adventure Center



COMPETITION

Who do you consider to be your biggest competitors and why?

- Leslie Nature Center has strong student education programs and is a frequent destination for school field trips.
- Stage Nature Center is a notable competitor due to its proximity to Johnson Nature Center and its volunteering opportunities.
- Belle Isle Nature Center is a popular attraction since visitation is often grouped with the area's other nearby attractions.
- Other notable nature centers across the state include
  - Blandford Nature Center
  - Chippewa Nature Center
  - Kalamazoo Nature Center



BENCHMARKING: KALAMAZOO NATURE CENTER

Kalamazoo Nature Center offers many programs, attractions and events that are similar to those found at the Johnson Nature Center, but there are a few notable differences between both centers.

Location: Kalamazoo, MI

2021 Attendance: 40,089

Ticket Prices

Adults 18+: $6-$7

Ages 4-17: $4

Program fees are in addition to admission prices



BENCHMARKING: KALAMAZOO NATURE CENTER

Trails are noted with length, difficulty level and a description of the environment. This sets visitor expectations and creates opportunities for highlighting unique experiences.



Prairie Pathway Loops

0.7 mile/0.5 mile | Easy

Easy walk through fields to a reconstructed prairie awash with color in summer and fall. Look for bluebirds and swallows at the nest boxes.



Arboretum Loop

0.5 mile loop | Easy

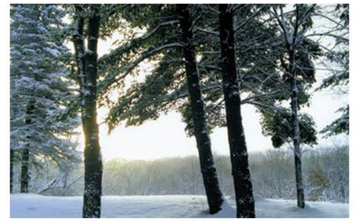
Enjoy accessible pathways with favorites including the Hummingbird-Butterfly Garden, Sculpture Tour, and Nature's Playground.



Fern Valley

0.8 mile | Moderate

Steep descent to a vernal pool. Look for signs of deer and wild turkeys. Huge maples can be found in the sugar grove.



Ridge Run

0.7 mile | Moderate

Hike through woodlands, pine plantations, and old meadows. Includes a short, steep climb.



BENCHMARKING: KALAMAZOO NATURE CENTER

Several different membership levels with benefits including discounts to partnering nature centers nationwide.

Each membership includes one year of the following benefits:

- Free admission, including to special events like Maple Sugar Festival
- Bi-monthly newsletter (Nature Center News)
- and KNC's regular eNewsletter
- 10% discount at the Trailhead Gifts & Books gift shop
- One KNC static window decal for each new membership
- Reduced program fees
- Voting privileges at the annual members meeting
- Free admission and/or discounts at over 120 nature centers nationwide.
- Invitations to members-only events including Member's Night and Jingle Mingle
- Free admission in the month of October to participating area organizations through the Southwest Michigan Cultural Membership Exchange.



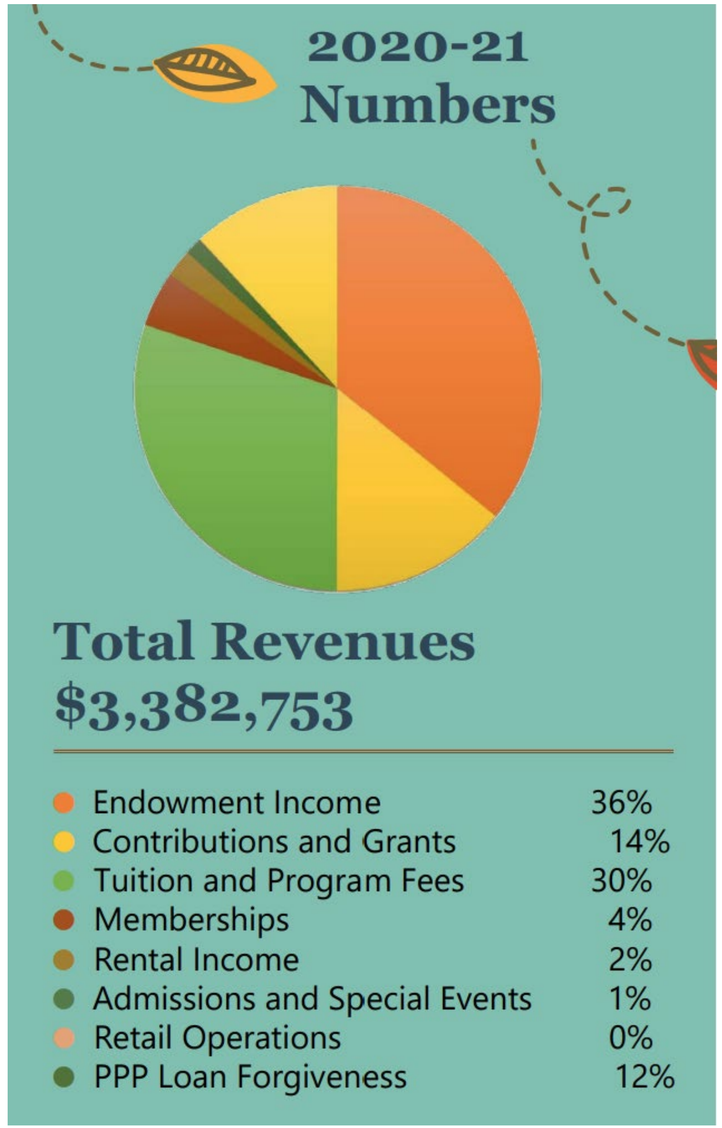
BENCHMARKING: KALAMAZOO NATURE CENTER

2020-2021 REVENUE

51% of earned revenue came from the following sources.

- Contributions and Grants: $473,600
- Tuition and Program Fees: $1,015,000
- Memberships: $135,300
- Rental Income: $67,660
- Admissions and Special Events: $33,830

Total: $1.725M (51%)





WHAT MAKES US UNIQUE?

Unique Assets with Engaging Experiences

- Only place to experience nature in Bloomfield Hills
- Site has diverse tree species & ecological systems with strong historical roots/stories
- Effective Land Management program curates different experiences along the trails
- Historic log cabin & associated programs
- Healthy Maple Sugaring program & event
- Innovative fundraising events hosted onsite

Successful Educational Programs

- Friendly & welcoming staff focused on educating and engaging visitors
- Strong ties with surrounding K-5 schools
- Successful and integrated science, social studies & teacher professional development programs
- Bird research & banding program

SECTION 2:
WHAT DO PEOPLE THINK OF THE NATURE CENTER?



OUR BRAND

Describe characteristics of the Nature Center

What are attributes we don't want associated with JNC?



JOHNSON NATURE CENTER

IS

- Welcoming
- Safe place
- Authentic
- Unique
- Operated by BHS
- Learning lab
- Conservation
- Experiential
- Living Museum
- Recreation
- Accessible
- Showcase for MI landscapes
- Discovery
- Curiosity
- Photography haven
- Transparent
- Supporting research
- Wildlife corridor
- Rouge River Water Shed
- Part of food system

IS NOT

- Dog park
- Park
- Manicured
- Wild animal rehabilitation facility
- Bike park
- ATV park
- Camp site (today)
- Hunting grounds

PUBLIC ENGAGEMENT

What do other stakeholder groups like/dislike about the Nature Center?

What ideas do community members have for improving JNC?





PUBLIC ENGAGEMENT STRATEGY

Specific groups were targeted for an in-person workshops for deeper levels of engagement

Workshop 1: Key Community Organizations

- Friends of Johnson Nature Center
- BHS PTO Council
- Donors
- JNC Tuesday Group
- Rotary Club
- Community Garden Members
- Optimist Club
- Equestrian Group
- Wild Ones of North Oakland
- MSU Extension
- Oakland Audubon
- Birmingham Bloomfield Chamber
- West Bloomfield Chamber
- Farm Bureau
- Township & Senior Services
- BYA
- Local Libraries

Workshop 2: BHS Student Group

All stakeholder groups were invited to participate in a short survey (administered digitally)



WORKSHOP RESULTS

I LIKE:

- NICE MAINTAINED TRAILS TO WALK
- A "BIODIVERSE" ECOSYSTEM WITH MANY NATIVE SPECIES
- UPDATES ON PLANTS AND ANIMALS OBSERVED
- QUALITY PROGRAMS THAT TEACH AN ENVIRONMENTAL ETHIC

SUGGESTIONS:

- REPLACE ALL OLD BOARDWALKS AND BRIDGES
- CONTINUE A THEME OF STEWARDSHIP, ECOLOGICAL RESTORATION
- HIRE STAFF THAT HAVE A BACKGROUND IN ECOLOGY, RESTORATION, BOTANY
- ADD ACREAGE IF OPPORTUNITIES ARISE
- ADD NATIVE SPECIES WHENEVER POSSIBLE

NEW IDEAS:

Purchase Gill property (3.5 acres)
Private Weir for creek (existing) — gain control

Tree House

Habitat improvement in areas where buckthorn is removed
Limit human development.

Fire program — next Rx burn — a before and after walk, along w an equipment demo by a burn tech and native American story of how coyote brought fire to people.

Likes

Maple Syrup tapping
Pre-school programs
k-4 field trips
Trails
educational opportunities

Dislikes

Easy to get lost/miss trails
Not widely known
Dogs not allowed
Deer

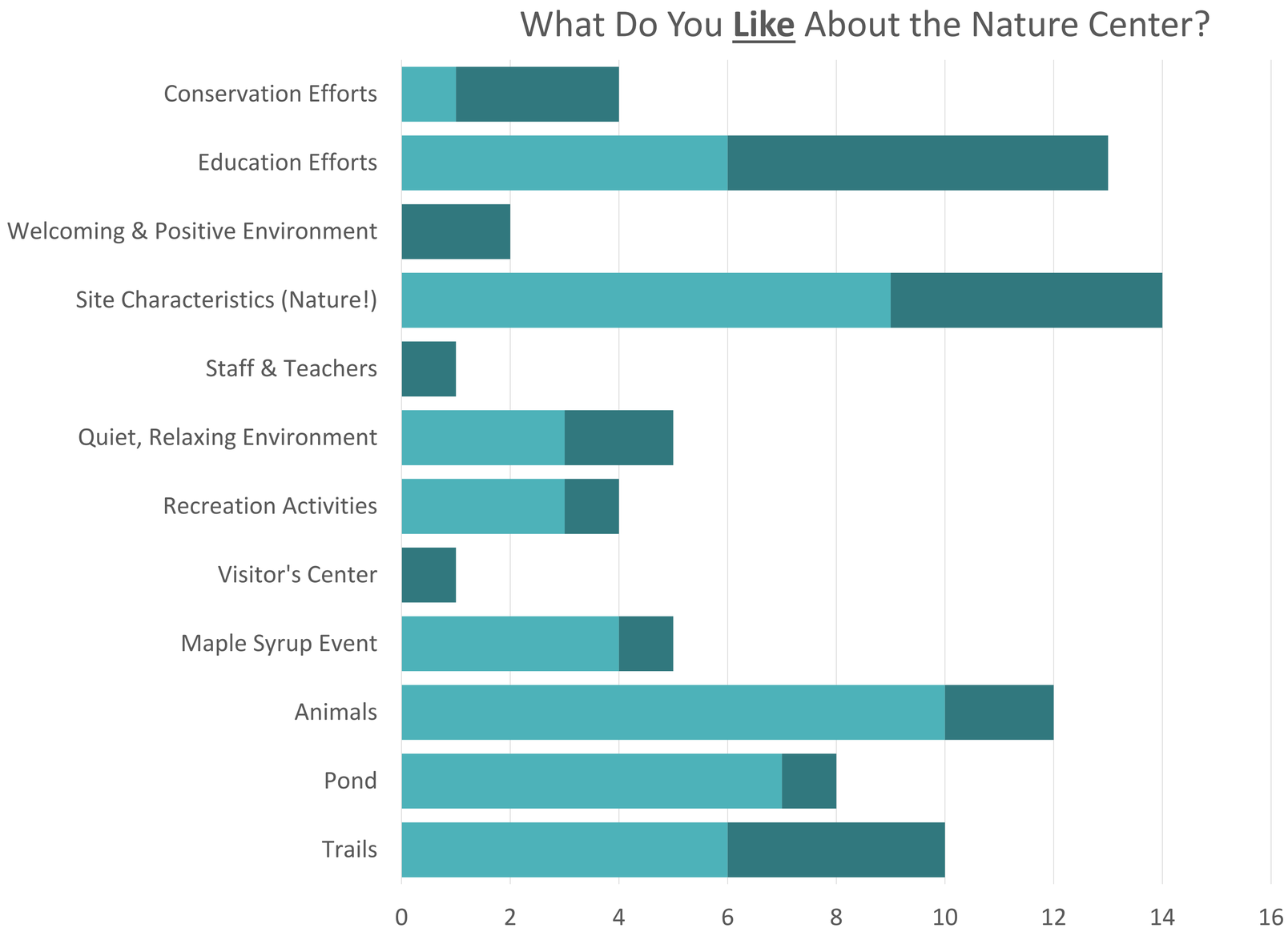
What is Good →

- Nature center displays + meetings space
- All of the invasive removal
- Native plant restoration
- Beautiful landscape in all seasons.
- Bird watching

What to improve —

- more invasive removal + native plant restoration.
- landscape around the nature center should be native species.
- enhance the community meeting space - more tech.

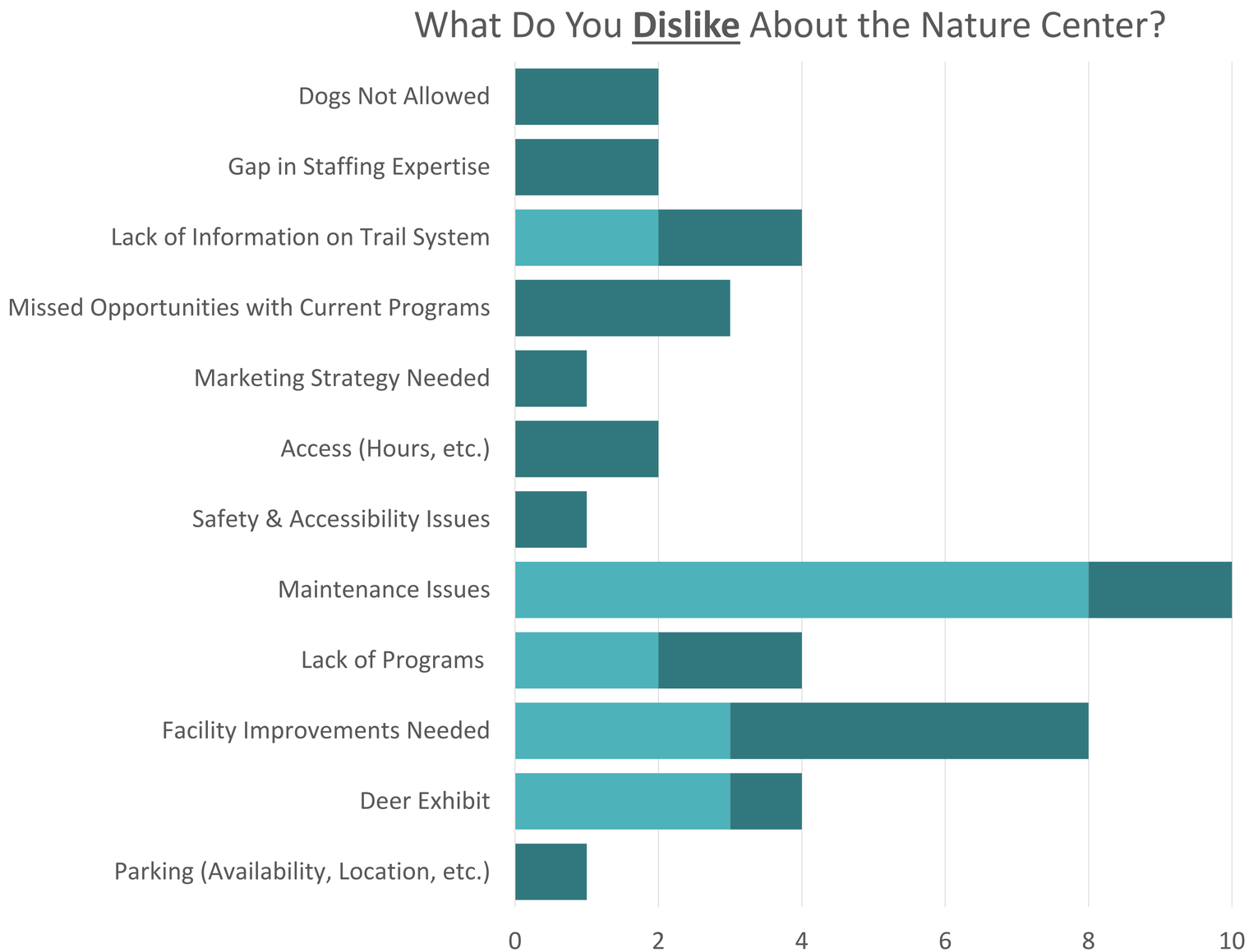
WORKSHOP RESULTS



Top Ranking Likes

- Site Characteristics (18%)
- Education Efforts (16%)
- Animals (15%)
- Trails (13%)
- Pond (10%)
- Quiet, Relaxing Environment for Discovery (6%)
- Maple Syrup Event (6%)

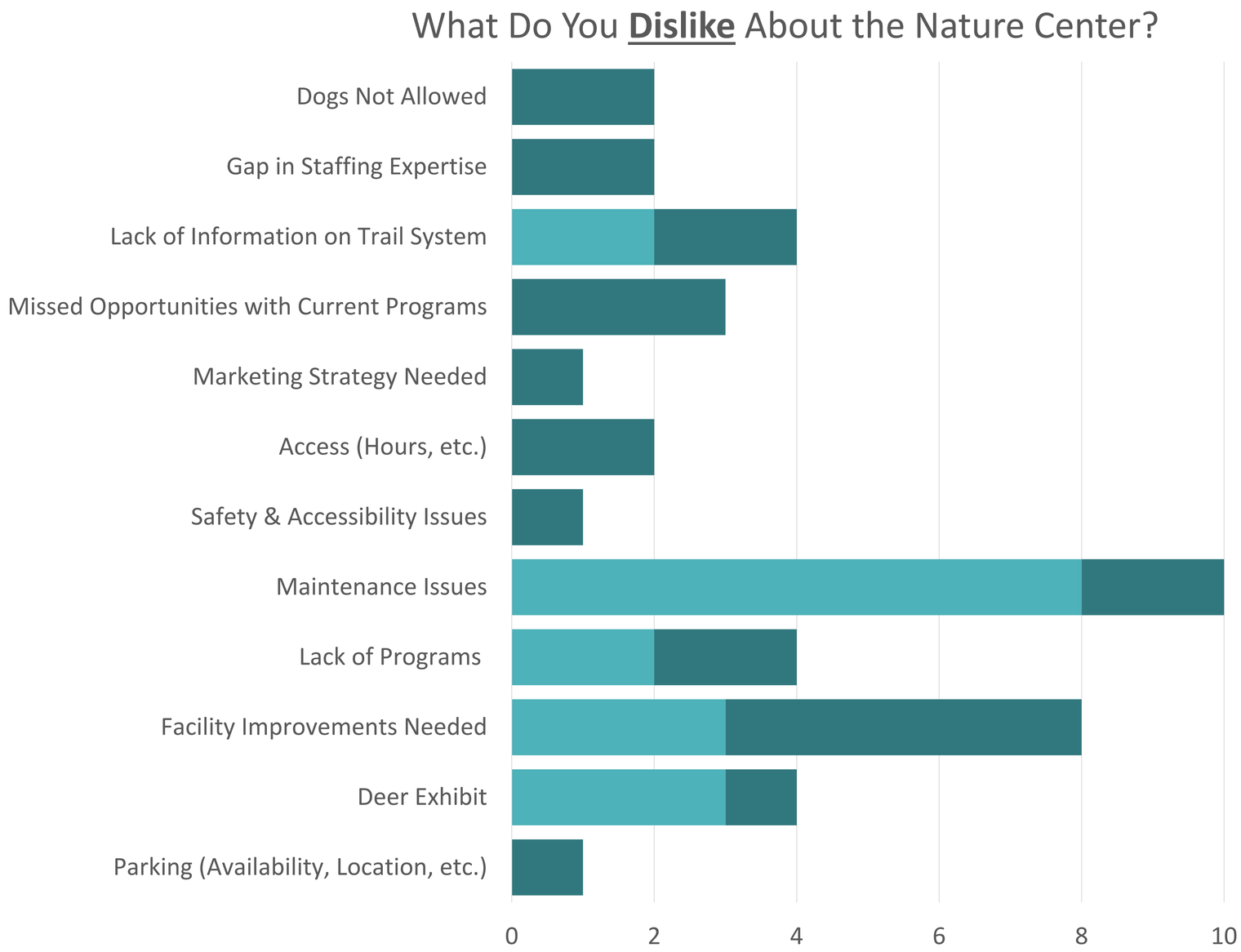
WORKSHOP RESULTS



Top Ranking Dislikes

- Maintenance Issues (24%)
- Facility Improvements Needed (19%)
- Deer Exhibit (10%)
- Lack of Programs (Education & Community Outreach) (10%)
- Lack of Information on Trail System (10%)
- Missed Opportunities with Current Programs (7%)

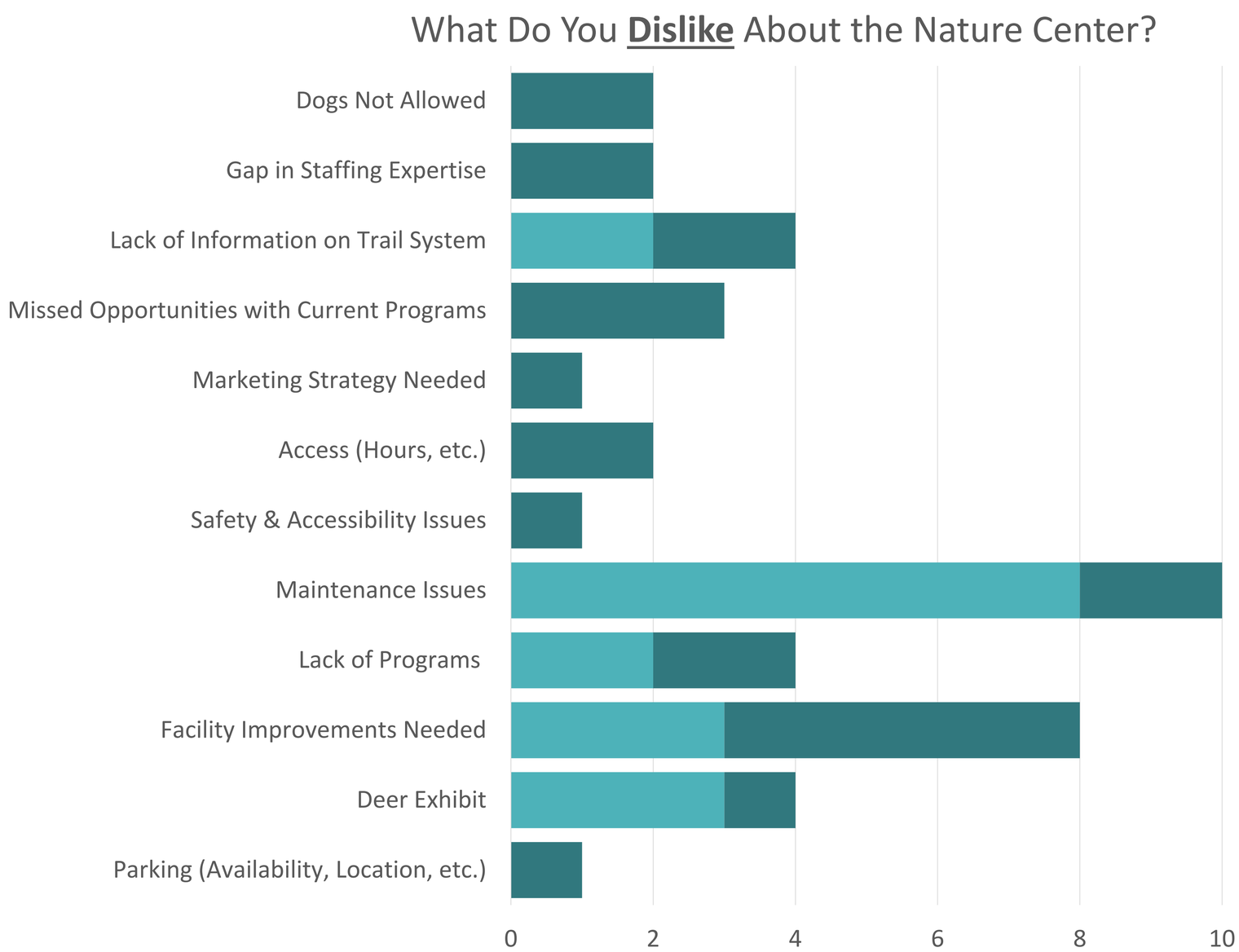
WORKSHOP RESULTS



General Notes

- Maintenance issues noted
  - Deck repairs
  - Pond clean-up
- Facility Improvements noted
  - Added acreage
  - New weir for creek water flow
  - Updated Visitors Center
  - Technology for the community meeting space
  - PREP house
  - Classrooms are disconnected

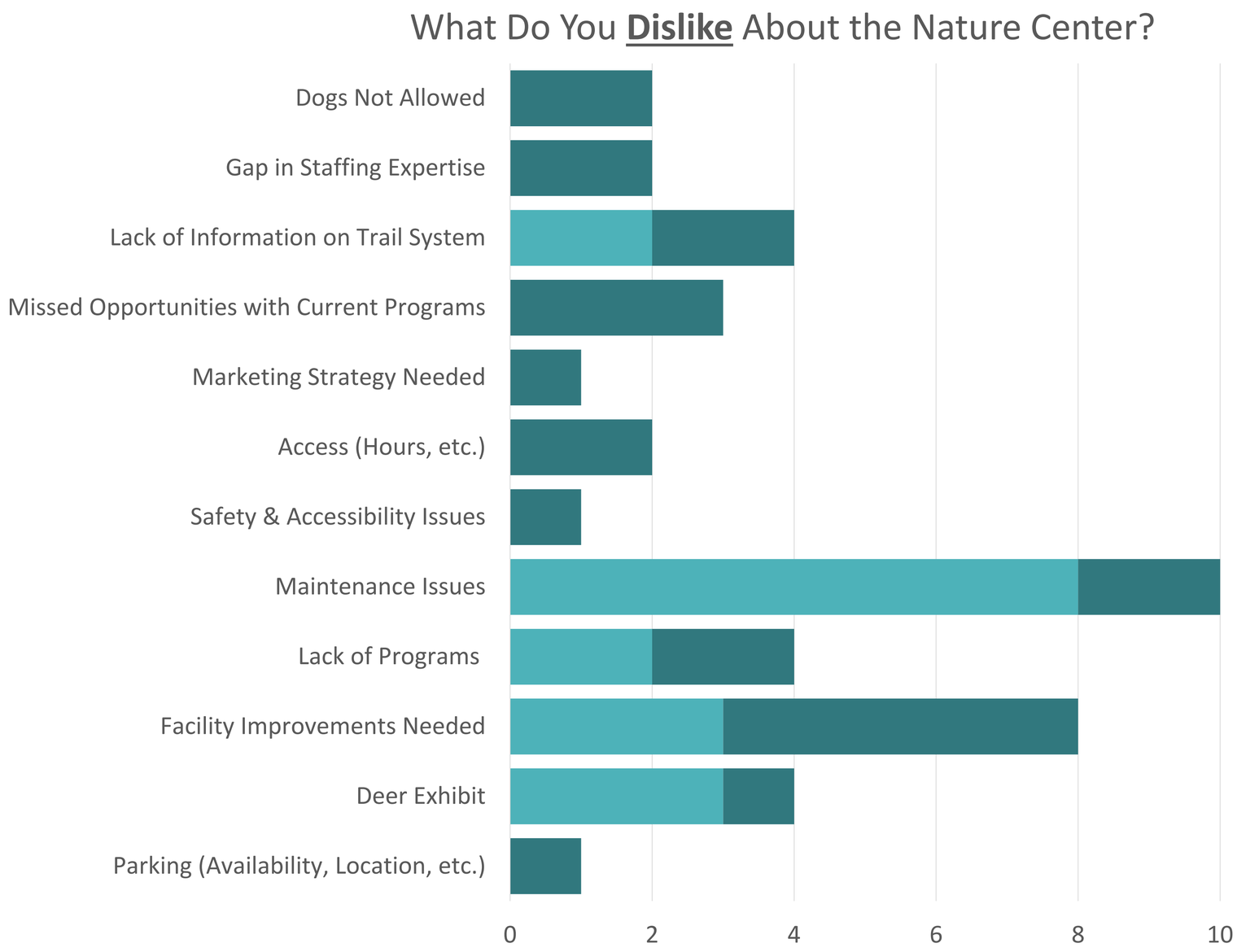
WORKSHOP RESULTS



General Notes

- Missed opportunities with current programs specifically highlighted the following
  - Invasive removals (habitat improvement needed instead of leaving areas bare)
  - Bird banding
  - Controlled burns (educational opportunity)

WORKSHOP RESULTS



General Notes

- Noted gaps in staffing expertise included the following
  - Wildlife Management
  - Ecology
  - Restoration
  - Botany

WORKSHOP RESULTS

Key Takeaways

- Community members recognize and value the role that the Nature Center plays in educating students and connecting students and residents with nature
  - Many noted that this is the only place in the Bloomfield Hills area where residents can experience and enjoy nature
  - Several mentioned (in written and verbal comments) that despite what community leaders think, private country clubs are not a replacement for local nature centers

- Some are concerned about the site losing it's intimate and natural qualities as attendance numbers increase and facilities are expanded to accommodate more visitors



WORKSHOP RESULTS

BIG Ideas for Improving JNC

- Add acreage if opportunities arise (Gill property targeted - 3.5 acres adjacent)
- Tree house educational play structures
- Gain control over the creek water flow
- Become a hub for local green clubs
- More community outreach programs
- More connections with other conservational groups
- Add native species wherever possible
- Habitat improvement in areas where invasives are removed
- Hire staff that have a background in ecology, restoration and/or botany
- Hire an expert Wild Land Manager
- Limit human development
- Controlled Burn program improvements
  - Have a Burn Technician demonstrate the equipment used and explain the purpose of the burn
  - Walk with Native American interpreter to tell the story of coyotes, fire & people



DIGITAL SURVEY RESULTS

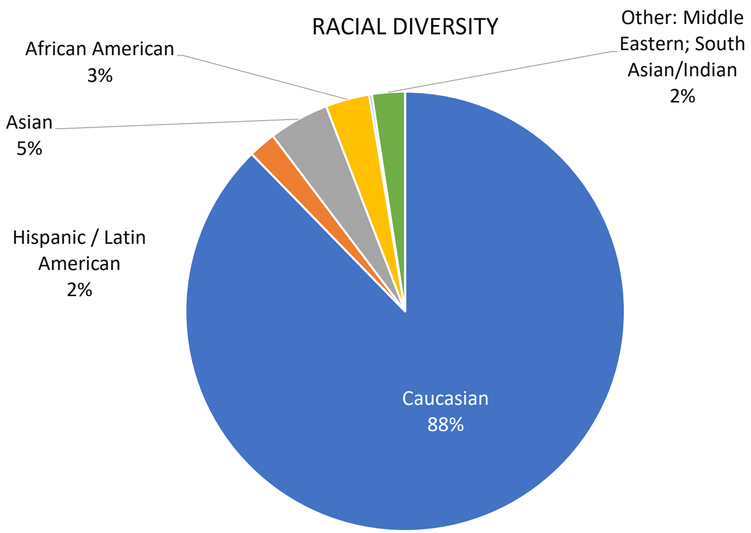
Key Takeaways

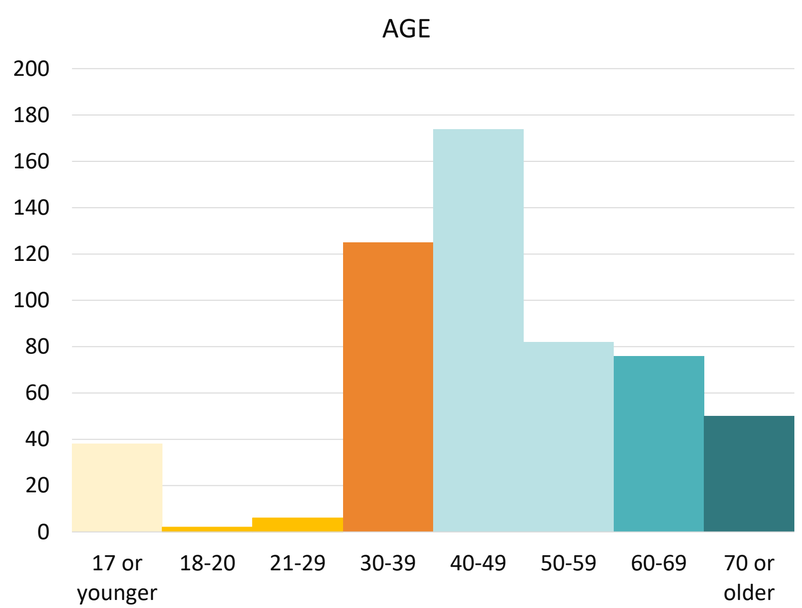
- The target audience for the Nature Center is within 15 minutes drive. Even so, the Nature Center is not as widely known as the Farm.
- Non-visitors have a perception that the Nature Center is primarily for BHS students and do not know what there is to do if they were to visit. Their perception of the Nature Center is that it is no different than any other nature center in the area in terms of experience.
- Visitors are strongly engaged with the Nature Center as being a place of quiet and connection with nature and have an understanding that the Nature Center serves both as a place of education and as a place for recreation.
- Although many visitors primarily use the Nature Center for walking, and state that increased visitation to the Center is part of their plan to increase exercise and improve mental health, most do not associate the Center with Health and Wellness.
- The Nature Center is currently underserving the non-Caucasian market, and that segment's lower overall awareness and perceptions of the Nature Center reflect this.
- Unlike Bowers School Farm, many respondents asked to "not change anything" about the Nature Center. A few responses explained further that the nature center is for enjoyment of nature and stated a desire to keep the attendance small so as not to overrun the limited site. These respondents recognize and appreciate the natural space and park access that isn't readily available in the immediate area.
- 20% of Bowers School Farm visitors have not visited Johnson Nature Center, and 10% are not even aware that it exists.

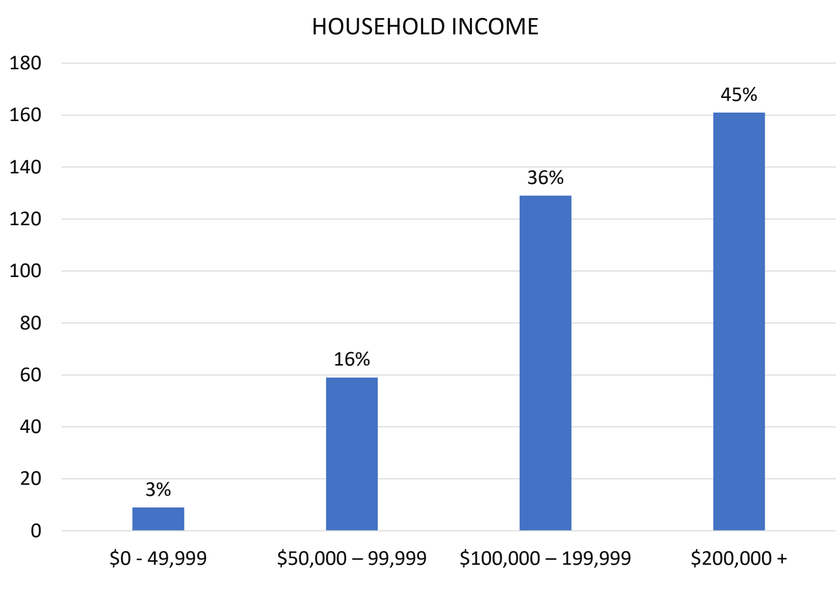
AUDIENCE SEGMENTS

- UNAWARE NON-VISITORS
- AWARE NON-VISITORS
- VISITORS
- 15 MIN DRIVE
- 30 MIN DRIVE
- 2 HR DRIVE
- NON-CAUCASIAN
- ADULTS W/O KIDS
- FAMILIES
- SENIORS
- UNDER 21

DIGITAL SURVEY RESULTS







553 TOTAL RESPONSES

Ave. HH Size: **3.4**
College Degree: **89%**
Adults Without Kids At Home: **30%**
93% are previous Farm Visitors
76% are previous Nature Center Visitors

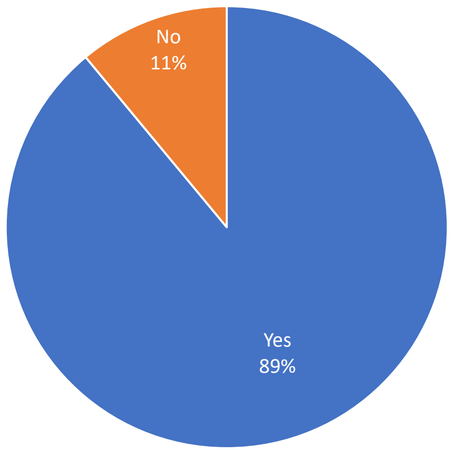
BSF & JNC Visitor Profiles look the same!

KEY POINTS:

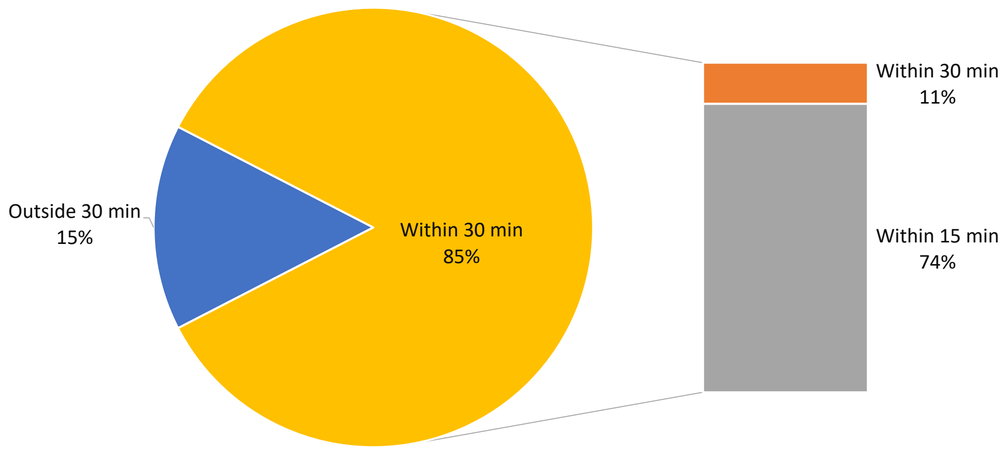
- Low responses from Non-Visitor segment
- Heavily Caucasian
- Black / African American underrepresented compared to population at 15, 30, and 120 min segments
- Underrepresented Gen Z segment and overrepresented Gen X segment compared to drive time populations
- Respondents' wealth is greater than drive time segment populations; Underrepresented low-income demo

UNAWARE NON-VISITORS

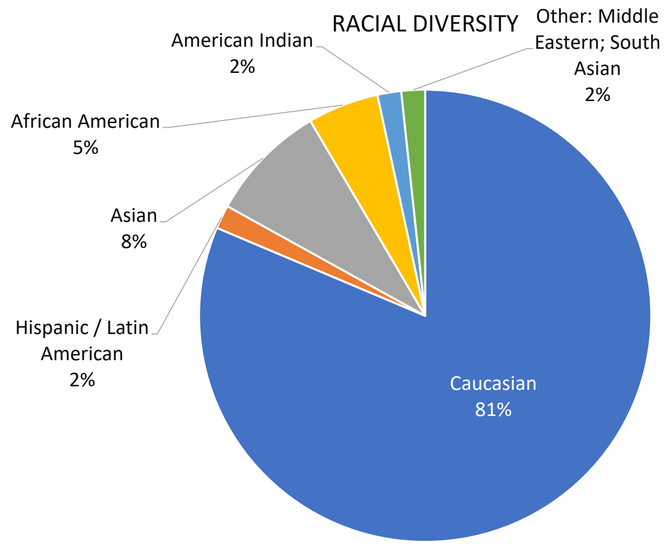
WERE YOU AWARE OF JNC BEFORE THE SURVEY?



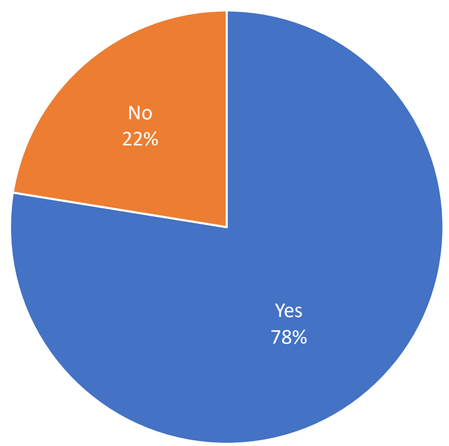
DRIVE TIME FOR THOSE UNAWARE



RACIAL DIVERSITY



ALL NON-CAUCASIAN AWARENESS OF JNC



66 TOTAL RESPONSES

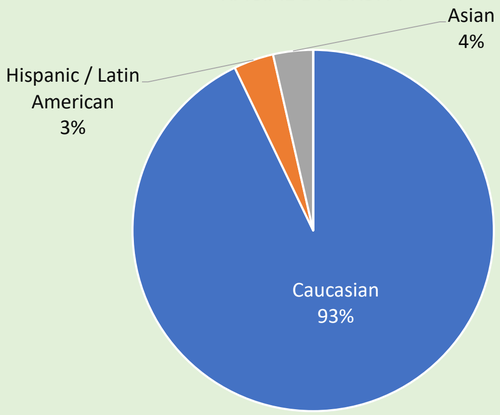
Ave. HH Size: **3.2**
College Degree: **80%**
Adults Without Kids At Home: 39%

KEY POINTS:

- 11% of all respondents
- Of those, the majority live within 15 min
- Higher racial diversity within the ‘unaware of JNC’ segment than overall survey profile AND proportionately, non-Caucasians are less aware of JNC
- Higher proportion of $100,000 - $199,999 household incomes than survey profile
- Lower proportion of respondents in the 40-49 age group than survey profile

AWARE NON-VISITOR PERCEPTIONS

RACIAL DIVERSITY



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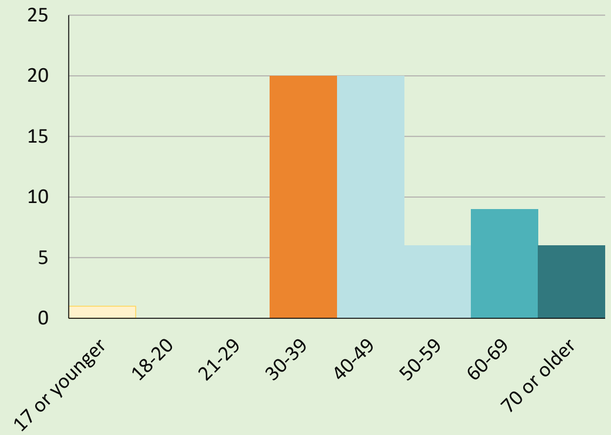
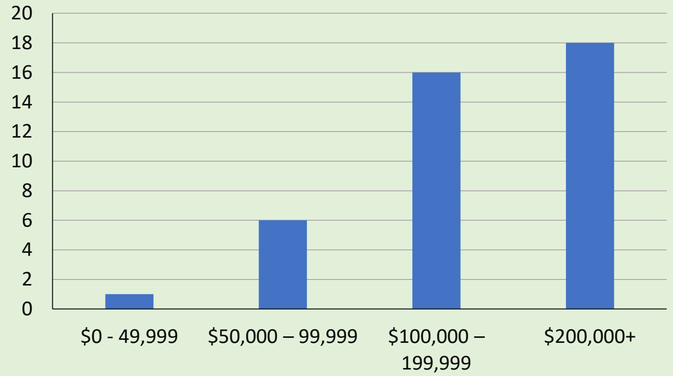
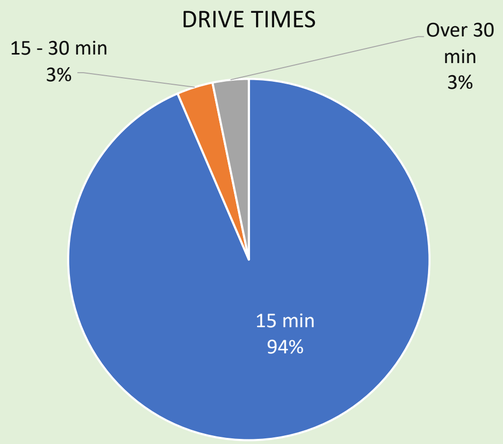


HOUSEHOLD INCOME



DRIVE TIMES



FREQUENTLY VISITED ATTRACTIONS

62 TOTAL RESPONSES

Ave. HH Size: **3.1**
College Degree: **94%**
Adults Without Kids At Home: **32%**

<u>Vast majority from within 15 min</u>

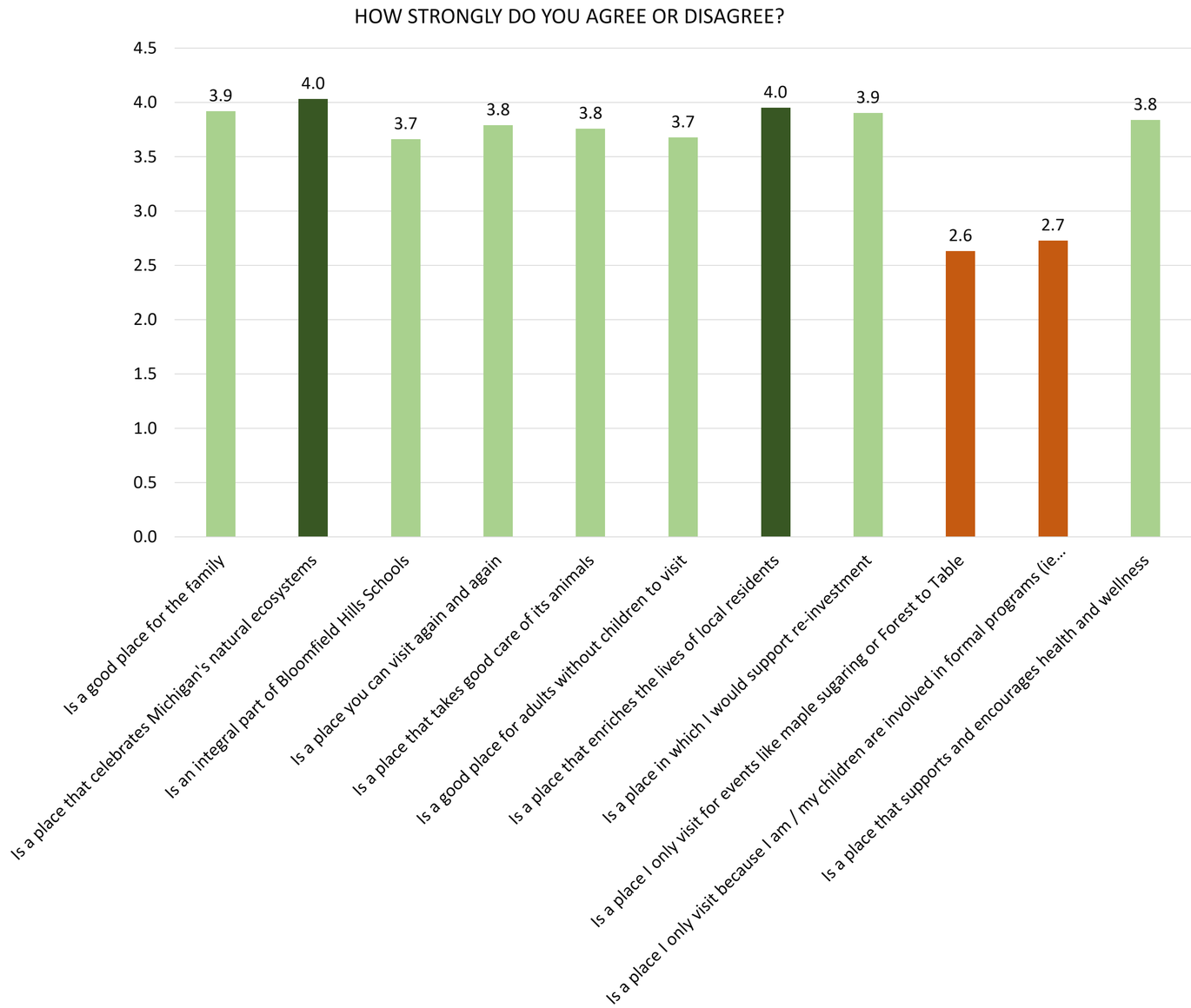
Non-Visitors follow the overall survey profile with less racial diversity

AWARE NON-VISITOR PERCEPTIONS

RANK YOUR BELIEF OF JNC PURPOSE:	
1	Improving student academic outcomes
2	Teaching about MI's ecosystems & cons.
3	Teaching about responsible use of natural resources
4	Recreation / Leisure
5	Community gathering space
6	Tourism

Non-Visitor perceptions are generally positive with very little variation across all statements—indicating no strong affiliations or perceptions of the Nature Center.

Reflects belief that Nature Center is primarily for education--and that they have very little knowledge of JNC.

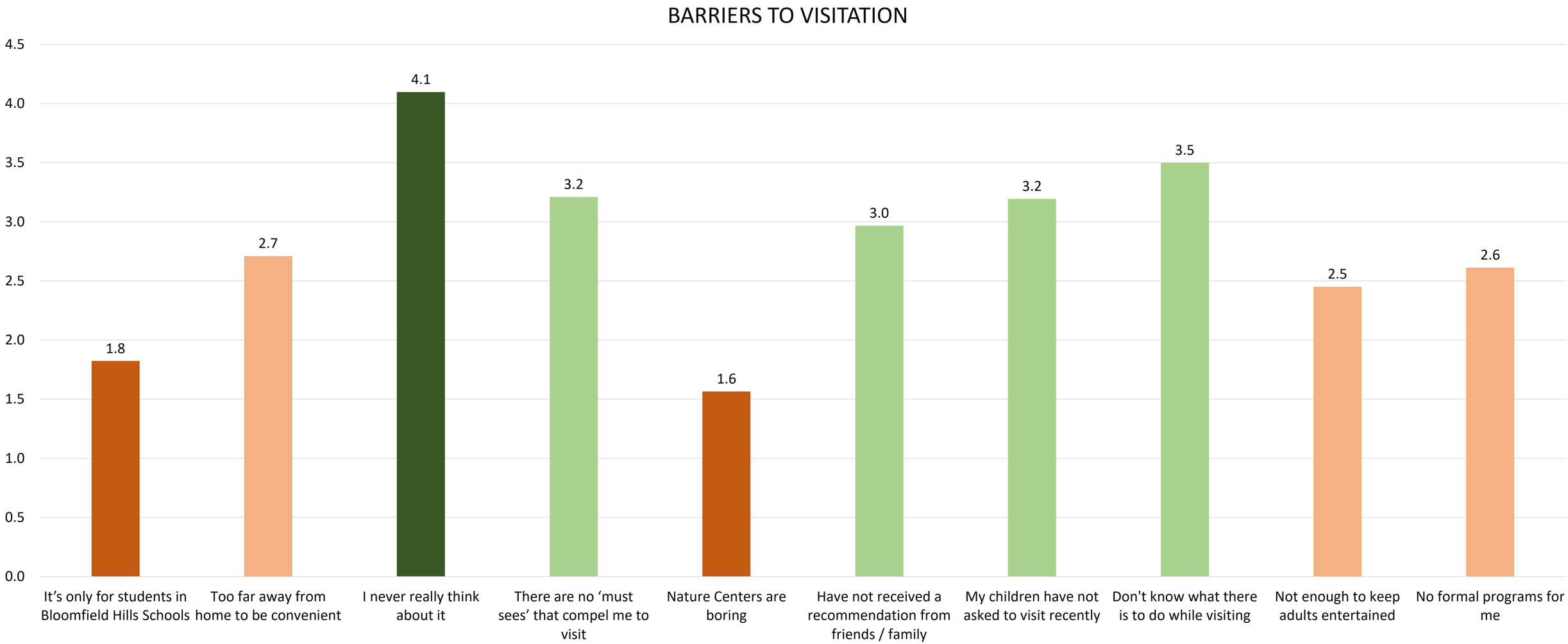


AWARE NON-VISITOR PERCEPTIONS



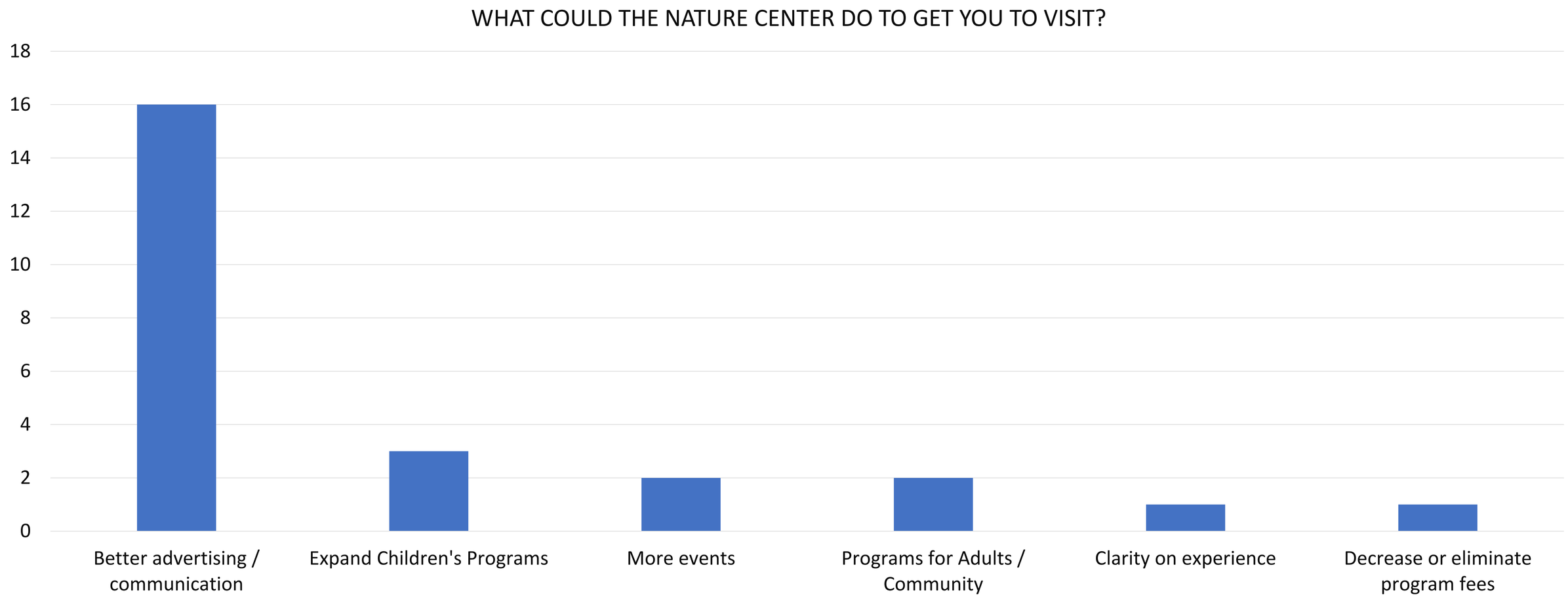
Non-Visitor perceptions of JNC describe a typical expectation for a nature center.

AWARE NON-VISITOR PERCEPTIONS



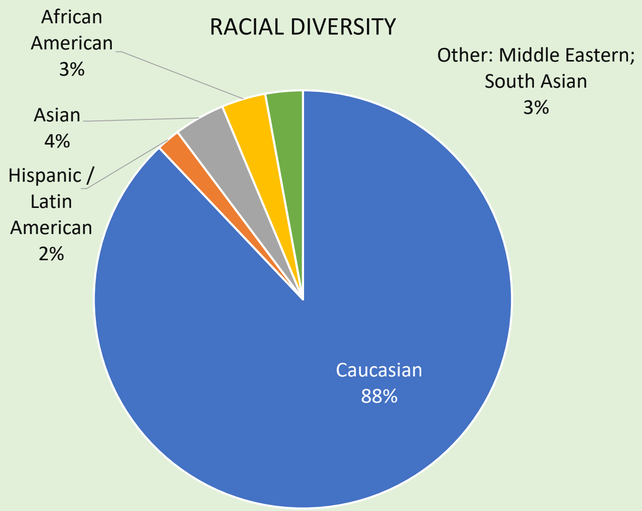
“I never really think about it” is top with **“Don’t know what there is to do.”**
“No Must Sees,” “My Children Haven’t Asked,” and “Have Not Received a Recommendation” are moderate barriers. Non-Visitors appear to know that JNC is not for **BHS students only** and do have an **interest in nature centers** in general.

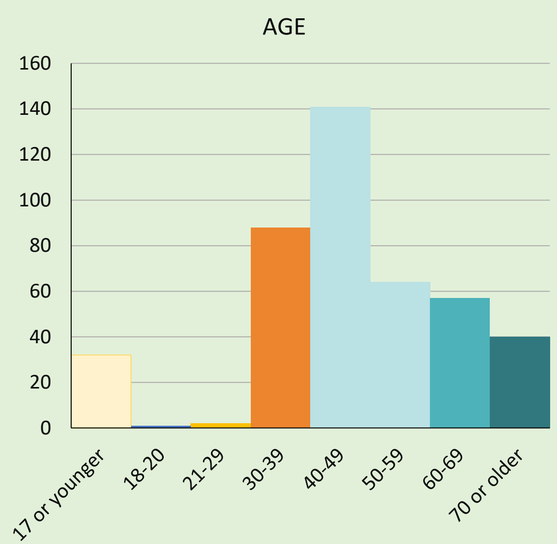
AWARE NON-VISITOR PERCEPTIONS

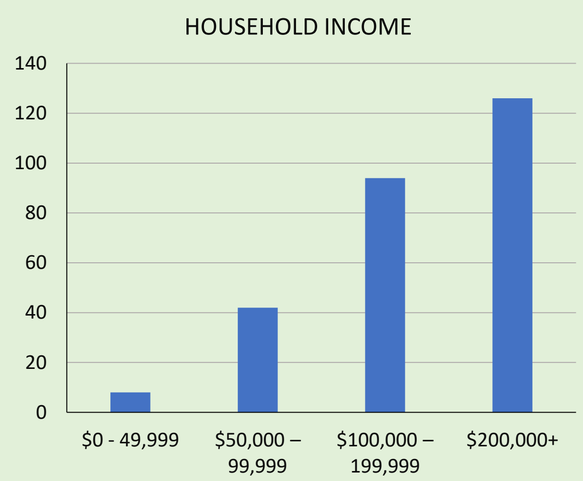


Suggestions for **better advertising** align with “I never really think of it” as a barrier.
However, unprompted suggestions of changes include **expanding programs, adding events, and discounting program / event fees**.

VISITORS





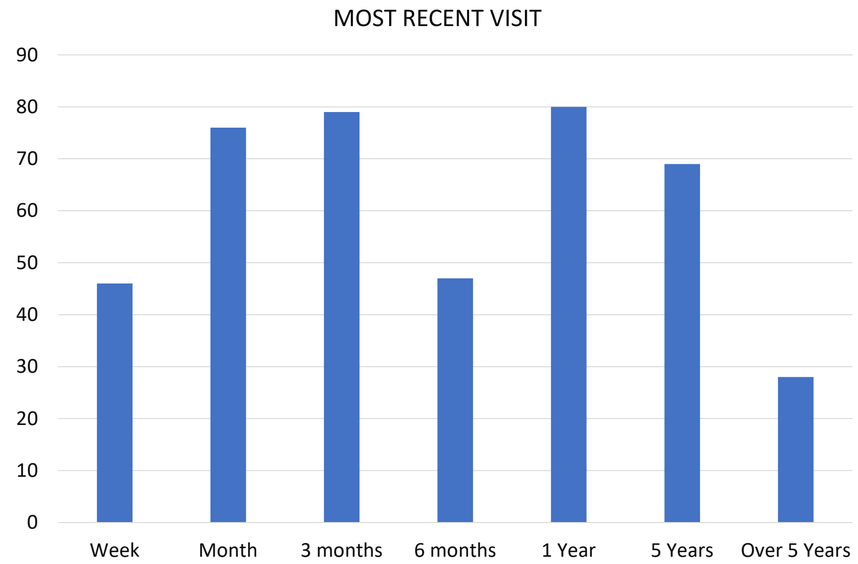


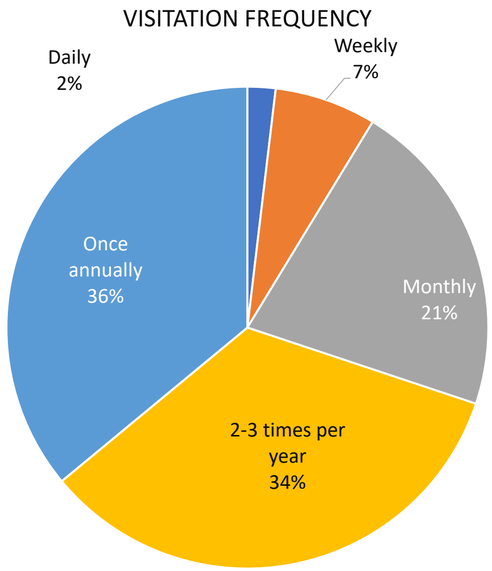
425 TOTAL RESPONSES

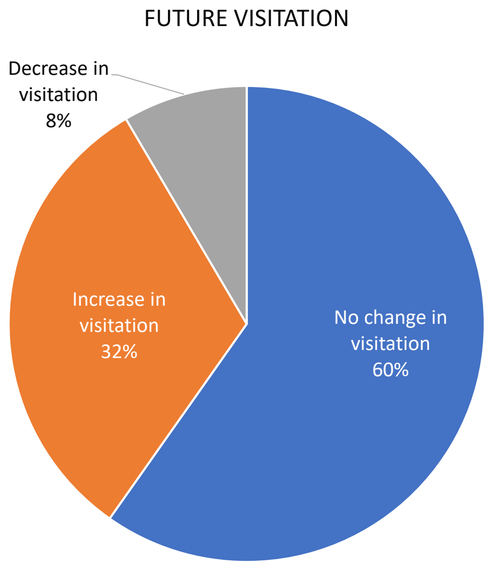
Ave. HH Size: **3.5**
College Degree: **90%**
Adults Without Kids At Home: **30%**

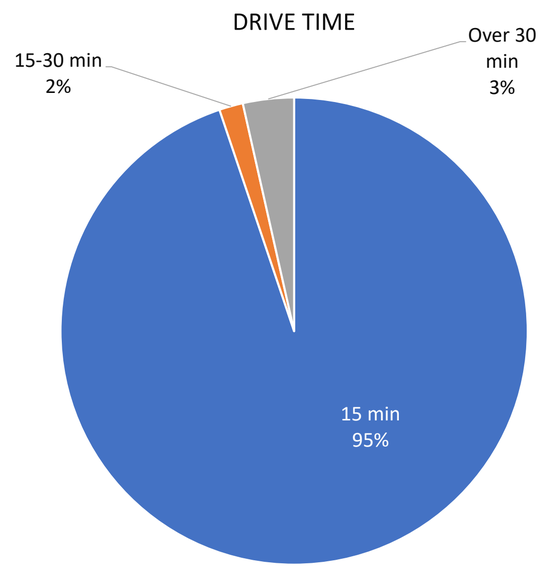
Respondents live within 15 min, have equally visited recently and not, and ~1/3 visit monthly+ and anticipate increased visitation.

The visitor profile is similar to overall survey.



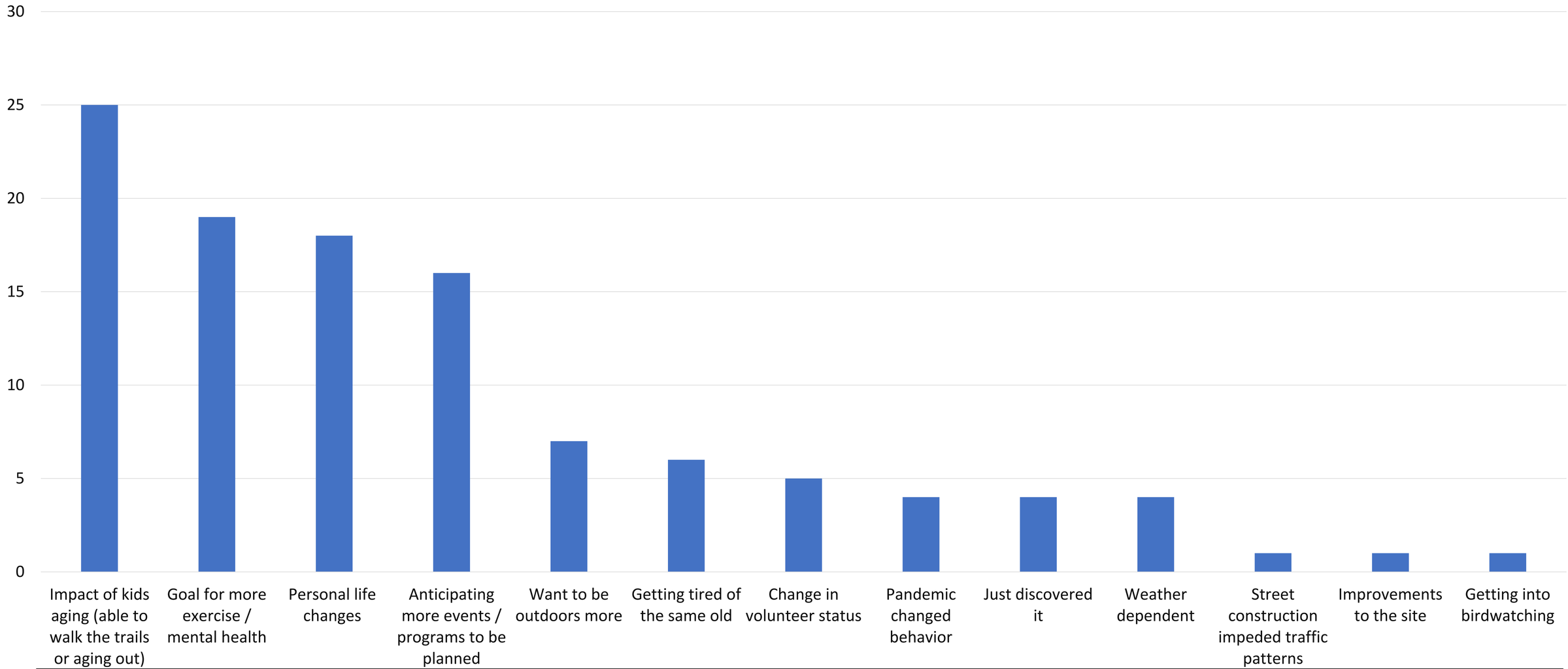






VISITORS

REASON FOR CHANGE IN VISITATION

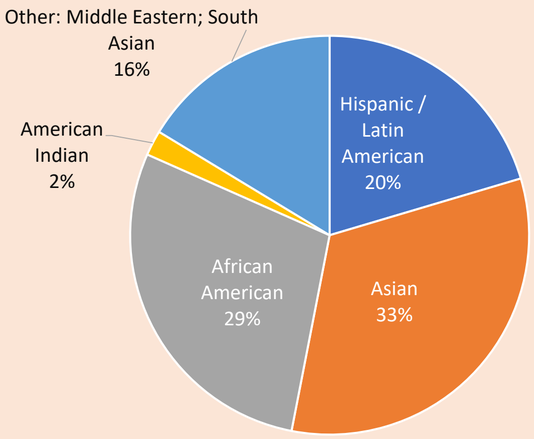


Biggest reason for any change to visitation (increase or decrease) related to **children's age**—old enough to walk now; more / less interested in nature; more field trips; graduating / not at home. Secondarily, new goals for **wellness** are increasing people's desire to visit. **Personal life changes** allow more or less time, and visitors anticipate more events and programs to be added.

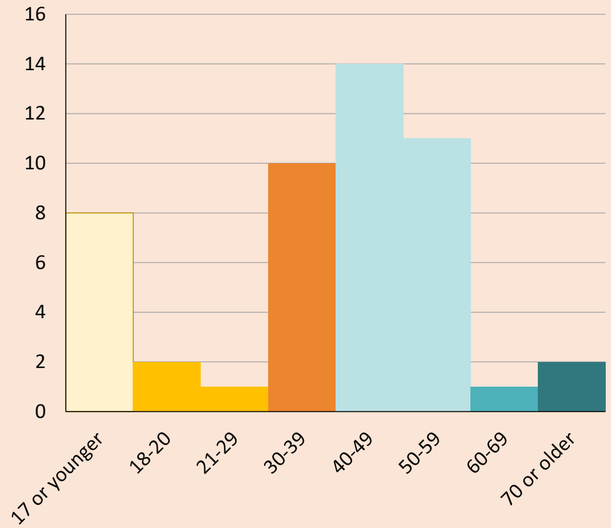
69

NON-CAUCASIAN VISITORS

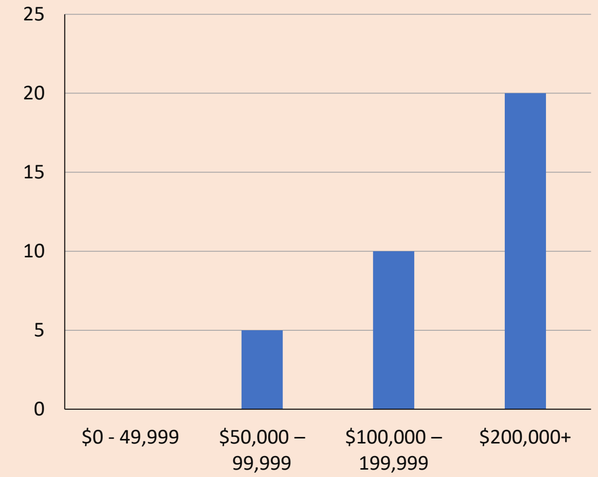
RACIAL DIVERSITY



AGE



HOUSEHOLD INCOME



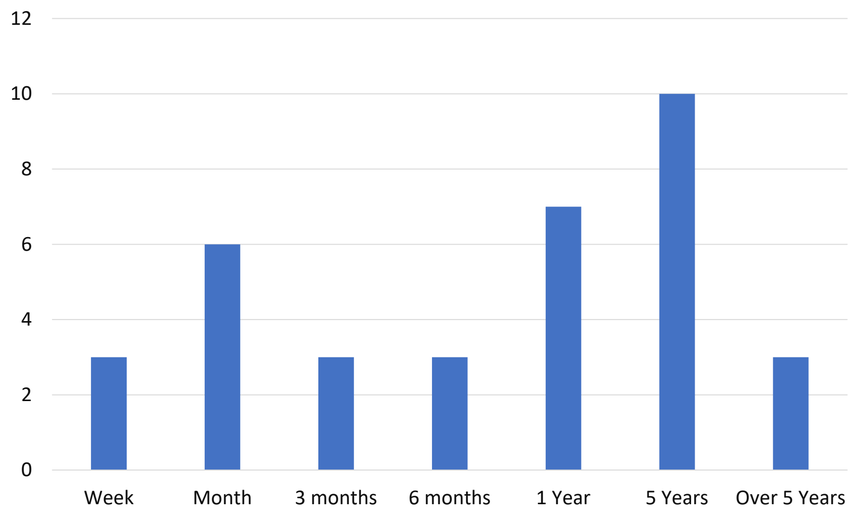
38 TOTAL RESPONSES

Ave. HH Size: **3.8**
College Degree: **76%**
Adults Without Kids At Home: **18%**
Age skews younger with fairly equal distribution across ethnicities.

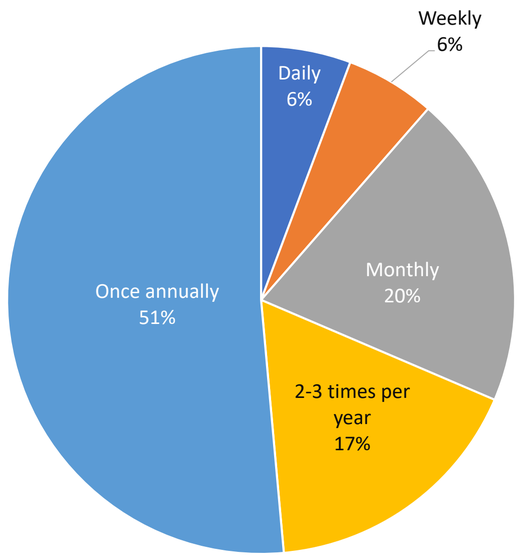
Group visits less frequently and less recently than overall visitors.

Income profile similar to all visitors.

MOST RECENT VISIT



VISIT FREQUENCY



VISITORS



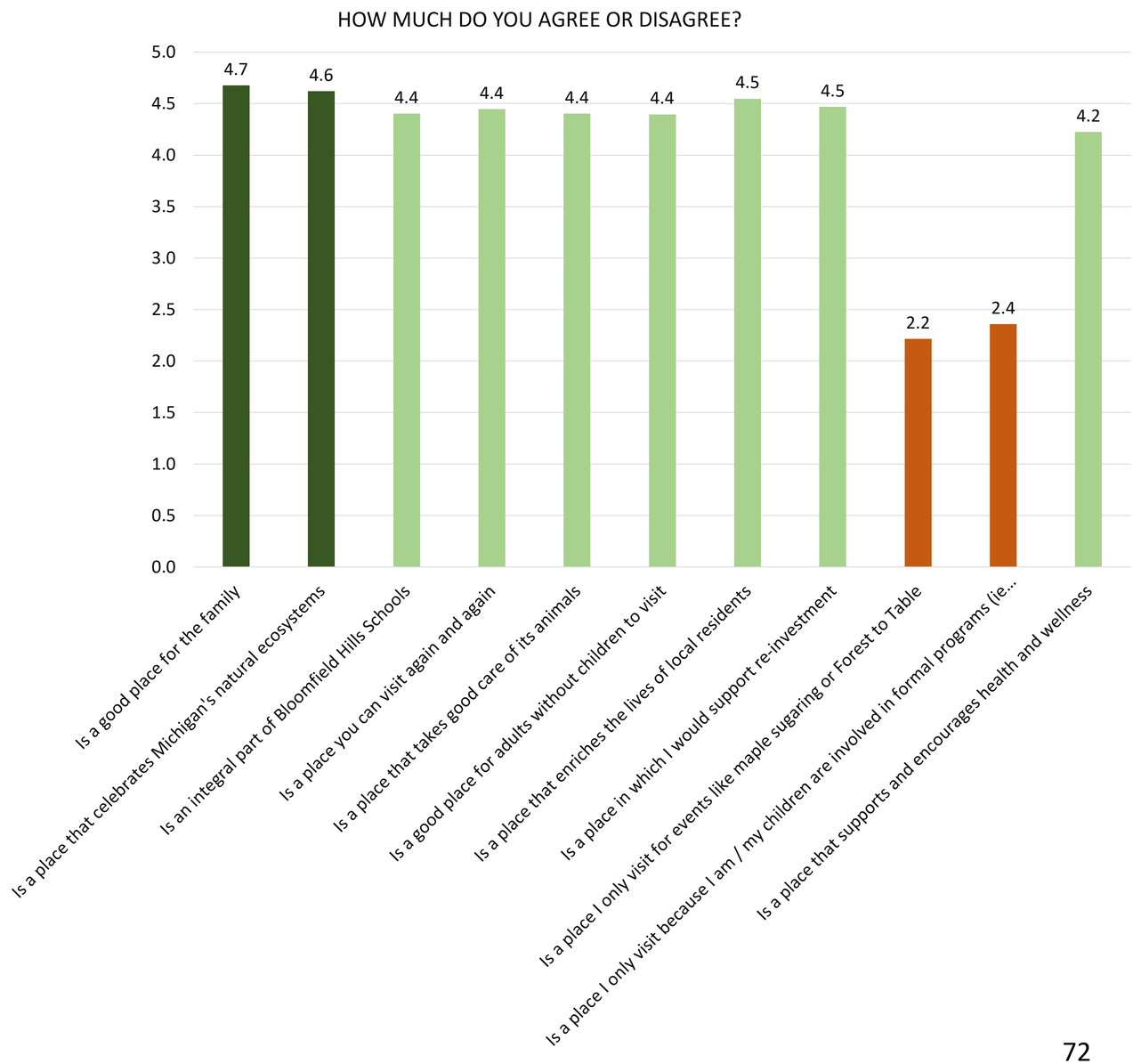
FREQUENTLY VISITED ATTRACTIONS

VISITOR PERCEPTIONS

RANK YOUR BELIEF OF JNC PURPOSE:
1 Improving student academic outcomes
2 Recreation / Leisure
3 Teaching about MI's ecosystems & cons.
4 Teaching about responsible use of natural resources
5 Community gathering space
6 Tourism

- Visitor perceptions are much more positive than Non-Visitor.
- Visitors place Recreation / Leisure as the secondary purpose for JNC; Non-Visitors placed that 4th.
- Visitors recognize JNC as a "Good Place for the Family" and "Celebrates MI's Natural Habitats" slightly more than all other statements.
- Least agreed upon—aside from only visiting for events or programs—"Is a place that supports health and wellness," but only slightly less.

Reflects belief that JNC is both a place for community members to recreate as well as an important part of BHS.



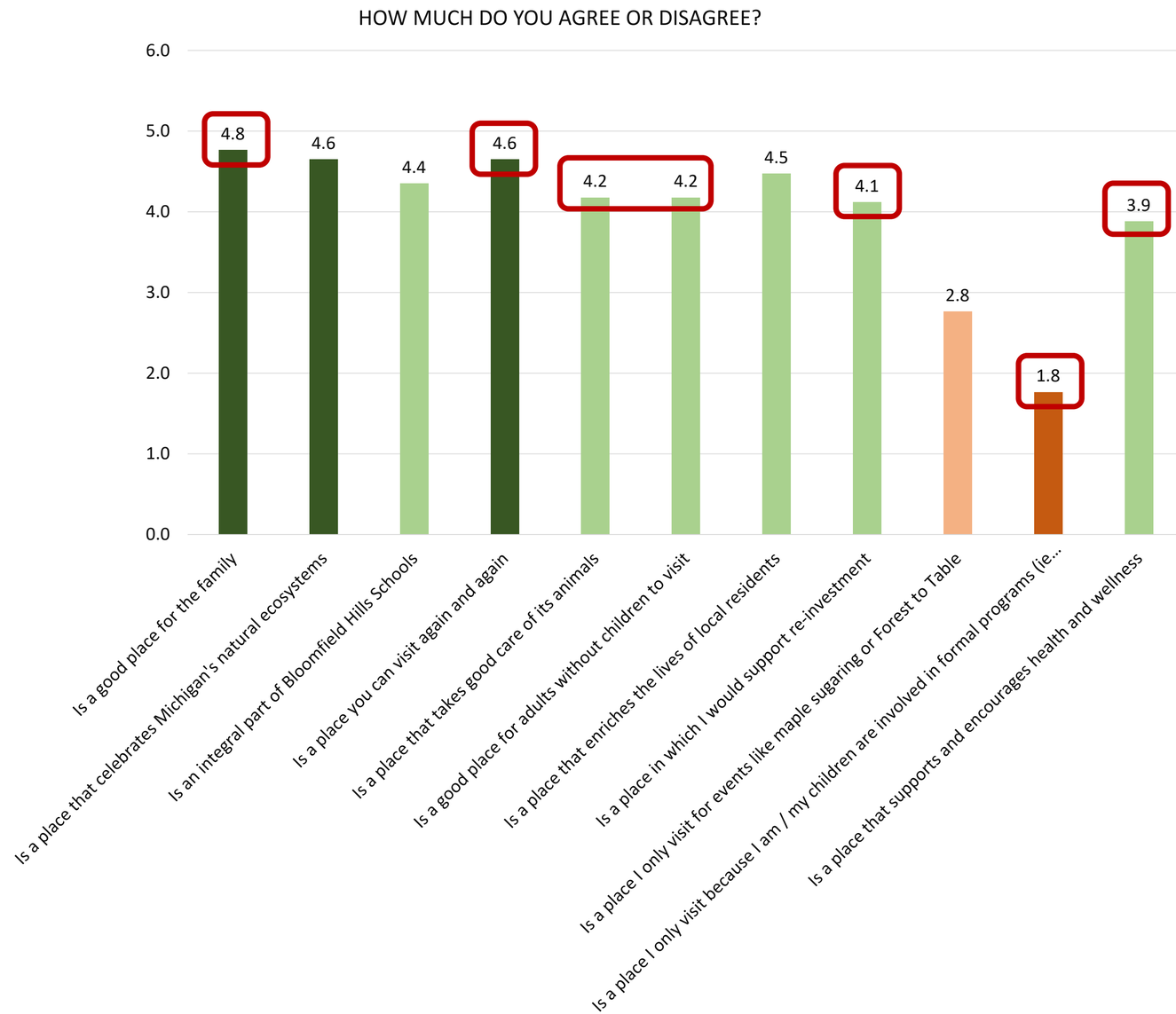
OVER 30 MIN DRIVE TIME

RANK YOUR BELIEF OF JNC PURPOSE:

1. Improving student academic outcomes
2. Teaching about responsible use of natural resources
3. Teaching about MI's ecosystems & cons.
4. Recreation / Leisure
5. Community gathering space
6. Tourism

- Ranking of purpose more resembles Non-Visitors than Visitors with Recreation at #4 rather than #2.
- Visitors that live over 30 min away from JNC have a larger variation on agreement with the statements—most agreement at 4.8 "Is a good place for family;" most disagree with "visiting only for programs."
- They agree less than other visitors that JNC "takes good care of animals," "is a good place for adults without kids," "support re-investment," and "is a place for wellness."
- They also more strongly agree that it is "a place you can visit again and again."

Reflects belief that JNC is primarily a place for family nature education.



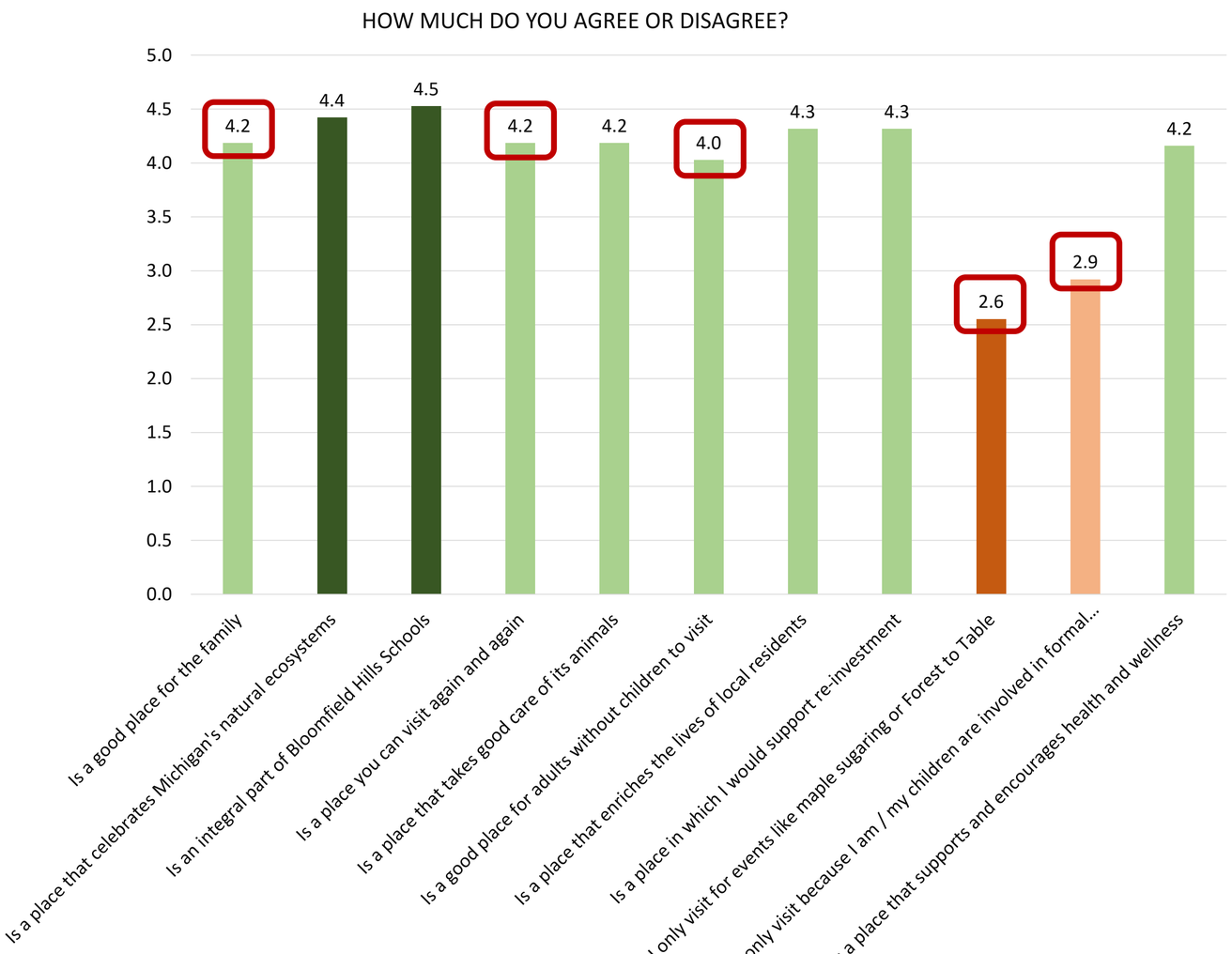
NON-CAUCASIAN

RANK YOUR BELIEF OF JNC PURPOSE:

1. Improving student academic outcomes
2. Teaching about responsible use of natural resources
3. Recreation / Leisure
4. Teaching about MI's ecosystems & cons.
5. Community gathering space
6. Tourism

- This group places teaching about MI's ecosystems lower than recreation and much lower than teaching about responsible recreation.
- Non-Caucasian segment believes less strongly that JNC is a "good place for family" and can be "visited again and again." Contrarily, they also believe less strongly than any other group that it is a "place for adults without kids."
- This group less strongly disagrees with the statements that they only come for events or programs, which indicates that some of these respondents are primarily motivated by Events and Programs.

Reflects beliefs that Nature Center is a place to teach students about responsible recreation.

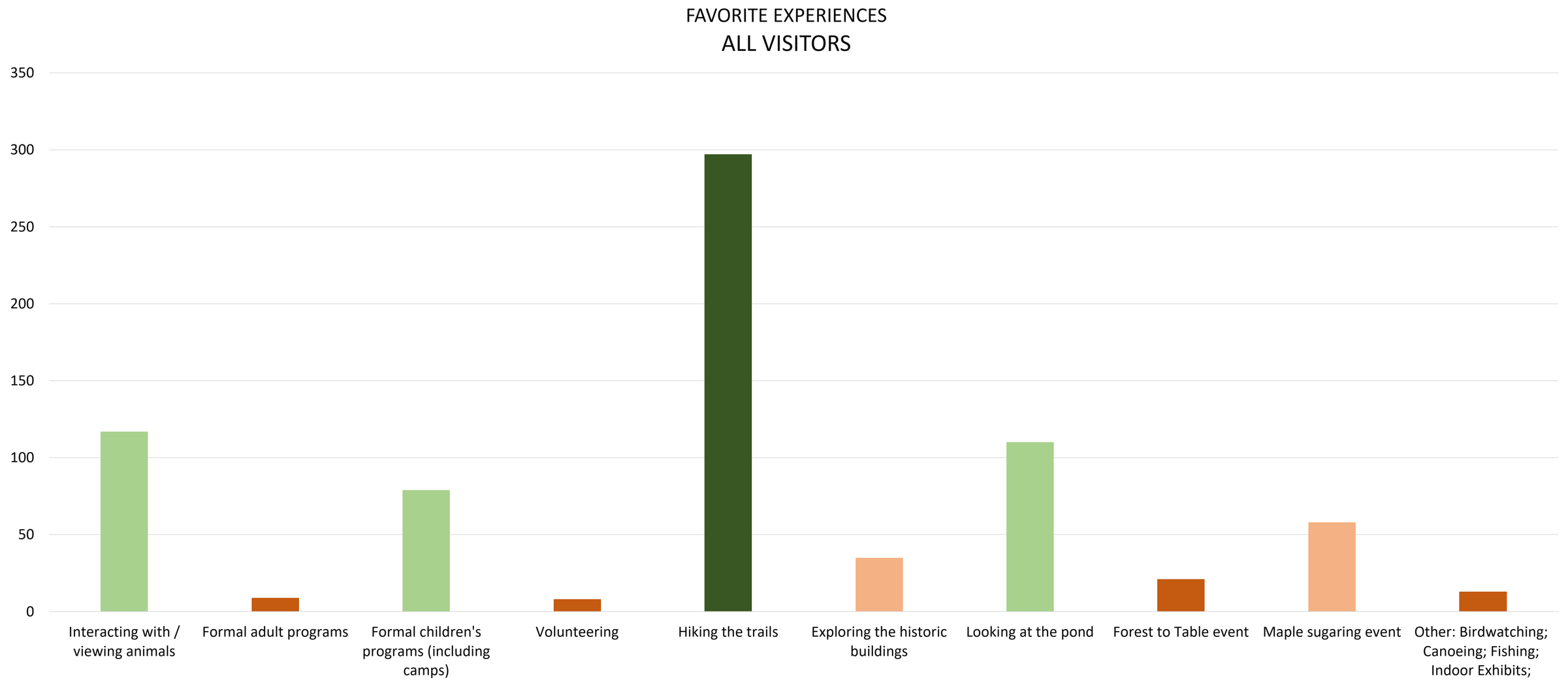


VISITOR PERCEPTIONS



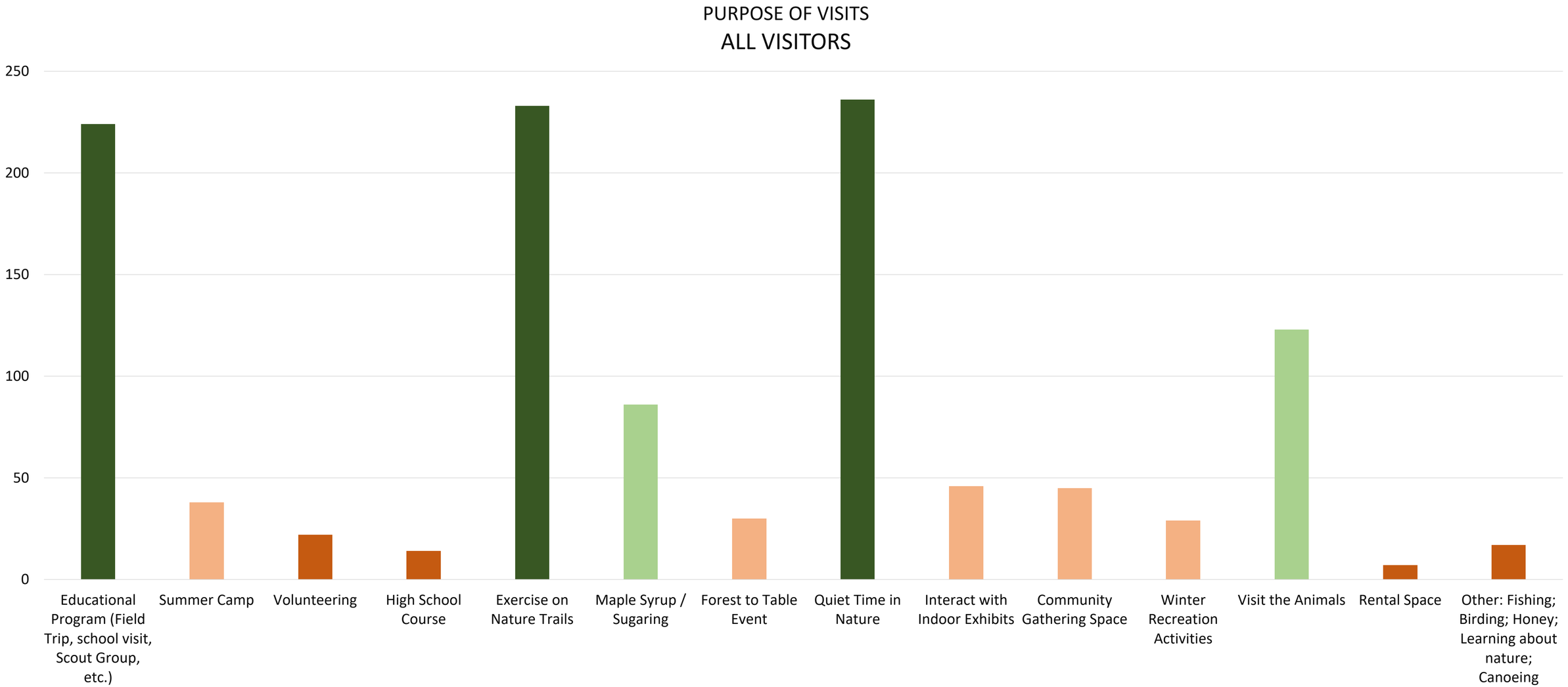
Visitor perception of JNC highlights some of the features unique to the site: **syrup, trails, deer**. Many positive and 'calm' descriptors like **peaceful, beautiful, walking**.

VISITOR PERCEPTIONS

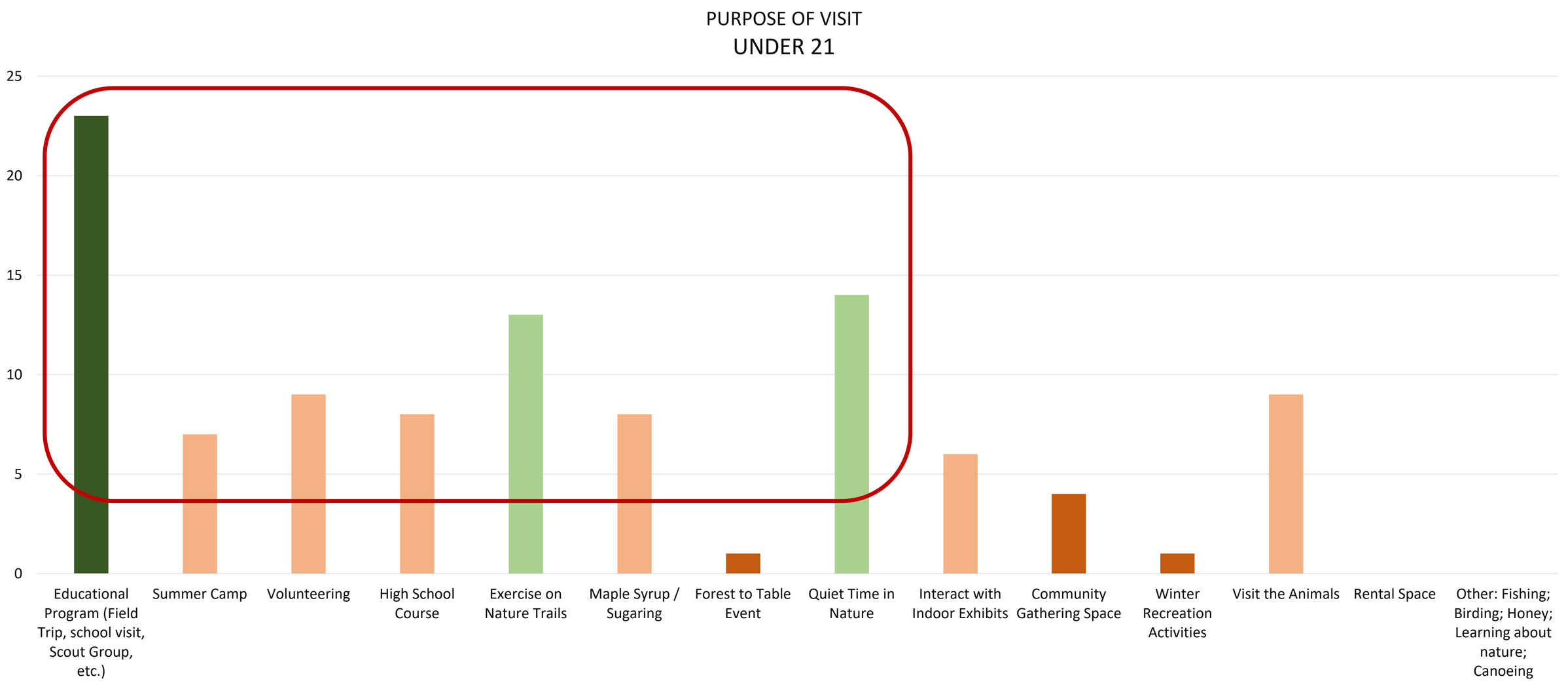


Visitor favorite experience is **Hiking**. 2nd Favorites are **Looking at the Pond** and **Interacting with Animals**. **Formal Children's Programs** are also a favorite, although **Adult Programs** faired less favorably.

VISITOR PERCEPTIONS

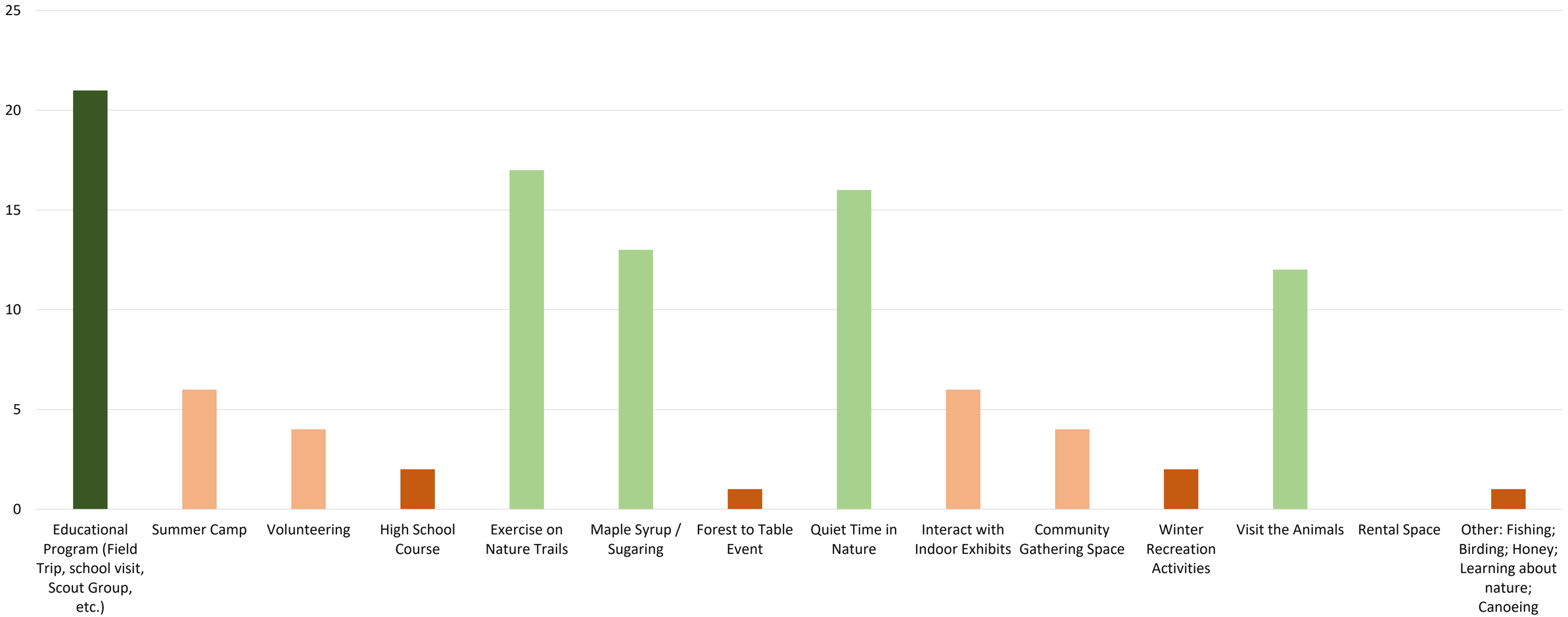


Purpose of visits focuses on **enjoying nature and animals**, participating in **formal programs**, and visiting during the **Maple Sugaring events.**



Programs are the primary driver for visitors under age 21. **Summer camp, volunteering, high school course, and maple sugaring** are also strong drivers for this group compared to 'all visitors.' Inversely, while using **nature trails** and having **quiet time** are in the top three reasons for visiting, they are much weaker drivers compared to other audience segments.

PURPOSE OF VISIT
NON-CAUCASIAN



Programs are the primary driver for non-Caucasians. While **Exercise and Quiet Time** are in this group's top 3, they are weaker drivers than with other groups. On the other hand, **Maple Sugaring** and **Visiting the Animals** are much stronger drivers with this group than other groups.

SUGGESTIONS FOR CHANGE

Would Not Change: Specifically “do not change,” “we love it,” “nothing to change”, etc. Did not include “N/A”, “I don’t know,” etc.

More Community Events & Programs: (Catch all for any that didn’t specify ‘Adult’ or ‘Children’) Birdwatching; Night Hikes; Guided Hikes; Seasonal events

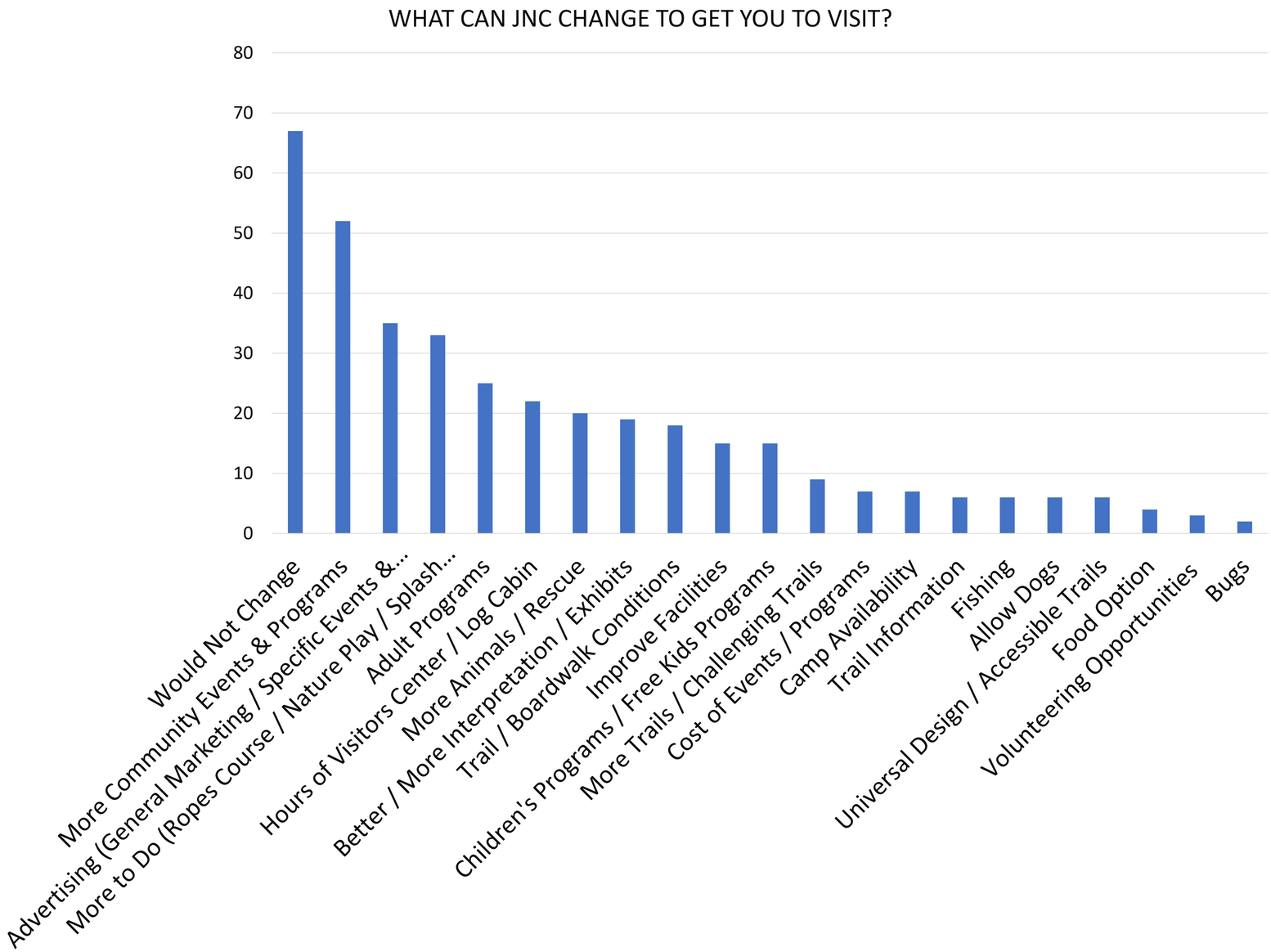
Advertising: Lack of awareness of events / programs and general reminders of JNC

More to Do: Ropes course; Nature play; Splash pad; Winter recreation; Watersports; Things along Trails; Rustic camping

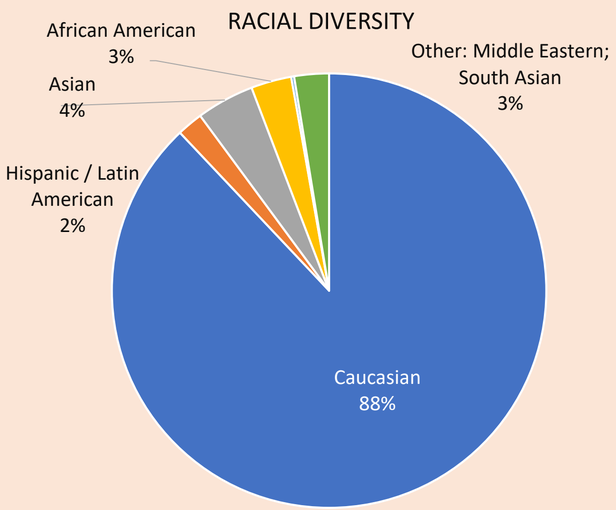
Interpretation: Indoor exhibits and outdoor signage

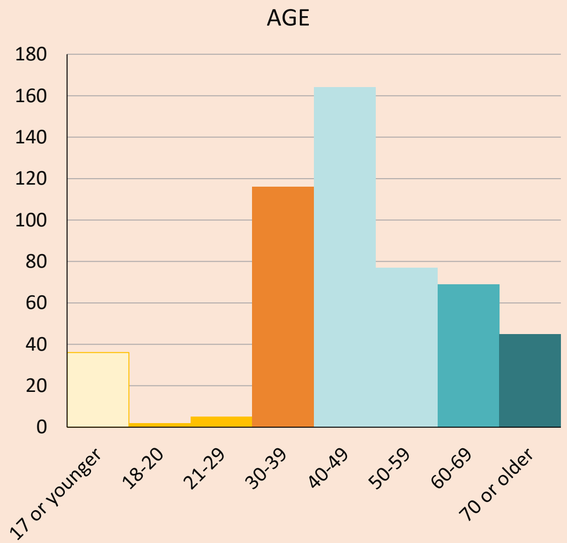
Improve Facilities: Animal habitats; Bathrooms; Remove invasives; Plant natives; Block noise / views from roads; Cozier indoor spaces; Better event space indoor and out

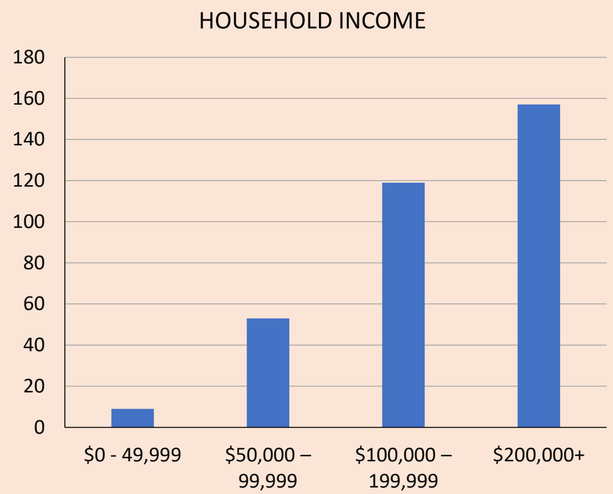
Allow Dogs: Understood why no dogs, but suggestion for specific area that allows dogs



FARM & JNC VISITORS







408 TOTAL RESPONSES

Ave. HH Size: **3.5**
College Degree: **90%**
Adults Without Kids At Home: **30%**

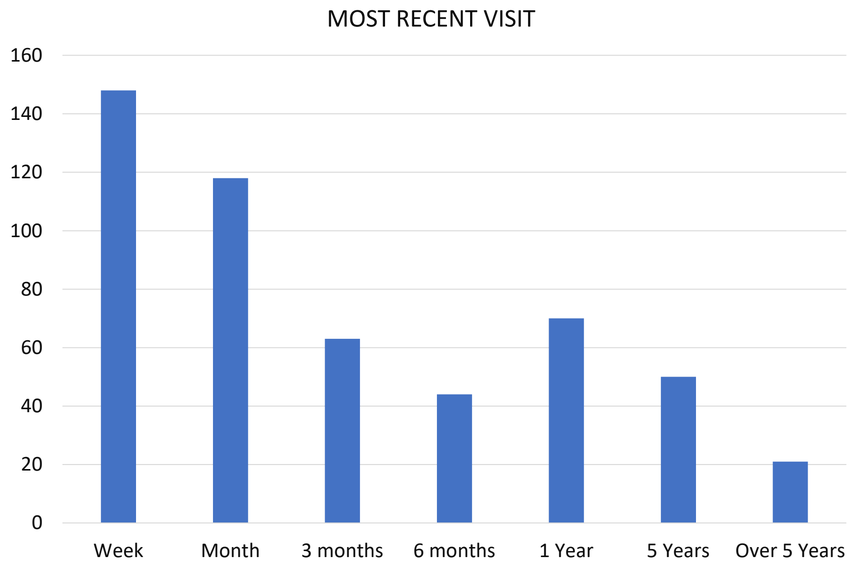
The only unique characteristic of this group is that they have visited recently.

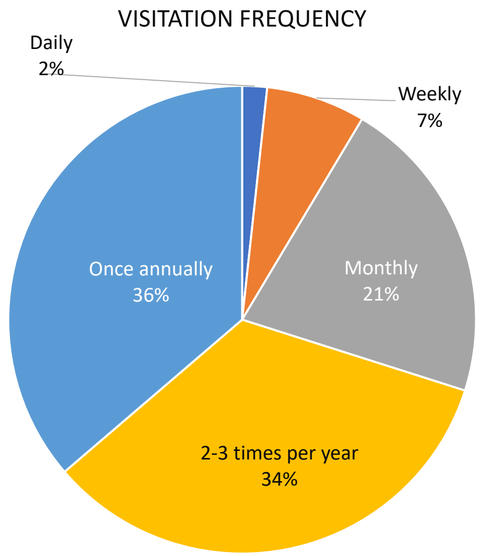
Profile is the same as overall survey.

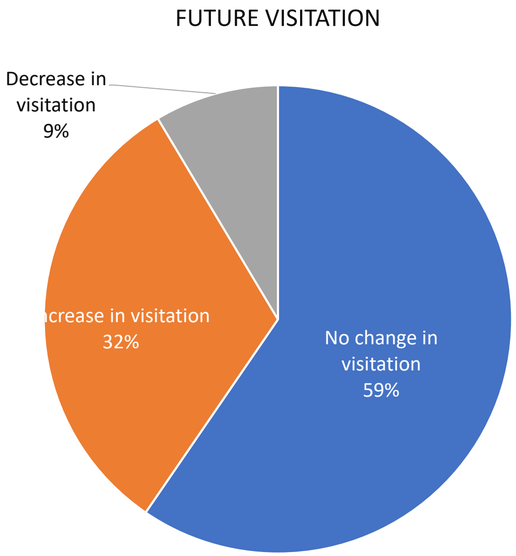
<u>TIE TO BOWERS SCHOOL FARM</u>

10% OF BSF VISITORS HAVE **<u>NOT HEARD</u>** OF JOHNSON NATURE CENTER

20% HAVE **<u>NEVER VISITED</u>**







SECTION 3:
SWOT
(STRENGTHS, WEAKNESSES, OPPORTUNITIES & THREATS)



STRENGTHS & WEAKNESSES

What do we do well and what can we leverage for future growth?

What are areas that could use improvement?









WHAT ARE OUR STRENGTHS?

Nature Center Features, Programs & Attractions

Publicly accessible trails

Site, historic structures and unique programs communicate stories of the past, present and future

Flexible Visitor Center space

Wing Lake Building has potential for greater use

Strong partnerships with BHS K-5 curriculum

Education Support & Career Pathways program

Successful community events

Trust grant in place to preserve the land



WHAT ARE OUR STRENGTHS?

Team & Internal Culture

Strong, talented, motivated and effective team

Friendly & welcoming staff focused on educating and engaging visitors

Strong creative problem-solving skills among all team members

Passionate and engaged volunteer groups

Active Friends of JNC group

Partnerships with local libraries, businesses and organizations



WHAT ARE OUR STRENGTHS?

Brand & Public Perception

Peaceful and safe retreat for people to connect with nature in the city/suburbs

Authentic and experiential environment that welcomes all

Birmingham resource

Strong community support



WHAT ARE AREAS THAT COULD BE IMPROVED?

Team & Internal Culture

Additional staff needed for any future growth including

- New attractions and programs
- Extended Visitor Center and Cabin hours
- More events

Current hiring constraints and limited HR capacity makes hiring new employees for the Nature Center a difficult process

Nature Center would benefit from stronger representation and positioning in BHS

BHS has limited resources to assist with conservation efforts



WHAT ARE AREAS THAT COULD BE IMPROVED?

Team & Internal Culture

Nature Center would be looking to fill the following positions.

- Land & Nature Center Manger
- Grant Writing / Fundraising Support
- Horticulture Resource
- Instructors
- Volunteer Coordinator
- Marketing Director
- Dedicated Visitor Center Receptionist



WHAT ARE AREAS THAT COULD BE IMPROVED?

Nature Center Features, Programs & Attractions

Site is landlocked with limited expansion options

Parking is a limiting factor for events

Facility is not designed for competing uses to occur simultaneously (e.g. education, public use, events, etc.)

Few hands-on exhibits in the Visitor's Center

Limited revenue streams currently in place to supplement BHS funding

Lack of data on general attendance visitors limits Nature Center's ability to quantify annual visitation and understand current audiences

Nature Center doesn't know the maximum visitor capacity for balancing visitor experiences and guest impacts on the site



WHAT ARE AREAS THAT COULD BE IMPROVED?

Nature Center Features, Programs & Attractions

Limited information available for current trail system

Physical accessibility of the site

Community based programs are limited due to cost, staffing and marketing

School educators leading tours & school experiences lack the fundamental knowledge about JNC site and facilities

Brand & Public Perception

Stronger marketing strategy needed to inform the community about the Nature Center's current attraction offerings, programs and upcoming events

Public doesn't understand the Center's funding structure

JNC is not strongly associated with BHS

OPPORTUNITIES & THREATS

What are the opportunities today that could contribute to our success?

What barriers could arise that would hinder our ability to grow?







WHAT ARE POTENTIAL OPPORTUNITIES?

New Markets

Nature Center could capitalize on current trends regarding commercial photography including

- Increase in number of people interested in photography
- Increase in the number of commercial sites that are restricting (or prohibiting) photography onsite

Public demand for the following could provide new visitors and sources of revenue.

- Public fishing
- Overnight camping
- Food experiences
- Private rentals for events

Customer and volunteer pools are growing among the following groups

- Retiring Boomers who are looking for something to do
- People looking to recover from burnout and stress



WHAT ARE POTENTIAL OPPORTUNITIES?

Funding and Growth

Economic downtowns result in increased BHS student enrollment

Large pool of potential donors in the Bloomfield Hills area

Grants available through the Dept. of Natural Resource to assist with improving accessibility issues and other site improvements

Corporate partnerships are looking to give donations and volunteer hours

Growing Friends of the JNC group with an ongoing focus to strengthen community support

Several upcoming opportunities for land acquisition (including parcels adjacent to the current Nature Center property)



WHAT ARE POTENTIAL THREATS?

BHS Board & Community

Private school attendance continues to limit the following.

- Financial support
- Students reached through field trips and BHS programs

Competition with municipal funded facilities and programs

Connection with BHS can hinder some grant and donor funding eligibility



WHAT ARE POTENTIAL THREATS?

Operations

The following issues impact staffing

- Retaining current staff and attracting new staff as many are looking elsewhere for jobs that pay more for less work
- Hiring process and training takes time

Wooded environment and open accessibility to public present opportunities for criminal activity

Conservation Efforts

The following could negatively impact the site's ecological footprint.

- Activity upstream on the Rouge River
- Residential fertilization and run-off
- Climate change
- Invasive species
- Increase wild animal populations
- Noise pollution from adjacent roads



BOWERS SCHOOL FARM & JOHNSON NATURE CENTER

FELIS consulting

BOWERS SCHOOL FARM
OPERATED BY BLOOMFIELD HILLS SCHOOLS

JOHNSON NATURE CENTER
OPERATED BY BLOOMFIELD HILLS SCHOOLS

Monumental Strides

Phase 2 Report: Strategic Plan

FELIS consulting

JOHNSON NATURE CENTER
BLOOMFIELD HILLS SCHOOLS

Monumental Strides

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STRATEGIC & MASTER PLANNING

3 PHASE PROCESS

Phase 1
Facility & Market Analysis
(Aug – Nov 2022)

Phase 2
Strategic Planning
(Nov 2022 – Jan 2023)

Phase 3
Master Planning
(March 2023 – July 2023)

Define our Starting Point

- Assess current site, facilities and operations
- Assess current market performance
- Identify SWOT

Define our Destination

- Identify goals and vision for next 5 yrs
- Define the strategies and action plan to reach these goals

Create a Roadmap for Implementation

- Design the program and site plan for Nature Center improvements
- Identify key stories and overarching messages for guest experience
- Phased diagrams and illustrations to build stakeholder excitement and assist with fundraising efforts

PHASE 2 EXECUTIVE SUMMARY

THE 20 YEAR VISION

Phase 2 Strategic Planning kicked off with a visioning workshop to describe the Nature Center in 20 years. During this workshop, we created vision boards for the following topics, describing how each contributes to our envisioned future.

- User groups: What will a day at the Nature Center look like for various user groups?
- Guest experience: What are the different experiences that one will encounter?
- Education: What role(s) will education play?
- Animals & Insects: What role(s) will animals & insects play?
- Food: What role(s) will food and retail play?
- History: What role will the Visitor's Center, historic structures and exhibits play and how does each support this story? How do visitors experience this story – observation only or highly interactive and immersive?

Also included in this visioning exercise were a review of the Nature Center's strengths, opportunities, unique characteristics, and stakeholder ideas for improvement identified during Phase 1. This enabled the group to build on things the Nature Center does well and include feedback from stakeholder engagement meetings.

The result of this workshop uncovered five major themes for our future vision – Innovation, Experiences, Permaculture, Inclusivity and Impact.

GOALS AND STRATEGIES FOR 2027

Next, the group crafted three goals to define what the Nature Center will be doing to achieve this outcome. Each goal serves to move the Nature Center towards this envisioned future yet is achievable in the next 5 years. Each also has a specific focus (education, community and sustainable operations) and is supported with objectives to describe how we are defining and measuring success. The goals are as follows:

Goal 1: Become a Leader in Outdoor Education, Conservation and Sustainability

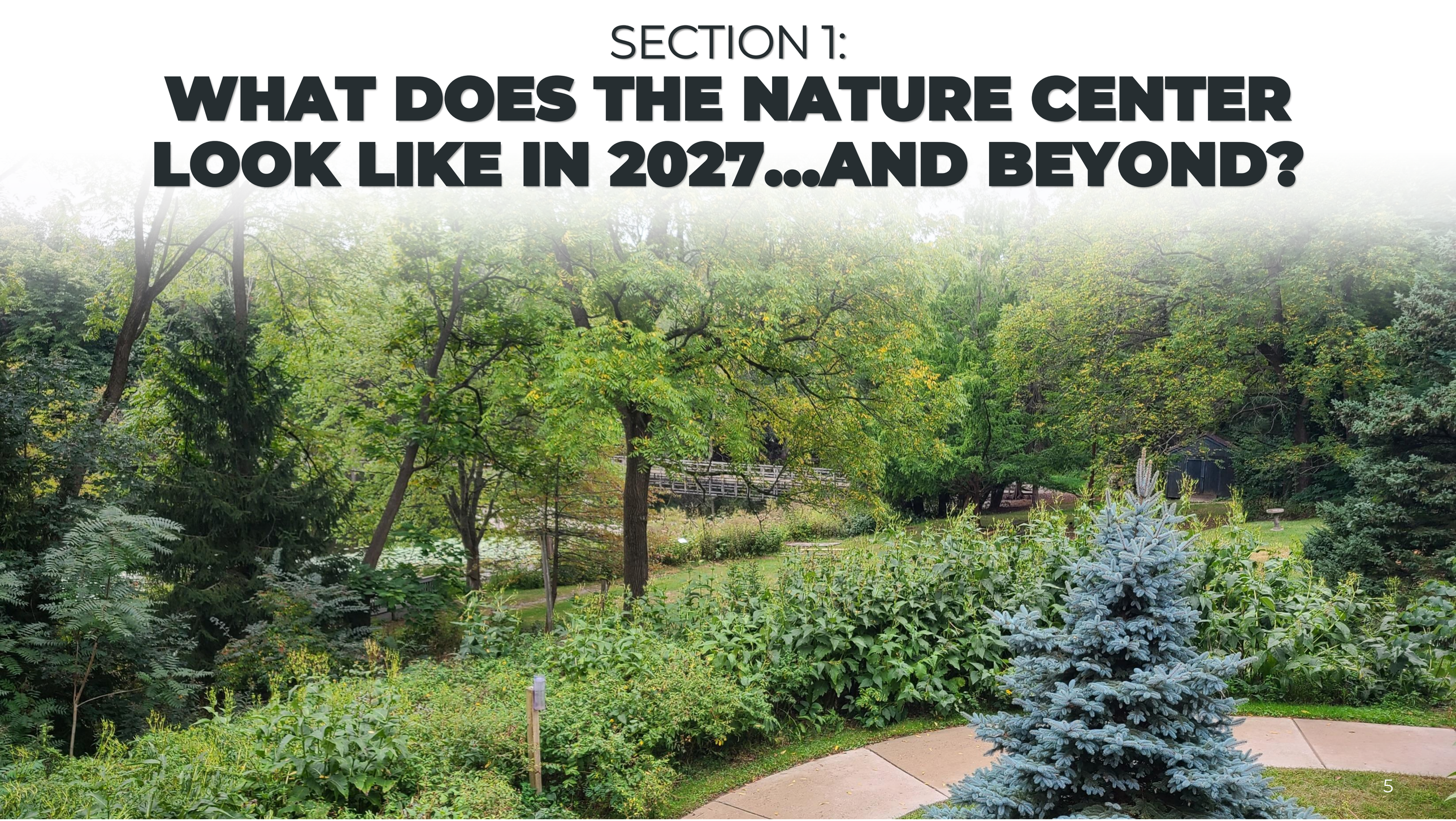
Goal 2: Become a Highly Valued, Nature Focused Community Asset

Goal 3: Build a Sustainable Operating Model

Each goal was broken down into strategies and includes steps to address organizational weaknesses and reduce the impact of environmental threats identified in Phase 1. Similar to the goals, the team considered the metrics for measuring completion as well as groups involved in implementation, individual action tasks and overall duration for each strategy. Strategies were then organized into an action plan (or road map) that builds on current efforts, maximizes success and outlines the path forward for achieving these three goals over the next five years.

SECTION 1:

WHAT DOES THE NATURE CENTER LOOK LIKE IN 2027...AND BEYOND?



STRENGTHS

Nature Center Features, Programs & Attractions

Publicly accessible trails

Site, historic structures and unique programs communicate stories of the past, present and future

Flexible Visitor Center space

Wing Lake Building has potential for greater use

Strong partnerships with BHS K-5 curriculum

Education Support & Career Pathways program

Successful community events

Trust grant in place to preserve the land

Team & Internal Culture

Strong, talented, motivated and effective team

Friendly & welcoming staff focused on educating and engaging visitors

Strong creative problem-solving skills among all team members

Passionate and engaged volunteer groups

Active Friends of JNC group

Partnerships with local libraries, businesses and organizations

Brand & Public Perception

Peaceful and safe retreat for people to connect with nature in the city/suburbs

Authentic and experiential environment that welcomes all

Birmingham resource

Strong community support

WEAKNESSES

Team & Internal Culture

Additional staff needed for any future growth

Current hiring constraints and limited HR capacity makes hiring new employees a difficult process

Nature Center would benefit from stronger representation and positioning in BHS

BHS has limited resources to assist with conservation efforts

Nature Center Features, Programs & Attractions

Site is landlocked with limited expansion options

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Facility is not designed for competing uses to occur simultaneously (e.g. education, public use, events, etc.)

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OPPORTUNITIES

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THREATS

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- Climate change
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- Increases in wild animal populations
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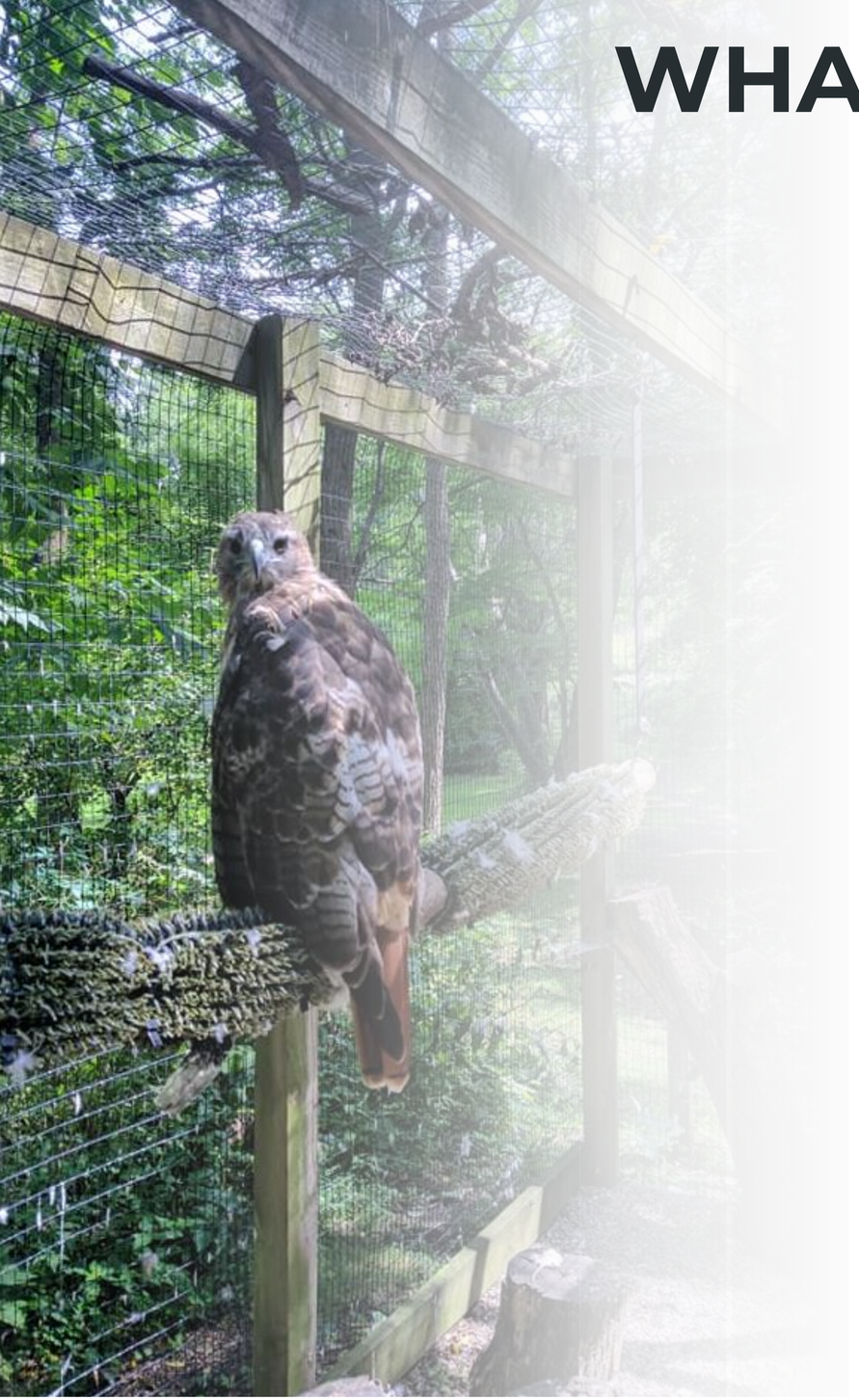


WHAT MAKES US UNIQUE?

Unique Assets with Engaging Experiences

- Only place to experience nature in Bloomfield Hills
- Site has diverse tree species & ecological systems with strong historical roots/stories
- Effective Land Management program curates different experiences along the trails
- Historic log cabin & associated programs
- Healthy Maple Sugaring program & event
- Innovative fundraising events hosted onsite

Successful Educational Programs

- Friendly & welcoming staff focused on educating and engaging visitors
- Strong ties with surrounding K-5 schools
- Successful and integrated science, social studies & teacher professional development programs
- Bird research & banding program



STAKEHOLDER IDEAS FOR IMPROVEMENT

- Limit human development
- Add acreage if opportunities arise (Gill property targeted - 3.5 acres adjacent)
- Longer hours for Visitor's Center and Log Cabin
- More animals
- Better interpretation signs and exhibits
- More trails (and a variety of trail types)
- Universal design / accessible trails
- Allow dogs
- Food options
- Ropes Course or Nature Play area
- Tree house educational play structures
- Gain control over the creek water flow
- Become a hub for local green clubs
- More community outreach programs
- More connections with other conservational groups
- Add native species wherever possible
- Habitat improvement in areas where invasives are removed
- Hire staff that have a background in ecology, restoration and/or botany
- Hire an expert Wild Land Manager
- Expand education efforts to accompany the Controlled Burn program

THE VISION FOR THE NATURE CENTER IS ROOTED IN...

Innovation

- Innovation with Nature
- Leveraging Technology to Improve Operations and Guest Experience
- Relevant and Engaging Interpretive Signs & Exhibits

Experiences

- Hands-on, Authentic and Engaging All Senses
- Differentiated Trails with Curated Experiences
- Immersive Education / Learning Lab Meeting a Wide Spectrum of Student Needs
- Views & Experiences at Multiple Elevations (Underground, Underwater, Above Ground, Sky)

Permaculture

- Celebrating, Preserving and Enhancing JNC's Biodiversity
- Harmonious Integration of People with Nature (Wellness / Mindfulness, Sustainable Food Sources, Survival Skills)
- Sustainability and conservation

Inclusivity

- Vibrant Community Gathering Space
- Open & Accessible (Trails, Buildings, etc.)
- More Community Programs, Events, Camps, Etc.
- Partnerships for Funding & Targeted User Group Programs (Seniors, Runners, Companies, etc.)
- Equity through Funding Sources and Program Pricing

Impact

- Teach & Inspire Change and Action
- Wildlife Conservation, Education & Sustainability Resource / Leader / Hub
- Resource Rich (Staff, Funding, Community Involvement, Volunteering, etc.)
- Supporting Under Resourced Students

2027 GOALS

What are we doing over the next 5 years to move the Nature Center towards this 20-year vision?



2027 GOALS

Become a Leader in Outdoor Education, Conservation and Sustainability

Focus is on leading nature-based learning and conservation efforts to educate and inspire change and action for all ages

Initiatives will focus on BHS Students first, but also include the BHS Community and other students

Metrics of measurement for leadership impact include:

- Increase in BHS student enrollment
- Increase in standardized test scores
- Increase in nature-based interest topics (student projects, clubs & interest groups, career & college education choices)
- Increase in life skills development

Efforts are led by BHS

Become a Highly Valued, Nature Focused Community Asset

Focus is on building and strengthening relationships with the community

Metrics of measurement for engagement include:

- Increase in return visitation and length of stay
- Increase in JNC volunteerism (numbers and hours served) representing a larger age range
- Increase in revenue generated (sales, programs, events, etc.)
- Expanded membership program rooted in sense of ownership
- Stronger partnerships with community businesses and organizations

Efforts are led by Friends of JNC in collaboration with BHS

Build a Sustainable Operating Model

Focus is on improved operations for environmental, economic, and social successes today and with future growth

Metrics of measurement for sustainability include:

- Increase in BHS and JNC employment and volunteer numbers
- Strong and diversified funding sources and donor development
- Demonstrate practices that support sustainable philosophy
- Expanded programs rooted in Permaculture that influence JNC's land management efforts and educational messaging

Joint effort between BHS and Friends of JNC

SECTION 2:

HOW WILL WE ACHIEVE OUR GOALS?



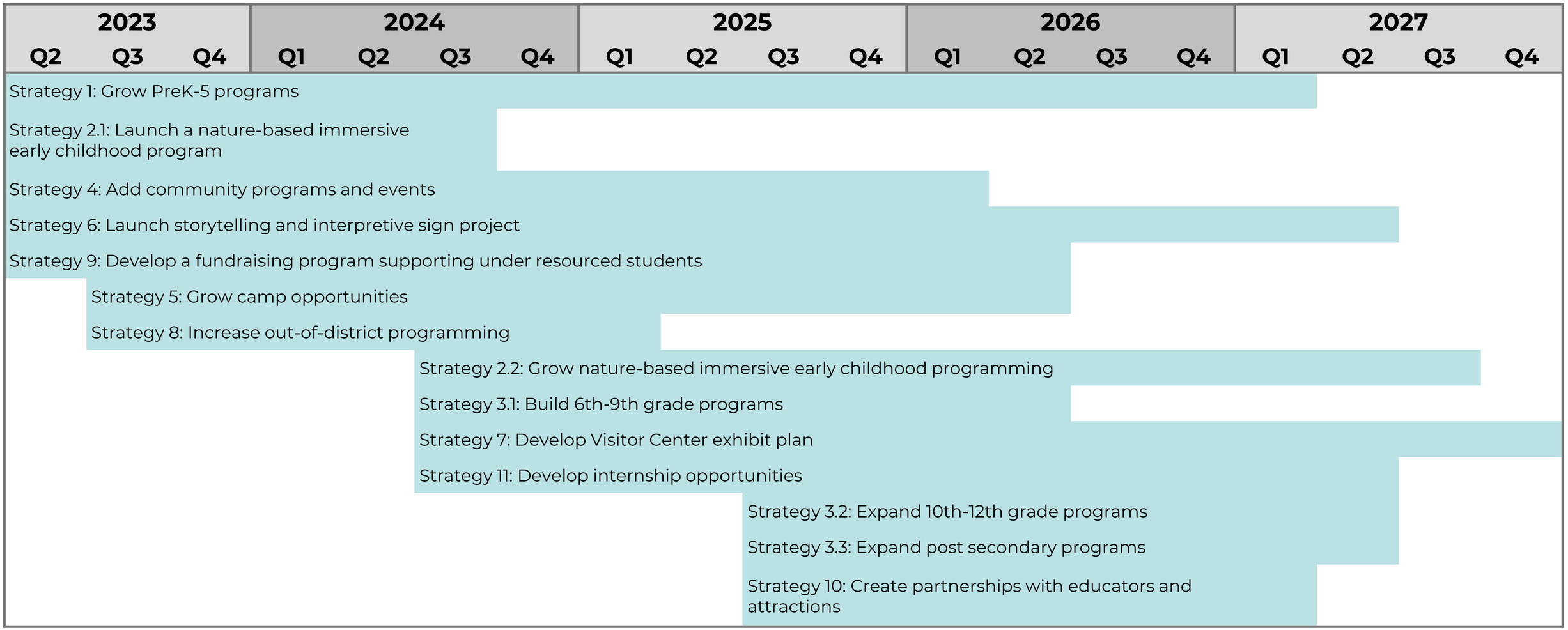
STRATEGIES & TIMELINE

Goal 1: Become a Leader in Outdoor Education, Conservation and Sustainability

1) Continue growing K-5 developing programs
2) Launch & grow a nature-based immersive early childhood program onsite
   - Soft launch in Feb 2023
   - Work on licensing and defining other program needs
3) Expand education programs targeting:
   - Middle school students
   - High school students
   - Post secondary students
4) Create more community programs and events for ALL ages
5) Grow camp opportunities
   - Expand seasonally
   - Expand audiences (all ages)
   - Expand targeted interests/hobbies
   - Work on licensing requirements
6) Launch storytelling, informational and interpretive sign project
   - Differentiate trail experiences and set guest expectations
   - Create a curated experience between trails and attractions (Visitor Center, Cabin, Sugar Shack, animal exhibits, pond)
7) Develop a plan (goals, education topics, schedule and partnerships for acquisition) for Visitor Center exhibits
8) Increase out-of-district school programming
9) Develop a fundraising program to support under resourced students
10) Create partnerships with educators and area learning based attractions to supplement learning objectives and expand educational opportunities
11) Develop additional internship opportunities

STRATEGIES & TIMELINE

Goal 1: Become a Leader in Outdoor Education, Conservation and Sustainability



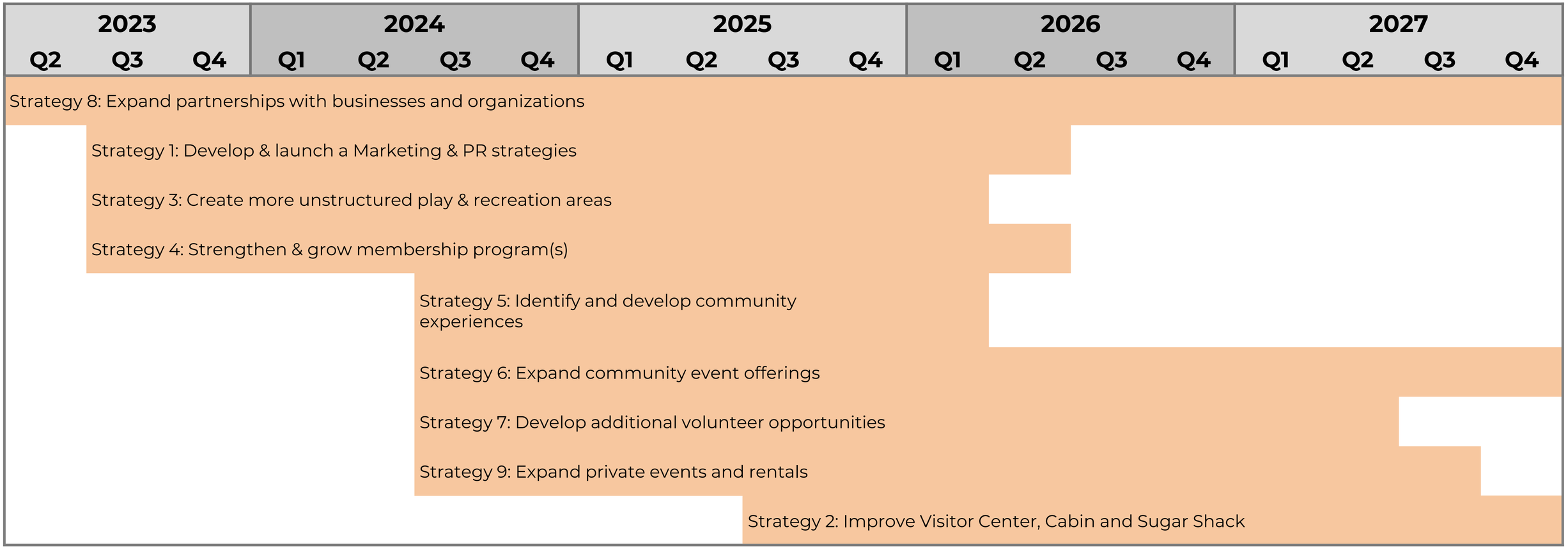
STRATEGIES & TIMELINE

Goal 2: Become a Highly Valued Nature-Focused Community Asset

1) Develop & launch a Marketing/PR strategy
   - Target the BHS community
   - Communicate the JNC story and offerings (attractions, programs, events, etc.)
2) Improve the Visitor Center, Cabin and Sugar Shack, and align with sustainable operating model
3) Create more unstructured play & recreation areas
4) Strengthen & grow membership program(s)
5) Identify and develop types of experiences that community members are looking for
6) Expand community event offerings
7) Develop additional volunteer programs & opportunities
8) Identify & cultivate strategic partnerships with key businesses and organizations
   - Expand programs targeting specific user groups
   - Expand fundraising opportunities
9) Expand private events and rentals that align with the philosophy and principles of conservation and sustainability

STRATEGIES & TIMELINE

Goal 2: Become a Highly Valued Nature-Focused Community Asset



STRATEGIES & TIMELINE

Goal 3: Build a Sustainable Operating Model

1) Define sustainability and adopt a set of principles to guide all operational practices
2) Acquire parcels of adjacent land for growth
3) Develop a formal land management plan addressing invasives, visitor experience, stream flow control and Maple tree replenishing
4) Develop an accessibility plan (based on consultant's ADA evaluation) for improving guest accessed areas
5) Develop a maintenance plan for aging facilities
6) Develop a plan for Wing Lake School House to better support JNC story, programs and events
7) Develop a program to capture and assess the visitor information (attendance, length of stay, peak on property and impact on environment and guest experience)
8) Create a communication strategy between staff and volunteer groups that facilitates improved internal communications and externally showcases volunteer work
9) Develop a program that builds awareness of relationship with Bowers School Farm
10) Create employee programs to provide benefits and growth opportunities for all employees
11) Conduct staffing assessment that reviews current and future needs
    - Add Staff to fill current gaps
    - Evaluate workload and position responsibilities for better work/life balance
    - Increase future capacity through strategic hiring (example: Land & Nature Center Manager, Grant Writing / Fundraising Support, Horticulture Resource, Instructors, Community Impact Coordinator, Marketing Director, Dedicated Receptionist)
12) Grow the Friends of JNC group and expand their role to better support community focused initiatives and help eliminate funding and staffing barriers

STRATEGIES & TIMELINE

Goal 3: Build a Sustainable Operating Model

2023			2024				2025				2026				2027			
Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Strategy 1: Define sustainability																		
Strategy 2: Acquire parcels of adjacent land																		
Strategy 8: Create an internal comm. strategy																		
	Strategy 3: Develop a land management plan																	
	Strategy 4: Develop an accessibility improvement plan																	
	Strategy 5: Develop a maintenance plan																	
	Strategy 11: Conduct staffing assessment																	
	Strategy 12: Grow Friends of JNC group																	
							Strategy 6: Develop a plan for Wing Lake School House											
							Strategy 7: Develop a visitation data program											
							Strategy 9: Develop a program that builds awareness of BSF											
							Strategy 10: Create employee programs											



BOWERS SCHOOL FARM & JOHNSON NATURE CENTER

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BOWERS SCHOOL FARM
AN AFFILIATE OF BLOOMFIELD HILLS SCHOOLS

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Monumental Strides

Phase 3: Master Planning Report

JOHNSON NATURE CENTER
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STRATEGIC & MASTER PLANNING

3 PHASE PROCESS

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- Assess current market performance
- Identify SWOT

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- Identify goals and vision for next 5 yrs
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Create a Roadmap for Implementation

- Design the program and site plan for Nature Center improvements
- Identify key stories and overarching messages for guest experience
- Phased diagrams and illustrations to build stakeholder excitement and assist with fundraising efforts

PHASE 3 EXECUTIVE SUMMARY

BRAND EXPERIENCE

After the results of Phase 1 and Phase 2 were compiled, the stakeholders met to discuss how the Goals and Strategies outlined in Phase 2 could be implemented at the Johnson Nature Center site to achieve the 20 year (i.e. long-term) vision. From this detailed discussion, which included facility and site programming, design styles, architectural materials, service and guest circulation, animal needs and visitor experiences, we concluded that our master plan should focus on creating stronger and more meaningful connections between these two sister sites (Johnson Nature Center and Bower School Farm).

By outlining the shared experiential characteristics of both facilities alongside the unique attributes that make each special, a shared brand experience was created. Entitled “Nourish,” the brand experience seeks to create a framework upon which all guest experiences shall be formulated. Messaging and experiences fall within categories which are easily marketable and understandable by the general public and can even influence wayfinding design. These four categories include: Mind, Body, Soul, and Land.

For Johnson Nature Center, the Nourish brand is expressed as multiple focused activities and messaging zones distributed throughout the site. Each represents a Nourish focus of Mind, Body, Soul or Land, supporting consistent messaging and identification. For example, the Soul zone message of the importance of connecting with nature for mental and spiritual health can be experienced through exploring the Reflection Trail, a walking trail along the stream and into the most remote areas of the park with interpretive signage prompting guests with meditations, thoughtful reflections, poetry about nature, etc. Outdoor art incorporated throughout the trail network is directly connected to the Soul focus.

IMPLEMENTING THE VISION

In order to define initial projects, the holistic long-term site vision was created. This long-term vision plan is the fully realized and implemented brand experience. Although growth in attendance is supportive of the mission of the nature center, the vision plan is more responsive to the need for increased education program capacity, ease and efficiency of wayfinding and accessibility throughout, and increased effectiveness of educational messages to all guests.

Because of these goals, the vision plan includes a fully redesigned entry experience from the road to the pond, pulling guests through an orientation of the nature center and down an accessible pathway to a gathering and rental pavilion overlooking the water. Another opportunity for community gathering and relaxation will be provided with a small coffee shop that also sells local and nature-related products. Adjacent to the renovated visitor center is a new education facility with dedicated drop-off zone, indoor and outdoor classrooms, staff offices and support spaces. Key interpretive elements within the site are replaced and / or renovated, such as a new enlarged sugar shack and new animal habitats, and an ADA accessible trail connecting major points of interest. Interpretation throughout the facility is upgraded including an innovative distributed approach to nature center messaging featuring interpretive hubs distributed throughout the park, which replace a more museum-like centralized interpretive center at the entrance. Finally, to make the Nature Center more appealing to local families, nature play is added throughout the park and within a centralized Nature Playground convenient to the parking area.

The first step in achieving this long-term plan is defined via a 5-year Master Plan subdivided into five phases. Many of the long-term vision elements will be accomplished in this short-term plan. The key exceptions include the new education building and service area.

The estimated budget of the short-term plan is $2.6 million (which accounts for inflation). In conjunction with added programming targeting students and community visitors and a marketing strategy, these improvements are projected to increase attendance to the Nature Center by 22% (from ~45,000 to ~58,000).

SECTION 1:

DEFINING THE BRAND EXPERIENCE

“WHAT DO YOU WANT TO NOURISH TODAY?”

DIFFERENTIATORS

OVERARCHING BRAND

Authentic

Southeast Michigan Focused

Approachable

Comfortable

Land Stewardship

Lifelong Personal Growth Focused

‘Get Yer Hands Dirty’ Experiential

Dynamic (Seasonally & Experientially)

THE FARM

- Agricultural Settings & Experiences
- Blending Historic & Modern
- Supportive
- Sustainable (Human Centered Stewardship)
- Colorful & Bold
- Concise and Clear (Efficient?)
- ‘Buzzing with Activity’ / Directed Activity

THE NATURE CENTER

- Nature Experiences
- Rustic & Timeless
- Nurturing
- Nature-first Stewardship
- ‘Of the Earth’—Subdued, Earth Tones
- Safely ‘Lost’ in the Woods
- Self-Reflective, Contemplative, Informal Rec.

BRAND IDENTITY

The NOURISH Project

The Farm

The Nature Center

LAND (Sustainability)	BODY (Health)	MIND (Learning)	SOUL (Connection)
• Facilities as Stewards • Ecosystems • Animal Exhibits • Our Roots (History w/ land)	• Food • Physical Fitness	• Formal Programs • Academy, Early Childhood & MS / HS • Learn a New Skill	• Connect to Land, Animals, Nature (Feed the Soul) • Artfulness • Mental Wellness • Community-focused spaces / events

BRAND EXPERIENCE

The Nourish NATURE CENTER

LAND

- Interpretive trail about ecosystems & prescribed burn
- Animal habitats
- Interpretation about edible & medicinal landscape (Nature's bounty)
- Various native gardens
- "Our ROOTS" zone: historic cabin & maple sugaring

BODY

- Physical play areas
- ADA accessible trail
- Nature-based fitness trail

MIND

- Spaces for all formal programs
- Early childhood programs facility needs
- Orientation space / entry / Interpretation hubs
- Staff support spaces

SOUL

- Meditation trail
- Quiet spaces
- Art in landscape (play structures or otherwise)
- Water connection
- Gathering / Event Space
- Café

BRAND EXPERIENCE

The Nourish NATURE CENTER

DESIGN AESTHETIC:

Rustic Contemporary Lakehouse

ATTRIBUTES:

- Local / green materials like wood natural stone
- Many windows w/ bird protection to connect indoors to outdoors; thoughtful lighting design
- Exposed wood ceilings and heavy timber structure / beams
- Multi-peaked roofs
- Contained, not controlled natural, wild native landscape
- Simple, clear, bold, oversized fonts on directional and wayfinding signs
- Muted earth tones
- Overall, directed by nature and connected to nature

















NOURISH NATURE CENTER

LAND

KEY MESSAGE:

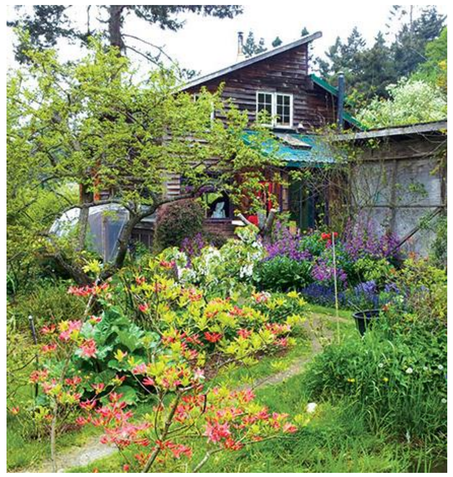
People must work to conserve & preserve our natural resources, and in return, we benefit in many ways from the natural systems.

KEY EXPERIENCES:

- Forest trails with interpretation about local ecosystems & conservation efforts
- Native animal habitats
- “Nature’s bounty” and native gardens with interpretation about forest foraging, bee conservation, native vs invasives, & edible / medicinal plants
- “Our ROOTS” zone highlighting how early Michiganders lived off the land including maple sugaring













Sugar Shack


Sugar Maple
Spile
JOHNSON
NATURE CENTER
SUGAR
SHACK
Maple Sugaring
Let's get Sap Happy!
Maple Sugaring
Science of Sugaring

NOURISH NATURE CENTER

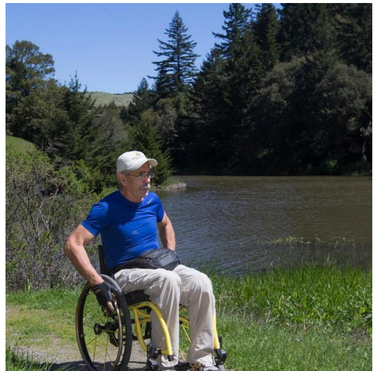
BODY

KEY MESSAGE:

Nature is the perfect place for all abilities to engage in physical fitness.

KEY EXPERIENCES:

- Nature play with several focus zones allowing children of all ages to explore, imagine, and engage nature in physical play
- Challenge trail with steep grades and outdoor fitness prompts for those looking for formalized forest fitness
- Accessible trail around the pond featuring views, animal habitats, interpretation, universally-designed fitness equipment, and access to the Our Roots zone
- Formal play elements located throughout the forest trails for kids of all ages to explore













Nature Playground

NOURISH NATURE CENTER

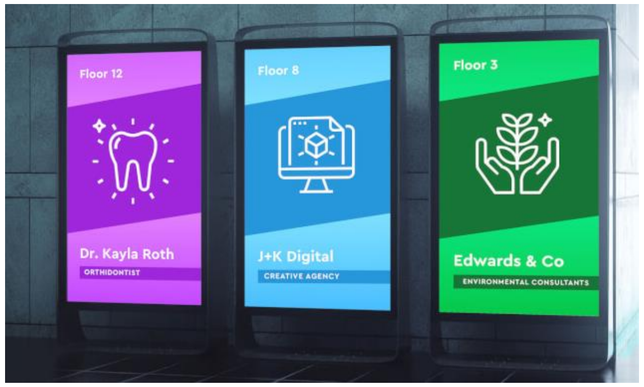
MIND

KEY MESSAGE:

Nature itself is a classroom—where students of all ages learn about nature and themselves.

KEY EXPERIENCES:

- Beautiful education building seamlessly connecting interior spaces to nature is the headquarters and support for classes, field trips, camps, early childhood development, and community programs
- “Welcome Center” orients visitors to the on-site nature experiences and is the launch pad for learning at interpretive hubs found throughout the trails
- Interpretive hubs located throughout the Nature Center rather than in one central location











NOURISH NATURE CENTER

SOUL

KEY MESSAGE:

"Just being surrounded by bountiful nature, rejuvenates and inspires us." --EO Wilson

KEY EXPERIENCES:

- Reflection trail with guided meditations, mantras, and prompts for spiritual connection to nature
- Thoughtfully placed benches for respite
- Art incorporated into the landscape through poetry, sculpture, and playful interactive moments
- Gathering / Event Space overlooking pond for building community
- Small café and store with carefully curated products and opportunity to sit and recharge surrounded by nature















SECTION 2:

IMPLEMENTING THE VISION

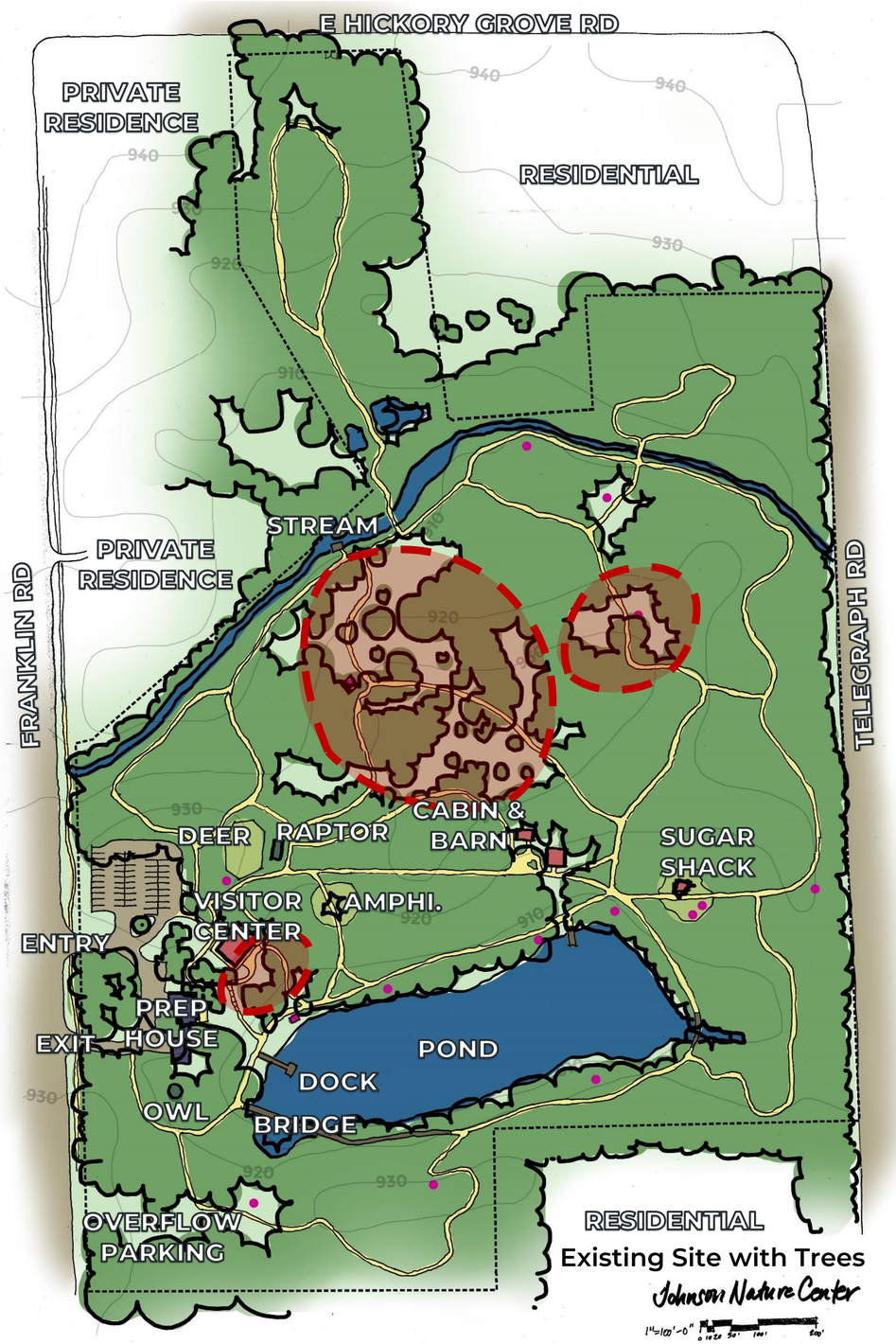


‘NOURISHING’ THE SITE

EXISTING SITE PLAN

~43 total acres

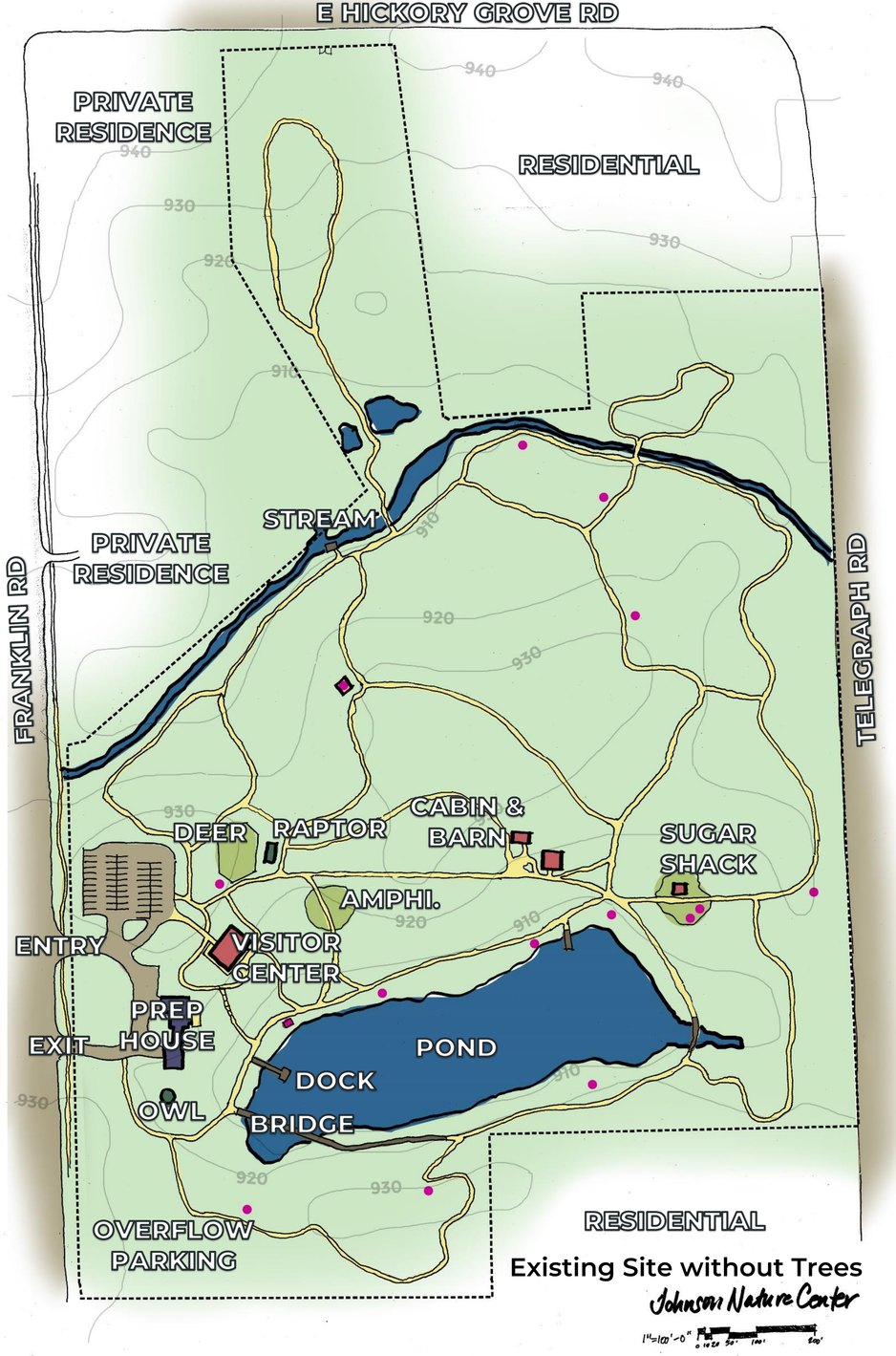
75% tree coverage



Existing Site with Trees

Johnson Nature Center

1"=100'-0"

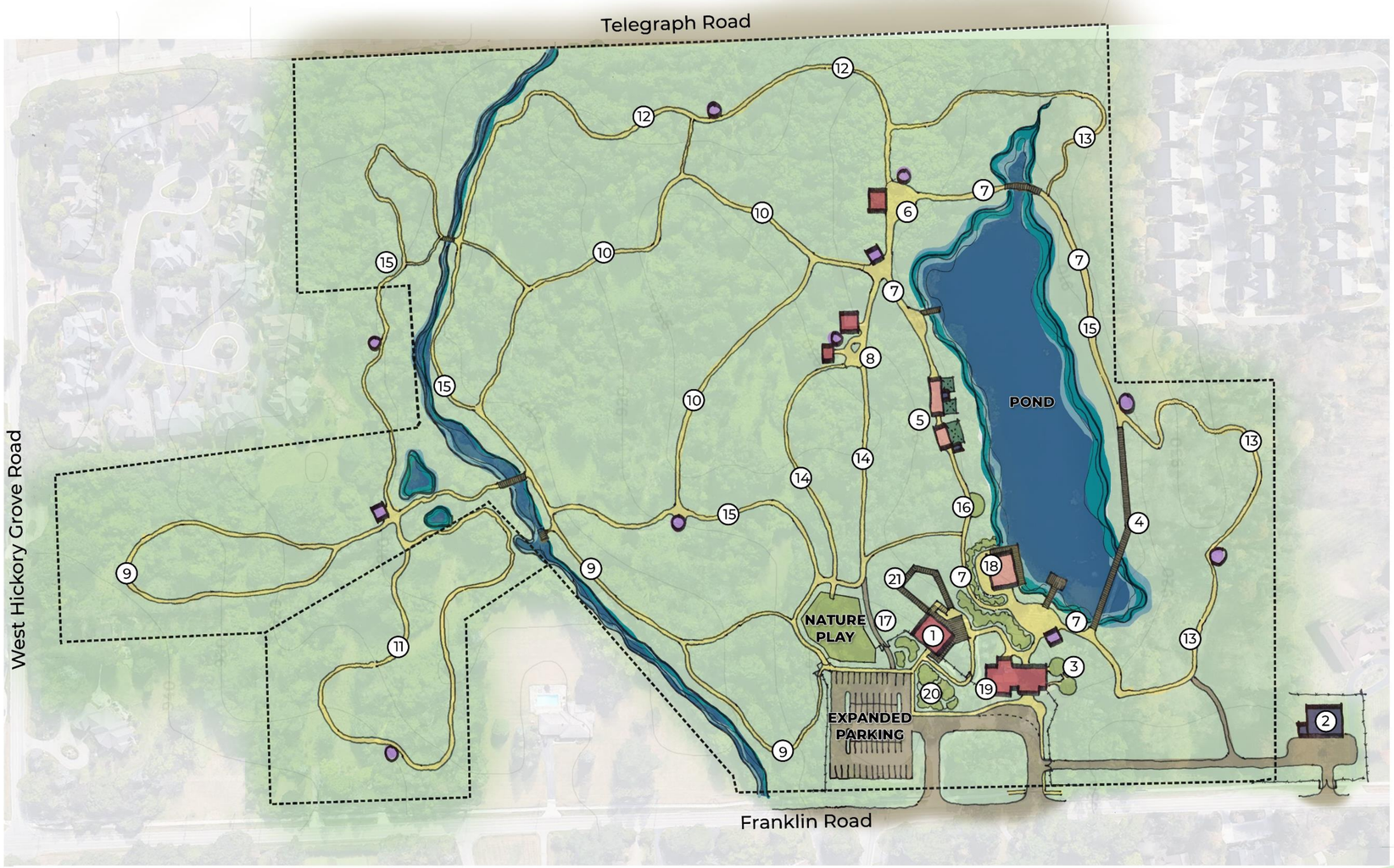


Existing Site without Trees

Johnson Nature Center

1"=100'-0"

- BENCH
- GUEST PATH
- ROADS & PARKING
- GUEST ACCESS BUILDINGS
- BACK OF HOUSE BUILDINGS
- ANIMAL SHELTERS
- POINTS OF INTEREST
- TREES & VEGETATION
- WATER
- PRESCRIBED BURN



LEGEND

1. RENOVATED VISITOR CENTER
2. SERVICE AREA
3. OUTDOOR CLASSROOM
4. RENOVATED BOARDWALK
5. ANIMAL HABITATS
6. SUGAR SHACK & INTERPS
7. ADA ACCESSIBLE TRAIL
8. EXISTING CABIN & INTERPS
9. REFLECTION TRAIL
10. FIRE ECOLOGY TRAIL
11. BIRDING TRAIL
12. HUMAN IMPACT TRAIL
13. CHALLENGE TRAIL
14. STORYBOOK TRAIL LOOP
15. MICHIGAN ECOLOGY TRAIL
16. MUD PLAY ZONE
17. SERVICE ACCESS TRAIL
18. PAVILION AND DECK
19. EDUCATION CENTER
20. ENTRY GARDENS & ICON
21. ADA ACCESSIBLE RAMP

INTERP / PLAY ELEMENT

INTERPRETIVE HUB

GUEST PATH

ROADS & PARKING

GUEST ACCESS BUILDING

BACK OF HOUSE BUILDING

ANIMAL HABITAT

POINTS OF INTEREST

WATER

SHELTER

JOHNSON NATURE CENTER
OPERATED BY BLOOMFIELD HILLS SCHOOLS

JOHNSON NATURE CENTER LONG-TERM VISION PLAN

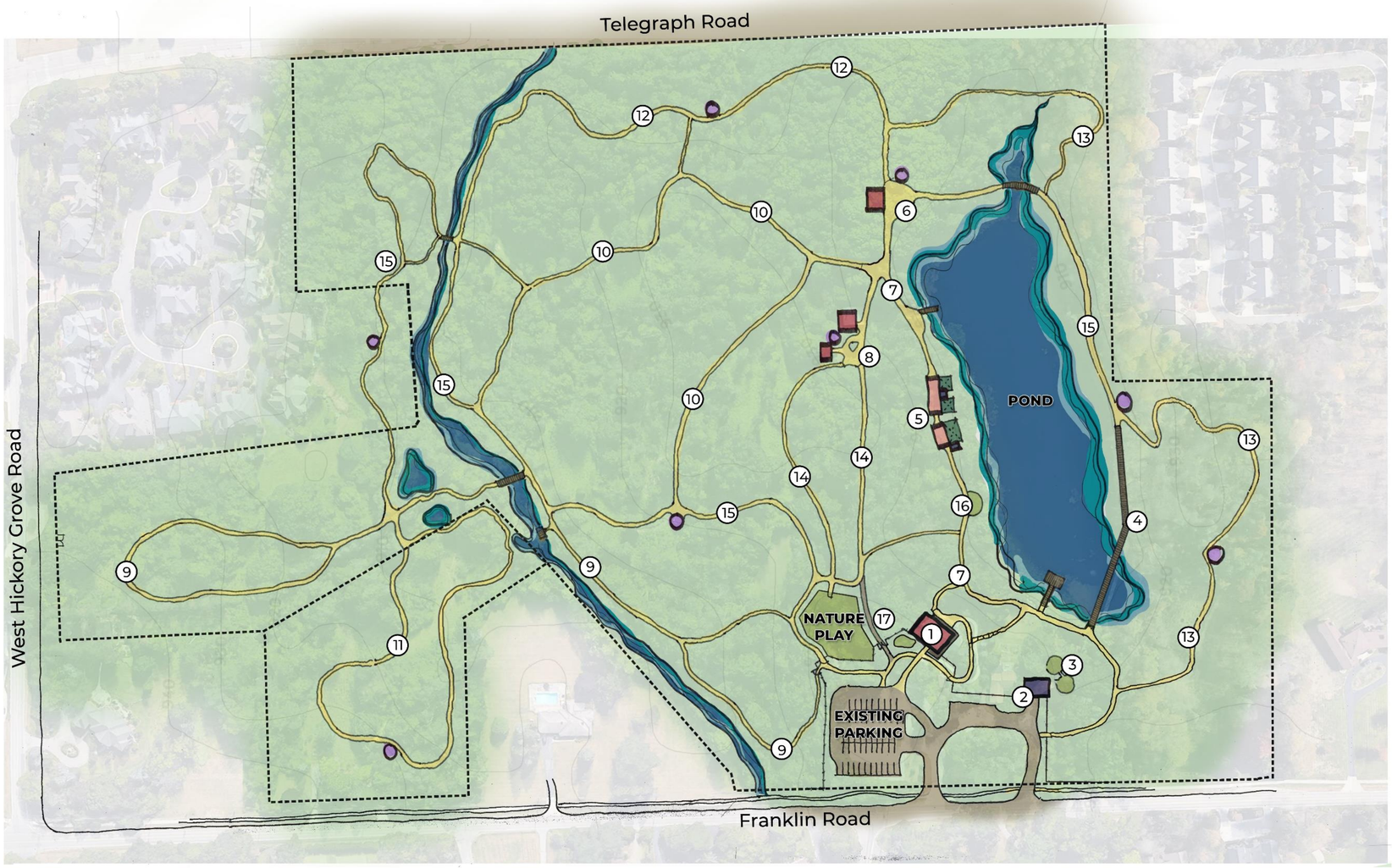
Published July 2023

Scale: 1”=100’-0”

0 10 50 100 200

FELIS consulting

Monumental Strides



LEGEND

1. EXISTING VISITOR CENTER
2. SERVICE WORKSHOP
3. OUTDOOR CLASSROOM
4. RENOVATED BOARDWALK
5. ANIMAL HABITATS
6. SUGAR SHACK & INTERPS
7. ADA ACCESSIBLE TRAIL
8. EXISTING CABIN & INTERPS
9. REFLECTION TRAIL
10. FIRE ECOLOGY TRAIL
11. BIRDING TRAIL
12. HUMAN IMPACT TRAIL
13. CHALLENGE TRAIL
14. STORYBOOK TRAIL LOOP
15. MICHIGAN ECOLOGY TRAIL
16. MUD PLAY ZONE
17. SERVICE ACCESS TRAIL

INTERPRETIVE / PLAY ELEMENT

- GUEST PATH
- ROADS & PARKING
- GUEST ACCESS BUILDING
- BACK OF HOUSE BUILDING
- ANIMAL HABITAT
- POINTS OF INTEREST
- WATER
- SHELTER

JOHNSON NATURE CENTER
OPERATED BY BLOOMFIELD HILLS SCHOOLS

JOHNSON NATURE CENTER MASTER PLAN 2027

Published July 2023

Scale: 1”=100’-0”

0 10 50 100 200

FELIS consulting

Monumental Strides

PHASING & ROLL-OUT

Phase	Projects	1	2	3	4	5	Total
1	Land Acquisition	310,000					$404,820
	Outdoor classroom	50,820					
	ADA Tracked Chairs for Immediate Accessibility	44,000					
2	Trail Interpretives		163,350				$701,107
	ADA Trail, Phase 1: Entry to Our Roots (Northside of pond)		162,624				
	Bridge / Boardwalk Replacement		269,500				
	New Trails		14,883				
	Demo PREP Building & Temporary Service Area		90,750				
3	Nature Play			277,200			$454,300
	Dispersed Play along Trails			61,600			
	Temporary Coffee / Retail			115,500			
4	Animal Habitats				449,931		$449,931
5	Our Roots Zone						$350,625
	New Sugar Shack					231,000	
	Interpretives & Play Elements					60,500	
	Sugar Bush Replenishment					30,250	
	ADA Composting Toilets					28,875	
	Total Capital by Year	$404,820	$701,107	$454,300	$449,931	$350,625	$2,360,783
4%	Inflated	**$421,000**	**$758,000**	**$511,000**	**$526,000**	**$427,000**	
	Running Total of Capital Costs	$421,000	$1,179,000	$1,690,000	$2,216,000	$2,643,000	**$2,643,000**

ATTENDANCE PROJECTIONS

Phase	Projects Impacting Attendance	1	2	3	4	5
1	None	0				
2	Trail Interpretives		1,337			
	ADA Trail, Phase 1: Entry to Our Roots (Northside of pond)					
	Bridge / Boardwalk Replacement					
3	Nature Play			3,902		
	Dispersed Play along Trails					
	Temporary Coffee / Retail					
4	Animal Habitats				1,494	
5	Our Roots Zone					3,078
	Starting Attendance: 44,567	44,567	45,904	49,806	51,300	**54,378**
	Projected Annual Growth Rates	**0.0%**	**3.0%**	**8.5%**	**3.0%**	**6.0%**

1	0.0%	0.0%	0.0%		
2		3.0%	-1.5%	0.0%	
3			10.0%	-5.0%	0.0%
4				8.0%	-4.0%
5					10.0%



BOWERS SCHOOL FARM & JOHNSON NATURE CENTER

FELIS consulting

BOWERS SCHOOL FARM
OPERATED BY BLOOMFIELD HILLS SCHOOLS

JOHNSON NATURE CENTER
OPERATED BY BLOOMFIELD HILLS SCHOOLS

Monumental Strides

Fire Inspection August 3 2026

BO-C01

Source Record

Fire Inspection Report_JNC Aug2026.pdf

Review Context

Four correction findings; closure not verified

Reproduced source pages: 2
Appendix source-page range: 313–314

Open Source Record in Google Drive

Print Export To PDF

Bloomfield Township Fire Department

4200 Telegraph Rd. P.O. Box 489
Bloomfield Township, MI 48303-0489
Office 248-433-7745
Fax 248-433-7787

Occupant Name:	EUGENE JOHNSON BLMF. HILLS NATURE CENTER	**Address:**	3325 FRANKLIN Road
InspectionType:	Annual Inspection	**Suite:**	
Inspection Date:	8/3/2026	**Occupant Number:**	1909301022
Inspected By:	Lt. Michelle Martin	**Property Owner:**	BLOOMFIELD HILLS SCHOOLS 4200 ANDOVER MI 48302

Complex Name:

Insp. Result	Location	Code Set	Code
Fail		IFC 2018 CHAPTER 10 MEANS OF EGRESS	1008.3 - Emergency power for illumination.

Inspector Comments: ACTION REQUIRED: REPAIR /REPLACE EMERGENCY LIGHT FIXTURE.

-Inside stairwell leading to basement classrooms emergency light

Fail		IFC 2018 CHAPTER 9 FIRE PROTECTION AND LIFE SAFETY SYSTEMS	903.5 - Testing and maintenance.

Inspector Comments: ACTION REQUIRED: TEST AND CERTIFY OPERATION OF WATER BASED SPRINKLER SYSTEMS, PROVIDE INSPECTION REPORTS AND CORRECT DEFICIENCIES IF NECESSARY. THIS TEST IS REQUIRED ANNUALLY.

-July 2025

Fail		IFC 2018 CHAPTER 9 FIRE PROTECTION AND LIFE SAFETY SYSTEMS	906.7 - Hangers and brackets.

Inspector Comments: ACTION REQUIRED: PROPERLY MOUNT FIRE EXTINGUISHERS IN A CONSPICUOUS LOCATION.

-Bat Cave

Fail		IFC 2018 CHAPTER 5 FIRE SERVICE FEATURES	509.1 - Identification of fire protection equipment

Inspector Comments: *A clear path is needed for the exterior FDC

Inspector will return on or after 9/3/2026

The Fire Department will reinspect your facility **on or after** the date provided above. At that time, we will expect all the violations listed in this inspection letter to be corrected.

The annual inspection and the first reinspection are at **no cost** to the business. However, each subsequent inspection after that will incur a $85.00 charge per inspection.

The business representative signing this document understands and accepts responsibility for any fees that may be assessed for non-compliance.

If you have any questions regarding this inspection contact the Fire Inspector that conducted your inspection. Their information is listed at the top of the page.

Inspector:



Lt. Michelle Martin
8/3/2026

Ref: 45242

Accessibility Evaluation September 26–28 2022

BO-C02

Source Record

BHS Johnson Nature Center ADA Access Barrier-Removal Recomm Rpt Oct '22.pdf

Review Context

56-page text retrieved; representative facility/route findings reviewed. Current closure and technical applicability unverified; do not import dimensions as universal current code.

Reproduced source pages: 56
Appendix source-page range: 316–371

Open Source Record in Google Drive

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Bloomfield Hills, MI 48302
248-341-6487
johnsonnaturecenter.org

Accessibility Evaluation and Barrier Removal Recommendations

The identification of accessibility barriers is the key to developing strategies to remove barriers to enhance accessibility for all people of all abilities utilizing this environment. This accessibility evaluation was conducted on site September 26-28, 2022. The following report identifies accessibility barriers observed, the Americans with Disability Act Accessibility Guideline citation relevant to the identified barrier, and barrier removal recommendations for each identified barrier. The intent of the report is to assist the nature center staff in making thoughtful informed decisions to remove accessibility barriers and improve inclusive universally accessible experiences for everyone together. The following general observations and environmental, programmatic, and operational barrier removal strategies are intended to give overarching guidance that can affect specific accessibility decisions for the environment as well as programs and services.

Environmental, Programmatic and Operational Accessibility Barriers	**Accessibility Enhancement Recommendations**
No connected accessible routes to outdoor classrooms or interpretive experiences such as the cabin, sugar shack, wildlife enclosures, floating docks, fishing pier, canoe launch, benches, bridges, etc.	It is imperative that accessible connecting routes be developed to the outdoor classrooms and interpretive experiences. All students and guests should be able to, at a minimum, visit and experience these amenities. There is plenty land space to create these accessible routes with thoughtful planning and professional design, so routes don't go straight up and down steep slopes. Engaging trail design professionals to develop accessible reroutes to these main amenities will result in greater accessibility as well as environmental protection of the nature centers property. Additionally, the purchase of at least two accessible hiking wheelchairs such as the Action Track Chair, Terrain Hopper, or GRIT wheelchair will greatly enhance access. These hiking assistive devices should be available for free use for all programs and on all days/times the nature center is open. They should be advertised on the website and set out for use whenever staff is on site and the center is open.

Extreme slopes on every trail and pathway render them technically inaccessible to guests with mobility related disabilities who use personal mobility devices.	The layout of current trails and the new trails have not been designed to reduce running slopes. It is imperative to give guests steep slope information so they can decide if they have the ability and adaptive equipment to safely navigate each trail. This information should be given at each trail intersection and can be incorporated into the site map. In order to give accurate slope information a professional mapping of the entire site should be conducted. The ADA requires trail length, running slope, cross slope, trail tread width, resting locations, and surface condition information be provided. A great example of trail accessibility information signage is the Heritage Trail in Sleeping Bear Dunes National Lakeshore.
The inaccessible woodchip surface is neither firm or stable and very difficult to traverse with any personal mobility device, wheeled walkers, strollers, canes, crutches, etc. as well as for people with walking and balance difficulties and might be why many seniors and young parents pushing little ones in strollers underutilize the trails.	Many of the trails appear to have geotextile underlayment fabric which helps stabilize the soils beneath and provide some root protection, but it has not been maintained over time and is degrading in many areas. The chunky loose woodchips over this trail tread base makes the trail surface very unstable and therefore difficult to traverse. The woodchip surface also migrates off the underlayment and piles at the end of sloped segments creating woodchip mounds at hill bottoms. Removing the inaccessible woodchip surface by brushing it off to the sides, removing mounded piles at the bottom of sloped segments and not replenishing it is one idea to consider, this gets the trail tread back to natural packed earth. If there are soil segments that are loose/unstable there are a variety of soil stabilization products that can be topically applied. After removing the inaccessible woodchip surface, top dressing areas with exposed geotextile underlayment with accessible ¼" crushed aggregate provides further soil stabilization and enhances accessibility. Another option is to just stop replenishing the inaccessible woodchip surface and let it decompose and then top dress with accessible ¼" crushed aggregate to stabilize it.
The map on the web site gives no accessibility information regarding trail distances, bench locations, inaccessible slopes, surface information. The map is incomplete and has inaccurate information provided and the new proposed map has no accessibility information either, is also incomplete and inaccurate in the information provided and the size of font and color contrast make the map visually inaccessible as well.	As noted above, there are examples of good accessibility information signage and website information to help guide the development of better accessibility information for the nature centers signage, site maps and website information. It is imperative to have accurate information for accessibility barriers as well as for safety of guests in an emergency. Inaccurate signage and map information can lead to lost guests…
No directional or interpretive signs provide information in any alternative accessible formats	Providing information in alternative formats can greatly enhance access for people with vision impairments and non-readers alike. Automated systems exist that connect to cell phones that "ping" when someone approaches an interpretive information sign or trail intersection.

Some of the accessibility barriers are due not from design but ongoing maintenance of constructed features such as boardwalks and bridges.	Developing a robust maintenance program to maintain the accessible features of the site can greatly enhance accessibility for everyone. This requires time and expertise to identify areas in need of maintenance and to preform the upkeep. Some simple things like keeping encroaching vegetation cut back from the sides and overhead could be done by volunteers.
The website has no accessibility information regarding programs or the facility	As a school district program, you have an obligation to provide accessibility accommodations for all your programs and this should be articulated on your website. Developing informative accessibility information on the website will help visitors to plan their visits as well.

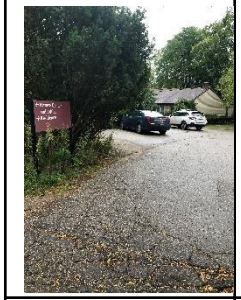
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Main parking lot – 43 total spaces No accessible parking spaces, 2 van accessible spaces required Asphalt surfacing has many changes of level due to cracking and disrepair Staff parking next to PREP program house – 4 spaces No accessible parking spaces, 1 van accessible space required	502	Add 2 accessible van parking spaces Add 1 van accessible parking space in the staff lot as well
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Access Route from staff parking to visitor center sidewalk Inaccessible woodchip surface Good stone edging to define trail tread Clear width obstructed by encroaching vegetation	402 403 302	Remove inaccessible woodchip surface and replace with accessible ¼” crushed aggregate surfacing Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Visitor center front entry Clear space in front of donation station blocked by trash can Inaccessible grass surface in the clear space of the donation station	402 403 302	Move trash out of the required clear space in front of the donation station Move donation station to the edge of the sidewalk accessible surfacing
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Access route to trail head from visitor center Inaccessible grass surface Indicated on map but no directional sign and inaccessible grass surface on the route	402 403 302	Either remove the route from the map or add accessible surfaced route from the visitor center sidewalk to the trail head
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Waterfall and viewing bench Too low at 12” Inaccessible grass and woodchip surface Drop off from concrete sidewalk to grass surface	402 403 302 903	Replace inaccessible grass and woodchip surface with accessible ¼” crushed aggregate surface from sidewalk in front of the bench and side creating inclusive side-by-side seating space Raise bench to accessible height 18”

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Visitor center perimeter path to lower-level classroom entry Encroaching side vegetation reduces accessible route to less then 5’ Encroaching overhead vegetation lowers the head clearance to less than required 80”	402 403 302	Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides and overhead (80”)
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

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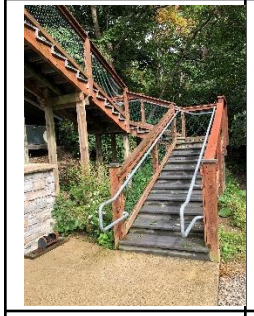
 	Interpretive information sign and rain gauge on perimeter route to lower-level classroom Encroaching vegetation blocks visual access to the interpretive information Rain gauge is located off the accessible route with encroaching vegetation in the clear space Rain gauge too high at 64”	402 403 302 308	Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back Lower rain gage to 48” max. within accessible reach ranges
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Stairs to upper deck of visitor center Good accessible design	504	
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

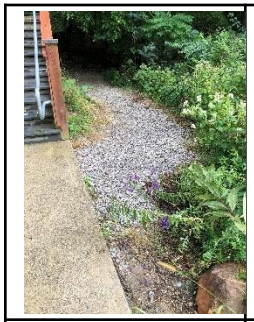
	Gravel path up to deer enclosure Shown on map but not named Inaccessible large chunk gravel greater than ¼” Steep slopes +25% up to deer enclosure and down to the fork to the outdoor classroom	402 403 302 Outdoor Rpt. 1017	 Name and sign as “caution steep slopes” and indicate on map Top dress with accessible ¼” crushed aggregate surface & develop a regular maintenance plan
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Stone steps down to Pondside Trail midway on access route to lower level of the visitor center Inaccessible grass surface Steep slope down to sloping lawn area	402 403 302 Outdoor Rpt. 1016	As this is the only route from the visitor center lower-level sidewalk to the lower lawn area, fishing pier, boat launch, boardwalk and Pondside Trail there is space to regrade/reroute to create accessible route to pond side amenities
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Visitor center women’s and men’s restrooms Entry door from outside deck Accessible sign located inappropriately on the door	703	Move accessible sign to latch side of the door and mount at max. 60”

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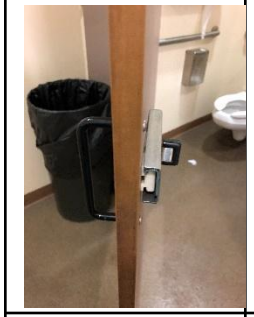
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Women's restroom Portable child's potty seat located in the clear space to the side of the accessible toilet	402 403 302 305	Move portable items out of the required clear space
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Women's accessible stall door No inside "U" handle	309	Add "U" handle below slide lock to facilitate one hand operation of door closing and locking
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Women's restroom Portable step in the clear space at front of sink	305	Move portable items out of the required clear space

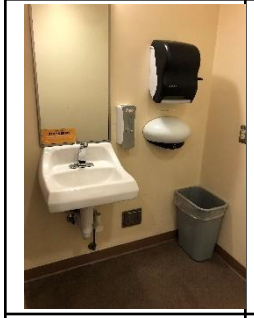
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Visitor center women's and men's restrooms Entry door from inside visitor center Accessible sign located inappropriately on the door	703	Move accessible sign to latch side of the door and mount at max. 60"
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Visitor center men's restroom Paper towel dispenser too high at 54" Trash can in the clear space of the hand dryer and paper towel dispenser	308 305	Lower paper towel dispenser to 48" max. within accessible reach range Move trash can out of the required clear space under the hand dryer and paper towel dispenser
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Men's restroom Urinal too high at 18 ½"	605	Lower urinal to accessible height of less than 17"

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Visitor Center main entry door Automatic door opener in-operable from outside and inside	404	Repair immediately and test on regular basis to see that it is operable during all public hours
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Visitor center reception counter Too high at 42”	902	Add a lowered reception counter max. 36” high If no longer used as a reception desk consider moving to a different location and using as display space

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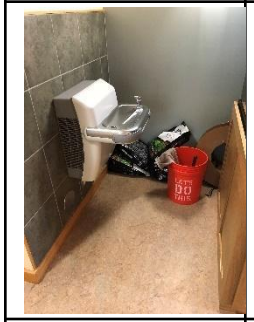
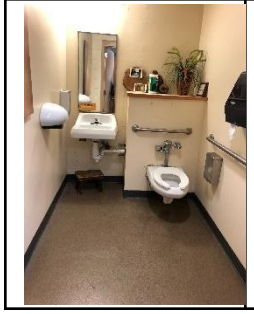
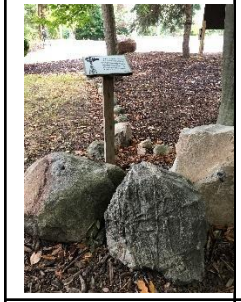
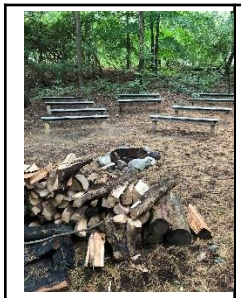
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Accessible water fountain Clear space blocked by placement of non-permanent turtle tank and stored “stuff”	305	Remove/relocate portable “stuff” in the required clear space of the water fountain Move turtle tank out of the required clear space
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Visitor center lower-level unisex accessible restroom Trash can in the clear space of the accessible restroom sign	305	Remove/relocate portable “stuff” out of the required clear space in front of accessible sign
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Lower-level unisex accessible restroom Toilet paper dispenser located too far forward of the stool front at 20”	604.7	Reposition toilet paper dispenser to be 7” min. 9” max in front of toilet

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Lower-level unisex accessible restroom Interior door lock requires pinch grasp	309	Replace locking mechanism with design that is one hand operable that doesn't require pinch grasp/wrist twist
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Lower-level unisex accessible restroom Trash can in the clear space of the accessible paper towel dispenser	305	Move the trash can out of the required clear space in front of the paper towel dispenser
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

 	Information Kiosk near parking lot at entrance to trail from parking lot & sidewalk to visitor center Inaccessible woodchip surface in the clear space in front drop off change of level between unitary surfaces (asphalt parking lot and concrete sidewalk to visitor center) and woodchip surface Bird field check list dispenser Too high at 54” Inaccessible woodchip surface in the clear space	402 403 302 308	Replace inaccessible woodchip surface with accessible ¼” crushed aggregate surface or asphalt to match parking lot or concrete to meet the sidewalk Lower bird field check list dispenser to 48” max accessible reach range
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Main trail from parking lot Trail not signed or named at the site Not identified on the map Inaccessible woodchip surface Good stone edging to define trail tread	402 403 302 Outdoor Rpt. 1017	Name and indicate on map Remove and replace inaccessible woodchip surface with accessible ¼” crushed aggregate from parking lot to deer enclosure and side trail to nature center lower level
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Old windmill interpretive sign No clear space in front of interpretive sign, blocked by interpretive mill stones No braille or other type of accessible interpretation	305	Move interpretive sign to the right of the interpretive mill stones on accessible surface connected to the trail in from the parking lot and to the trail in from the nature center sidewalk if that is developed… Consider adding QR code with auto activation for audio description of interpretive information
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

	Deer enclosure interpretive sign Inaccessible woodchip surface in the clear space in front of the interpretive sign No braille or other type of accessible interpretation	305	It appears that there once was accessible ¼" crushed aggregate surface in the clear space of interpretive sign, maintain accessible surface and connect to the trail in from the parking lot Consider adding QR code with auto activation for audio description of interpretive information

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Trail from deer enclosure down to trail intersection of Cabin Trail and Fox Ridge Lookout trail Too steep at +13% running slope Inaccessible woodchip surface No steep slope warning information	Outdoor Rpt. 1017	Consider a regrade/reroute to reduce running slope to less than 5% (1’/20/) and removing inaccessible woodchip surface and replacing with accessible ¼” crushed aggregate surface down to bottom of hill and to the right on the Cabin Trail to the first trail intersection on the right to the outdoor classroom area Add sign with max. slope information sign at top of the steep slope segment
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Side trail on right down to Pondside Trail and outdoor classroom area Trail not signed or labeled on map Too steep at +12% running slope Inaccessible woodchip surface with significant areas of washout creating woodchip mounds	Outdoor Rpt. 1016	Name and indicate on map Consider a regrade/reroute to reduce running slope to less than 5% (1’/20/) and removing inaccessible woodchip surface and replacing with accessible ¼” crushed aggregate surface down to bottom of hill connecting to the Pondside Trail and to the intersection on the right to the outdoor classroom area Add sign with max. slope information sign at top of the steep slope segment
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

 	Outdoor classroom area Not named or listed on map Not connected by accessible route to the route to the lower level of the nature center Good accessible seating spacing between front benches as well as at bench ends for inclusive seating opportunities Reasonably level packed dirt surface No accessible route to fire pit or bench seating area from side trail Inaccessible woodchip surface and large branch debris on route	Outdoor Rpt. 1016	Name and indicate on map Consider adding a connecting access route with accessible ¼" crushed aggregate surface from the side trail into the space below the woodpile between trees (see 2nd photo) to the fire pit and first row of benches and connecting this space to the side trail to the nature center Develop and implement an ongoing maintenance plan to remove large debris from accessible routes and clear spaces on a regular basis on the day before the nature center is open to the public
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
 	Cabin Trail Too steep with +12% running slopes up to the hilltop and +14% running slopes down to the bottom of the hill Inaccessible woodchip surface with significant areas of washout creating woodchip mounds	Outdoor Rpt. 1017	Consider brushing off the inaccessible woodchip surface and returning the trail surface to native packed earth, utilizing soil stabilizers in areas that are "unstable" or top dressing those areas with accessible ¼" crushed aggregate surface Add "steep slope" sign indicating max. slopes up to hilltop and down the other side Consider alternative hiking access via the provision of all-terrain hiking wheelchairs such as the Action Track Chair (most versatile and accessible), the Terrain Hopper, GOGRIT, etc. These devices would need to be available for public use when the nature center is open and staffed and for all groups using staffed experiences. The chairs need to be charged and ready for use, set out for viewing and signed with information on how to obtain access from staff
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

	Access route to cabin from bottom of trail hill Reasonably level packed dirt and grass surface in some areas Inaccessible woodchip surface	Outdoor Rpt. 1016	Consider a regrade/reroute to reduce running slope to less than 5% (1'/20/) and removing inaccessible woodchip surface and replacing with accessible ¼" crushed aggregate surface on a route to the front of the cabin and up to the barn entry

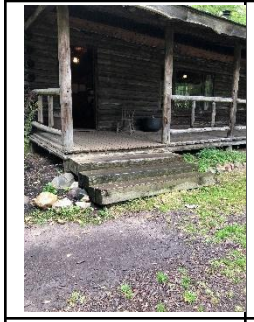
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Working water pump Inaccessible clear space, blocked by constructed wooden box Pounds of force too hard at greater than 5lbs.	305 309	Consider a regrade/reroute to reduce running slope to less than 5% (1'/20/) and removing inaccessible woodchip surface and replacing with accessible ¼" crushed aggregate surface connecting to the trail from the cabin to the barn Consider removing the constructed wood box and surrounding the pump with accessible ¼" crushed aggregate surface Investigate possibility of reducing the pounds of force for pump operation
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Cabin entry No accessible route onto cabin porch Inaccessible non-historic large wood beam steps	402 403 302	Consider constructing a 5' wide ramp onto the porch surface with running slopes less than 5% (1'/20') from the trail
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Porch entry into cabin No accessible route into cabin from front porch +2" change of level at threshold	404	Add beveled threshold to negate +2" change of level

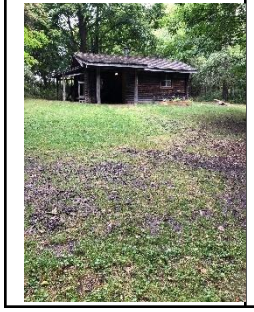
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
  	Cabin interior No accessible route to upper-level loft area Good clear space to all main floor displays	402 403 302	Provide interpretive photos of the loft area at the base of the stairs for those who can't or choose not to climb up to see the loft interpretive information
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Route to barn from cabin No accessible route to the barn Inaccessible woodchip surface mixed with some packed dirt and grass surface	Outdoor Rpt. 1016	Consider a regrade/reroute to reduce running slope to less than 5% (1'/20/) and removing inaccessible woodchip surface and replacing with accessible ¼" crushed aggregate surface from the Cabin Trail to the barn front entry, to garden boxes, teeter totter, and around to back door and route to tree swing

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Barn doors (both front & back) No accessible route into the barn Change of level +2” and +2” = 4” at threshold	404	Add beveled threshold to negate +2” and 2” changes of level
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Barn interior No accessible route through the barn, route is less than 36” wide due to placement of interpretive items	402 403 302	Reposition items to create a 36” minimum wide route though the barn and to the back doorway
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Rope and board swing behind barn No accessible route to swing Inaccessible woodchip surface	Outdoor Rpt. 1016	Consider a regrade/reroute to reduce running slope to less than 5% (1’/20/) and removing inaccessible woodchip surface and replacing with accessible ¼” crushed aggregate surface from back barn door to swing

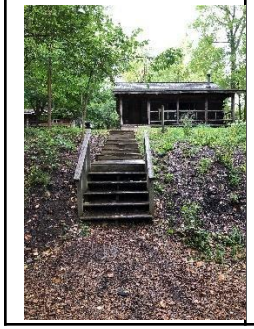
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Cabin barn tot garden and teetertotter Route surface is packed dirt and grass	Outdoor Rpt. 1016	Consider a regrade/reroute to reduce running slope to less than 5% (1’/20/) and removing inaccessible woodchip surface and replacing with accessible ¼” crushed aggregate surface from the barn front entry to garden boxes, teeter totter, and around to back door and route to tree swing
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
 	Stairs between cabin and Pondside Trail Not accessible design steps No handrail on upper set of stairs	504	Consider adding accessible design handrails on both sides of steps Consider replacing steps with accessible design steps to Pondside Trail Add directional sign to trail to Cabin Trail connection to Pondside Trail

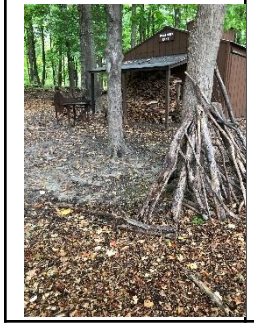
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Side trail up to cabin from Pondside Trail Too steep at 19% running slope with 12.5% cross slope Inaccessible woodchip surface	Outdoor Rpt. 1017	Consider a regrade/reroute to reduce running slope to less than 5% (1’/20/) and removing inaccessible woodchip surface and replacing with accessible ¼” crushed aggregate surface Add “steep slope” sign indicating max. slopes down to the Pondside Trail
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Route to Sugar Shack from Cabin Trail connecting to Sugar Maple Loop Packed dirt surface with woodland debris	Outdoor Rpt. 1016	Consider a regrade/reroute to reduce running slope to less than 5% (1’/20/) and removing inaccessible woodchip surface and replacing with accessible ¼” crushed aggregate surface on a trail to the fire circle and to the entry and exit of the sugar shack

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Sugar Shack fire circle	305 Outdoor Rpt. 1011	Create accessible clear space at all bench ends to facilitate inclusive side-by-side seating spaces
	Inclusive companion seating space between benches all too narrow at 20”		
			
			

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Sugar Shack Safety concern: no access route edge treatment to prevent roll off/step off next to the boilers Interior accessible route too narrow, less than 36” due to equipment storage	402 403 302	Consider adding edge treatment to boardwalk on the side nearest the boilers and extending the lower railing to create a safety barrier between the accessible route and the boiler surface Reposition items to create a 36” minimum wide route though the barn and to the back doorway
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

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 	Sugar Shack entry doors (side and front) Side door has large + 3½" step up onto floor Front sliding door has + 3½" step up onto floor and a 3½" gap opening	404	Add beveled threshold to negate +3½" change of level at the side door and the +3½" change of level and the +3½" gap opening at the front entry sliding door
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Trail to lower level of visitor center, outdoor classroom and firepit, ending at the Pondside Trail Too steep with slopes up to 25% to the fork to the outdoor classroom Indicated on map but not named or signed Inaccessible woodchip surface over large chunk gravel greater than ¼"	Outdoor Rpt. 1016	Name, sign and indicate on map Consider a regrade/reroute to reduce running slope to less than 5% (1'/20/) and removing inaccessible woodchip surface and replacing with accessible ¼" crushed aggregate surface on a trail to the outdoor classroom side trail intersection and on down to the intersection with the Pondside Trail
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

	Pondside trail Sign indicates only one direction for this loop trail, confusing, map shows and names as loop trail Inaccessible woodchip surface	Outdoor Rpt. 1017	Fix sign to indicate Pondside Trail goes in both directions Consider a regrade to reduce running slope to less than 5% (1'/20/) and removing inaccessible woodchip surface and replacing with accessible ¼" crushed aggregate surface on a trail making this an integral part of an accessible route to the cabin and sugar shack
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Pondside trail bench & outdoor sink interpretive area Inaccessible woodchip surface	Outdoor Rpt. 1016	Consider a regrade to reduce running slope to less than 5% (1'/20/) and removing inaccessible woodchip surface and replacing with accessible ¼" crushed aggregate surface surrounding the benches and sink and connecting to the accessible trail surface making this an integral part of an accessible route to the cabin and sugar shack

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Pondside Trail dock and bench near cabin	Outdoor Rpt. 1016	Consider a regrade to reduce running slope to less than 5% (1'/20/) and removing inaccessible woodchip surface and replacing with accessible ¼" crushed aggregate surface on the route to the dock and connecting to the accessible trail surface making this an integral part of an accessible route to the cabin and sugar shack Repair/maintain the dock to be level
	Inaccessible transition from land to dock Dock has inaccessible cross slopes		Add transition plate with running slope less than 5% (1'/20') from dock end to trail surface to negate change of level from trail surface up to dock surface
	Bench support cross beams create inaccessible clear space in front of bench	Outdoor Rpt. 1011	Bury bench supports so they do not create and access barrier in front of bench
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

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	Pondside Trail bench near butterfly garden across from Sugar Shack Inaccessible woodchip surface	Outdoor Rpt. 1011	Consider a regrade to reduce running slope to less than 5% (1'/20/) and removing inaccessible woodchip surface and replacing with accessible ¼" crushed aggregate surface on the route to the bench and connecting to the accessible trail surface making this an integral part of an accessible route to the cabin and sugar shack
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Pondside Trail bridge over pond in/outlet Inaccessible transition from inaccessible woodchip surface to bridge decking +3" Woodchip debris on bridge decking	Outdoor Rpt. 1017	Add transition plate with running slope less than 5% (1'/20') from dock end to trail surface to negate change of level from trail surface up to deck surface on both ends Develop and implement an ongoing maintenance plan to remove large debris from accessible routes and clear spaces on a regular basis on the day before the nature center is open to the public
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Pondside Trail route to bench on south side of pond past Locus Trail intersection Large, exposed tree routes in access route loop to bench Inaccessible woodchip surface	Outdoor Rpt. 1017	Consider a regrade/reroute to reduce running slope to less than 5% (1'/20/) and removing inaccessible woodchip surface and replacing with accessible ¼" crushed aggregate surface on the route to the bench and connecting to the accessible trail surface making this an integral part of an accessible route around the pond
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

	Pondside Trail boardwalk trail to cross pond floating boardwalk Inaccessible transition from inaccessible woodchip surface to bridge decking +3” Woodchip debris on bridge decking from washout	Outdoor Rpt. 1017	Add transition plate with running slope less than 5% (1’/20’) from deck end to trail surface to negate change of level from trail surface up to deck surface on both ends Develop and implement an ongoing maintenance plan to remove large debris from accessible routes and clear spaces on a regular basis on the day before the nature center is open to the public

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Pondside Trail floating boardwalk across pond on south each end New repair created change of level +1”	402 403 302 Outdoor Rpt. 1017	 Eliminate changes of level between deck boards
	Gap openings greater than ¼”		Eliminate gap openings greater than ¼”
	Mis-aligned deck section created cross slope and change of level greater than ¼”		Realign dock segments and maintain to be level
	Constructed route end has slope greater than 5% (1’ in 20’)		Add transition plate with running slope less than 5% (1’/20’) from dock end to trail surface to negate change of level from trail surface up to dock surface on both ends

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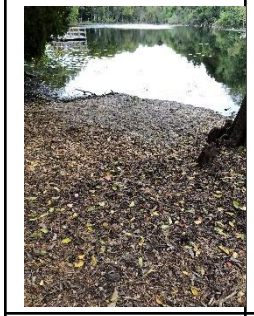
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Pondside Trail canoe launching area Not indicated or named on map Inaccessible woodchip surface on route to & surrounding canoe rack Inaccessible round pea gravel in launch area No accessible transfer assistant device	Outdoor Rpt. 1016	Name and indicate on map Consider a regrade/reroute to reduce running slope to less than 5% (1’/20/) and removing inaccessible woodchip surface and replacing with accessible ¼” crushed aggregate surface on the route to the launch and connecting to the accessible trail surface making this an integral part of an accessible route around the pond Remove and replace inaccessible rounded pea gravel with accessible ¼” crushed aggregate surface Add accessible transfer device (top box 24” wide X 14” deep X 4” step down to next box) at water edge to facilitate accessible canoe entry/exit
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Pondside Tail picnic area No accessible design picnic tables Inaccessible grass surface with significant cross slopes Not indicated on map	Outdoor Rpt. 1016 1011	Indicate on map Consider a regrade/reroute to reduce running slope to less than 5% (1’/20/) and removing inaccessible woodchip surface and replacing with accessible ¼” crushed aggregate surface on the route to the picnic tables and connecting to the accessible trail surface making this an integral part of an accessible route around the pond Add accessible design picnic pods with accessible design tables and surrounded by accessible surfacing to equal at least 20% of the tables

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Pondside Trail floating fishing pier Inaccessible grass and woodchip surface Encroaching vegetation reduces the access route to less than 36” wide Inaccessible design picnic table Picnic table encroaches on accessible routes making routes around deck less than 36” wide	Outdoor Rpt. 1016 1011	Consider a regrade/reroute to reduce running slope to less than 5% (1’/20/) and removing inaccessible woodchip surface and replacing with accessible ¼” crushed aggregate surface on the route to the dock and connecting to the accessible trail surface making this an integral part of an accessible route around the pond Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides Remove or replace picnic able with accessible design table, choose or create a small design that won’t negate the required 36” accessible route around the entire dock
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
 	Pondside Trail observation deck and table No accessible route to deck surface Two steps up not accessible design Inaccessible grass and woodchip surface Bench sitting surface too low at 12” and too narrow at less than 20” deep Access route space blocked by large tree reducing route to less than 36”	Outdoor Rpt. 1016 1011	Create accessible 5’ wide ramp to observation deck with running slopes less than 5% (1’/20’) connected to the accessible route around the pond Replace benches with accessible design benches 17”-18” high with 14” min. seat depth Create accessible seating space 36” wide mid-bench on both benches for side-by-side inclusive seating

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Trail intersection sign Sign doesn't match map, map indicates Fox Ridge Lookout Trail	Outdoor Rpt. 1017	Fix trail sign to match map Add "steep slope" sign indicating max. slopes for each trail Consider adding QR code with auto activation for audio description of directional or interpretive information
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Fox Ridge Lookout Trail Story walk not indicated on map Inaccessible woodchip surface in clear space of story post	Outdoor Rpt. 1017	Add to map Consider removing inaccessible woodchip surface on trail and clear space to return to natural packed earth surface Consider adding QR code with auto activation for audio description of directional or interpretive information
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Fox Ridge Lookout Trail hawk enclosure Interpretive information in disrepair and not in accessible format Inaccessible woodchip surface in clear space of interpretive information post	Outdoor Rpt. 1017	Repair interpretive information Consider adding QR code with auto activation for audio description of directional or interpretive information Consider removing inaccessible woodchip surface on trail and clear space to return to natural packed earth surface

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Intersection sign for Fox Ridge Lookout Trail and Streamside Trail Doesn't match new map no label for Streamside Trail on map	Outdoor Rpt. 1017	Add to map Add "steep slope" sign indicating max. slopes for each trail
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Fox Ridge Lookout Trail observation tower Steep running slopes up to 25% on trail Inaccessible woodchip surfacing, some over geo-text underlayment Inaccessible stair & handrail design No ground level interpretive information provided	Outdoor Rpt. 1017 504	Add "steep slope" sign indicating max. slopes at all trail inter sections with this trail Consider adding QR code with auto activation for audio description of directional or interpretive information seen from top of observation tower Consider removing inaccessible woodchip surface on trail and clear space to return to natural packed earth surface
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Streamside Trail platform Interpretive post with no information Platform has cross slopes Narrow inaccessible route from trail to platform less than 36" wide due to encroaching vegetation No transition from dirt to deck, change of level step up to deck platform +2"	Outdoor Rpt. 1017	Consider adding QR code with auto activation for audio description of directional or interpretive information Repair/maintain the dock to be level Add transition plate with running slope less than 5% (1'/20') from dock end to trail surface to negate change of level from trail surface up to dock surface Maintain dock surface to Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	Unnamed new trail off from Streamside Trail Trail has extreme slopes Show on new map but not named and not signed No accessible transition onto/off from bridge surfaces	Outdoor Rpt. 1017	Name, sign and add to map Add “steep slope” sign indicating max. slopes for each trail Add transition plate with running slope less than 5% (1’/20’) from deck end to trail surface to negate change of level from trail surface up to deck surface on both ends of all boardwalk segments Consider removing inaccessible woodchip surface on trail to return to natural packed earth surface

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Trail intersection signs Not accurate with map, no Sugar Maple Loop sign	Outdoor Rpt. 1017	Fix on map Add “steep slope” sign indicating max. slopes for each trail
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
 	Trail intersection on Cottontail Pass no signs indicating trail up to 2nd new unnamed/signed trail (through Schrot Prairie northern tip on old map) from Cottontail Pass mowed grass over geo-text underlayment	Outdoor Rpt. 1017	Add trail intersection signs for all trails Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip surface on trail to return to natural packed earth surface

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Cottontail Pass Viewing benches no clear spaces on either end of either bench for inclusive companion seating Inaccessible woodchip surface	Outdoor Rpt. 1017 1011	Consider removing inaccessible woodchip surface around benches and on trail and clear space to return to natural packed earth surface Create accessible seating space at both ends of both benches to provide inclusive side-by-side seating
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Cottontail Pass and Sugar Maple Loop intersection sign mid trail Sugar Maple Loop at this intersection very narrow due to encroaching vegetation	Outdoor Rpt. 1017	Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides and overhead (80”)
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Cottontail Pass and Fox Ridge Lookout intersection at end of the story walk	Outdoor Rpt. 1017	Add “steep slope” sign indicating max. slopes for each trail

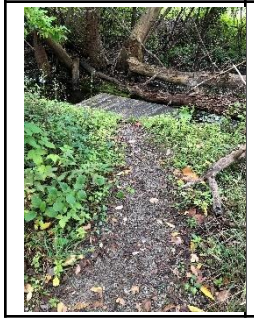
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Streamside Trail Platform with accessible crushed limestone surface over geo-text underlayment Narrowed by encroaching vegetation	Outdoor Rpt. 1016	Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides and overhead (80”)

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	Streamside Trail Two boardwalk sections No transition plate from deck to dirt, +2” change of level at both ends Cross slopes +2% Gap openings greater than ¼”	402 403 303 Outdoor Rpt. 1017	Add transition plate with running slope less than 5% (1’/20’) from deck end to trail surface to negate change of level from trail surface up to deck surface on both ends of all boardwalk segments Repair and maintain all boardwalks to remain level and eliminate all gap openings greater than ¼”

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Streamside Trail up from intersection with Warblers Loop Steep slopes up to 25% Mowed grass surface and inaccessible woodchip surface No intersection signs behind hawk enclosure	Outdoor Rpt. 1017	Add “steep slope” sign indicating max. slopes for each trail Add trail intersection sign and indicate on map
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Streamside Trail at Warblers Loop intersection coming in from parking lot Inaccessible woodchip surface	Outdoor Rpt. 1017	Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip surface on trail to return to natural packed earth surface

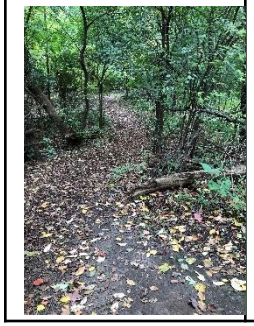
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Streamside Trail sign at parking lot Sign facing the wrong direction on the wrong side of the trail so users only see the back side from the entry Inaccessible woodchip surfacing	Outdoor Rpt. 1017	Turn sign facing parking lot or add sign to back of post as well Consider removing inaccessible woodchip surface on trail to return to natural packed earth surface Add “steep slope” sign indicating max. slopes for each trail
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
 	Warblers Loop Very steep running slope at +25% at start with significant cross slopes particularly at the turn heading down Inaccessible woodchip and mowed grass surface	Outdoor Rpt. 1017	Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip surface on trail to return to natural packed earth surface

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Warblers Loop wetlands boardwalk 36” wide with parallel running boards with gaps greater than ¼” No transition plate at either end from boards down to dirt No edge treatment to prevent roll off / step off	Outdoor Rpt. 1017	Replace with accessible design boardwalk Add transition plate with running slope less than 5% (1’/20’) from deck end to trail surface to negate change of level from trail surface up to deck surface on both ends of all boardwalk segments Or Eliminate gap openings between boards to be less than ¼” Add external edge protection to prevent inadvertent roll/step off Add transition plate with running slope less than 5% (1’/20’) from deck end to trail surface to negate change of level from trail surface up to deck surface on both ends of all boardwalk segments
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Triple intersection Streamside Trail, Sugar Maple Loop, and Cottontail Pass Only one sign to Cottontail Pass	Outdoor Rpt. 1017	Add intersection trail signs for each trail Add “steep slope” sign indicating max. slopes for each trail
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Sugar Maple Loop Extremely steep slopes up to +22% Bench has inaccessible woodchip surfacing No clear space at either end for inclusive side-by-side seating due to encroaching vegetation	Outdoor Rpt. 1017 1011	Consider removing inaccessible woodchip surface around benches and on trail and clear space to return to natural packed earth surface Create accessible seating space at both ends of both benches to provide inclusive side-by-side seating

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Sugar Maple Loop bridge to new unnamed/unsigned trail No transition plate from deck to ground on either end	Outdoor Rpt. 1017	Name, sign and add to map Add “steep slope” sign indicating max. slopes for each trail Add transition plate with running slope less than 5% (1’/20’) from deck end to trail surface to negate change of level from trail surface up to deck surface on both ends of all boardwalk segments Consider removing inaccessible woodchip surface on trail to return to natural packed earth surface

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
  	New unnamed/unsigned trail Trail tread narrow less than 36” due to design & encroaching vegetation Very steep running slopes up to top of loop and back down Large +4” rock and stump debris in trail tread from trail construction	Outdoor Rpt. 1017	Name, sign and add to map Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip surface on trail to return to natural packed earth surface Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides (36” min) and overhead (80”) Remove all trail tread obstacles such as large rocks and tree stumps left from trail construction
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

	Unnamed/unsigned connector trail from new bridge down to Cottontail Pass	Outdoor Rpt. 1017	Name, sign and indicate on map

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Unnamed connector trail from new unnamed/unsigned trail intersection with Sugar Maple Loop down to Cottontail Pass Bench has inaccessible grass in the clear space in front and both ends	Outdoor Rpt. 1017 1011	Indicate bench location on map Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface Create accessible seating space at both ends of bench to provide inclusive side-by-side seating
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Unnamed connector trail from new unnamed/unsigned trail intersection with Sugar Maple Loop down to Cottontail Pass Mowed grass surface steep running slope down to Cottontail pass	Outdoor Rpt. 1017	Name and indicate on map Add “steep slope” sign indicating max. slopes for each trail
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Unnamed connector trail up from Cottontail Pass to Sugar Maple Loop Steep running slopes, narrow less than 36”, some geo-text fabric under inaccessible woodchips	Outdoor Rpt. 1017	Name, sign and add to map Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides (36” min) and overhead (80”)

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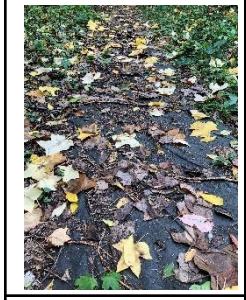
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Sugar Maple Loop Extreme running slope up to 22% from new trail intersection to interpretive sign Interpretive sign has inaccessible woodchips in the clear space in front	Outdoor Rpt. 1017	Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
 	Cottontail Pass and Sugar Maple Loop intersection Sugar Maple section extremely narrow, steep running slopes, exposed geo-text fabric	Outdoor Rpt. 1017	Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides (36” min) and overhead (80”)
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Sugar Maple Loop Hill top bench (above Sugar Shack) has inaccessible woodchip surface in front and both ends	Outdoor Rpt. 1017 1011	Indicate bench location on map Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface Create accessible seating space at both ends of bench to provide inclusive side-by-side seating

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Locust Trail Intersection with Sugar Maple Loop Steep running slopes, inaccessible woodchip surface Intersection with Pondside Trail	Outdoor Rpt. 1017	Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides (36” min) and overhead (80”)
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Unnamed/unsigned intersection on Pondside Trail just before boardwalk which may be the Woodland Trail identified on the new trail map Very steep running slopes	Outdoor Rpt. 1017	Name, sign and indicate on map Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides (36” min) and overhead (80”)

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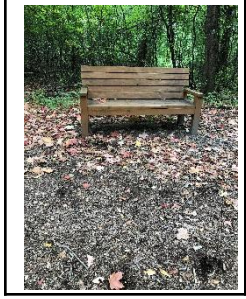
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Unnamed/unsigned intersection on Pondside Trail just before boardwalk which may be the Woodland Trail identified on the new trail map Large rocks in trail tread Very steep running slopes Hill top bench	Outdoor Rpt. 1017	Name, sign and indicate on map Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface Remove trail tread obstacles such as large rocks left in the trail construction process Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides (36” min) and overhead (80”) Indicate bench location on map Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface Create accessible seating space at both ends of bench to provide inclusive side-by-side seating
			
			

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Unnamed trail to left of hilltop bench may be the Woodland Trail	Outdoor Rpt. 1017	Name, sign and indicate on map Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides (36” min) and overhead (80”) Indicate bench location on map Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface Create accessible seating space at both ends of bench to provide inclusive side-by-side seating
	Trail intersection at bird house to bench		
	No accessible route to the bench overlooking the pond which on the new map looks like it’s called “Scouts Lookout” Bench has inaccessible woodchip surface in front and both ends		

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Donnor sign on what may be Woodland Trail Sign recognizes Friends as funders but doesn’t name trail Access blocked by encroaching vegetation	Outdoor Rpt. 1017	Name trail and indicate on map Trim encroaching vegetation and develop an ongoing maintenance plan to keep encroaching vegetation cut back to the sides (36” min) and overhead (80”)

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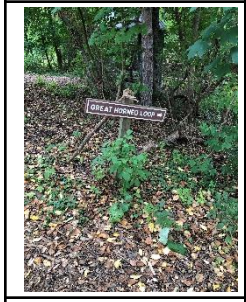
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Woodland Trail Sign at intersection with what I think is the Great Horned Owl Loop indicated on new map	Outdoor Rpt. 1017	Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
  	Great Horned Owl Loop From Woodland Trail intersection Steep running slopes up to the caretakers home/ PATH program space Inaccessible woodchip surface	Outdoor Rpt. 1017	Add “steep slope” sign indicating max. slopes for each trail Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Great Horned Owl Loop Sign points toward the Woodland Trail Does not show direction to Owl enclosure	Outdoor Rpt. 1017	Add “steep slope” sign indicating max. slopes for each trail Add sign pointing to Owl enclosur Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
  	Great Horned Owl enclosure Inaccessible woodchip surface Interpretive information too high for children	Outdoor Rpt. 1017	Consider removing inaccessible woodchip/grass surface around benches and on trail and clear space to return to natural packed earth surface Consider lowering to children viewing heights

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ASTI Phase I ESA June 15 2026

BO-E01

Source Record

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Review Context

Study boundary conflict must be reconciled

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ASTI ENVIRONMENTAL

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Phase I Environmental Site Assessment
Johnson Nature Center
3325 Franklin Road
Bloomfield Hills, Oakland County, Michigan 48302

Oakland County Parks and Recreation

June 15, 2026



Preserving what matters. Transforming what's next.

Phase I Environmental Site Assessment
Johnson Nature Center
3325 Franklin Road
Bloomfield Hills, Oakland County, Michigan 48302

June 15, 2026

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1.0 EXECUTIVE SUMMARY

ASTI Environmental (ASTI) was retained by Oakland County Parks and Recreation to conduct a Phase I Environmental Site Assessment (ESA) of the site at 3325 Franklin Road, Bloomfield Hills, Oakland County, Michigan 48302 (Subject Property). The Phase I ESA was conducted in accordance with United States Environmental Protection Agency (US EPA) Standards and Practices for All Appropriate Inquiries (AAI, 40 CFR Part 312) and the American Society for Testing and Materials (ASTM) Practice E1527-21. The information and opinions presented in this report are intended solely for the reliance of Oakland County Parks and Recreation.

Subject Property Overview	
Address/Location	3325 Franklin Road, Bloomfield Hills, Oakland County, Michigan 48302
Parcel Number	C-19-09-301-022 C-19-09-301-050
Acreage	± 34.57
Current Use	Park and trails

The Phase I ESA included (1) a site inspection on May 1, 2026, (2) interviews with knowledgeable site contacts, (3) review of pertinent Michigan Department of Environment, Great Lakes, and Energy (EGLE), Bloomfield Hills, and Wayne County records, (4) acquisition and review of a federal and state database search, and (5) review of historical aerial photographs, topographic maps, and city directories.

Below is a summary of our opinion, which represents the findings of this Phase I ESA. Affirmative answers are discussed following the summary table.

Condition as defined in ASTM E1527 and/or AAI	Identified through a search of ***Reasonably Ascertainable*** **records**
Significant Data Gap	No
De Minimis Condition	Yes
Historically Recognized Environmental Condition (HREC)	No
Controlled Recognized Environmental Condition (CREC)	No
Recognized Environmental Condition (REC)	No

There appears to have been an approximate 5-acre orchard located on the north-central portion of the Subject Property, but its use was already in decline by 1937. The sparse orchard trees were evident into the 1970s, when they were overtaken by other trees and vegetation that make up the current woodland. Based on the observed operational window, and purpose for this Phase

I ESA (no change in use), the former orchard is considered a de minimis condition. *Furthermore, there is a CERCLA liability exemption for pesticide application for the typical pesticide user when they have done nothing more than purchase and applied a pesticide in a customary manner; however, the burden of establishing entitlement rests on a defendant.*

Refer to Section 10.0 for a more detailed summary of the findings.

Recognized Environmental Conditions

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 for the Subject Property. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. This assessment has not identified any RECs, CRECs, and/or significant data gaps in connection with the Subject Property.

2.0 INTRODUCTION

ASTI was retained by Oakland County Parks and Recreation to conduct a Phase I ESA of the Subject Property. The Phase I ESA was conducted in accordance with the U.S. EPA Standards and Practices for AAI and the ASTM Practice E1527-21.

2.1 Purpose

The assessment was conducted to identify *recognized environmental conditions* (RECs), *historically recognized environmental conditions* (HRECs), and *controlled recognized environmental condition*s (CRECs) associated with the historical uses of the Subject Property, current site operations, and the condition of surrounding properties. This Phase I ESA can be used by Oakland County Parks and Recreation to qualify for one of three landowner liability protections (contiguous property owner, innocent landowner, or bona fide prospective purchaser) available under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended. This Phase I ESA may also be used to qualify for State of Michigan liability defenses and exemptions that may be available under Part 201 of the Natural Resources and Environmental Protection Act.

2.2 Detailed Scope of Services

Information required to complete the Phase I ESA was obtained from personal interviews and a review of *practically reviewable* and *reasonably ascertainable* records. Informational sources include the following:

Section	Item	Adequate	Inadequate/ Data Gap	Source
7.0	Interviews		x	Owner Questionnaire
4.0	User-Provided Information		x	Questionnaire
4.1/4.2	AUL/Liens Search		x	User
5.2.3	Assessing Documents	x		Bloomfield Hills
5.2.4	Building Permits	x		Bloomfield Hills
5.2.5	Zoning Documents	x		Bloomfield Hills
5.2.2	Fire Department Records	x		Bloomfield Hills
5.2.1	Health Department Records	x		Oakland County
5.3.1	Aerial Photographs	x		EDR
5.3.2	Sanborn Map Search	x		EDR
5.3.3	City Directories	x		EDR
5.3.4	Topographic Maps	x		EDR
5.1	Regulatory Database Review	x		EDR

2.3 Significant Assumptions

Information obtained during this assessment, to the extent it was relied on to form our opinion, was assumed to be complete and accurate. ASTI cannot be held responsible for the quality or content of information obtained from interviews and standard sources. Since ASTI cannot warrant or guarantee that the information provided by interviews and standard sources is accurate or complete, the intention of this Phase I ESA is to reduce, but not eliminate, uncertainty for the potential for RECs, HRECs, and CRECs on the Subject Property.

2.4 Deviations, Exceptions, and Limitations

The information and opinions included in this report were provided in response to a limited scope of work, specifically a Phase I ESA as per ASTM Practice E1527-21 and AAI. They should be considered and implemented only in light of that particular scope of work. The services provided by ASTI in completing this assessment have been provided in a manner consistent with the expected standards of the profession. No other warranties, expressed or implied, are made.

Non-scope issues are considered by ASTM Practice E1527-21 to be beyond the scope of a Phase I ESA. These issues may affect *business environmental risk* at the Subject Property. These non-scope issues may warrant assessment based on the type of Subject Property

transaction. Non-scope issues such as those described in ASTM Practice E1527-21 Appendix X6 were not investigated.

No deviations to ASTM Practice E1527-21 or AAI have occurred during this assessment.

No testing or sampling of materials (i.e., soil, water, and air) was conducted as part of this assessment. No limiting conditions were identified during the site reconnaissance, except for those described in Section 6.1.

ASTM Practice E1527-21 does not require a review of standard historical sources at intervals of less than approximately five years. Past uses of the Subject Property at intervals of less than approximately five years may not have been uncovered.

Responses received from regulatory agencies or other secondary sources of information after the issuance of this report may alter the facts, findings, conclusions, or recommendations in this Phase I ESA.

2.5 Special Terms and Conditions

The Phase I ESA was performed in conformance with the scope and limitations of ASTM Practice E1527-21 and AAI. No special terms and conditions outside ASTM Practice E1527-21 and AAI have been addressed. Under the AAI Rule and ASTM Practice E1527-21, AAI must be conducted within one year prior to the date of the transaction of the Subject Property. However, according to Section 4.6 of ASTM Practice E1527-21, "Certain Components" of the AAI must be conducted or updated within 180 days prior to the date of the Subject Property transaction. These "Certain Components" and the corresponding dates they were conducted are provided below:

- Interviews with owners, operators, and occupants (conducted May 1, 2026)
- Governmental records review (conducted April 7, 2026)
- Site reconnaissance (conducted May 1, 2026)
- Searches for records of environmental cleanup liens (a User responsibility, ASTI conducted a review of liens perfected by the EGLE Remediation and Redevelopment Division on April 8, 2026)
- Declaration by the Environmental Professional responsible for the assessment (signed June 8, 2026)

2.6 User Reliance

The Phase I ESA was performed for the benefit of Oakland County Parks and Recreation. ASTI acknowledges that this party may rely on the contents and conclusions presented in this report. This effort was performed per the authorization of Oakland County Parks and Recreation on April 3, 2026. The information and opinions presented in this report are intended exclusively for the use of Oakland County Parks and Recreation. ASTI will not distribute or publish this report without the prior consent of Oakland County Parks and Recreation, except as required by law or court order.

Any use a third party makes of this report, any reliance upon it, or any decision based on it is the sole responsibility of the third party. A third party is not afforded the status of a third-party beneficiary unless ASTI expressly agrees to such status in writing. ASTI has no liability for any damages that may be incurred by a third party as a result of any decision made or action taken by that party based on this report.

3.0 SITE DESCRIPTION

3.1 Location, Legal Description, Vicinity Characteristics

General Location	A Site Location Map is provided in Appendix A.
Legal Description	A copy of the assessment record, including the legal description, is included in Appendix D.
Section & Township and Range	SW¼ of Section 09, Township 2 North, Range 10 East
City/Township, County, State, Zip Code	Bloomfield Hills, Oakland County, Michigan 48302
Parcel Number	C-19-09-301-022 C-19-09-301-050
Acreage	± 34.57
Subject Property Zoning	R-3: One Family Residential
Local Development Utilization	Nature center, woodland, and residences

A Site Features Map is included in Appendix A. Photographs of the Subject Property and adjoining properties were taken during the site inspection and are provided in Appendix B.

3.2 Current Use of the Subject Property

The Subject Property is used as a nature center.

3.3 Descriptions of Structures, Roads, Other Improvements on the Site

I.D.	Building Type	Primary Use	Functional Spaces	Built Date	Stories
1	Nature Center	Education	Office, classroom, maintenance, restroom	2000s	2
2	Dwelling	Office	Office, laundry, restroom, and garage	1940s, 1970s	2

Building Construction			
I.D.	**Square Footage**	**Primary Construction**	**Interior Finishes**
1	± 6,000	Basement with concrete poured floor wood framing, and gable roof with metal paneling	Drywall, wood paneling, carpet, paint, ceramic, linoleum, wood trim
2	± 2,450	Concrete slab foundation, wood framing, and gable roof with singles	Drywall, wood paneling, carpet, paint, ceramic, linoleum, wood trim, wallpaper

Roads and Other Improvements	
Access	Via nearby roadways
Paved Areas	Limited areas around buildings
Maintained Lawn	
Landscaped Areas	Limited areas around dwellings
Surface Water	Pond in the southern portion, stream in the northern portion
Additional Improvements	Fencing and trails

Municipal Services and Utilities			
Service or Utility	**Present**	**Provider**	**Comments**
Potable Water Source	Yes		Combination of a private well and municipal service
Irrigation Well	No		
Sewage	Yes		Municipal service
Storm Sewer	No		
Electrical	Yes	DTE Energy	
Natural Gas	Yes	Consumers Energy	
Solid Waste Disposal	Yes	Green For Life	
Heating & Cooling	Yes		Natural gas heating and electric cooling

3.4 Current Uses of Adjoining Properties

ASTI observed adjoining properties during the site inspection to evaluate the potential risk these properties may pose to the Subject Property. Observations were made from the Subject Property and public access areas, as appropriate. Each is described as follows:

Adjoining Property Use			
Direction	**Description**	**Use**	**Potential Concerns Observed During Site Reconnaissance**
North	Private Residences	Residential	None
East	Telegraph Road	Right-of-Way (200 feet wide)	None
	Private Residences	Residential	
South	Private Residences	Residential	None
West	Private Residences	Residential	None

No stained areas, stressed vegetation, or signs of material spillage were observed along the shared property lines with the Subject Property. No pits, waste lagoons, above-ground storage tanks (ASTs), physical evidence of underground storage tanks (USTs), or other forms of chemical storage were observed on the adjoining properties.

3.5 Physical Setting Sources

The EDR report in Appendix D provides a Physical Setting Sources Map, which includes an overlay of the United States Geological Survey (USGS) topographic map (7.5-minute series) for the Thornville, Michigan quadrangle, which includes the Subject Property. The USGS map is also the basis of the Site Location Map in Appendix A.

Average Elevation (feet above mean sea level)	936 feet
Local Gradient	Declines to the southeast
Regional Gradient	Declines to the south-southwest
Nearest Surface Water Body	Rouge River and pond
Groundwater Depth (feet below ground)	Approximately 35 feet according to onsite well records.
Groundwater Flow Direction	Inferred to flow southeast towards the Rouge River

EGLE GeoWebFace describes the quaternary geology of the Subject Property as end moraines of medium-textured till.

Onsite well records indicated the lithology consists of topsoil underlain by sandy clay to 13 feet bgs, sand and gravel to 29 feet bgs, gray clay to 45 feet bgs, and fine gray sand to 64 feet bgs, the maximum depth explored.

4.0 USER-PROVIDED INFORMATION

To qualify for one of the landowner liability protections offered by the Small Business Liability Relief and Brownfield's Revitalization Act of 2002, the User, defined by ASTM as *the party seeking to use Practice E1527 to complete an environmental site assessment of the property*, has specific obligations for completing a successful application of this practice as outlined in Section 6 of ASTM Practice E1527-21. Failure to provide information regarding the obligations outlined to the Environmental Professional may result in a determination that AAI is not complete.

ASTI did not receive a completed User Questionnaire by the completion of this Phase I ESA. A blank copy of the User Questionnaire is included in Appendix C.

Question		Response
1	Did a search of recorded land title records identify any environmental liens filed or recorded against the Subject Property under federal, tribal, state, or local law?	No response
2	Did a search of recorded land title records identify any Activity Use Limitations, such as engineering controls, land use restrictions, or institutional controls that are in place at the Subject Property and/or have been filed or recorded against the Subject Property under federal, tribal, state, or local law?	No response
3	Do you have any specialized knowledge or experience related to the Subject Property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the Subject Property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?	No response

Question		Response
4	Is the purchase price significantly lower than the fair market value? If you conclude there is a difference, have you considered whether a lower price is due to contamination known or believed to be present at the Subject Property?	No response
5	Are you aware of commonly known or reasonably ascertainable information about the Subject Property that would help the environmental professional to identify conditions indicative of releases or threatened releases?	No response
5a	Do you know past uses of the Subject Property?	No response
5b	Do you know of specific chemicals that are present or once were present at the Subject Property?	No response
5c	Do you know of spills or other chemical releases that have taken place at the Subject Property?	No response
5d	Do you know of any environmental cleanups that have taken place at the Subject Property?	No response
5e	Based on your knowledge and experience related to the Subject Property, are there any obvious indicators that point to the presence or likely presence of releases at the Subject Property?	No response
6	Are you aware of any prior environmental investigations that may be available for review?	No response

4.1 Environmental Liens and Activity Use Limitations (AULs)

The User did not identify AULs or liens related to environmental matters.

4.2 Search of Recorded Land Title Records

The User did not provide recorded land title records for the Subject Property.

4.3 Additional Records Provided by the User

The User did not provide any additional records.

5.0 RECORDS REVIEW

5.1 Standard Environmental Record Sources

ASTI ordered a government records search for the Subject Property from Environmental Data Resources, Inc. (EDR) in Shelton, Connecticut. A copy of the EDR Radius Map Report with GeoCheck®, dated April 7, 2026, is included in Appendix D. The EDR report presents a description of the databases, search distances, and results.

5.1.1 Discussion of Subject Property Listings

Site Name	63-3325 Franklin Rd-Bloomfield Hills, WB-4316-1: El Johnson Pond: Lake Pro, Inc., WB-4316: El Johnson Pond
ASTM Listings	None
Non-ASTM Listings	Enviro
Location	No address
Documentation Requested/Reviewed	• RRD: Remediation and Redevelopment Division of EGLE • EGLE RIDE Mapper • MIEnviro Map Explorer
Summary of Findings	A permit authorized 10 cubic yards of fill for the construction of two pedestrian crossings of the Long Lake-Forest Lake Drain. A permit for the chemical treatment of the pond for aquatic nuisance control was issued in 2021 and was terminated in 2024 when chemical treatments were retired. Based on the reviewed information, these listings do not represent a REC to the Subject Property.

The EGLE Remediation and Redevelopment Division (RRD) maintains a list of environmental liens that EGLE RRD has placed on properties in the state to recover costs associated with state-led response activities. No EGLE RRD environmental liens were listed for the Subject Property in the online database as of April 8, 2026 (Appendix D).

According to the EDR report, the Subject Property was not listed in the search of institutional control and engineering control registries.

5.1.2 Discussion of Sites of Potential Environmental Concern

There are no listings for adjoining sites.

For the remaining listings, ASTI considers select criteria to determine which listings represent an environmental concern to the Subject Property. The criteria include but are not limited to the following:

- Database type
- Topography relative to the Subject Property
- Direction and distance
- Soil profile identified in available sources
- Known or inferred groundwater depth and flow direction
- Status of applicable investigation
- Surface and subsurface conditions including but not limited to buildings, pavement, utility corridors, and surface water features
- Potable water source (well or municipal)

An evaluation of these criteria is completed to determine the level of risk associated with each listing. Listings with likely releases that are found to have the potential to represent an elevated or high risk are requested through the Freedom of Information Act (FOIA) from applicable agencies.

Using the referenced criteria and based on the information in the EDR report, ASTI did not identify any additional listings beyond adjoining properties that were considered to represent an elevated or high risk to the Subject Property.

5.1.3 Discussion of Orphan Sites

No orphan sites were listed in the EDR Radius Map Report.

5.2 Additional Agency/Regulatory Sources

5.2.1 Local Health Department

ASTI requested information about the Subject Property from the Oakland County Health Department. Available records were provided on April 9, 2026, and copies are included Appendix D. The records included water well permits and several compliance documents regarding a Type II potable well. In the past, there was a failed test due to the detection of chloroform bacteria. The issue was corrected by cleaning the wells with chlorine treatments and follow-up testing confirmed the effectiveness.

5.2.2 Local Fire Department

ASTI requested information about the Subject Property from the Bloomfield Township Fire Department. In a response dated April 16, 2026, the township clerk indicated that there were no records. A copy of the response is included in Appendix D.

5.2.3 Subject Property Assessor/Tax Files

ASTI requested information about the Subject Property from the Bloomfield Township Assessing Department. A current assessment record is provided in Appendix D. No RECs were identified.

5.2.4 Building Permit/Inspections

ASTI requested information about the Subject Property from the Bloomfield Township Building Department. Reviewed records include limited information on electrical, mechanical, and building permits. Copies of records are provided in Appendix D.

5.2.5 Zoning/Land Use Records

ASTI reviewed information about the Subject Property from the Bloomfield Township Zoning Department. The Subject Property is zoned R-3 (One Family Residential District). A copy of the zoning map is provided in Appendix D.

5.2.6 Oil and Gas Wells

Based on a review of the EGLE GeoWebFace search system and the EDR report, no oil or gas wells were identified on or adjacent to the Subject Property.

5.3 Historical Use Information

Reasonably ascertainable historical sources, as outlined in Section 8.3.4 of ASTM Practice E1527-21, were utilized to determine the previous use of the Subject Property and its surrounding area. A chronological summary of the sources used may include, but is not limited to, aerial photographs, Sanborn maps, city directories, agency records, and prior environmental assessments. ASTI made a *good faith* effort to identify the obvious uses of the Subject Property from the present back to the Subject Property's first developed use, or back to 1940, whichever is earlier. *Data Failures* were encountered as part of this assessment and are discussed as data gaps in Section 9.0.

5.3.1 Aerial Photographs

ASTI reviewed aerial photographs provided by EDR. Observations about the Subject Property and adjoining sites are summarized in the table below. Copies of the obtained information are provided in Appendix E.

Year	Observations
1937	Subject Property: Farmland, woodland, a stream and a lowland area are evident. Remnants of an approximate 5-acre orchard are evident near the north-central area. The orchard is sparse and appears to be in decline.
	Adjoining: Rural land is evident. The area is dominated by farmland, and a highway is constructed to the east.
1940	No significant change is identified.
1949	Subject Property: A residence is evident near Franklin Road. The orchard is in further decline. A driveway is evident near Telegraph Road. The lowland area is more saturated.
	North Adjoining: Two residences and an outbuilding are evident.
	West Adjoining: A residence is evident.
1952	Subject Property: Additional dredging and driveways are evident near the lowland area.
	West Adjoining: Pre-development grading is evident.
1956	Subject Property: The lowland area resembles the current a pond.
	Adjoining: Residential use dominates the area.
1967	Subject Property: Two additional buildings are evident south of the residence.
1972	Subject Property: Trails are evident. The area is becoming overgrown with vegetation.
1976	No significant change is identified.
1983	
1987	
1997	Subject Property: The area is entirely overgrown with trees and vegetation. A barn and cabin are evident north of the pond. A larger building was constructed in place of the building north of the residence.
1999	Subject Property: A parking lot is evident north of the residence.
2005	No significant change is identified.
2009	Subject Property: The buildings south of the residence have been demolished. A building was replaced north of the residence. The parking lot was expanded.
2012	No significant change is identified.
2016	
2020	Subject Property: A lookout tower is evident near the northern boundary.
2024	No significant change is identified.

5.3.2 Sanborn Maps

There are no Sanborn maps for the area. A Certified Sanborn Map Report, which identifies the search results as unmapped, is included in Appendix D.

5.3.3 City Directories

City directory research was conducted by EDR (Appendix E). The non-residential occupant information was considered as part of the summaries provided in Sections 5.3.6 and 5.3.7.

5.3.4 Topographic Maps

ASTI reviewed the United States Geological Survey (USGS) topographic maps provided by EDR. Observations about the Subject Property and adjoining sites are summarized in the table below. Copies of the obtained information are provided in Appendix E.

Year	Observations
1907	The area is rural land. A building is evident on the Subject Property.
1936	The building on the Subject Property is no longer evident. Buildings are evident on the west adjoining site. The highway is constructed on the east adjoining site.
1943	No significant change is identified.
1952	A building is evident on the Subject Property near Franklin Road. Several buildings are evident at the north adjoining site.
1968	An orchard is depicted at the Subject Property.
1973	An additional building is evident at the Subject Property. A building is evident at the south adjoining site.
1983	No significant change is identified.
1997	
2014	Buildings are no longer included in map images. The orchard at the Subject Property is no longer depicted.
2017	No significant changes are evident.
2019	
2023	

5.3.5 Previous Environmental Reports

ASTI was not provided with any environmental reports.

5.3.6 Historical Use Summary of the Subject Property

Based on a review of the historical sources obtained, the former uses of the Subject Property are summarized as follows.

The Subject Property was developed with farmland or for residential use from at least 1937 until the late 1960s, when the area was repurposed for use as a nature center. Several buildings were constructed over time, including temporary education buildings, a barn, cabins, and a tower. An orchard was evident in the northern area of the Subject Property by 1937 but appeared left to fallow by 1940 and the area became dominated by natural woodlands by the early 1980s.

5.3.7 Historical Use Summary of the Adjoining Properties

Based on a review of the obtained historical sources, the former uses of adjoining properties are summarized as follows:

The area has been rural land with farmland with dwellings since the early 1900s. The east adjoining Telegraph Road was evident by the 1930s. The hunting club has operated on the west adjoining sites as early as the 1950s. Some addresses have been identified with home-based businesses, but they pose minimal environmental risk.

6.0 SITE RECONNAISSANCE

6.1 Methodology and Limiting Conditions

Assessor Name and Title	Brady Metzger, Environmental Technician
Date of Inspection	May 1, 2026
Weather Conditions	46 º F and cloudy
Methodology	ASTI inspected the Subject Property in a meander and search pattern, including all property boundaries, adjoining properties from the Subject Property, and public access areas.
Access Limitations	Untrimmed vegetation, storage, lighting
Adverse Subject Property Conditions	None

6.2 Exterior Observations

The following table summarizes the site's exterior observations. Observed items are further discussed below.

Category	Item	Item Observed
Above Ground Hazardous Substance/Petroleum Product Storage	Drums, barrels, or containers ≥5 gallons in connection with identified uses	No
	Drums, barrels, or containers ≥5 gallons not in connection with identified uses	No
	Unidentified Substance Containers	No
	ASTs	No
Underground Hazardous Substance/Petroleum Product Storage	USTs (fill ports and/or vent pipes)	No
	Fuel dispensers	No
	Natural gas or petroleum pipelines/wells	No
Basic & Specialized Systems	Pole-mounted or pad-mounted transformers	Yes
	Hydraulic equipment	No

Category	Item	Item Observed
Indications of Releases or Potential Releases	Stained soil or pavement	No
	Stressed vegetation	No
	Pools of liquid	No
	Strong or pungent odors	No
	Filled Land/Soil Piles/Mounding	No
	Unregulated/Unauthorized Waste Disposal	No
	Dumpsters with Staining	No
	Monitor wells	No
Drainage & Waste Collection Systems	Pits	No
	Ponds	Yes
	Lagoons	No
	Sumps/Oil-Water Separators	No
	Stormwater collection basins	No
	Dry wells/crocks/cisterns	No
Other Notable Items	None observed	N/A

Items noted as unobserved do not fully warrant that these items are not present on the Subject Property, as some items may not have been readily observable.

ASTI observed a pad-mounted transformer. The unit was in fair condition and is presumed to be owned by the local utilized provider.

ASTI observed a pond.

6.3 Interior Observations

The following table summarizes the site's interior observations. Observed items are further discussed below.

Category	Item	Item Observed
Above Ground Hazardous Substance/Petroleum Product Storage	Drums, barrels, or containers ≥5 gallons in connection with identified uses	No
	Drums, barrels, or containers ≥5 gallons not in connection with identified uses	No
	Unidentified Substance Containers	No
	ASTs	No
Underground Hazardous Substance/Petroleum Product Storage	USTs (fill ports and/or vent pipes)	No
	Dispensing Systems	No

Category	Item	Item Observed
Basic & Specialized Systems	Transformers	No
	Elevators	No
	Compressors	No
	Compactors	No
	Hydraulic Hoists/Lifts	No
	Hydraulic Equipment other than those above	No
	Emergency generators	No
Indications of Releases or Potential Releases	Staining	No
	Pools of liquid	No
	Strong or pungent odors	No
	Monitor wells	No
Drainage & Waste Collection Systems	Pits	No
	Standard floor drains	Yes
	Sumps/manhole covers/oil-water separators	Yes
	Trench drains	No
	Dry wells/crocks	No
Other Notable Items	None observed	N/A

Standard floor drains and a sump were observed. It presumed that they connect to municipal sewer service.

7.0 INTERVIEWS

7.1 Interview with Owner

ASTI requested the completion of an Owner Questionnaire; however, no response was received during the completion of this Phase I ESA.

7.2 Interview with Site Manager

ASTI interviewed Brian (last name not given), Operations with Bloomfield Hills School/Johnson Nature Center, during site reconnaissance on May 1, 2026. They explained site use and provided site access. No RECs were identified during the interview.

7.3 Interview with Occupants

The Subject Property is occupied for recreational use.

7.4 Interviews with Local Government Officials

Conversations with local government officials were limited to requesting department records.

7.5 Interviews with Others

No others were interviewed as part of this assessment.

8.0 Discussion Regarding Potential Vapor Migration/Encroachment

Tier 1 Non-Invasive screening aims to conduct an initial screen to determine whether a vapor migration/encroachment condition (VEC) exists, is likely to exist, cannot be ruled out, or can be ruled out at the Subject Property.

No onsite or offsite VEC concerns were identified.

The screening process concludes that a VEC can be ruled out because it does not or is unlikely to exist.

9.0 Data Failure and Data Gaps

Data gaps occur when the EP is unable to obtain the required information despite making a *good-faith* effort.

Data failure is one type of data gap. According to ASTM Practice E1527-21, data failure occurs when all the standard historical sources that are *reasonably ascertainable* and likely to be useful have been reviewed, and yet the objectives have not been met. Historical sources are required to document the property's use back to the Subject Property's first developed use or to 1940, whichever is earlier. A data failure is considered to have occurred and is described below.

Data Gap	The Subject Property was developed prior to the earliest reasonably ascertainable standard historical source.
Is this a significant data gap?	No
Rationale	The earliest identified uses were residential and agricultural.

No additional data gaps were identified during this investigation, except for those listed below.

Data Gap	ASTI was unable to interview the Owner despite a request to do so. ASTI requested the completion of an Owner Questionnaire as an interview tool, but no response was received during the completion of this Phase I ESA.

Is this a significant data gap?	No
Rationale	Given the history of the site as a residence, farm, and nature center, the reviewed information is sufficient to determine risk. If the Owner is available in the future, they should be interviewed.

Data Gap	ASTI requested the completion of a User Questionnaire to cover the obligations, but no response was received during the completion of this Phase I ESA.
Is this a significant data gap?	No
Rationale	Given the history of the site as a residence, farm, and nature center, the reviewed information is sufficient to determine risk.

Data Gap	ASTI was unable to determine past heating fuel sources for the Subject Property. The fuel sources may have included electric, wood, coal, propane, or fuel oil.
Is this a significant data gap?	No
Rationale	Although no evidence (i.e., fill ports, vent pipes, or pressure gauges, etc.) or information regarding the use of heating fuel was found during the assessment, based on the age of the former residences/buildings (built in the early 1900s and 1940s), there is a potential that heating oil was used as a fuel source prior to natural gas. If a buried heating oil fuel tank is found during any redevelopment activities, the tank should be properly decommissioned with verification sampling conducted.

Data Gap	The foundation type of the former dwelling is unknown. Dwellings can be built with the following foundations: concrete slab, crawl space, partial basement, and full basement.
Is this a significant data gap?	No
Rationale	The foundation type is unknown and there is no indication or evidence to suggest a specific foundation type based on interviews or reviewed municipal records and historical records. Outbuildings typically have concrete floors, wood floors, or earthen floors. Therefore, the risk of fill material is minimal. If it is found that the former building contained a basement and fill material is encountered in the future, an assessment of fill material can be performed to further reduce environmental risk.

10.0 FINDINGS AND OPINION

FINDINGS

Below is a summary of the findings of this Phase I ESA.

Subject Property - Uses

The Subject Property was developed with farmland or for residential use from at least 1937 until

the late 1960s, when the area was repurposed for use as a nature center. Several buildings were constructed over time, including temporary education buildings, a barn, cabins, and a tower. An orchard was evident in the northern area of the Subject Property by 1937 but appeared left to fallow by 1940 and the area became dominated by natural woodlands by the early 1980s.

Subject Property – County Records

ASTI requested information about the Subject Property from the Oakland County Health Department. Available records were provided on April 9, 2026, and copies are included Appendix D. The records included water well permits and several compliance documents regarding a Type II potable well. In the past, there was a failed test due to the detection of chloroform bacteria. The issue was corrected by cleaning the wells with chlorine treatments and follow-up testing confirmed the effectiveness.

Subject Property – Database Listings

Site Name	63-3325 Franklin Rd-Bloomfield Hills, WB-4316-1: El Johnson Pond: Lake Pro, Inc., WB-4316: El Johnson Pond
ASTM Listings	None
Non-ASTM Listings	Enviro
Location	No address
Documentation Requested/Reviewed	• RRD: Remediation and Redevelopment Division of EGLE • EGLE RIDE Mapper • MIEnviro Map Explorer
Summary of Findings	A permit authorized 10 cubic yards of fill for the construction of two pedestrian crossings of the Long Lake-Forest Lake Drain. A permit for the chemical treatment of the pond for aquatic nuisance control was issued in 2021 and was terminated in 2024 when chemical treatments were retired. Based on the reviewed information, these listings do not represent a REC to the Subject Property.

OPINION

Based on the site inspection, interviews, review of regulatory and municipal records, and examination of historical documentation, the following is opined by the EP.

<u>De Minimis Conditions</u>

The EP identified the following de minimis condition associated with the Subject Property.

- There appears to have been an approximate 5-acre orchard located on the north-central portion of the Subject Property, but its use was already in decline by 1937. The sparse orchard trees were evident into the 1970s, when they were overtaken by other trees and vegetation that make up the current woodland. Based on the observed operational window, and purpose for this Phase I ESA (no change in use), the former orchard is considered a de minimis condition. *Furthermore, there is a CERCLA liability exemption for pesticide application for the typical pesticide user when they have done nothing more than purchase and applied a pesticide in a customary manner; however, the burden of establishing entitlement rests on a defendant.*

Significant Data Gaps

The EP did not identify any significant data gaps associated with the Subject Property.

Historical Recognized Environmental Conditions

The EP did not identify any HRECs associated with the Subject Property.

Controlled Recognized Environmental Conditions

The EP did not identify any CRECs associated with the Subject Property.

Recognized Environmental Conditions

The EP did not identify any RECs associated with the Subject Property.

11.0 CONCLUSIONS

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 for the Subject Property. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. This assessment has not identified any RECs, CRECs, and/or significant data gaps in connection with the Subject Property.

There appears to have been an approximate 5-acre orchard located on the north-central portion of the Subject Property, but its use was already in decline by 1937. The sparse orchard trees were evident into the 1970s, when they were overtaken by other trees and vegetation that make up the current woodland. Based on the observed operational window, and purpose for this Phase I ESA (no change in use), the former orchard is considered a de minimis condition. *Furthermore, there is a CERCLA liability exemption for pesticide application for the typical pesticide user when*

they have done nothing more than purchase and applied a pesticide in a customary manner; however, the burden of establishing entitlement rests on a defendant.

12.0 ADDITIONAL SERVICES

Non-Scope Considerations under Appendix X6 of ASTM Practice E1527-21 were not addressed in this investigation.

13.0 REFERENCES

The following references were used in preparing this Phase I ESA:

- Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E1527-21
- 40 CFR Part 312: Standards and Practice for All Appropriate Inquiries; Final Rule (AAI), November 1, 2005
- EDR Radius Map Report with GeoCheck
- EDR Aerial Photo Decade Package
- EDR Certified Sanborn Map Report
- EDR-City Directory Image Report
- EDR Historical Topo Map Report
- Brian (last name not given), Operations, Bloomfield Hills School/Johnson Nature Center
- Assessing Department
- Building Department
- Fire Department
- Zoning Department
- Health Department
- LARA
- EGLE
- EGLE RRD Perfected Environmental Liens List https://www.michigan.gov/egle/about/organization/remediation-and-redevelopment/rrd-enforcement-perfected-lien-list
- EGLE GeoWebFace http://www.deq.state.mi.us/GeoWebFace/

- EGLE RIDE Mapper
  https://www.michigan.gov/egle/maps-data/ride-mapper
- EGLE WDS Website
  https://www.egle.state.mi.us/wdspi/home.aspx
- EGLE MiEnviro Portal
  https://www.michigan.gov/egle/maps-data/mienviroportal

14.0 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312.

I possess the specific qualifications, based on education, training, and experience, to assess the property in terms of its nature, history, and setting, specifically the Subject Property. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Anthony Spencer, EP
Environmental Project Manager
Date: June 15, 2026

Glossary

- *Business Environmental Risk:* A risk that can have a material environmental or environmentally driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in ASTM Practice E1527.
- *Controlled REC*: A recognized environmental condition affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities, with hazardous substances or petroleum products allowed to remain in place, subject to the implementation of required controls (for example, activity and use limitations or other property use limitations).
- *Data Gap: A lack of or inability to obtain information required by this practice, despite the EP's good faith efforts* to gather such information.
- *De Minimis Condition:* De minimis conditions refer to releases that generally do not pose a threat to human health or the environment and would not typically be the subject of an enforcement action if brought to the attention of relevant governmental agencies. Conditions deemed de minimis are neither RECs nor CRECs.
- *Environmental Condition:* ASTI defines an Environmental Condition as the presence or likely presence, currently or in the past, of a hazardous substance or petroleum product in, on, or at the Subject Property of which the Environmental Professional requires an opinion regarding the likelihood of a release to the environment to determine if a REC is present.
- *Good Faith:* The absence of any intention to see an unfair advantage or to defraud another party; an honest and sincere intention to fulfill one's obligations in the conduct or transaction concerned.
- *Hazardous Substance:* A substance defined as A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, B) any element, compound, mixture, solution, or substance designated to section 9602 of this title, C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the RCRA Act of 1976, as amended, D) any toxic pollutant listed under section 1317(a) to Title 33, E) any hazardous air pollutant listed under section 112 of the Clean Air Act, and F) any imminently hazardous chemical substance or mixture with respect to which the Administrator of the EPA has taken action pursuant to section 2606 of Title 15.
- *Historical REC*: A previous release of hazardous substances or petroleum products affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the Subject Property to any controls (for example, activity and use limitations or other property use limitations). HRECs are not considered to be RECs.
- *Material Threat: An obvious threat that is likely to lead to a release and that, in the opinion of the EP, would likely result in an adverse impact on* public health or the environment.
- *Migration*: The movement of hazardous substances or petroleum products in any form, including solids, liquids, and vapors at the surface or subsurface.
- *Petroleum Product:* Petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under Subparagraphs (A) through (F) of 42 U.S.C. 9601 (14), natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
- *Practically Reviewable: The information is provided by the source in a manner and form that, upon examination, yields relevant information about the Subject Property without requiring* extraordinary analysis of irrelevant data.
- *Subject Property:* The real property that is the subject of the environmental assessment described in ASTM Practice E1527. The User defines the real property boundaries, and these boundaries may not be consistent with the boundaries of a legal parcel.
- *Reasonably Ascertainable:* Information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable.
- *Recognized Environmental Conditio*n: (1) the presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release or likely release to the environment; or (3) the presence of hazardous substances or

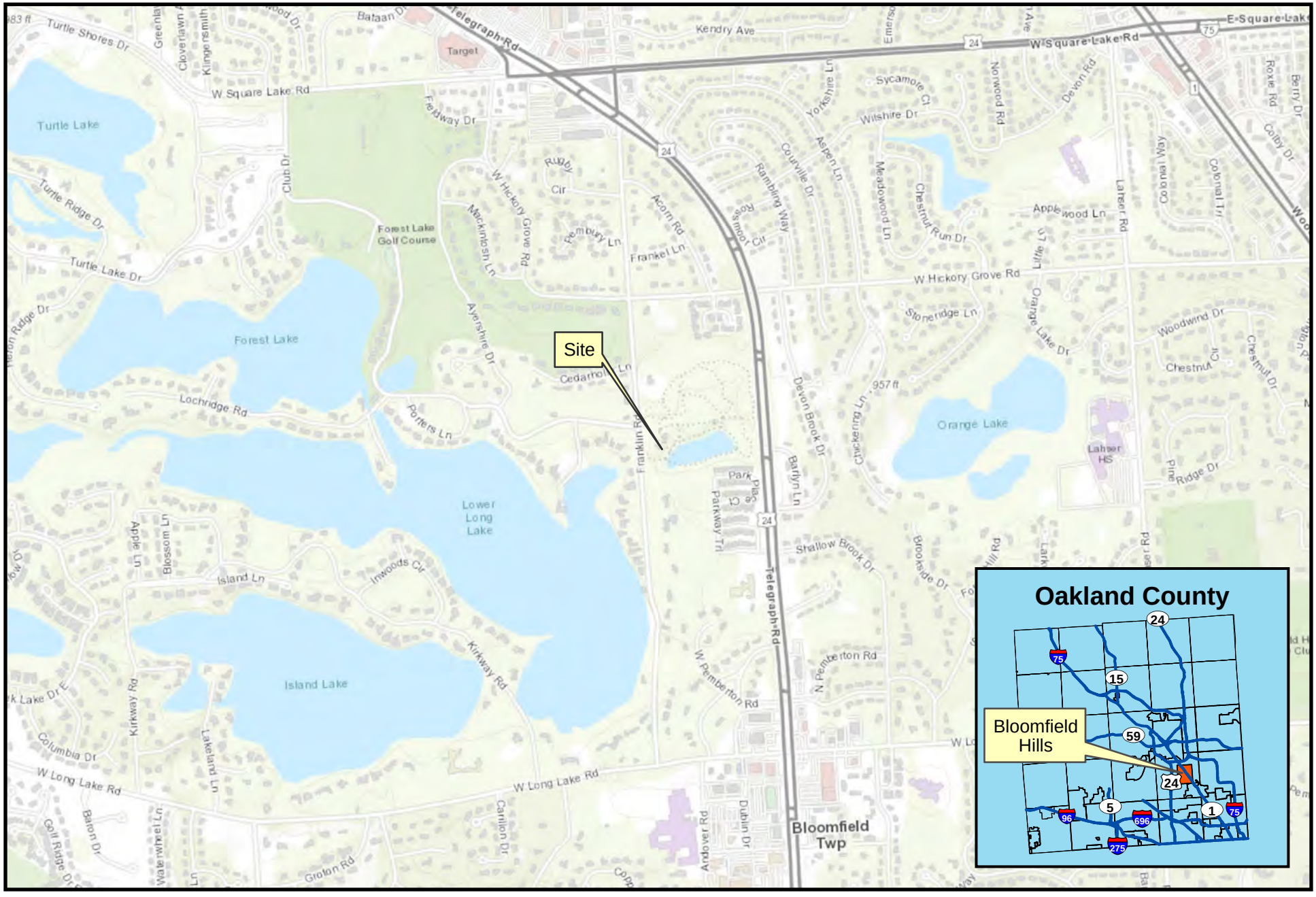
petroleum products in, on, or at the Subject Property under conditions that pose a material threat of a future release to the environment. For this definition, “likely” refers to that which is neither certain nor proven but can be expected or believed by a reasonable observer based on the logic and/or experience of the EP and/or available evidence, as stated in this report to support the opinions given herein. The term REC is not intended to include de minimis conditions.

- *Release*: Spilling, leaking, pumping, pouring, emitting, discharging, injecting, escaping, leaching, dumping, or disposing into the environment.
- *Significant Data Gap: A data gap that affects the environmental professional's ability* to identify a recognized environmental condition.

BO-E01 | Source page 29 of 393
Appendix 401

APPENDIX A

Figures
Site Location Map
Site Features Map



3325 Franklin Road

Bloomfield Hills, MI

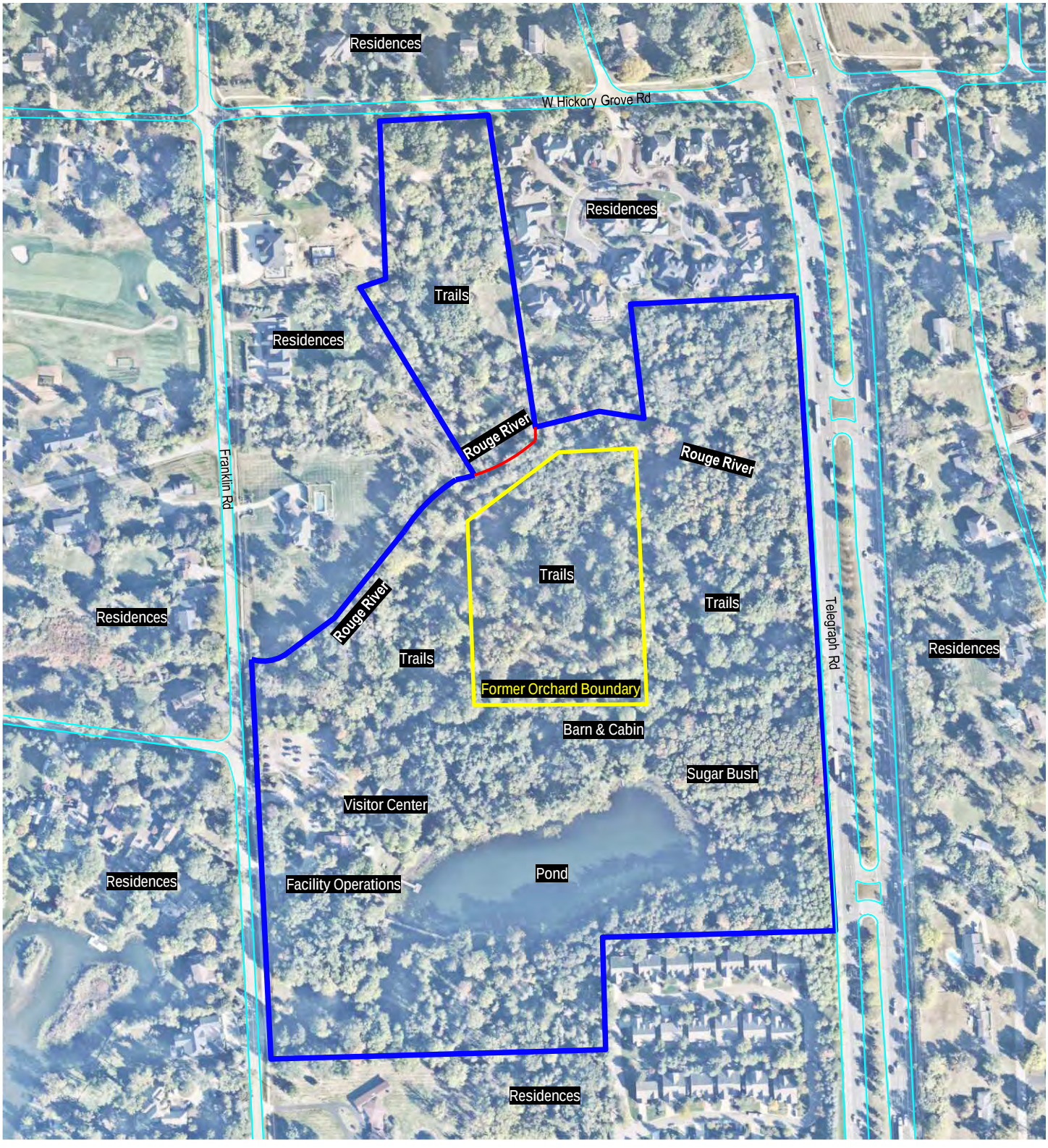
2,000 1,000 0 2,000 Feet

N

ASTI ENVIRONMENTAL

Created for: Oakland County Parks and Recreation
Created by: RMH, April 9, 2026, ASTI Project 26-0481.00

Site Location Map



0 162.5 325 650

SCALE: 1" = 325'
(paper size = 8.5x11)

LEGEND

- Approximate Property Boundary
- Right of Way
- Approximate Parcel Boundary

NORTH

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

3325 Franklin Road

Bloomfield Hills, MI

Client: Oakland County Parks & Recreation

ASTI Project P26-0481.00, June 12, 2026

Site Features Map

Drawn By: LAW

S:\PROJECTS\2026\26-0481.3325 FRANKLIN BLVD BLOOMFIELD HILLS\ENV\PH01 - PI\ESA\FIGURES\SFM.dwg PLOT DATE:6/12/2026 BY:Lucas Wright

APPENDIX B

Site Photographs

PHOTO LOG

3325 Franklin Road, Bloomfield Hills, Oakland County, Michigan 48302

	**Photo 1.** View of the east side of the nature center
	**Photo 2.** View of the west side of the nature center
	**Photo 3.** View of the north side of the nature center

ASTI Project No. P26-0481.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

3325 Franklin Road, Bloomfield Hills, Oakland County, Michigan 48302

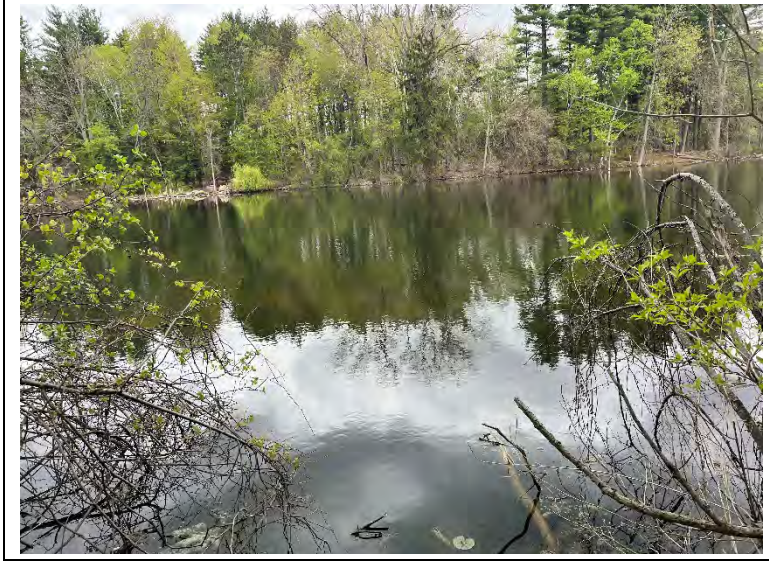
	**Photo 4.** A pad-mounted transformer located north of the nature center
	**Photo 5.** View of the west side of the house
	**Photo 6.** An example trail

ASTI Project No. P26-0481.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

3325 Franklin Road, Bloomfield Hills, Oakland County, Michigan 48302

	**Photo 7.** The sugarbush and example vegetation
	**Photo 8.** The dumpster
	**Photo 9.** The pond

ASTI Project No. P26-0481.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

3325 Franklin Road, Bloomfield Hills, Oakland County, Michigan 48302

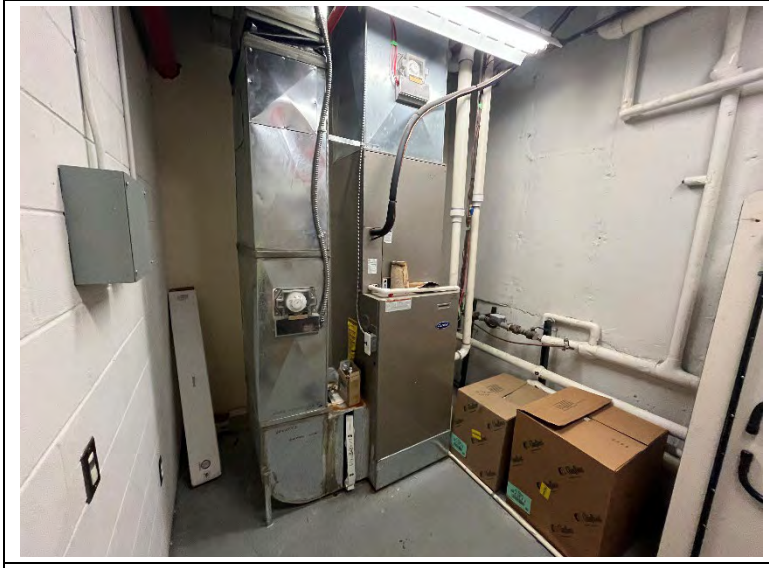
	**Photo 10.** The western boundary, facing south
	**Photo 11.** The northern boundary, facing west
	**Photo 12.** The eastern boundary, facing north

ASTI Project No. P26-0481.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

3325 Franklin Road, Bloomfield Hills, Oakland County, Michigan 48302

	**Photo 13.** The first floor of the nature center
	**Photo 14.** The furnace in the nature center
	**Photo 15.** An example floor drain in the nature center

ASTI Project No. P26-0481.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
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PHOTO LOG

3325 Franklin Road, Bloomfield Hills, Oakland County, Michigan 48302

	**Photo 16.** The water heater and janitor closet in the nature center
	**Photo 17.** The sump pump in the nature center
	**Photo 18.** The chemical storage area in the nature center

ASTI Project No. P26-0481.00
May 1, 2026
Photographed By Brady Metzger

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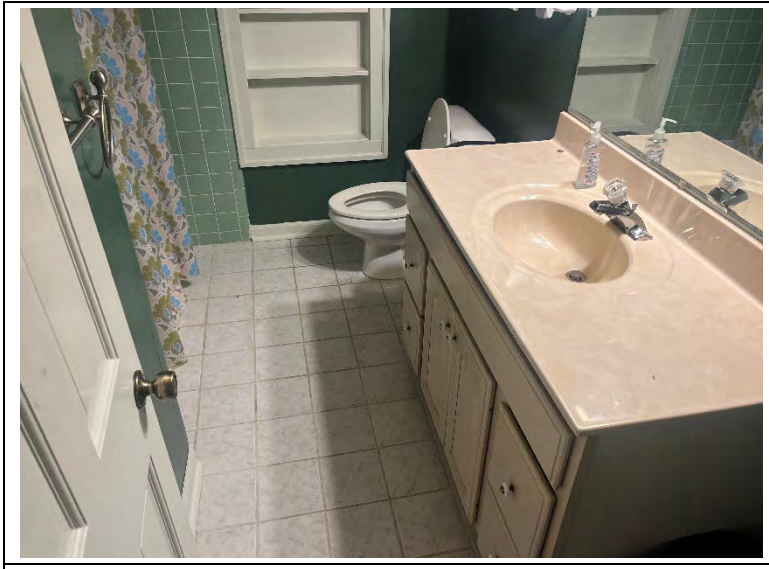
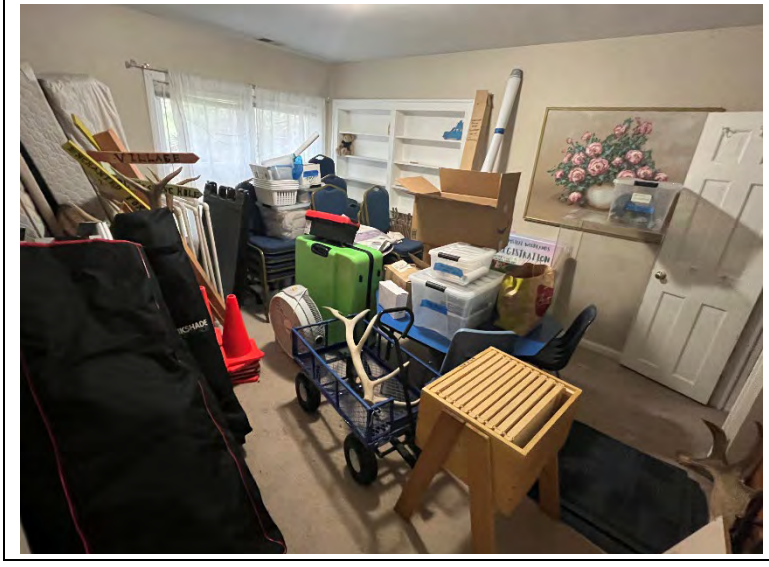
PHOTO LOG

3325 Franklin Road, Bloomfield Hills, Oakland County, Michigan 48302

	**Photo 19.** A bathroom in the house
	**Photo 20.** The furnace in the house
	**Photo 21.** A bedroom in the house being used for storage

ASTI Project No. P26-0481.00
May 1, 2026
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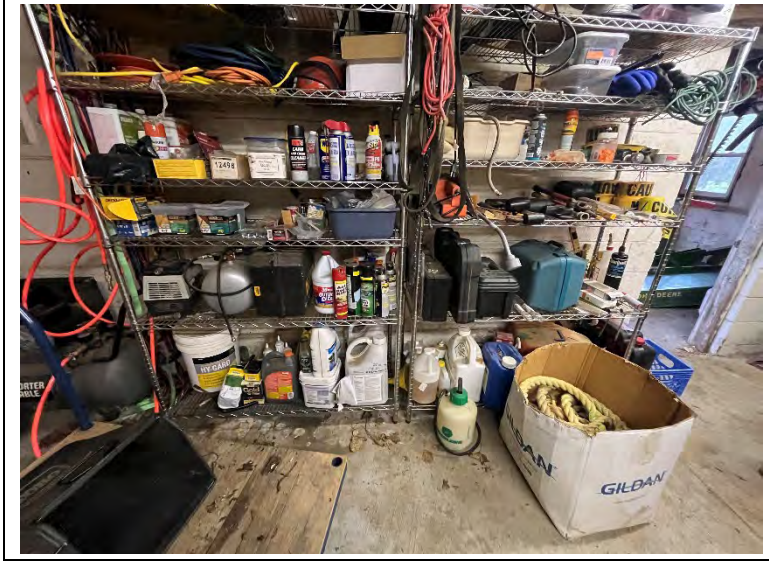
PHOTO LOG

3325 Franklin Road, Bloomfield Hills, Oakland County, Michigan 48302

	**Photo 22.** The water heater in the house
	**Photo 23.** The garage of the house
	**Photo 24.** Chemical storage in the garage of the house

ASTI Project No. P26-0481.00
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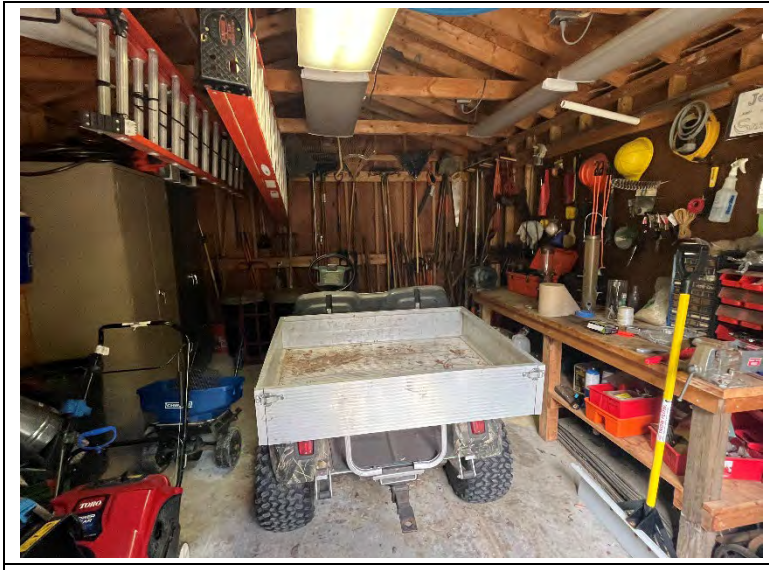
PHOTO LOG

3325 Franklin Road, Bloomfield Hills, Oakland County, Michigan 48302

	**Photo 25.** View of a maintenance shed
	**Photo 26.** Example of an adjoining dwelling
	**Photo 27.** Example of an adjoining dwelling

ASTI Project No. P26-0481.00
May 1, 2026
Photographed By Brady Metzger

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APPENDIX C

User-Provided Information and Interview Documentation

User Questionnaire (blank)

ASTI Project No. P26-0481.00
June 15, 2026

E1527 USER QUESTIONNAIRE

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfield's Revitalization Act of 2001 (the "Brownfields Amendments"), the User must conduct the following inquiries required by 40 CRF 312.25, 312.28, 312.29, 312.30, and 312.31. Failure to provide knowledge pertaining to this information could result in a determination that "all appropriate inquiry" is not completed. Please complete this questionnaire and return via email or fax to 810-225-3800. Details regarding "yes" responses should be provided with a brief explanation in the comment section.

Respondent Name:_____ **Signature:**_____

Date:_____

Subject Property Address: _____

ASTI Project #_____

Please answer all questions to the best of your knowledge and in good faith. Please provide details on comments to "yes" responses.

	Question	Response		Comments
		Yes	No	
1	Did a search of recorded land title records identify any environmental liens filed or recorded against the property under federal, tribe, state, or local law?	☐	☐	
2	Did a search of recorded land title records identify any Activity and Land Use Limitations such as engineering controls, land use restrictions, or institutional controls that are in place and/or have been filed in a recorded registry under federal, tribe, state, or local law?	☐	☐	
3	Do you have specialized knowledge or experiences related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and process used by this type of business?	☐	☐	
4	Is the purchase price significantly lower than the fair market value of the property? If you conclude there is a difference, have you considered whether a lower price is due to contamination known or believed to be present?	☐	☐	

Question			Response		Comments
			Yes	No	
5	Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of a release or threatened release?		☐	☐	
	5a	Do you know past uses of the property?	☐	☐	
	5b	Do you know specific chemicals that are present or once were present at the property?	☐	☐	
	5c	Do you know of spills or chemical releases that have occurred at the property?	☐	☐	
	5d	Do you know of any environmental cleanups that have taken place at the Property?	☐	☐	
	5e	Are there any obvious indicators that point to the presence or likely presence of contamination at the property?	☐	☐	
6	Are you aware of any prior environmental investigation reports that may be available for review?		☐	☐	

APPENDIX D

Regulatory Records Documentation
Assessing Department Records
EDR Radius Map Report with GeoCheck
EGLE RRD Perfected Lien Database Search Results
Township Response
County Health Department Records
Building Department Records
Zoning Department Records
EGLE Records

Parcel Number: C -19-09-301-051 Jurisdiction: CHARTER TOWNSHIP OF BLOOMF County: Oakland Printed on 04/13/2026

Grantor	Grantee	Sale Price	Sale Date	Inst. Type	Terms of Sale	Liber & Page	Verified By	Prcnt. Trans.

Property Address
3325 FRANKLIN RD

Owner's Name/Address
BLOOMFIELD HILLS SCHOOL DIST NO 2
E JOHNSON BLOOMFIELD HILLS NATURE C
4175 ANDOVER RD
BLOOMFIELD HILLS, MI 48302-1903

Tax Description *BALANCE OF LEGAL ON FILE
T2N, R10E, SEC 9 SUPERVISOR'S PLAT OF NORTH DEVON ACRES W 754 FT OF LOT 6, ALSO ALL OF LOTS 7, 8 & 15 EXC ELY 54 FT TAKEN FOR RD ALL DESC AS BEG AT PT DIST S 00-46 -51 W 2222.96 FT & S 88-25-00 E 52.29 FT FROM W 1/4 COR, TH N 00-38-00 E 0.78 FT, TH N 00-51-00 E 764.29 FT, TH N 00-48-03 E 161.86 FT TO A PT AT INTERSECTION OF ELY LINE OF FRANKLIN RD & CENTERLINE OF STREAM SD INTERSECTION LYING S 00-48-03 W 12.30 FT OF PT 'A' BEING INTERSECTION OF ELY LINE OF FRANKLIN RD & WLY END OF TRAV LINE, TH NELY 1149 FT M/L ALG CENTERLINE OF STREAM TO SW COR OF SD LOT 15 LYING S 02-05-29 E 16 FT OF PT 'B' BEING INTERSECTION OF ELY END OF TRAV LINE & WLY LINE OF SD LOT 15 LOC N 76-00-02 E 50.11 FT & N 47-41-16 E 679.66 FT & N 49-

Comments/Influences
ELEMENTARY SCHOOL

Class: COMMERCIAL-IMPROV Zoning:

School: BLOOMFIELD HILLS SCHOOL DIST

P.R.E. 0%

ITOnly:

2027 Est TCV Tentative

Building Permit(s)	Date	Number	Status

X Improved Vacant

Public Improvements

- Dirt Road
- Gravel Road
- Paved Road
- Storm Sewer
- Sidewalk
- Water
- Sewer
- Electric
- Gas
- Curb
- Street Lights
- Standard Utilities
- Underground Utils.

Topography of Site

- Level
- Rolling
- Low
- High
- Landscaped
- Swamp
- Wooded
- Pond
- Waterfront
- Ravine
- Wetland
- Flood Plain

Who	When	What

Land Value Estimates for Land Table 09600.Land Table 09600

Description	Frontage	Depth	* Factors * Front	Depth	Rate	%Adj.	Reason	Value
Schools	(02) 0 - 21,780	21,780	SqFt		15.00000	100		326,700
Schools	(03)Next 10,890	10,890	SqFt		15.00000	100		163,350
Schools	(04)Next 10,890	10,890	SqFt		15.00000	100		163,350
Schools	(05)Next 21,780	21,780	SqFt		15.00000	100		326,700
Schools	(06)Next 21,780	21,780	SqFt		15.00000	100		326,700
Schools	(07)Next 43,560	43,560	SqFt		2.00000	100		87,120
Schools	(08)Balance SF 1,382,507		SqFt		2.00000	100		2,765,01
34.74 Total Acres							Total Est. Land Value =	4,158,934

Land Improvement Cost Estimates

Description	Rate	Size	% Good	Cash Value
Gazeboo(s): Standard	9,870.00	1	67	6,613
D/W/P: Asphalt Paving	3.22	27739	67	59,844
Unit in Place Item(s)				
Description	Rate	Size	% Good	Cash Value
CCT-CoveredConcrTerr	7.68	1095	67	5,635
Total Estimated Land Improvements True Cash Value =				72,092

Year	Land Value	Building Value	Assessed Value	Board of Review	Tribunal/ Other	Taxable Value
2027	Tentative	Tentative	Tentative			Tentative
2026	EXEMPT	EXEMPT	EXEMPT			EXEMPT
2025	0	0	0			0
2024	0	0	0			0

Building Type
X Single Family
Mobile Home
Town Home
Duplex
A-Frame
None

Building Style: Ranch

Yr Built	Remodeled
1973	0

Condition: Good

Room List
Basement
1st Floor
2nd Floor
Bedrooms

(1) Exterior
Wood/Shingle
Aluminum/Vinyl
Brick
Insulation

(2) Windows

Many	Large
Ave.	Ave.
Few	Small

Wood Sash
Metal Sash
Vinyl Sash
Double Hung
Horiz. Slide
Casement
Double Glass
Patio Doors
Storms & Screens

(3) Roof

Gable	Gambrel
Hip	Mansard
Flat	Shed

Ashphalt Shingle
Chimney:

(3) Roof (cont.)
Eavestrough
Insulation
0 Front Overhang
0 Other Overhang

(4) Interior

Drywall	Plaster
Paneled	Wood T&G

Trim & Decoration

Ex	Ord	Min

Size of Closets

Lg	Ord	Small

Doors	Solid	H.C.

(5) Floors
Kitchen:
Other:
Other:

(6) Ceilings

(7) Excavation
Basement: 0 S.F.
Crawl: 0 S.F.
Slab: 2170 S.F.
Height to Joists: 0.0

(8) Basement
Conc. Block
Poured Conc.
Stone
Treated Wood
Concrete Floor

(9) Basement Finish
Recreation SF
Living SF
Walkout Doors (B)
No Floor SF
0 Walkout Doors (A)

(10) Floor Support
Joists:
Unsupported Len:
Cnts.Sup:

(11) Heating/Cooling

Gas	Oil	Elec.
Wood	Coal	Steam

X Forced Air w/o Ducts
Forced Air w/ Ducts
Forced Hot Water
Electric Baseboard
Elec. Ceil. Radiant
Radiant (in-floor)
Electric Wall Heat
Space Heater
Wall/Floor Furnace
Forced Heat & Cool
Heat Pump
No Heating/Cooling
Central Air
Wood Furnace

(12) Electric
0 Amps Service

No./Qual. of Fixtures

Ex.	Ord.	Min

No. of Elec. Outlets

Many	Ave.	Few

(13) Plumbing
Average Fixture(s)
2 3 Fixture Bath
1 2 Fixture Bath
Softner, Auto
Softner, Manual
Solar Water Heat
No Plumbing
Extra Toilet
Extra Sink
Separate Shower
Ceramic Tile Floor
Ceramic Tile Wains
Ceramic Tub Alcove
Vent Fan

(14) Water/Sewer
Public Water
Public Sewer
Water Well
1000 Gal. Septic
2000 Gal. Septic
Lump Sum Items:

(15) Built-ins
Appliance Allow.
Cook Top
Dishwasher
Garbage Disposal
Bath Heater
Vent Fan
Hot Tub
Unvented Hood
Vented Hood
Intercom
Jacuzzi Tub
Jacuzzi repl.Tub
Oven
Microwave
Standard Range
Self Clean Range
Sauna
Trash Compactor
Central Vacuum
Security System

(15) Fireplaces
Interior 1 Story
Interior 2 Story
2nd/Same Stack
Two Sided
Exterior 1 Story
Exterior 2 Story
Prefab 1 Story
Prefab 2 Story
Heat Circulator
Raised Hearth
Wood Stove
Direct-Vented Ga

Class: C
Effec. Age: 53
Floor Area: 2170
Total Base New: 363,017 E.C.F.
Total Depr Cost: 184,806 X 0.927
Estimated T.C.V.: 171,315

(16) Porches/Decks

Area	Type
52	CCP (1 Story)
216	CPP
120	CGEP (1 Story)
374	Treated Wood

(17) Garage
Year Built:
Car Capracity:
Class: C
Exterior: Siding
Brick Ven.: 0
Stone Ven.: 0
Common Wall: Detache
Foundation: 18 Inch
Finished ?:
Auto. Doors: 2
Mech. Doors: 0
Area: 1008
% Good: 67
Storage Area: 0
No Conc. Floor: 0

Bsmnt Garage:
Carport Area:
Roof:

Cost Est. for Res. Bldg: 1 Single Family Ranch Cls C Blt 1973

(11) Heating System: Forced Air w/o Ducts
Ground Area = 2170 SF Floor Area = 2170 SF.
Phy/Ab.Phy/Func/Econ/Comb. % Good=47/100/100/100/47

Building Areas

Stories	Exterior	Foundation	Size	Cost New	Depr. Cost	
1 Story	Siding	Slab	2,170			
			Total:	284,005	133,481	
Other Additions/Adjustments						
Plumbing						
3 Fixture Bath			1	4,833	2,272	
2 Fixture Bath			1	3,234	1,520	
Deck						
Treated Wood			374	6,496	4,352	*67%
Garages						
Class: C Exterior: Siding Foundation: 18 Inch (Unfinished)						
Base Cost			1008	35,038	23,475	*67%
Door Opener			2	1,137	762	
Class: D Exterior: Siding Foundation: 18 Inch (Unfinished)						
Base Cost			287	11,314	7,580	*67%
Door Opener			2	895	600	
Porches						
CCP (1 Story)			52	1,767	1,184	*67%
CPP			216	4,331	2,902	*67%
CGEP (1 Story)			120	9,967	6,678	*67%
			Totals:	363,017	184,806	

Notes:
<<<<< Calculations too long. See Valuation printout for complete pricing. >>>>>

*** Information herein deemed reliable but not guaranteed***

Desc. of Bldg/Section
Calculator Occupancy Museum

Class: C
Floor Area: 2,458
Gross Bldg Area: 2,458
Stories Above Grd: 1
Average Sty Hght: 12
Bsmnt Wall Hght: 9

Depr. Table : 2%
Effective Age : 53
Physical %Good : 40
Func. %Good : 100
Economic %Good : 100

0 Year Built
0 Remodeled

0 Overall Bldg Height

Comments:

Construction Cost

Fa	High	Fa	Above Ave.	Fa	Ave.	Fa	Low

** ** Calculator Cost Data ** **

Quality: Average
Heat#1: No Heating or Cooling 100
Heat#2: No Heating or Cooling 0%
Ave. SqFt/Story: 2458
Ave. Perimeter: 218
Has Elevators: False

*** Basement Info ***

Area: 2458
Perimeter: 218
Type: Finished
Heat: Hot Water, Radiant Floor

* Mezzanine Info *

Area #1:
Type #1:
Area #2:
Type #2:

* Sprinkler Info *

Area: 2458
Type: Average

Cost Estimates for Commercial/Industrial Building/Section: 1 Built 0

Costs are taken from the Museum cost schedules.
<<<<< Calculator Cost Computations >>>>>
Class: C Quality: Average
Stories: 1 Story Height: 12 Perimeter: 218

Base Rate for Upper Floors = 188.85
Finished Basement, Base Rate for Basement = 90.58
(Basement Fireproofing Rate = 0.00)

(10) Heating system: No Heating or Cooling Cost/SqFt: 0 100%
Bsmnt Heating system: Hot Water, Radiant Floor Cost/SqFt: 25.37
Adjusted Square Foot Cost for Upper Floors = 188.85
Adjusted Square Foot Cost for Basement = 115.95

Total Floor Area: 2,458 Base Cost New of Upper Floors = 464,193
Basement Area: 2458 Base Cost New of Basement = 285005

2458 Sq.Ft. of Sprinklers @ 7.68, Cost New = 18877

Reproduction/Replacement Cost = 768,075
Eff.Age:53 Phy.%Good/Abnr.Phy./Func./Econ./Overall %Good: 40 /100/100/100/40.0
Total Depreciated Cost = 307,230

ECF (E.C.F. Table 09600School) 1.000 => TCV of Bldg: 1 = 307,230
Replacement Cost/Floor Area= 312.48 Est. TCV/Floor Area= 124.99

(1) Excavation/Site Prep:

(2) Foundation: Footings

F	Poured Conc	Fa	Brick/Stone	Fa	Block

(3) Frame:

(4) Floor Structure:

(5) Floor Cover:

(6) Ceiling:

(7) Interior:

(8) Plumbing:

Fal	Many	Fal	Average	Fal	Few
Fal	Above Ave.	Fal	Typical	Fal	None

	Total Fixtures		Urinals
	3-Piece Baths		Wash Bowls
	2-Piece Baths		Water Heaters
	Shower Stalls		Wash Fountains
	Toilets		Water Softeners

(9) Sprinklers:

(10) Heating and Cooling:

F	Gas	Fa	Coal	Fa	Hand Fired
F	Oil	Fa	Stoker	Fa	Boiler

(11) Electric and Lighting:

	Outlets:		Fixtures:
Fa	Few	Fal	Few
Fa	Average	Fal	Average
Fa	Many	Fal	Many
Fa	Unfinished	Fal	Unfinished
Fa	Typical	Fal	Typical
Fa	Flex Conduit	Fal	Incandescent
Fa	Rigid Conduit	Fal	Fluorescent
Fa	Armored Cable	Fal	Mercury
Fa	Non-Metalic	Fal	Sodium Vapor
Fa	Bus Duct	Fal	Transformer

(13) Roof Structure: Slope=

(14) Roof Cover:

(39) Miscellaneous:

(40) Exterior Wall:

Thickness		Bsmnt Insul.

*** Information herein deemed reliable but not guaranteed***

3325 Franklin Rd
3325 Franklin Rd
Bloomfield Hills, MI 48302

Inquiry Number: 8305563.2s
April 07, 2026

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

FORM-LBC-DLU

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LIGHTBOX LIVE

Open LightBox Live to access data, tools, and advanced analytics in one online platform.

http://www.web.edrnet.com/ordering/switchboard/login.aspx?s=goto_lightbox&pguid=66B877BE-7CF2-46D3-BB6B-B6AF7A7B8C68

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 23), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

COORDINATES

Latitude (North):	42.5919030 - 42° 35' 30.85''
Longitude (West):	83.2841960 - 83° 17' 3.10''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	312582.1
UTM Y (Meters):	4717812.5
Elevation:	936 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	50029944 PONTIAC SOUTH, MI
Version Date:	2023

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2024
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	63-3325 FRANKLIN RD-	3325 FRANKLIN RD	ENVIRO		TP
A2	WB-4316-1: EL JOHNSO	3325 FRANKLIN ROAD	ENVIRO		TP
3	WB-4316: EL JOHNSON		ENVIRO		TP
4	970 WEST LONG LAKE R	970 WEST LONG LAKE R	PART 201, BEA	Lower	3134, 0.594, SSE
5	META DEVELOPMENT COM	2555 SOUTH TELEGRAPH	DEL PART 201	Higher	3149, 0.596, NNW
6	KROGER CO OF MICHIGA	4099 TELEGRAPH RD	PART 201, INVENTORY, BEA, MANIFEST, WDS	Lower	3539, 0.670, SSE
B7	2343 TELEGRAPH ROAD	2343 TELEGRAPH ROAD	DEL PART 201	Higher	5122, 0.970, NNW
B8	2343 SOUTH TELEGRAPH	2343 SOUTH TELEGRAPH	PART 201, MANIFEST, WDS, ENVIRO	Higher	5122, 0.970, NNW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
63-3325 FRANKLIN RD- 3325 FRANKLIN RD BLOOMFLD HLS, MI 48302	ENVIRO	N/A
WB-4316-1: EL JOHNSO 3325 FRANKLIN ROAD BLOOMFIELD HILLS, MI 48302	ENVIRO	N/A
WB-4316: EL JOHNSON OAKLAND (County), MI	ENVIRO	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---------- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS ---------- Corrective Action Report

EXECUTIVE SUMMARY

Lists of Federal RCRA TSD facilities

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROLS ---------- Institutional Controls Sites List

Federal ERNS list

ERNS ---------- Emergency Response Notification System

Lists of state- and tribal hazardous waste facilities

SHWS ---------- This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF ---------- Solid Waste Facilities Database

Lists of state and tribal leaking storage tanks

LUST ---------- Leaking Underground Storage Tank Sites
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

Lists of state and tribal registered storage tanks

FEMA UST ---------- Underground Storage Tank Listing
UST ---------- Underground Storage Tank Facility List
AST ---------- Aboveground Tanks
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

AUL ---------- Engineering and Institutional Controls

Lists of state and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing

Lists of state and tribal brownfield sites

BROWNFIELDS ---------- Brownfields and UST Site Database

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

EXECUTIVE SUMMARY

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF	Inactive Solid Waste Facilities
SWRCY	Recycling Facilities
INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
ODI	Open Dump Inventory
IHS OPEN DUMPS	Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL	Delisted National Clandestine Laboratory Register
INVENTORY	Inventory of Facilities
CDL	Clandestine Drug Lab Listing
US CDL	National Clandestine Laboratory Register

Local Land Records

LIENS	Lien List
LIENS 2	CERCLA Lien Information

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
PEAS	Pollution Emergency Alerting System

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees

INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
MINES MRDS	Mineral Resources Data System
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
UXO	Unexploded Ordnance Sites
ECHO	Enforcement & Compliance History Information
DOCKET HWC	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM	EPA Fuels Program Registered Listing
PFAS NPL	Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES	Federal Sites PFAS Information
PFAS TSCA	PFAS Manufacture and Imports Information
PFAS TRIS	List of PFAS Added to the TRI
PFAS RCRA MANIFEST	PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR	PFAS Contamination Site Location Listing
PFAS WQP	Ambient Environmental Sampling for PFAS
PFAS NPDES	Clean Water Act Discharge Monitoring Information
PFAS PROJECT	NORTHEASTERN UNIVERSITY PFAS PROJECT
PFAS ECHO	Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAIN	Facilities in Industries that May Be Handling PFAS Listing
PFAS PT 139 AIRPORT	All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC	Aqueous Foam Related Incidents Listing
BIOSOLIDS	ICIS-NPDES Biosolids Facility Data
UST FINDER RELEASE	UST Finder Releases Database
UST FINDER	UST Finder Database
E MANIFEST	Hazardous Waste Electronic Manifest System
PFAS	PFAS Contaminated Sites Listing
AQUEOUS FOAM	Aqueous Film Forma Foam Listing
AIRS	Permit and Emissions Inventory Data
ASBESTOS	ASBESTOS
BEA	Baseline Environmental Assessment Database
COAL ASH	Coal Ash Disposal Sites
DRYCLEANERS	Drycleaning Establishments
Financial Assurance	Financial Assurance Information Listing
LEAD	Lead Safe Housing Registry
MANIFEST	Hazardous Waste Manifest Data
NPDES	List of Active NPDES Permits
UIC	Underground Injection Wells Database
WDS	Waste Data System
SSCUP	State Owned Sites Cleanup Program List
DRYCLEANERS	Drycleaner Facility Listing
ABAND AIRFIELDS	Abandoned & Little-Known Airfields Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner	EDR Exclusive Historical Cleaners

EXECUTIVE SUMMARY

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA PART 201 ---------- Recovered Government Archive State Hazardous Waste Facilities List
RGA LF ---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

PART 201: A Part 201 Listed site is a location that has been evaluated and scored by the DEQ using the Part 201 scoring model. The location is or includes a "facility" as defined by Part 201, where there has been a release of a hazardous substance(s) in excess of the Part 201 residential criteria, and/or where corrective actions have not been completed under Part 201 to meet the applicable cleanup criteria for unrestricted residential use. The Part 201 List does not include all of the sites of contamination that are subject to regulation under Part 201 because owners are not required to inform the DEQ about the sites and can pursue cleanup independently. Sites of environmental contamination that are not known to DEQ are not on the list, nor are sites with releases that resulted in low environmental impact.

A review of the PART 201 list, as provided by EDR, and dated 01/12/2026 has revealed that there are 3 PART 201 sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
2343 SOUTH TELEGRAPH	***2343 SOUTH TELEGRAPH***	***NNW 1/2 - 1 (0.970 mi.)***	***B8***	***18***
Facility ID: 63005363				
Facility ID: 63501662				

Lower Elevation	Address	Direction / Distance	Map ID	Page
970 WEST LONG LAKE R	***970 WEST LONG LAKE R***	***SSE 1/2 - 1 (0.594 mi.)***	***4***	***13***
Facility ID: 63501667				
KROGER CO OF MICHIGA	***4099 TELEGRAPH RD***	***SSE 1/2 - 1 (0.670 mi.)***	***6***	***14***
Facility ID: 63501007				

EXECUTIVE SUMMARY

DEL PART 201: A deleted site has been removed from the Part 201 List because information known to the DEQ at the time of the evaluation does not support inclusion on the Part 201 List. This designation is often applied to sites where changes in cleanup criteria resulted in a determination that the site no longer exceeds any applicable cleanup criterion. A delisted site has been removed from the Part 201 List because response actions have reduced the levels of contaminants to concentrations which meet or are below the criteria for unrestricted residential use.

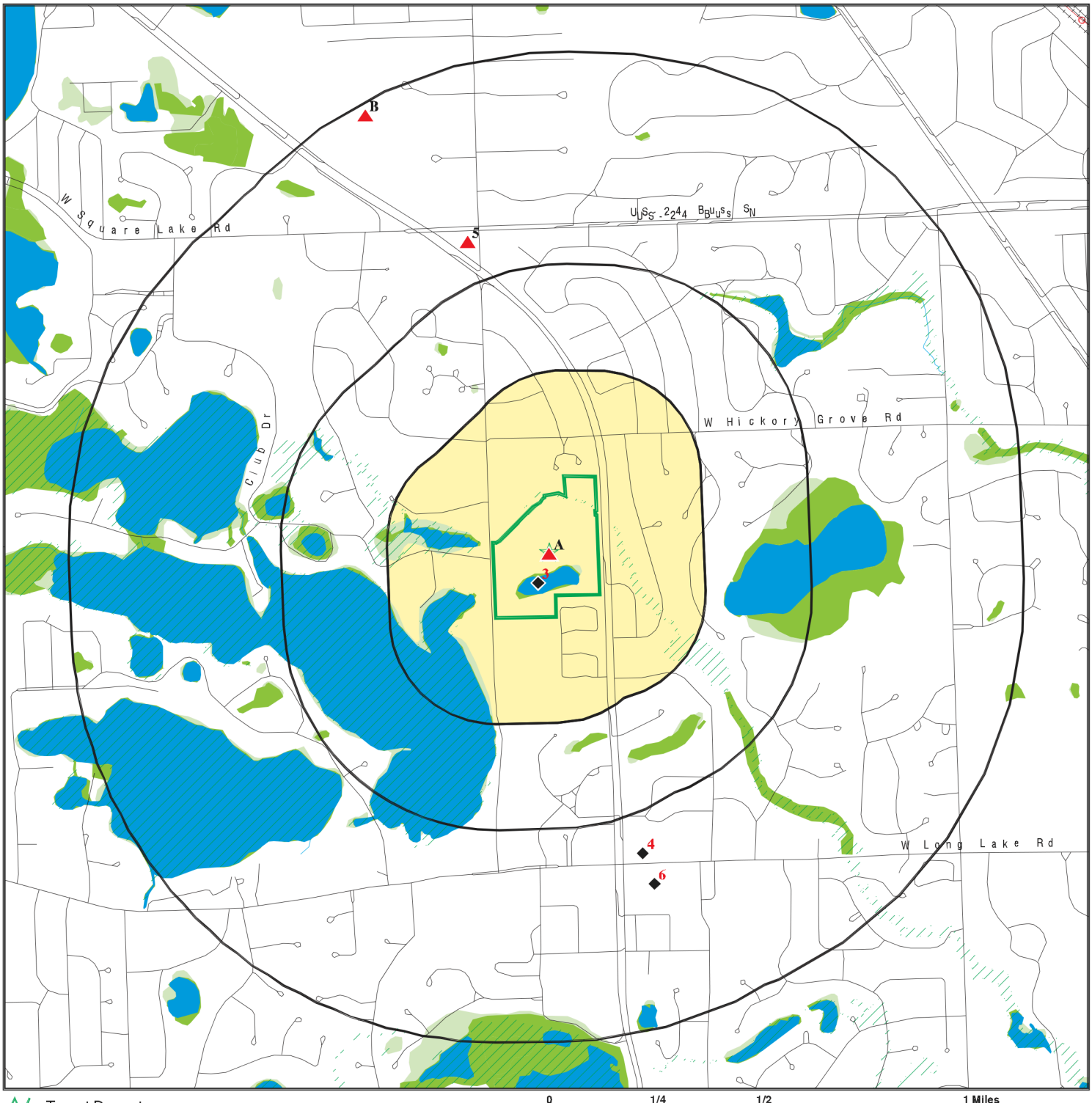
A review of the DEL PART 201 list, as provided by EDR, and dated 01/12/2026 has revealed that there are 2 DEL PART 201 sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
META DEVELOPMENT COM Facility Id: 63005320	2555 SOUTH TELEGRAPH	NNW 1/2 - 1 (0.596 mi.)	5	14
2343 TELEGRAPH ROAD Facility Id: 63005439	2343 TELEGRAPH ROAD	NNW 1/2 - 1 (0.970 mi.)	B7	17

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 8305563.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 3325 Franklin Rd	CLIENT: Applied Science & Technology
ADDRESS: 3325 Franklin Rd Bloomfield Hills MI 48302	CONTACT: Alyssa Celano
LAT/LONG: 42.591903 / 83.284196	INQUIRY #: 8305563.2s DATE: April 07, 2026 5:39 pm

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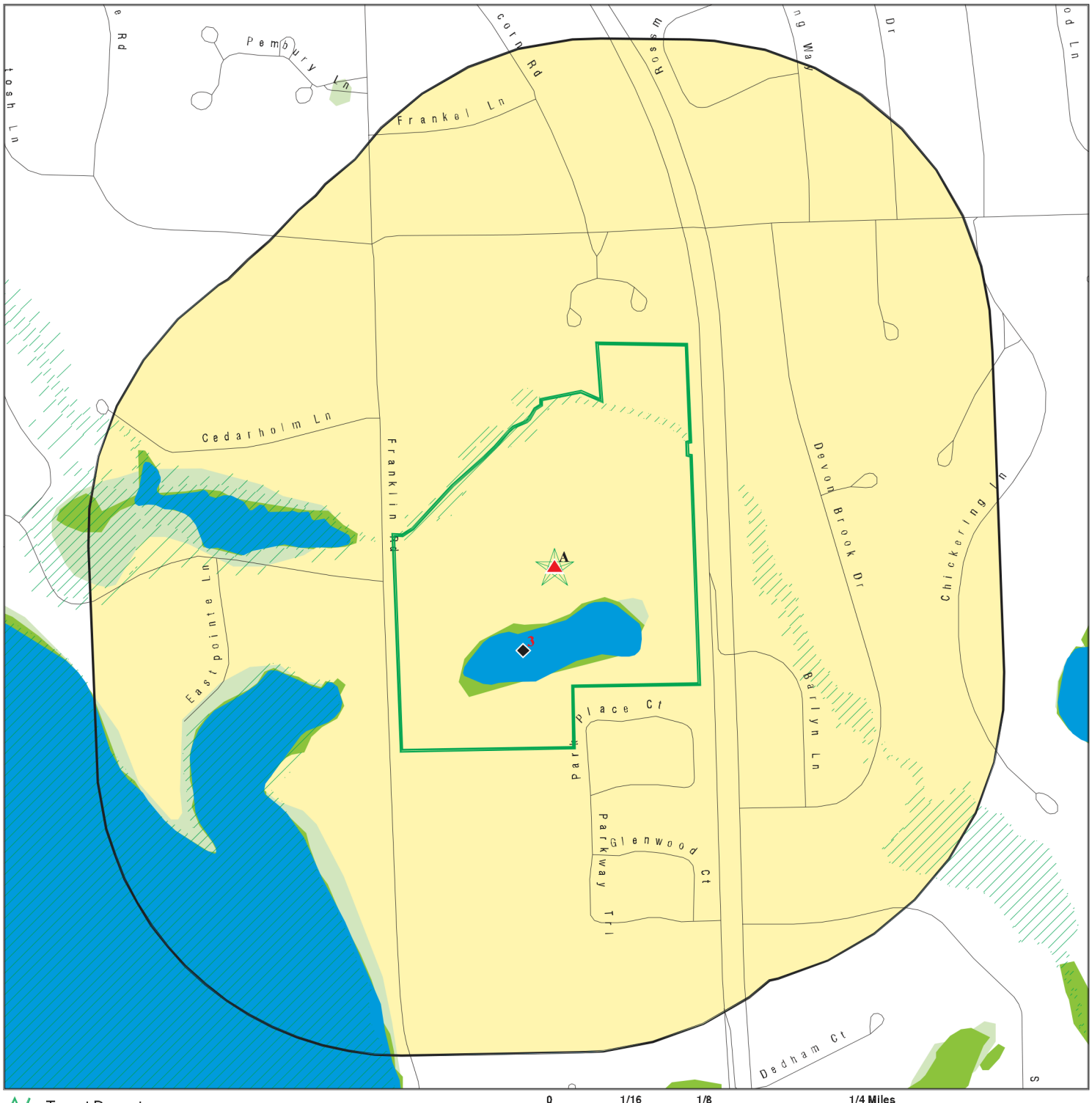
DETAIL MAP - 8305563.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	3325 Franklin Rd	CLIENT:	Applied Science & Technology
ADDRESS:	3325 Franklin Rd Bloomfield Hills MI 48302	CONTACT:	Alyssa Celano
		INQUIRY #:	8305563.2s
LAT/LONG:	42.591903 / 83.284196	DATE:	April 07, 2026 5:40 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal hazardous waste facilities								
SHWS	1.000		0	0	0	0	NR	0
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
AUL	0.500		0	0	0	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
HIST LF	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
INVENTORY	0.500		0	0	0	NR	NR	0
PART 201	1.000		0	0	0	3	NR	3
CDL	0.001		0	NR	NR	NR	NR	0
DEL PART 201	1.000		0	0	0	2	NR	2
US CDL	0.001		0	NR	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
PEAS	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS PROJECT	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAIN	0.250		0	0	NR	NR	NR	0
PFAS PT 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST FINDER RELEASE	0.500		0	0	0	NR	NR	0
UST FINDER	0.250		0	0	NR	NR	NR	0
E MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM	0.250		0	0	NR	NR	NR	0
AIRS	0.001		0	NR	NR	NR	NR	0
ASBESTOS	0.001		0	NR	NR	NR	NR	0
BEA	0.500		0	0	0	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
LEAD	0.001		0	NR	NR	NR	NR	0
MANIFEST	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
SSCUP	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
ABAND AIRFIELDS	0.500		0	0	0	NR	NR	0
ENVIRO	0.001	3	0	NR	NR	NR	NR	3
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA PART 201	0.001		0	NR	NR	NR	NR	0
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		3	0	0	0	5	0	8

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **63-3325 FRANKLIN RD-BLOOMFIELD HILLS** **ENVIRO** **S129609640**
Target **3325 FRANKLIN RD** **N/A**
Property **BLOOMFLD HLS, MI 48302**

Site 1 of 2 in cluster A

Actual:
936 ft.

ENVIRO:

Site Number:	5YSA-DD0V-585
Site ID:	-4562506466841112902
Name:	63-3325 FRANKLIN RD-BLOOMFIELD HILLS
Address:	3325 Franklin Rd
Address 2:	E.L. Johnson Nature Center
Latitude:	42.5935
Longitude:	-83.2847
Site URL:	Not reported

Document File:

Site ID:	-4562506466841112902
Document ID:	-7832505395703290015
Document Name:	RPT_Ped Bridge Hydraulic Study_2020_0810_v2.pdf
Document Type:	Form Submission Attachments
Document Description:	Application/Request: HNW-A3EW-T6E43. Upload a copy of the Hydraulic Report and Associated Files
Document Date:	8/10/2020 12:00:00 AM
Site Number:	5YSA-DD0V-585

URL:

Site ID:	-4562506466841112902
Document ID:	-3042912013814745778
Document Name:	HNW-A3EW-T6E43 V2.pdf
Document Type:	Misc. Application and Request Docs
Document Description:	Application/Request: HNW-A3EW-T6E43. Submission PDF
Document Date:	8/10/2020 12:00:00 AM
Site Number:	5YSA-DD0V-585

URL:

Site ID:	-4562506466841112902
Document ID:	341983921229557513
Document Name:	ME_Tepatti_Ped Bridge JPA Cmt Response_2020_0512_v2.pdf
Document Type:	Form Submission Attachments
Document Description:	Application/Request: HNW-A3EW-T6E43. Upload any additional information as needed to provide information applicable to your project regarding project purpose sequence, methods, alternatives, or compensation.
Document Date:	8/10/2020 12:00:00 AM
Site Number:	5YSA-DD0V-585

URL:

Site ID:	-4562506466841112902
Document ID:	2487261064516724534
Document Name:	HNW-A3EW-T6E43 V1.pdf
Document Type:	Misc. Application and Request Docs
Document Description:	Application/Request: HNW-A3EW-T6E43. Submission PDF
Document Date:	2/4/2020 12:00:00 AM
Site Number:	5YSA-DD0V-585

URL:

63-3325 FRANKLIN RD-BLOOMFIELD HILLS (Continued) **S129609640**

Site ID: -4562506466841112902
Document ID: -344036665570300491
Document Name: Permit Authorization Email with Letter_v1.pdf
Document Type: Form Submission Attachments
Document Description: Application/Request: HNW-A3EW-T6E43. Upload Attachment for Authorization from Agent
Document Date: 8/10/2020 12:00:00 AM
Site Number: 5YSA-DD0V-585

URL:

Site ID: -4562506466841112902
Document ID: 1677055840890930741
Document Name: Placard (WORD).pdf
Document Type: Resource Permit Docs
Document Description: Permit: WRP024492 v1.0 (In Effect). Issued Placard
Document Date: 8/25/2020 12:00:00 AM
Site Number: 5YSA-DD0V-585

URL:

Site ID: -4562506466841112902
Document ID: -344036665570300491
Document Name: Permit Authorization Email with Letter_v2.pdf
Document Type: Form Submission Attachments
Document Description: Application/Request: HNW-A3EW-T6E43. Upload Attachment for Authorization from Agent
Document Date: 8/10/2020 12:00:00 AM
Site Number: 5YSA-DD0V-585

URL:

Site ID: -4562506466841112902
Document ID: 1629522766838592028
Document Name: Dan Badgley, Bloomfield Hills Schools Plans.pdf
Document Type: Resource Permit Docs
Document Description: Permit: WRP024492 v1.0 (In Effect). Permitted Plans
Document Date: 8/25/2020 12:00:00 AM
Site Number: 5YSA-DD0V-585

URL:

Site ID: -4562506466841112902
Document ID: 8146061391520729623
Document Name: Site Location with Fill_v1.pdf
Document Type: Form Submission Attachments
Document Description: Application/Request: HNW-A3EW-T6E43. nForm Document
Document Date: 2/3/2020 12:00:00 AM
Site Number: 5YSA-DD0V-585

URL:

Site ID: -4562506466841112902
Document ID: 1258827585274282753
Document Name: HEC-RAS Files_v1.zip
Document Type: Form Submission Attachments
Document Description: Application/Request: HNW-A3EW-T6E43. nForm Document

63-3325 FRANKLIN RD-BLOOMFIELD HILLS (Continued) **S129609640**

Document Date: 2/3/2020 12:00:00 AM
Site Number: 5YSA-DD0V-585

URL:

Site ID: -4562506466841112902
Document ID: -2064950754511272530
Document Name: Site Location with Fill_2020_08_10_v2.pdf
Document Type: Form Submission Attachments
Document Description: Application/Request: HNW-A3EW-T6E43. Upload Site Plans and Cross Section Drawings for your Proposed Project
Document Date: 8/10/2020 12:00:00 AM
Site Number: 5YSA-DD0V-585

URL:

Click this hyperlink while viewing on your computer to access
4 additional MI ENVIRO: record(s) in the EDR Site Report.

A2 Target Property **WB-4316-1: EL JOHNSON POND: LAKE PRO, INC.** **ENVIRO** **S129570730**
3325 FRANKLIN ROAD **N/A**
BLOOMFIELD HILLS, MI 48302

Site 2 of 2 in cluster A

Actual: 936 ft.

ENVIRO:
Site Number: 7A7E7948-6DC2
Site ID: -2920304655055004214
Name: WB-4316-1: EL JOHNSON POND: LAKE PRO, INC.
Address: 3325 Franklin Road
Address 2: Not reported
Latitude: 42.591
Longitude: -83.2842
Site URL: Not reported

Document File:
Site ID: -2920304655055004214
Document ID: -5856981676698956944
Document Name: 2019 Tx Report Map - EL JOHNSON_v1.pdf
Document Type: Applicant Attachments
Document Description: Permit / Compliance Schedule: HNV-JGB1-BJ4FZ. Chemical Table Template and Treatment Map(s) Upload
Document Date: 11/26/2019 12:00:00 AM
Site Number: 7A7E7948-6DC2

URL:

Site ID: -2920304655055004214
Document ID: -2200264669280956854
Document Name: ANC9806709 El Johnson Pond.pdf
Document Type: ANC Permits Docs
Document Description: Permit: ANC9806709 v1.0 (Terminated).
Document Date: 5/11/2021 12:00:00 AM
Site Number: 7A7E7948-6DC2

URL:

WB-4316-1: EL JOHNSON POND: LAKE PRO, INC. (Continued) **S129570730**

Site ID: -2920304655055004214
Document ID: 1389178693503266401
Document Name: Permit Map_v1.pdf
Document Type: Form Submission Attachments
Document Description: Application/Request: HP7-RZQG-4PDRT. nForm Document
Document Date: 4/7/2021 12:00:00 AM
Site Number: 7A7E7948-6DC2

URL:

Site ID: -2920304655055004214
Document ID: -6845484139099837072
Document Name: EL Johnson Permit Map_v1.pdf
Document Type: Applicant Attachments
Document Description: Application/Request: 2MP-HC8X-N01V. EL Johnson Permit Map.pdf
Document Date: 1/12/2017 12:00:00 AM
Site Number: 7A7E7948-6DC2

URL:

Site ID: -2920304655055004214
Document ID: -6213781397104498345
Document Name: HP4-FP14-CTQT7 V1.pdf
Document Type: Misc. Application and Request Docs
Document Description: Permit / Compliance Schedule: HP4-FP14-CTQT7. Submission PDF
Document Date: 11/23/2020 12:00:00 AM
Site Number: 7A7E7948-6DC2

URL:

Site ID: -2920304655055004214
Document ID: 6185044447559980705
Document Name: EL Johnson - Treatment Map_v1.pdf
Document Type: Applicant Attachments
Document Description: Permit / Compliance Schedule: HN9-NMJH-N6Y04. EL Johnson - Treatment Map.docx
Document Date: 11/27/2017 12:00:00 AM
Site Number: 7A7E7948-6DC2

URL:

Site ID: -2920304655055004214
Document ID: 930218380491802283
Document Name: EL Johnson Auth Form_v1.pdf
Document Type: Applicant Attachments
Document Description: Application/Request: 2MP-HC8X-N01V. EL Johnson Auth Form.pdf
Document Date: 1/12/2017 12:00:00 AM
Site Number: 7A7E7948-6DC2

URL:

Site ID: -2920304655055004214
Document ID: 8808697484074579233
Document Name: HN9-NMJH-N6Y04 V1.pdf
Document Type: Misc. Application and Request Docs
Document Description: Permit / Compliance Schedule: HN9-NMJH-N6Y04.
Document Date: 11/27/2017 12:00:00 AM

WB-4316-1: EL JOHNSON POND: LAKE PRO, INC. (Continued) **S129570730**

Site Number: 7A7E7948-6DC2

URL:

Site ID: -2920304655055004214
Document ID: -6328347436559221688
Document Name: RC ANC Review Worksheet ADA 2021 v2.pdf
Document Type: ANC Application Docs
Document Description: Application/Request: HP7-RZQG-4PDRT. EL Johnson Pond Review Worksheet
Document Date: 5/10/2021 12:00:00 AM
Site Number: 7A7E7948-6DC2

URL:

Site ID: -2920304655055004214
Document ID: -8805401391189701245
Document Name: 2020 Tx Report Map - EL JOHNSON_v1.pdf
Document Type: Form Submission Attachments
Document Description: Permit / Compliance Schedule: HP4-FP14-CTQT7. Chemical Table Template and Treatment Map(s) Upload
Document Date: 11/23/2020 12:00:00 AM
Site Number: 7A7E7948-6DC2

URL:

Site ID: -2920304655055004214
Document ID: 1354388420891019427
Document Name: EL Johnson Nature Center - 2019 Tx Report_v1.pdf
Document Type: Applicant Attachments
Document Description: Permit / Compliance Schedule: HNV-JGB1-BJ4FZ. Chemical Table Template and Treatment Map(s) Upload
Document Date: 11/26/2019 12:00:00 AM
Site Number: 7A7E7948-6DC2

URL:

Click this hyperlink while viewing on your computer to access
16 additional MI ENVIRO: record(s) in the EDR Site Report.

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3 **WB-4316: EL JOHNSON POND** **ENVIRO** **S129778695**
Target Property **N/A**
OAKLAND (County), MI

Actual: 904 ft.

ENVIRO:
Site Number: A65B0AA9-714D
Site ID: 3386630774773344382
Name: WB-4316: EL JOHNSON POND
Address: Not reported
Address 2: Not reported
Latitude: 42.5909
Longitude: -83.2847
Site URL: Not reported

4
SSE
1/2-1
0.594 mi.
3134 ft.

970 WEST LONG LAKE ROAD, BLOOMFIELD HILLS
970 WEST LONG LAKE ROAD
BLOOMFIELD HILLS, MI 48302

PART 201 **S132637649**
BEA **N/A**

Relative:
Lower

Actual:
929 ft.

PART 201:

Name:	970 WEST LONG LAKE ROAD, BLOOMFIELD HILLS
Address:	970 WEST LONG LAKE ROAD
City,State,Zip:	BLOOMFIELD HILLS, MI 48302
Facility ID:	63501667
Facility Status:	Not reported
Latitude:	42.58176431
Source:	Not reported
Longitude:	-83.27986533
SAM Score:	Not reported
SAM Score Date:	Not reported
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter:	Not reported
Quarter/Quarter:	Not reported
Pollutants:	Not reported
Location Type:	201
Work Unit:	Not reported
Project Manager:	Ethridge, Kimberly
Risk Condition:	Inadequate Data to Assign Risk

BEA:

Name:	970 WEST LONG LAKE ROAD, BLOOMFIELD HILLS
Address:	970 WEST LONG LAKE ROAD
City,State,Zip:	BLOOMFIELD HILLS, MI 48302
Secondary Address:	Not reported
BEA Number:	Not reported
District:	Not reported
Date Received:	12/09/2024
Submitter Name:	Not reported
Petition Determination:	Not reported
Petition Disclosure:	Not reported
Category:	Not reported
Determination 20107A:	Not reported
Reviewer:	Not reported
Division Assigned:	Not reported
Location ID:	63501667
Submittal Type:	Not reported
Submittal Number:	63501667-BEA-1
Approval Status:	Reviewed
Workflow Status:	Processed
Date Submitted:	12/06/2024
Date Completed:	Not reported
Township:	Not reported
Work Unit:	Warren
Comments:	Not reported
Organization:	Blue River PetCare
Contact:	Jain, Roy
Contact Type:	Not reported
Organization Street Address:	1 S. Wacker Drive, Suite 2200, Chicago, IL, 60606
Organization City:	Chicago
Organization State:	MI

970 WEST LONG LAKE ROAD, BLOOMFIELD HILLS (Continued) **S132637649**

Organization Zip Code:	60606
Organization County:	Not reported
Contact Street Address:	1 S. Wacker Drive, Suite 2200
Contact City:	Chicago
Contact Zip Code:	60606
Contact State:	IL

5
NNW
1/2-1
0.596 mi.
3149 ft.

META DEVELOPMENT COMPANY
2555 SOUTH TELEGRAPH
BLOOMFIELD HILLS, MI 48302

DEL PART 201 **S114028698**
N/A

Relative:
Higher

Actual:
947 ft.

DEL_PART201:

Name:	META DEVELOPMENT COMPANY
Address:	2555 SOUTH TELEGRAPH
City,State,Zip:	BLOOMFIELD HILLS, MI 48302
Facility ID:	63005320
Latitude:	42.601739
Longitude:	-83.286153
Township:	Not reported
Source:	Not reported
Pollutants:	Not reported
SAM Score:	Not reported
SAM Score Date:	Not reported
Range:	Not reported
Section:	Not reported
Quarter:	Not reported
Quarter/Quarter:	Not reported
Facility Status:	Not reported
Location Type:	201
Work Unit:	Not reported
Project Manager:	Ethridge, Kimberly
Risk Condition:	Risks Not Determined

6
SSE
1/2-1
0.670 mi.
3539 ft.

KROGER CO OF MICHIGAN
4099 TELEGRAPH RD
BLOOMFIELD TOWNSHIP, MI 48302

PART 201
INVENTORY
BEA
MANIFEST
WDS

S112451842
N/A

Relative:
Lower

Actual:
918 ft.

PART 201:

Name:	4099 TELEGRAPH ROAD
Address:	4099 TELEGRAPH ROAD
City,State,Zip:	MI 48302
Facility ID:	63501007
Facility Status:	Not reported
Latitude:	42.58037624
Source:	Not reported
Longitude:	-83.27934293
SAM Score:	Not reported
SAM Score Date:	Not reported
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter:	Not reported

KROGER CO OF MICHIGAN (Continued) **S112451842**

Quarter/Quarter:	Not reported
Pollutants:	Not reported
Location Type:	201
Work Unit:	Not reported
Project Manager:	Ethridge, Kimberly
Risk Condition:	Risks Present and Require Action in Short-term

INVENTORY:

Name:	4099 TELEGRAPH ROAD
Address:	4099 TELEGRAPH ROAD
City,State,Zip:	MI 48302
Township:	Bloomfield
District:	Warren
Data Source:	Risks Present and Require Action in Short-term
Lust Name:	Not reported
Regulatory Program:	201
Release Status:	Not reported
Project Manager:	Ethridge, Kimberly
Latitude:	42.58037624
Longitude:	-83.27934293

BEA:

Name:	4099 TELEGRAPH ROAD
Address:	4099 TELEGRAPH ROAD
City,State,Zip:	MI 48302
Secondary Address:	Not reported
BEA Number:	Not reported
District:	Not reported
Date Received:	10/11/2016
Submitter Name:	Not reported
Petition Determination:	Not reported
Petition Disclosure:	Not reported
Category:	Not reported
Determination 20107A:	Not reported
Reviewer:	Not reported
Division Assigned:	Not reported
Location ID:	63501007
Submittal Type:	Baseline Environmental Assessment
Submittal Number:	B201607304LV
Approval Status:	RRD Received
Workflow Status:	Submitted
Date Submitted:	10/24/2016
Date Completed:	Not reported
Township:	Bloomfield Hills
Work Unit:	Warren
Comments:	BEA submitted on CD and paper
Organization:	The Kroger Company of Michigan
Contact:	Not reported
Contact Type:	Not reported
Organization Street Address:	Not reported
Organization City:	Not reported
Organization State:	Not reported
Organization Zip Code:	Not reported
Organization County:	Not reported
Contact Street Address:	Not reported
Contact City:	Not reported

KROGER CO OF MICHIGAN (Continued) **S112451842**

Contact Zip Code: Not reported
Contact State: Not reported

MI MANIFEST:
Generator Site ID Manifest: MIK439629841
Name: KROGER CO OF MICHIGAN
Address: 4099 TELEGRAPH RD
City,State,Zip: BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number: 016646666JJK
Manifest Date: 01/30/2018
Transporter Site ID Manifest: MIK435642742
Transporter Site Legal Name Site Table: EQ INDUSTRIAL SERVICES INC
TSD Site ID Manifest: MID980991566
TSD Site Legal Name Site Table: EQ DETROIT INC
Container Number: Not reported
Container Type: Not reported
Total Quantity: 7
Unit Of Measure: P
Waste Number: D002
Waste Number 2: Not reported
Waste Number 3: Not reported
Waste Number 4: Not reported
Waste Number 5: Not reported
Waste Number 6: Not reported

Generator Site ID Manifest: MIK439629841
Name: KROGER CO OF MICHIGAN
Address: 4099 TELEGRAPH RD
City,State,Zip: BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number: 016646666JJK
Manifest Date: 01/30/2018
Transporter Site ID Manifest: MIK435642742
Transporter Site Legal Name Site Table: EQ INDUSTRIAL SERVICES INC
TSD Site ID Manifest: MID980991566
TSD Site Legal Name Site Table: EQ DETROIT INC
Container Number: Not reported
Container Type: Not reported
Total Quantity: 1
Unit Of Measure: P
Waste Number: D009
Waste Number 2: Not reported
Waste Number 3: Not reported
Waste Number 4: Not reported
Waste Number 5: Not reported
Waste Number 6: Not reported

Generator Site ID Manifest: MIK439629841
Name: KROGER CO OF MICHIGAN
Address: 4099 TELEGRAPH RD
City,State,Zip: BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number: 016646666JJK
Manifest Date: 01/30/2018
Transporter Site ID Manifest: MIK435642742
Transporter Site Legal Name Site Table: EQ INDUSTRIAL SERVICES INC
TSD Site ID Manifest: MID980991566
TSD Site Legal Name Site Table: EQ DETROIT INC
Container Number: Not reported

KROGER CO OF MICHIGAN (Continued) **S112451842**

Container Type:	Not reported
Total Quantity:	27
Unit Of Measure:	P
Waste Number:	D001
Waste Number 2:	D035
Waste Number 3:	D002
Waste Number 4:	Not reported
Waste Number 5:	Not reported
Waste Number 6:	Not reported

WDS:

Name:	KROGER CO OF MICHIGAN
Address:	4099 TELEGRAPH RD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Site Id:	MIK439629841
WMD Id:	483383
Site Specific Name:	KROGER STORE #656
Mailing Address:	4111 EXECUTIVE PKWY
Mailing City/State/Zip:	43081
Mailing County:	Not reported

B7 **2343 TELEGRAPH ROAD** **DEL PART 201** **S114028811**
NNW **2343 TELEGRAPH ROAD** **N/A**
1/2-1 **BLOOMFIELD, MI 48302**
0.970 mi.
5122 ft. **Site 1 of 2 in cluster B**

Relative:
Higher

Actual:
942 ft.

DEL_PART201:

Name:	2343 TELEGRAPH ROAD
Address:	2343 TELEGRAPH ROAD
City,State,Zip:	BLOOMFIELD, MI 48302
Facility ID:	63005439
Latitude:	42.606907
Longitude:	-83.293318
Township:	Not reported
Source:	Not reported
Pollutants:	Not reported
SAM Score:	Not reported
SAM Score Date:	Not reported
Range:	Not reported
Section:	Not reported
Quarter:	Not reported
Quarter/Quarter:	Not reported
Facility Status:	Not reported
Location Type:	201
Work Unit:	Not reported
Project Manager:	Unassigned, Southeast MI
Risk Condition:	Risks Not Determined

B8 **2343 SOUTH TELEGRAPH ROAD** **PART 201** **S112451563**
NNW **2343 SOUTH TELEGRAPH ROAD** **MANIFEST** **N/A**
1/2-1 **BLOOMFIELD TOWNSHIP, MI 48302** **WDS**
0.970 mi. **ENVIRO**
5122 ft. **Site 2 of 2 in cluster B**

Relative:
Higher

Actual:
942 ft.

PART 201:

Name:	COSTCO WHOLESALE
Address:	2343 SOUTH TELEGRAPH ROAD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Facility ID:	63005363
Facility Status:	Not reported
Latitude:	42.60703891
Source:	Not reported
Longitude:	-83.29264405
SAM Score:	Not reported
SAM Score Date:	Not reported
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter:	Not reported
Quarter/Quarter:	Not reported
Pollutants:	Not reported
Location Type:	201
Work Unit:	Not reported
Project Manager:	Ethridge, Kimberly
Risk Condition:	Risks Present and Require Action in Short-term

Name:	2343 SOUTH TELEGRAPH ROAD
Address:	2343 SOUTH TELEGRAPH ROAD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Facility ID:	63501662
Facility Status:	Not reported
Latitude:	42.60700626
Source:	Not reported
Longitude:	-83.29266224
SAM Score:	Not reported
SAM Score Date:	Not reported
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter:	Not reported
Quarter/Quarter:	Not reported
Pollutants:	Not reported
Location Type:	201
Work Unit:	Not reported
Project Manager:	Unassigned, Warren
Risk Condition:	Risks Controlled-Interim

MI MANIFEST:

Generator Site ID Manifest:	MIR000017392
Name:	COSTCO WHOLESALE CORPORATION
Address:	2343 S TELEGRAPH RD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number:	005038489FLE
Manifest Date:	06/15/2018
Transporter Site ID Manifest:	MIK435642742
Transporter Site Legal Name Site Table:	EQ INDUSTRIAL SERVICES INC
TSD Site ID Manifest:	MID980991566

2343 SOUTH TELEGRAPH ROAD (Continued) **S112451563**

TSD Site Legal Name Site Table:	EQ DETROIT INC
Container Number:	Not reported
Container Type:	Not reported
Total Quantity:	1200
Unit Of Measure:	P
Waste Number:	D018
Waste Number 2:	Not reported
Waste Number 3:	Not reported
Waste Number 4:	Not reported
Waste Number 5:	Not reported
Waste Number 6:	Not reported

Generator Site ID Manifest:	MIR000017392
Name:	COSTCO WHOLESALE CORPORATION
Address:	2343 S TELEGRAPH RD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number:	010130811FLE
Manifest Date:	03/09/2018
Transporter Site ID Manifest:	Not reported
Transporter Site Legal Name Site Table:	Not reported
TSD Site ID Manifest:	MID980615298
TSD Site Legal Name Site Table:	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
Container Number:	Not reported
Container Type:	Not reported
Total Quantity:	94
Unit Of Measure:	P
Waste Number:	D001
Waste Number 2:	D018
Waste Number 3:	Not reported
Waste Number 4:	Not reported
Waste Number 5:	Not reported
Waste Number 6:	Not reported

Generator Site ID Manifest:	MIR000017392
Name:	COSTCO WHOLESALE CORPORATION
Address:	2343 S TELEGRAPH RD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number:	010130812FLE
Manifest Date:	03/09/2018
Transporter Site ID Manifest:	Not reported
Transporter Site Legal Name Site Table:	Not reported
TSD Site ID Manifest:	MID980615298
TSD Site Legal Name Site Table:	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
Container Number:	Not reported
Container Type:	Not reported
Total Quantity:	11
Unit Of Measure:	P
Waste Number:	D001
Waste Number 2:	Not reported
Waste Number 3:	Not reported
Waste Number 4:	Not reported
Waste Number 5:	Not reported
Waste Number 6:	Not reported

Generator Site ID Manifest:	MIR000017392
Name:	COSTCO WHOLESALE CORPORATION
Address:	2343 S TELEGRAPH RD

2343 SOUTH TELEGRAPH ROAD (Continued) **S112451563**

City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number:	010130812FLE
Manifest Date:	03/09/2018
Transporter Site ID Manifest:	Not reported
Transporter Site Legal Name Site Table:	Not reported
TSD Site ID Manifest:	MID980615298
TSD Site Legal Name Site Table:	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
Container Number:	Not reported
Container Type:	Not reported
Total Quantity:	24
Unit Of Measure:	P
Waste Number:	D001
Waste Number 2:	Not reported
Waste Number 3:	Not reported
Waste Number 4:	Not reported
Waste Number 5:	Not reported
Waste Number 6:	Not reported

Generator Site ID Manifest:	MIR000017392
Name:	COSTCO WHOLESALE CORPORATION
Address:	2343 S TELEGRAPH RD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number:	010130812FLE
Manifest Date:	03/09/2018
Transporter Site ID Manifest:	Not reported
Transporter Site Legal Name Site Table:	Not reported
TSD Site ID Manifest:	MID980615298
TSD Site Legal Name Site Table:	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
Container Number:	Not reported
Container Type:	Not reported
Total Quantity:	1
Unit Of Measure:	P
Waste Number:	P001
Waste Number 2:	Not reported
Waste Number 3:	Not reported
Waste Number 4:	Not reported
Waste Number 5:	Not reported
Waste Number 6:	Not reported

Generator Site ID Manifest:	MIR000017392
Name:	COSTCO WHOLESALE CORPORATION
Address:	2343 S TELEGRAPH RD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number:	010130812FLE
Manifest Date:	03/09/2018
Transporter Site ID Manifest:	Not reported
Transporter Site Legal Name Site Table:	Not reported
TSD Site ID Manifest:	MID980615298
TSD Site Legal Name Site Table:	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
Container Number:	Not reported
Container Type:	Not reported
Total Quantity:	1
Unit Of Measure:	P
Waste Number:	P001
Waste Number 2:	Not reported
Waste Number 3:	Not reported
Waste Number 4:	Not reported

2343 SOUTH TELEGRAPH ROAD (Continued) **S112451563**

Waste Number 5:	Not reported
Waste Number 6:	Not reported
Generator Site ID Manifest:	MIR000017392
Name:	COSTCO WHOLESALE CORPORATION
Address:	2343 S TELEGRAPH RD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number:	010130812FLE
Manifest Date:	03/09/2018
Transporter Site ID Manifest:	Not reported
Transporter Site Legal Name Site Table:	Not reported
TSD Site ID Manifest:	MID980615298
TSD Site Legal Name Site Table:	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
Container Number:	Not reported
Container Type:	Not reported
Total Quantity:	5
Unit Of Measure:	P
Waste Number:	D002
Waste Number 2:	Not reported
Waste Number 3:	Not reported
Waste Number 4:	Not reported
Waste Number 5:	Not reported
Waste Number 6:	Not reported
Generator Site ID Manifest:	MIR000017392
Name:	COSTCO WHOLESALE CORPORATION
Address:	2343 S TELEGRAPH RD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number:	010130812FLE
Manifest Date:	03/09/2018
Transporter Site ID Manifest:	Not reported
Transporter Site Legal Name Site Table:	Not reported
TSD Site ID Manifest:	MID980615298
TSD Site Legal Name Site Table:	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
Container Number:	Not reported
Container Type:	Not reported
Total Quantity:	40
Unit Of Measure:	P
Waste Number:	D007
Waste Number 2:	D016
Waste Number 3:	D010
Waste Number 4:	D011
Waste Number 5:	U057
Waste Number 6:	U279
Generator Site ID Manifest:	MIR000017392
Name:	COSTCO WHOLESALE CORPORATION
Address:	2343 S TELEGRAPH RD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number:	010130812FLE
Manifest Date:	03/09/2018
Transporter Site ID Manifest:	Not reported
Transporter Site Legal Name Site Table:	Not reported
TSD Site ID Manifest:	MID980615298
TSD Site Legal Name Site Table:	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
Container Number:	Not reported
Container Type:	Not reported

2343 SOUTH TELEGRAPH ROAD (Continued) **S112451563**

Total Quantity:	2
Unit Of Measure:	P
Waste Number:	Not reported
Waste Number 2:	Not reported
Waste Number 3:	Not reported
Waste Number 4:	Not reported
Waste Number 5:	Not reported
Waste Number 6:	Not reported

Generator Site ID Manifest:	MIR000017392
Name:	COSTCO WHOLESALE CORPORATION
Address:	2343 S TELEGRAPH RD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number:	011303832FLE
Manifest Date:	05/29/2018
Transporter Site ID Manifest:	Not reported
Transporter Site Legal Name Site Table:	Not reported
TSD Site ID Manifest:	MID980615298
TSD Site Legal Name Site Table:	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
Container Number:	Not reported
Container Type:	Not reported
Total Quantity:	93
Unit Of Measure:	P
Waste Number:	D001
Waste Number 2:	D018
Waste Number 3:	Not reported
Waste Number 4:	Not reported
Waste Number 5:	Not reported
Waste Number 6:	Not reported

Generator Site ID Manifest:	MIR000017392
Name:	COSTCO WHOLESALE CORPORATION
Address:	2343 S TELEGRAPH RD
City,State,Zip:	BLOOMFIELD TOWNSHIP, MI 48302
Manifest Number:	011303833FLE
Manifest Date:	05/29/2018
Transporter Site ID Manifest:	Not reported
Transporter Site Legal Name Site Table:	Not reported
TSD Site ID Manifest:	MID980615298
TSD Site Legal Name Site Table:	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
Container Number:	Not reported
Container Type:	Not reported
Total Quantity:	21
Unit Of Measure:	P
Waste Number:	D001
Waste Number 2:	Not reported
Waste Number 3:	Not reported
Waste Number 4:	Not reported
Waste Number 5:	Not reported
Waste Number 6:	Not reported

Click this hyperlink while viewing on your computer to access
8 additional MI MANIFEST: record(s) in the EDR Site Report.

WDS:

Name:	COSTCO WHOLESALE CORPORATION
Address:	2343 S TELEGRAPH RD

2343 SOUTH TELEGRAPH ROAD (Continued) **S112451563**

City,State,Zip: BLOOMFIELD TOWNSHIP, MI 48302
Site Id: MIR000017392
WMD Id: 410955
Site Specific Name: COSTCO WHOLESALE 1037
Mailing Address: 3207 GREY HAWK CT
Mailing City/State/Zip: 92010
Mailing County: Not reported

ENVIRO:
Site Number: 4FPA-ZC2F-65A
Site ID: 5204675208746736372
Name: COSTCO WHOLESALE CORPORATION DBA COSTCO PHARMACY # 1037
Address: 2343 S Telegraph Rd
Address 2: Not reported
Latitude: 42.6069
Longitude: -83.2933
Site URL: Not reported

Document File:
Site ID: 5204675208746736372
Document ID: 5256495242678006107
Document Name: MW0047865 - Initial 60 Days Expiration Notice.pdf
Document Type: Medical Waste Permit Documents
Document Description: Permit: MW0047865 v1.0 (Superseded).
Document Date: 9/1/2023 12:00:00 AM
Site Number: 4FPA-ZC2F-65A

URL:

Site ID: 5204675208746736372
Document ID: -8159005208934471
Document Name: HPY-Q1RF-3W3E0 v1.pdf
Document Type: Form Submission Attachments
Document Description: Permit Change: HPY-Q1RF-3W3E0. Submission PDF
Document Date: 10/27/2023 12:00:00 AM
Site Number: 4FPA-ZC2F-65A

URL:

Site ID: 5204675208746736372
Document ID: -1196522776856947442
Document Name: Medical Waste Registration Certificate-MW0047865.pdf
Document Type: Medical Waste Permit Documents
Document Description: Permit: MW0047865 v2.0 (In Effect).
Document Date: 10/27/2023 12:00:00 AM
Site Number: 4FPA-ZC2F-65A

URL:

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: EPA
Telephone: N/A
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: EPA
Telephone: N/A
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: EPA
Telephone: N/A
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/10/2025
Date Data Arrived at EDR: 12/10/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 03/24/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 03/11/2025
Date Data Arrived at EDR: 04/02/2025
Date Made Active in Reports: 06/24/2025
Number of Days to Update: 83

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/30/2025
Date Data Arrived at EDR: 11/11/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 1

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/17/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/30/2025
Date Data Arrived at EDR: 11/11/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 1

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/17/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/01/2025
Date Data Arrived at EDR: 12/08/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 66

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

Date of Government Version: N/A
Date Data Arrived at EDR: 10/31/2013
Date Made Active in Reports: 11/20/2013
Number of Days to Update: 20

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-284-5103
Last EDR Contact: 01/07/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: No Update Planned

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Solid Waste Facilities Database

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 12/08/2025
Date Data Arrived at EDR: 12/08/2025
Date Made Active in Reports: 12/12/2025
Number of Days to Update: 4

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-4035
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Semi-Annually

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank Sites

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 11/06/2025
Date Data Arrived at EDR: 11/10/2025
Date Made Active in Reports: 01/28/2026
Number of Days to Update: 79

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-9837
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/21/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/12/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 69

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

Lists of state and tribal registered storage tanks

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 06/06/2025
Date Data Arrived at EDR: 08/26/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 78

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 03/25/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

UST 2: Underground Storage Tank Listing
A listing of underground storage tank site locations that have unknown owner information.

Date of Government Version: 01/08/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 04/09/2024
Number of Days to Update: 82

Source: Department of Licensing & Regulatory Affairs
Telephone: 517-373-1820
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

UST: Underground Storage Tank Facility List
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 09/05/2025
Date Data Arrived at EDR: 11/03/2025
Date Made Active in Reports: 01/23/2026
Number of Days to Update: 81

Source: Department of Licensing & Regulatory Affairs
Telephone: 517-373-1820
Last EDR Contact: 02/03/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Annually

AST: Aboveground Tanks
Registered Aboveground Storage Tanks.

Date of Government Version: 10/29/2025
Date Data Arrived at EDR: 11/06/2025
Date Made Active in Reports: 01/28/2026
Number of Days to Update: 83

Source: Department of Licensing & Regulatory Affairs
Telephone: 517-373-1820
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: No Update Planned

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

AUL: Engineering and Institutional Controls
A listing of sites with institutional and/or engineering controls in place.

Date of Government Version: 11/19/2025
Date Data Arrived at EDR: 11/19/2025
Date Made Active in Reports: 02/10/2026
Number of Days to Update: 83

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-4828
Last EDR Contact: 02/11/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Quarterly

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Brownfields and USTfield Site Database
All state funded Part 201 and 213 sites, as well as LUST sites that have been redeveloped by private entities using the BEA process. Be aware that this is not a list of all of the potential brownfield sites in Michigan.

Date of Government Version: 09/24/2025
Date Data Arrived at EDR: 10/14/2025
Date Made Active in Reports: 01/06/2026
Number of Days to Update: 84

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-4805
Last EDR Contact: 01/15/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

BROWNFIELDS 2: Brownfields Building and Land Site Locations
A listing of brownfield building and land site locations. The listing is a collaborative effort of Michigan Economic Development Corporation, Michigan Economic Developers Association, Detrot Edison, Detroit Area Commercial Board of Realtors

Date of Government Version: 10/13/2025
Date Data Arrived at EDR: 10/17/2025
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 82

Source: Economic Development Corporation
Telephone: 888-522-0103
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/02/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/10/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF: Inactive Solid Waste Facilities
The database contains historical information and is no longer updated.

Date of Government Version: 03/01/1997
Date Data Arrived at EDR: 02/28/2003
Date Made Active in Reports: 03/06/2003
Number of Days to Update: 6

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-4034
Last EDR Contact: 02/28/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycling Facilities
A listing of recycling center locations.

Date of Government Version: 03/17/2025
Date Data Arrived at EDR: 03/19/2025
Date Made Active in Reports: 06/02/2025
Number of Days to Update: 75

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-241-5719
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/22/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/07/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 11/13/2024
Date Made Active in Reports: 11/19/2024
Number of Days to Update: 6

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 04/04/2025
Date Data Arrived at EDR: 06/02/2025
Date Made Active in Reports: 08/12/2025
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/20/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: No Update Planned

PART 201: Part 201 Site List

A Part 201 Listed site is a location that has been evaluated and scored by the DEQ using the Part 201 scoring model. The location is or includes a "facility" as defined by Part 201, where there has been a release of a hazardous substance(s) in excess of the Part 201 residential criteria, and/or where corrective actions have not been completed under Part 201 to meet the applicable cleanup criteria for unrestricted residential use. The Part 201 List does not include all of the sites of contamination that are subject to regulation under Part 201 because owners are not required to inform the DEQ about the sites and can pursue cleanup independently. Sites of environmental contamination that are not known to DEQ are not on the list, nor are sites with releases that resulted in low environmental impact.

Date of Government Version: 01/12/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/25/2026
Number of Days to Update: 71

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-284-5103
Last EDR Contact: 01/13/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: No Update Planned

INVENTORY: Inventory of Facilities

The Inventory of Facilities has three data sources: Facilities under Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) identified through state funded or private party response activities (Projects); Facilities under Part 213, Leaking Underground Storage Tanks of the NREPA; and Facilities identified through submittals of Baseline Environmental Assessments (BEA) submitted pursuant to Part 201 or Part 213 of the NREPA. The Part 201 Projects Inventory does not include all of the facilities that are subject to regulation under Part 201 because owners are not required to inform the Department of Environmental Quality (DEQ) about the facilities and can pursue cleanup independently. Facilities that are not known to DEQ are not on the Inventory, nor are locations with releases that resulted in low environmental impact. Part 213 facilities listed here may have more than one release; a list of releases for which corrective actions have been completed and list of releases for which corrective action has not been completed is located on the Leaking Underground Storage Tanks Site Search webpage. The DEQ may or may not have reviewed and concurred with the conclusion that the corrective actions described in a closure report meets criteria. A BEA is a document that new or prospective property owners/operations disclose to the DEQ identifying the property as a facility pursuant to Part 201 and Part 213. The Inventory of BEA Facilities overlaps in part with the Part 201 Projects facilities and Part 213 facilities. There may be more than one BEA for each facility.

Date of Government Version: 01/12/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/25/2026
Number of Days to Update: 71

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-284-5136
Last EDR Contact: 01/13/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Quarterly

CDL: Clandestine Drug Lab Listing

A listing of clandestine drug lab locations.

Date of Government Version: 10/16/2025
Date Data Arrived at EDR: 10/23/2025
Date Made Active in Reports: 01/14/2026
Number of Days to Update: 83

Source: Department of Community Health
Telephone: 517-373-3740
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: No Update Planned

DEL PART 201: Delisted List of Contaminated Sites

A deleted site has been removed from the Part 201 List because information known to the DEQ at the time of the evaluation does not support inclusion on the Part 201 List. This designation is often applied to sites where changes in cleanup criteria resulted in a determination that the site no longer exceeds any applicable cleanup criterion.
A delisted site has been removed from the Part 201 List because response actions have reduced the levels of contaminants to concentrations which meet or are below the criteria for unrestricted residential use.

Date of Government Version: 01/12/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/25/2026
Number of Days to Update: 71

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-9541
Last EDR Contact: 01/13/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 04/04/2025
Date Data Arrived at EDR: 06/02/2025
Date Made Active in Reports: 08/12/2025
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/19/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Quarterly

Local Land Records

LIENS: Lien List

An Environmental Lien is a charge, security, or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon a property, including (but not limited to) liens imposed pursuant to CERCLA 42 USC * 9607(1) and similar state or local laws. In other words: a lien placed upon a property's title due to an environmental condition

Date of Government Version: 10/03/2025
Date Data Arrived at EDR: 10/07/2025
Date Made Active in Reports: 12/31/2025
Number of Days to Update: 85

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-241-7603
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/20/2026
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/07/2025
Date Data Arrived at EDR: 12/08/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 66

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

PEAS: Pollution Emergency Alerting System

Environmental pollution emergencies reported to the Department of Environmental Quality such as tanker accidents, pipeline breaks, and release of reportable quantities of hazardous substances.

Date of Government Version: 10/10/2025
Date Data Arrived at EDR: 10/16/2025
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 83

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-8427
Last EDR Contact: 01/15/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 10/22/2025
Date Data Arrived at EDR: 11/06/2025
Date Made Active in Reports: 01/12/2026
Number of Days to Update: 67

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/10/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/20/2026
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 01/29/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 12/07/2025
Date Data Arrived at EDR: 12/08/2025
Date Made Active in Reports: 02/05/2026
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA Watch List

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/12/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2024
Date Data Arrived at EDR: 11/10/2025
Date Made Active in Reports: 01/29/2026
Number of Days to Update: 80

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/12/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 01/12/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 51

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/13/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/30/2026
Date Data Arrived at EDR: 02/02/2026
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 10

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 01/01/2026
Date Data Arrived at EDR: 01/14/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 8

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 06/26/2025
Date Data Arrived at EDR: 07/01/2025
Date Made Active in Reports: 07/29/2025
Number of Days to Update: 28
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 08/12/2025
Date Data Arrived at EDR: 09/30/2025
Date Made Active in Reports: 11/24/2025
Number of Days to Update: 55
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 03/04/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/23/2025
Next Scheduled EDR Contact: 01/12/2026
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/26/2026
Date Data Arrived at EDR: 01/27/2026
Date Made Active in Reports: 02/25/2026
Number of Days to Update: 29
Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2024
Date Data Arrived at EDR: 11/19/2025
Date Made Active in Reports: 01/29/2026
Number of Days to Update: 71
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 02/20/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 02/20/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/29/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 12/31/2025
Date Data Arrived at EDR: 01/20/2026
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 44

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/20/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2025
Date Data Arrived at EDR: 12/12/2025
Date Made Active in Reports: 02/25/2026
Number of Days to Update: 75

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/25/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 02/19/2025
Date Made Active in Reports: 03/07/2025
Number of Days to Update: 16

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 01/21/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 05/15/2025
Date Data Arrived at EDR: 05/15/2025
Date Made Active in Reports: 07/29/2025
Number of Days to Update: 75

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/12/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/08/2025
Date Data Arrived at EDR: 08/18/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 86

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/13/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 01/01/2026
Date Data Arrived at EDR: 01/06/2026
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 1

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 04/08/2025
Date Data Arrived at EDR: 05/20/2025
Date Made Active in Reports: 08/12/2025
Number of Days to Update: 84

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/03/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/19/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 12/04/2025
Date Data Arrived at EDR: 12/05/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 69

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/11/2026
Next Scheduled EDR Contact: 06/15/2026
Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 06/04/2024
Date Data Arrived at EDR: 11/22/2024
Date Made Active in Reports: 02/18/2025
Number of Days to Update: 88

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 03/03/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/07/2025
Date Data Arrived at EDR: 11/19/2025
Date Made Active in Reports: 02/05/2026
Number of Days to Update: 78

Source: EPA
Telephone: (312) 353-2000
Last EDR Contact: 02/20/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 07/31/2025
Date Data Arrived at EDR: 08/14/2025
Date Made Active in Reports: 11/04/2025
Number of Days to Update: 82
Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82
Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 02/11/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 12/13/2025
Date Data Arrived at EDR: 12/17/2025
Date Made Active in Reports: 02/25/2026
Number of Days to Update: 70
Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/06/2025
Date Data Arrived at EDR: 11/06/2025
Date Made Active in Reports: 01/12/2026
Number of Days to Update: 67
Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/10/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information
EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5
Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information
Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5
Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 11/12/2024
Date Data Arrived at EDR: 07/21/2025
Date Made Active in Reports: 10/13/2025
Number of Days to Update: 84

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS PROJECT: NORTHEASTERN UNIVERSITY PFAS PROJECT

The PFAS Contamination Site Tracker records qualitative and quantitative data from each site in a chart, specifically examining discovery, contamination levels, government response, litigation, health impacts, media coverage, and community characteristics. All data presented in the chart were extracted from government websites, such as state health departments or the Environmental Protection Agency, and news articles.

Date of Government Version: 08/21/2025
Date Data Arrived at EDR: 12/04/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 70

Source: Social Science Environmental Health Research Institute
Telephone: N/A
Last EDR Contact: 03/05/2026
Next Scheduled EDR Contact: 06/15/2026
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/19/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 4

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS ECHO FIRE TRAIN: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS PT 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/10/2017
Number of Days to Update: 63

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 09/24/2025
Next Scheduled EDR Contact: 01/12/2026
Data Release Frequency: No Update Planned

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 09/24/2025
Next Scheduled EDR Contact: 01/12/2026
Data Release Frequency: Varies

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 01/10/2026
Date Data Arrived at EDR: 01/15/2026
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 49

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 01/15/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database

US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/31/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 79

Source: Environmental Protecton Agency
Telephone: 202-564-0394
Last EDR Contact: 03/05/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Semi-Annually

UST FINDER: UST Finder Database

EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 106

Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 02/05/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Varies

E MANIFEST: Hazardous Waste Electronic Manifest System

EPA established a national system for tracking hazardous waste shipments electronically. This system, known as ?e-Manifest,? will modernize the nation?s cradle-to-grave hazardous waste tracking process while saving valuable time, resources, and dollars for industry and states.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/05/2025
Date Made Active in Reports: 12/19/2025
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 833-501-6826
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Varies

PFAS: PFAS Contaminated Sites Listing

PFAS have been widely used in numerous industrial and residential applications since the 1950a??s. Their stability and unique chemical properties produce waterproof, stain resistant, and nonstick qualities in products. They are found in some firefighting foams and a wide range of consumer products such as carpet treatments, non-stick cookware, water-resistant fabrics, food packaging materials, and personal care products.

Date of Government Version: 09/24/2025
Date Data Arrived at EDR: 11/03/2025
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 80

Source: Department of Environment, Great Lakes & Energy
Telephone: 517-284-9278
Last EDR Contact: 02/06/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Varies

AQUEOUS FOAM: Aqueous Film Forma Foam Listing

Sites with Aqueous Film Forming Foam contamination, as reported to the Department of Environment, Great Lakes & Energy. AFFF is a fire suppressant used to extinguish flammable liquid fires such as fuel fires.

Date of Government Version: 12/19/2025
Date Data Arrived at EDR: 12/29/2025
Date Made Active in Reports: 03/06/2026
Number of Days to Update: 67

Source: Department of Environment, Great Lakes & Energy
Telephone: 517-284-9278
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

AIRS: Permit and Emissions Inventory Data

Permit and emissions inventory data.

Date of Government Version: 12/03/2025
Date Data Arrived at EDR: 12/05/2025
Date Made Active in Reports: 12/18/2025
Number of Days to Update: 13

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-7074
Last EDR Contact: 03/04/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Annually

ASBESTOS: Asbestos Notification Listing

Asbestos

Date of Government Version: 12/31/2025
Date Data Arrived at EDR: 01/16/2026
Date Made Active in Reports: 02/13/2026
Number of Days to Update: 28
Source: Department of Licensing & Regulatory Affairs
Telephone: 517-284-7699
Last EDR Contact: 04/02/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Quarterly

BEA: Baseline Environmental Assessment Database

A BEA is a document that new or prospective property owners/operations disclose to the DEQ identifying the property as a facility pursuant to Part 201 and Part 213. The Inventory of BEA Facilities overlaps in part with the Part 201 Projects facilities and Part 213 facilities. There may be more than one BEA for each facility.

Date of Government Version: 11/06/2025
Date Data Arrived at EDR: 11/10/2025
Date Made Active in Reports: 01/28/2026
Number of Days to Update: 79
Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-9541
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: No Update Planned

COAL ASH: Coal Ash Disposal Sites

Coal fired power plants in Southeast Michigan that have coal ash handling on site.

Date of Government Version: 12/22/2025
Date Data Arrived at EDR: 01/14/2026
Date Made Active in Reports: 03/23/2026
Number of Days to Update: 68
Source: Department of Environment, Great Lakes, and Energy
Telephone: 586-753-3754
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

DRYCLEANERS: Drycleaning Establishments

A listing of drycleaning facilities in Michigan.

Date of Government Version: 10/10/2025
Date Data Arrived at EDR: 01/06/2026
Date Made Active in Reports: 03/06/2026
Number of Days to Update: 59
Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-4586
Last EDR Contact: 01/06/2026
Next Scheduled EDR Contact: 04/20/2026
Data Release Frequency: Quarterly

FIN ASSURANCE 1: Financial Assurance Information Listing

Financial assurance information.

Date of Government Version: 12/15/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 77
Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-6610
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Semi-Annually

FIN ASSURANCE 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 09/17/2025
Date Data Arrived at EDR: 09/19/2025
Date Made Active in Reports: 12/12/2025
Number of Days to Update: 84
Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-4034
Last EDR Contact: 03/11/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Varies

FIN ASSURANCE 3: Financial Assurance Information Listing

Financial assurance information for underground storage tank facilities.

Date of Government Version: 01/06/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/30/2026
Number of Days to Update: 76
Source: Department of Licensing & Regulatory Affairs
Telephone: 517-335-7279
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

LEAD: Lead Information Registry Listing

All properties in this registry received a lead-based paint inspection or a lead risk assessment, and a lead abatement service. A lead-based paint inspection identifies any lead present on the property. The lead risk assessment determines if any of the lead found is a hazard. Lead abatement services address or remove the lead hazards.

Date of Government Version: 11/19/2024
Date Data Arrived at EDR: 11/20/2024
Date Made Active in Reports: 02/13/2025
Number of Days to Update: 85

Source: Department of Health & Human Services
Telephone: 517-335-9390
Last EDR Contact: 02/18/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Varies

LEAD CERT: Lead Safe Housing Registry

A listing of Michigan properties included in the Lead Safe Housing Registry.

Date of Government Version: 11/24/2025
Date Data Arrived at EDR: 12/02/2025
Date Made Active in Reports: 02/18/2026
Number of Days to Update: 78

Source: Department of Community Health
Telephone: 517-335-9699
Last EDR Contact: 02/18/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Quarterly

MI MANIFEST: Hazardous Waste Manifest Data

A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage or disposal must prepare a hazardous waste manifest to accompany such shipment.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 172

Source: Department of Environment, Great Lakes & Energy
Telephone: 517-284-6838
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Annually

NPDES: List of Active NPDES Permits

General information regarding NPDES (National Pollutant Discharge Elimination System) permits and NPDES Storm Water permits.

Date of Government Version: 12/19/2025
Date Data Arrived at EDR: 12/22/2025
Date Made Active in Reports: 03/06/2026
Number of Days to Update: 74

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-241-1300
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

UIC: Underground Injection Wells Database

A listing of underground injection well locations. The UIC Program is responsible for regulating the construction, operation, permitting, and closure of injection wells that place fluids underground for storage or disposal.

Date of Government Version: 01/14/2026
Date Data Arrived at EDR: 01/15/2026
Date Made Active in Reports: 03/25/2026
Number of Days to Update: 69

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-241-1515
Last EDR Contact: 01/07/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Quarterly

WDS: Waste Data System

The Waste Data System (WDS) tracks activities at facilities regulated by the Solid Waste, Scrap Tire, Hazardous Waste, and Liquid Industrial Waste programs.

Date of Government Version: 12/08/2023
Date Data Arrived at EDR: 12/11/2023
Date Made Active in Reports: 03/05/2024
Number of Days to Update: 85

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-284-6562
Last EDR Contact: 02/04/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Varies

ENVIRO: Michigan Enviro Information

MiEnviro is permitting and compliance for air quality and water resources, including National Pollutant Discharge Elimination System (NPDES), storm water, groundwater discharge, aquatic nuisance control, Part 41 construction, medical waste registrations, and land and water interface permits.

Date of Government Version: 01/26/2026
Date Data Arrived at EDR: 01/27/2026
Date Made Active in Reports: 03/06/2026
Number of Days to Update: 38

Source: Department of Environment, Great Lakes, & Energy
Telephone: 800-662-9278
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Quarterly

DRYCLEANERS: Drycleaner Facility Listing

A listing of list of ALL Dry cleaner facilities from the Integrated Compliance Information System (ICIS).

Date of Government Version: 12/13/2025
Date Data Arrived at EDR: 12/17/2025
Date Made Active in Reports: 03/12/2026
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-254-2501
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

ABAND AIRFIELDS: Abandoned & Little-Known Airfields Listing

Abandoned and little known airfield locations, in the United States.

Date of Government Version: 03/04/2026
Date Data Arrived at EDR: 03/05/2026
Date Made Active in Reports: 03/12/2026
Number of Days to Update: 7

Source: Airfields-Freeman
Telephone: N/A
Last EDR Contact: 03/05/2026
Next Scheduled EDR Contact: 06/15/2026
Data Release Frequency: Varies

SSCUP: State Owned Sites Cleanup Program List

Public Act 380 of 1996 amended Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, PA 451 of 1994, by adding Section 20108c and creating the State Sites Cleanup Fund (SSCUF) and the State Sites Cleanup Program (SSCUP). Its intent was to fund environmental cleanups at contaminated sites where the state is a liable party as an owner or operator of the site, as defined in Section 20126 of Part 201.

Date of Government Version: 12/31/2025
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/25/2026
Number of Days to Update: 71

Source: Department of Environment, Great Lakes & Energy
Telephone: 517-284-5153
Last EDR Contact: 01/13/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA PART 201: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Michigan.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: Department of Environment, Great Lakes, and Energy
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Michigan.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Environment, Great Lakes, and Energy
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Michigan.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: Department of Environment, Great Lakes, and Energy
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 11/02/2025
Date Data Arrived at EDR: 11/03/2025
Date Made Active in Reports: 01/23/2026
Number of Days to Update: 81

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/03/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 03/25/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/22/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: No Update Planned

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/05/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 02/25/2026
Next Scheduled EDR Contact: 06/15/2026
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Day Care Centers, Group & Family Homes
Source: Bureau of REgulatory Services
Telephone: 517-373-8300

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Natural Resources
Telephone: 517-241-2254

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

3325 FRANKLIN RD
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

TARGET PROPERTY COORDINATES

Latitude (North):	42.591903 - 42° 35' 30.85''
Longitude (West):	83.284196 - 83° 17' 3.11''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	312582.1
UTM Y (Meters):	4717812.5
Elevation:	936 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	50029944 PONTIAC SOUTH, MI
Version Date:	2023

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

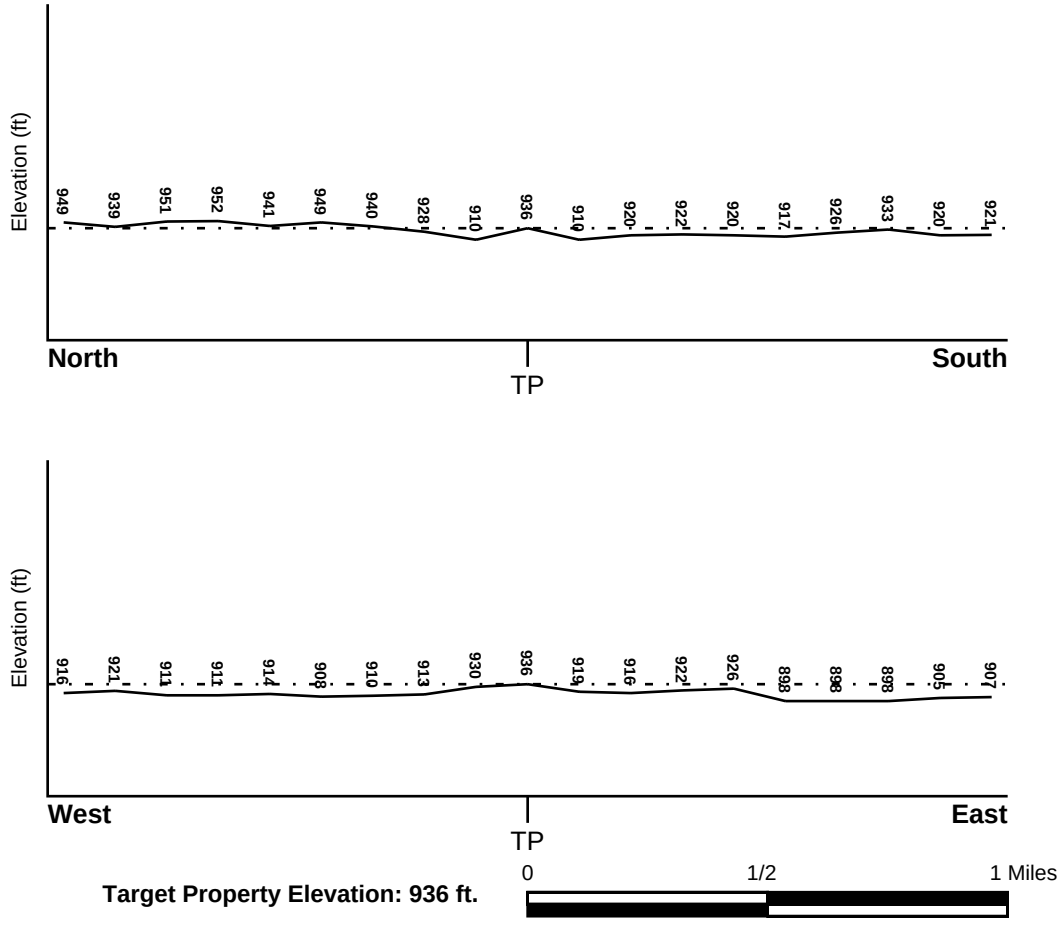
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
26125C0508F	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
26125C0506F	FEMA FIRM Flood data
26125C0507F	FEMA FIRM Flood data
26125C0509F	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
PONTIAC SOUTH	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
62	1/2 - 1 Mile SSE	E
1G	1/2 - 1 Mile SSE	E

For additional site information, refer to Physical Setting Source Map Findings.

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

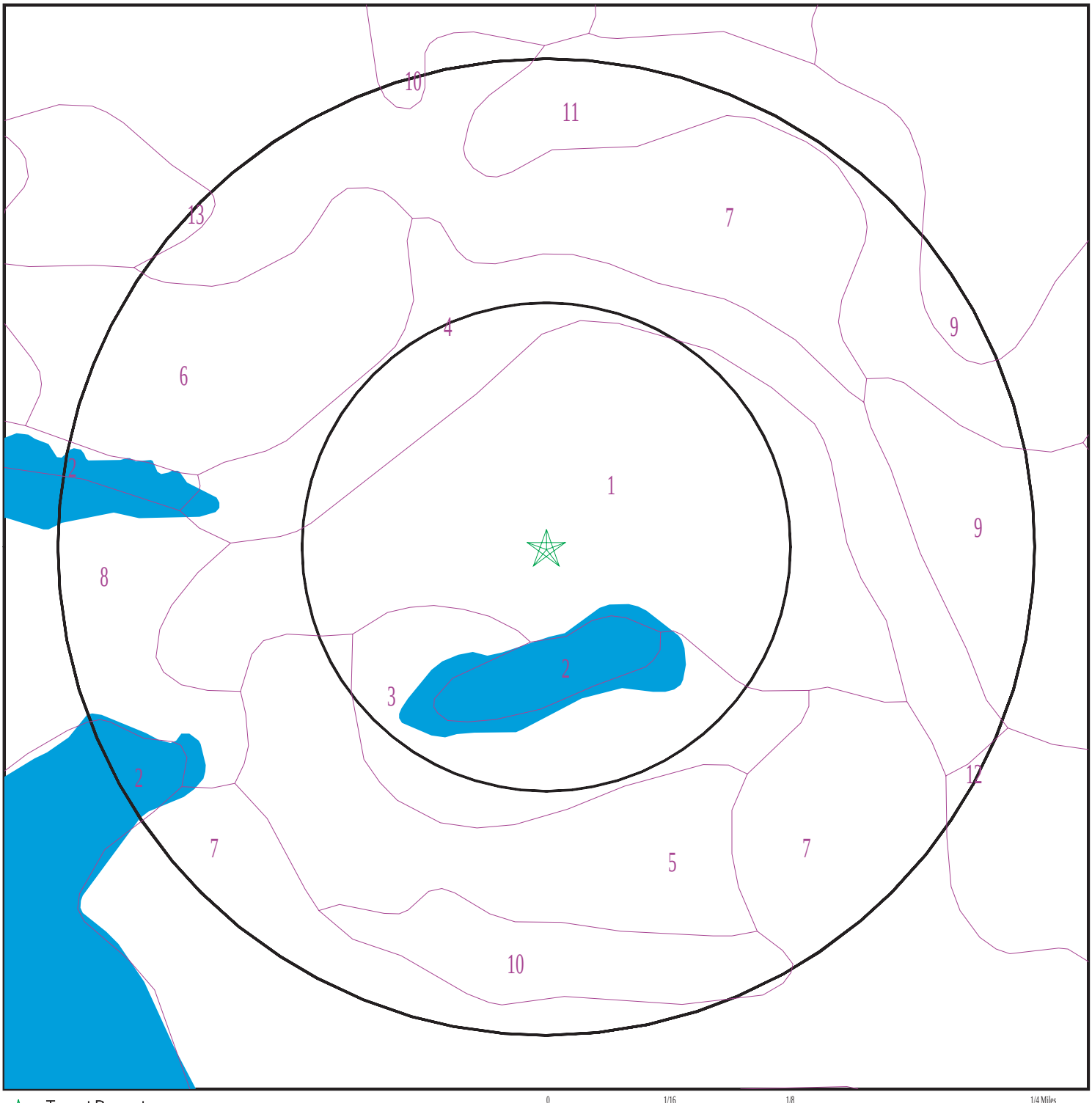
Era:	Paleozoic
System:	Mississippian
Series:	Osagean and Kinderhookian Series
Code:	M1 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 8305563.2s



SITE NAME:	3325 Franklin Rd	CLIENT:	Applied Science & Technology
ADDRESS:	3325 Franklin Rd Bloomfield Hills MI 48302	CONTACT:	Alyssa Celano
		INQUIRY #:	8305563.2s
LAT/LONG:	42.591903 / 83.284196	DATE:	April 07, 2026 5:40 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Marlette

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	7 inches	22 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	22 inches	31 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
4	31 inches	59 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 2

Soil Component Name: Water

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name: Fox

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	16 inches	29 inches	gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
3	29 inches	59 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Map ID: 4

Soil Component Name: Brookston

Soil Surface Texture: loam

Hydrologic Group: Class B/D - Drained/undrained hydrology class of soils that can be drained and are classified.

Soil Drainage Class: Very poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 8.4 Min: 7.4
2	16 inches	35 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 8.4 Min: 7.4
3	35 inches	59 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 8.4 Min: 7.4

Soil Map ID: 5

Soil Component Name: Fox

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	16 inches	29 inches	gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
3	29 inches	59 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Map ID: 6

Soil Component Name: Marlette

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	7 inches	22 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	22 inches	31 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
4	31 inches	59 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 7

Soil Component Name: Marlette

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 130 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	7 inches	22 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	22 inches	31 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
4	31 inches	59 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 8

Soil Component Name: Fox

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	16 inches	29 inches	gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
3	29 inches	59 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Map ID: 9

Soil Component Name: Urban land

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 130 inches

No Layer Information available.

Soil Map ID: 10

Soil Component Name: Capac

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 46 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
2	7 inches	31 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
3	31 inches	59 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 11

Soil Component Name: Urban land

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class:

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 12

Soil Component Name: Urban land

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class:
Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 46 inches

No Layer Information available.

Soil Map ID: 13

Soil Component Name: Udorthents

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	0 inches	loam	Not reported	Not reported	Max: Min:	Max: Min:
2	0 inches	59 inches	variable	Not reported	Not reported	Max: Min:	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	MI6000000695460	0 - 1/8 Mile ESE
2	MI6000000676547	0 - 1/8 Mile WSW
3	MI6000000688539	0 - 1/8 Mile South

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

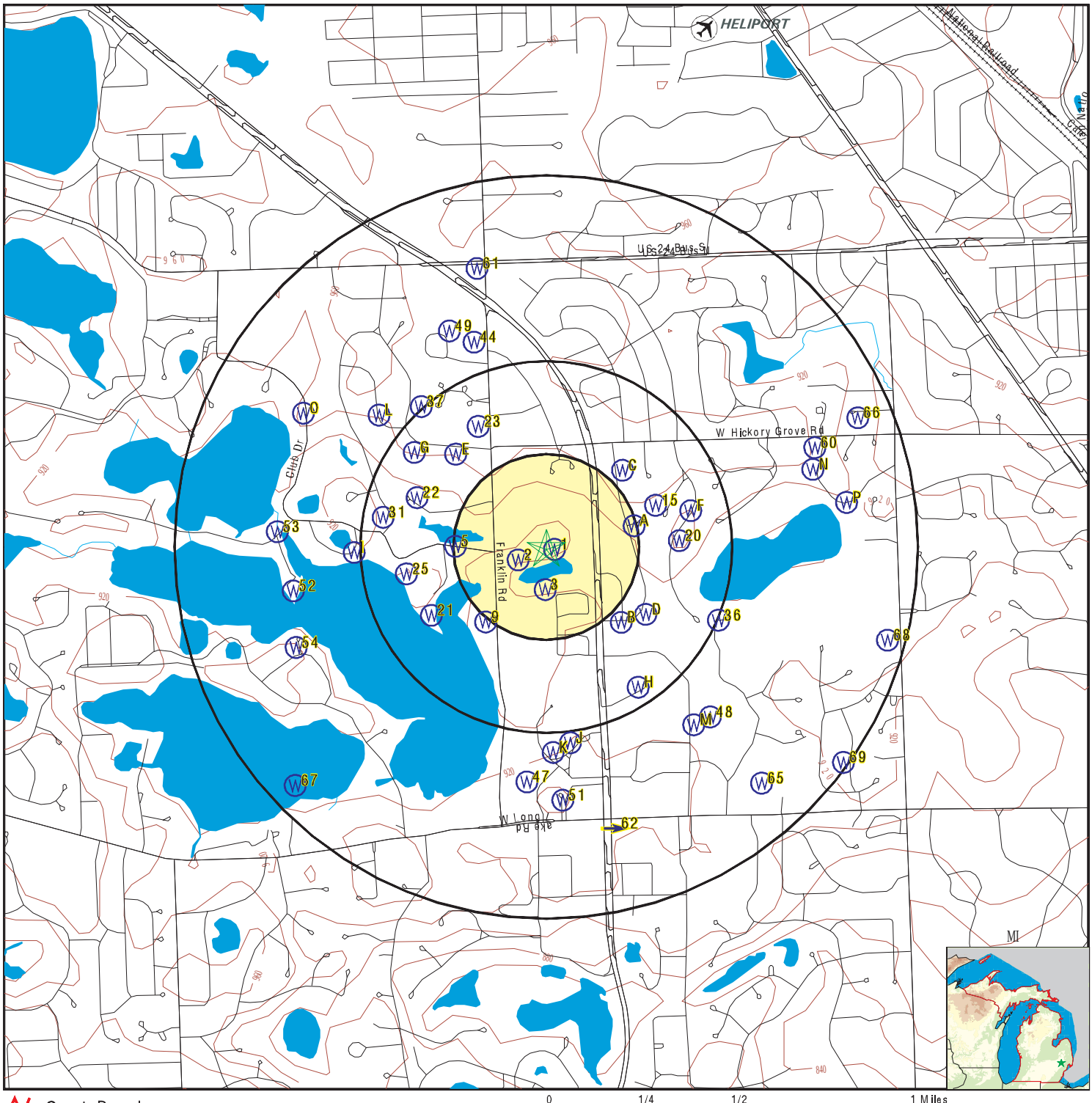
MAP ID	WELL ID	LOCATION FROM TP
A4	MI6000000676543	1/8 - 1/4 Mile ENE
5	MI6000000672710	1/8 - 1/4 Mile West
A6	MI6000000676541	1/8 - 1/4 Mile ENE
A7	MI6000000676544	1/8 - 1/4 Mile East
B8	MI6000000676530	1/4 - 1/2 Mile SE
9	MI6000000708415	1/4 - 1/2 Mile SW
C10	MI6000000676540	1/4 - 1/2 Mile NE
A11	MI6000000676542	1/4 - 1/2 Mile East
B12	MI6000000676546	1/4 - 1/2 Mile SE
C13	MI6000000735301	1/4 - 1/2 Mile NE
C14	MI6000000676539	1/4 - 1/2 Mile NE
15	MI6000000676532	1/4 - 1/2 Mile ENE
B16	MI6000000676537	1/4 - 1/2 Mile SE
D17	MI6000000676536	1/4 - 1/2 Mile ESE
E18	MI6000000676524	1/4 - 1/2 Mile NW
D19	MI6000000676545	1/4 - 1/2 Mile SE
20	MI6000000706668	1/4 - 1/2 Mile East
21	MI6000000676517	1/4 - 1/2 Mile WSW
22	MI6000000676514	1/4 - 1/2 Mile WNW
23	MI6000000676519	1/4 - 1/2 Mile NNW
E24	MI6000000676523	1/4 - 1/2 Mile NW
25	MI6000000715668	1/4 - 1/2 Mile West
F26	MI6000000676533	1/4 - 1/2 Mile ENE
F27	MI6000000676534	1/4 - 1/2 Mile ENE
G28	MI6000000676522	1/4 - 1/2 Mile NW
H29	MI6000000676623	1/4 - 1/2 Mile SE
H30	MI6000000676625	1/4 - 1/2 Mile SSE
31	MI6000000676515	1/4 - 1/2 Mile West
H32	MI6000000715670	1/4 - 1/2 Mile SE
G33	MI6000000676521	1/4 - 1/2 Mile NW
H34	MI6000000676624	1/4 - 1/2 Mile SSE
I35	MI6000000676516	1/4 - 1/2 Mile West
36	MI6000000676531	1/2 - 1 Mile ESE
37	MI6000000676520	1/2 - 1 Mile NW
J38	MI6000000676628	1/2 - 1 Mile South
I39	MI6000000676528	1/2 - 1 Mile West
K40	MI6000000676631	1/2 - 1 Mile South
L41	MI6000000676527	1/2 - 1 Mile NW
J42	MI6000000676629	1/2 - 1 Mile South
K43	MI6000000715673	1/2 - 1 Mile South
44	MI6000000676518	1/2 - 1 Mile NNW
M45	MI6000000707861	1/2 - 1 Mile SE
L46	MI6000000676526	1/2 - 1 Mile NW
47	MI6000000676630	1/2 - 1 Mile South
48	MI6000000726082	1/2 - 1 Mile SE
49	MI6000000676529	1/2 - 1 Mile NNW
M50	MI6000000703821	1/2 - 1 Mile SE
51	MI6000000676626	1/2 - 1 Mile South
52	MI6000000676525	1/2 - 1 Mile West
53	MI6000000715572	1/2 - 1 Mile West
54	MI6000000672708	1/2 - 1 Mile WSW
N55	MI6000000676548	1/2 - 1 Mile ENE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
O56	MI6000000715454	1/2 - 1 Mile WNW
N57	MI6000000715587	1/2 - 1 Mile ENE
N58	MI6000000676549	1/2 - 1 Mile ENE
O59	MI6000000672709	1/2 - 1 Mile WNW
60	MI6000000715590	1/2 - 1 Mile ENE
61	MI6000000715451	1/2 - 1 Mile NNW
P63	MI6000000672711	1/2 - 1 Mile East
P64	MI6000000715585	1/2 - 1 Mile East
65	MI6000000676627	1/2 - 1 Mile SE
66	MI6000000703543	1/2 - 1 Mile ENE
67	MI6000000690410	1/2 - 1 Mile SW
68	MI6000000715589	1/2 - 1 Mile ESE
69	MI6000000676635	1/2 - 1 Mile SE

PHYSICAL SETTING SOURCE MAP - 8305563.2s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	3325 Franklin Rd	CLIENT:	Applied Science & Technology
ADDRESS:	3325 Franklin Rd Bloomfield Hills MI 48302	CONTACT:	Alyssa Celano
LAT/LONG:	42.591903 / 83.284196	INQUIRY #:	8305563.2s
		DATE:	April 07, 2026 5:40 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
ESE
0 - 1/8 Mile
Lower

MI WELLS **MI6000000695460**

WELLS:

Well ID:	63000023930	Permit #:	Not Reported
Owner:	Not Reported	Well Depth (ft):	64
Well Type:	Type II Public	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	2246463	Well #:	001
Driller ID:	Not Reported	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	07-JUL-97
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	64
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	932	Specific Capacity:	0
Rock Top (ft):	0		

2
WSW
0 - 1/8 Mile
Lower

MI WELLS **MI6000000676547**

WELLS:

Well ID:	63000004030	Permit #:	Not Reported
Owner:	BLM HILLS SCHOOL DIST NO 2		
Well Depth (ft):	64	Well Type:	Irrigation
Other Type Info:	Not Reported	Well Status:	Unknown
Other Status Info:	Not Reported	Water Supply Serial #:	0
Well #:	Not Reported	Driller ID:	81-0524
Drill Method:	ROTARY	Other Method Info:	Not Reported
Construction Date:	10-JUN-97	Case Type:	PVC Plastic
Other Casing Info:	Not Reported	Case Diameter (in):	5
Case Depth (ft):	64	Screen Start Depth (ft):	54
Screen End Depth (ft):	64	Static Water Level (ft):	35
Flowing:	N	Test Drawdown Depth (ft):	35
Test Hours:	2	Test Rate:	12
Test Method:	UNK	Well Grouted:	Y
Pump Capacity (gpm):	0	Elevation (ft):	942
Specific Capacity:	0	Rock Top (ft):	0

3
South
0 - 1/8 Mile
Lower

MI WELLS **MI6000000688539**

WELLS:

Well ID:	63000016099	Permit #:	Not Reported
Owner:	E.L. JOHNSON NATURE CENTER		
Well Depth (ft):	64	Well Type:	Type II Public

Other Type Info:	Not Reported	Well Status:	Not Reported
Other Status Info:	Not Reported	Water Supply Serial #:	2246463
Well #:	Not Reported	Driller ID:	81-0524
Drill Method:	ROTARY	Other Method Info:	Not Reported
Construction Date:	10-JUN-97	Case Type:	PVC Plastic
Other Casing Info:	Not Reported	Case Diameter (in):	5
Case Depth (ft):	64	Screen Start Depth (ft):	54
Screen End Depth (ft):	64	Static Water Level (ft):	35
Flowing:	N	Test Drawdown Depth (ft):	35
Test Hours:	2	Test Rate:	12
Test Method:	UNK	Well Grouted:	Y
Pump Capacity (gpm):	0	Elevation (ft):	925
Specific Capacity:	0	Rock Top (ft):	0

A4
ENE **MI WELLS** **MI6000000676543**
1/8 - 1/4 Mile
Lower

WELLS:

Well ID:	63000004026	Permit #:	Not Reported
Owner:	STEPHEN M HERDOIZA	Well Depth (ft):	84
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	15-0413	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	29-JUL-80
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	80
Screen Start Depth (ft):	80	Screen End Depth (ft):	84
Static Water Level (ft):	39	Flowing:	N
Test Drawdown Depth (ft):	63	Test Hours:	1.5
Test Rate:	60	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	932	Specific Capacity:	0
Rock Top (ft):	0		

5
West **MI WELLS** **MI6000000672710**
1/8 - 1/4 Mile
Lower

WELLS:

Well ID:	63000000146	Permit #:	Not Reported
Owner:	MICHAEL ANDREW VLASIC TR	Well Depth (ft):	50
Well Type:	Other	Other Type Info:	Abandoned
Well Status:	Not Reported	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-2221	Drill Method:	Unknown
Other Method Info:	Not Reported	Construction Date:	21-APR-99
Case Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	6	Case Depth (ft):	50
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	999.99	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	942	Specific Capacity:	0

Rock Top (ft): 0

A6
ENE **MI WELLS** **MI6000000676541**
1/8 - 1/4 Mile
Lower

WELLS:

Well ID:	63000004024	Permit #:	Not Reported
Owner:	MARK S COHN	Well Depth (ft):	91
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	11-JUL-72
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	6	Case Depth (ft):	85.4
Screen Start Depth (ft):	85.4	Screen End Depth (ft):	91
Static Water Level (ft):	56	Flowing:	N
Test Drawdown Depth (ft):	70	Test Hours:	1
Test Rate:	50	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	942	Specific Capacity:	0
Rock Top (ft):	0		

A7
East **MI WELLS** **MI6000000676544**
1/8 - 1/4 Mile
Lower

WELLS:

Well ID:	63000004027	Permit #:	Not Reported
Owner:	GAIL E DANTO	Well Depth (ft):	85
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	16-FEB-75
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	83.8
Screen Start Depth (ft):	83.4	Screen End Depth (ft):	85
Static Water Level (ft):	44	Flowing:	N
Test Drawdown Depth (ft):	62	Test Hours:	2
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	932	Specific Capacity:	0
Rock Top (ft):	0		

B8
SE **MI WELLS** **MI6000000676530**
1/4 - 1/2 Mile
Lower

WELLS:

Well ID:	63000004013	Permit #:	Not Reported
Owner:	CAROL LEVEQUE	Well Depth (ft):	130

Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	18-JUN-75
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	125
Screen Start Depth (ft):	125	Screen End Depth (ft):	130
Static Water Level (ft):	37	Flowing:	N
Test Drawdown Depth (ft):	63	Test Hours:	2.5
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	925	Specific Capacity:	0
Rock Top (ft):	0		

9
SW
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000708415**

WELLS:

Well ID:	63000044154	Permit #:	126770
Owner:	Balkrishna Ramkumer	Well Depth (ft):	192
Well Type:	Heat Pump Supply	Other Type Info:	Not Reported
Well Status:	Inactive	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	44-1835	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	05-AUG-13
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	180
Screen Start Depth (ft):	180	Screen End Depth (ft):	192
Static Water Level (ft):	60	Flowing:	N
Test Drawdown Depth (ft):	100	Test Hours:	1
Test Rate:	30	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	25
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

C10
NE
1/4 - 1/2 Mile
Higher

MI WELLS **MI6000000676540**

WELLS:

Well ID:	63000004023	Permit #:	Not Reported
Owner:	CHARLES BREITMEYER JR	Well Depth (ft):	135
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0817	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	04-OCT-69
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	131
Screen Start Depth (ft):	131	Screen End Depth (ft):	135
Static Water Level (ft):	85	Flowing:	N
Test Drawdown Depth (ft):	85	Test Hours:	3
Test Rate:	40	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0

Elevation (ft):	945	Specific Capacity:	0
Rock Top (ft):	0		

A11
East
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000676542**

WELLS:

Well ID:	63000004025	Permit #:	Not Reported
Owner:	ROGER E MARCE	Well Depth (ft):	120
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0140	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	15-AUG-71
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	116
Screen Start Depth (ft):	116	Screen End Depth (ft):	120
Static Water Level (ft):	55	Flowing:	N
Test Drawdown Depth (ft):	60	Test Hours:	1
Test Rate:	60	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	942	Specific Capacity:	0
Rock Top (ft):	0		

B12
SE
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000676546**

WELLS:

Well ID:	63000004029	Permit #:	Not Reported
Owner:	STEVEN J BACKALUKAS	Well Depth (ft):	51
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	08-OCT-74
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	47
Screen Start Depth (ft):	46	Screen End Depth (ft):	51
Static Water Level (ft):	16	Flowing:	N
Test Drawdown Depth (ft):	24	Test Hours:	1.5
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	906	Specific Capacity:	0
Rock Top (ft):	0		

C13
NE
1/4 - 1/2 Mile
Higher

MI WELLS **MI6000000735301**

WELLS:

Well ID:	63000076271	Permit #:	Not Reported

Owner:	RICK O CONNOR	Well Depth (ft):	109
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-2269	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	12-OCT-99
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	99	Screen End Depth (ft):	109
Static Water Level (ft):	75	Flowing:	U
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	U	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

C14
NE
1/4 - 1/2 Mile
Higher

MI WELLS **MI6000000676539**

WELLS:

Well ID:	63000004022	Permit #:	Not Reported
Owner:	RICHARD O'CONNOR	Well Depth (ft):	110
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0140	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	19-JUN-80
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	106
Screen Start Depth (ft):	106	Screen End Depth (ft):	110
Static Water Level (ft):	50	Flowing:	N
Test Drawdown Depth (ft):	55	Test Hours:	1
Test Rate:	60	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

15
ENE
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000676532**

WELLS:

Well ID:	63000004015	Permit #:	Not Reported
Owner:	RICHARD H JOHNSON	Well Depth (ft):	98
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	23-MAR-81
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	93
Screen Start Depth (ft):	93	Screen End Depth (ft):	98
Static Water Level (ft):	45	Flowing:	N
Test Drawdown Depth (ft):	63	Test Hours:	.3
Test Rate:	20	Test Method:	UNK

Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	945	Specific Capacity:	0
Rock Top (ft):	0		

B16
SE **MI WELLS** **MI6000000676537**
1/4 - 1/2 Mile
Lower

WELLS:

Well ID:	63000004020	Permit #:	Not Reported
Owner:	MALCOLM R HARVEY	Well Depth (ft):	90
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	11-JAN-72
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	84.8
Screen Start Depth (ft):	85	Screen End Depth (ft):	90
Static Water Level (ft):	40	Flowing:	N
Test Drawdown Depth (ft):	65	Test Hours:	2.5
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	906	Specific Capacity:	0
Rock Top (ft):	0		

D17
ESE **MI WELLS** **MI6000000676536**
1/4 - 1/2 Mile
Lower

WELLS:

Well ID:	63000004019	Permit #:	Not Reported
Owner:	DENNIS M FERGUSON	Well Depth (ft):	82
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0414	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	17-JUN-82
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	82
Screen Start Depth (ft):	78	Screen End Depth (ft):	82
Static Water Level (ft):	28	Flowing:	N
Test Drawdown Depth (ft):	30	Test Hours:	2
Test Rate:	30	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	906	Specific Capacity:	0
Rock Top (ft):	0		

E18
NW **MI WELLS** **MI6000000676524**
1/4 - 1/2 Mile
Higher

WELLS:

Well ID:	63000004007	Permit #:	Not Reported
Owner:	MICHAEL J NUNNERY	Well Depth (ft):	67
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	10-AUG-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	6	Case Depth (ft):	63
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	43	Flowing:	N
Test Drawdown Depth (ft):	52	Test Hours:	2.5
Test Rate:	65	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

D19
SE
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000676545**

WELLS:

Well ID:	63000004028	Permit #:	Not Reported
Owner:	DJONO PERKOVIC	Well Depth (ft):	86
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	13-MAY-77
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	79
Screen Start Depth (ft):	81	Screen End Depth (ft):	86
Static Water Level (ft):	25	Flowing:	N
Test Drawdown Depth (ft):	40	Test Hours:	1.5
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	906	Specific Capacity:	0
Rock Top (ft):	0		

20
East
1/4 - 1/2 Mile
Higher

MI WELLS **MI6000000706668**

WELLS:

Well ID:	63000041396	Permit #:	10810000037
Owner:	STEVENSON LANGMUIR	Well Depth (ft):	93
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-2485	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	11-NOV-10
Case Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	85
Screen Start Depth (ft):	85	Screen End Depth (ft):	93
Static Water Level (ft):	63	Flowing:	N
Test Drawdown Depth (ft):	74	Test Hours:	1

Test Rate:	15	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	20
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

21
WSW **MI WELLS** **MI6000000676517**
1/4 - 1/2 Mile
Lower

WELLS:

Well ID:	63000004000	Permit #:	Not Reported
Owner:	HEE RYUN KIM	Well Depth (ft):	103
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	47-0027	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	10-NOV-70
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	103
Screen Start Depth (ft):	90	Screen End Depth (ft):	100
Static Water Level (ft):	42	Flowing:	N
Test Drawdown Depth (ft):	50	Test Hours:	1
Test Rate:	30	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

22
WNW **MI WELLS** **MI6000000676514**
1/4 - 1/2 Mile
Lower

WELLS:

Well ID:	63000003996	Permit #:	Not Reported
Owner:	BELLE RADNER	Well Depth (ft):	50
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	01-NOV-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	45
Screen Start Depth (ft):	45	Screen End Depth (ft):	50
Static Water Level (ft):	15	Flowing:	N
Test Drawdown Depth (ft):	40	Test Hours:	4
Test Rate:	30	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	945	Specific Capacity:	0
Rock Top (ft):	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

23
NNW
1/4 - 1/2 Mile
Higher

MI WELLS **MI6000000676519**

WELLS:

Well ID:	63000004002	Permit #:	Not Reported
Owner:	DAVID R WALKER	Well Depth (ft):	112
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	03-0756	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	28-OCT-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	108
Screen Start Depth (ft):	108	Screen End Depth (ft):	112
Static Water Level (ft):	86	Flowing:	N
Test Drawdown Depth (ft):	105	Test Hours:	2
Test Rate:	20	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

E24
NW
1/4 - 1/2 Mile
Higher

MI WELLS **MI6000000676523**

WELLS:

Well ID:	63000004006	Permit #:	Not Reported
Owner:	JEANETTE C NUSSIO	Well Depth (ft):	123
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	10-0270	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	08-FEB-68
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	123
Screen Start Depth (ft):	110	Screen End Depth (ft):	114
Static Water Level (ft):	70	Flowing:	N
Test Drawdown Depth (ft):	80	Test Hours:	6
Test Rate:	25	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

25
West
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000715668**

WELLS:

Well ID:	63000056476	Permit #:	Not Reported
Owner:	HAROLD MACDONALD	Well Depth (ft):	95
Well Type:	Household	Other Type Info:	Not Reported

Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0406	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	12-JAN-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	91	Screen End Depth (ft):	95
Static Water Level (ft):	70	Flowing:	N
Test Drawdown Depth (ft):	75	Test Hours:	0
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	10
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

F26
ENE
1/4 - 1/2 Mile
Higher

MI WELLS **MI6000000676533**

WELLS:

Well ID:	63000004016	Permit #:	Not Reported
Owner:	FRED FILIPOVIC	Well Depth (ft):	122
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0055	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	01-JUL-69
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	118
Screen Start Depth (ft):	118	Screen End Depth (ft):	122
Static Water Level (ft):	75	Flowing:	N
Test Drawdown Depth (ft):	84	Test Hours:	3
Test Rate:	15	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	938	Specific Capacity:	0
Rock Top (ft):	0		

F27
ENE
1/4 - 1/2 Mile
Higher

MI WELLS **MI6000000676534**

WELLS:

Well ID:	63000004017	Permit #:	Not Reported
Owner:	MATTHEW J REMENAR	Well Depth (ft):	103.5
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	06-SEP-74
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	99
Screen Start Depth (ft):	98.5	Screen End Depth (ft):	103.5
Static Water Level (ft):	69	Flowing:	N
Test Drawdown Depth (ft):	84	Test Hours:	1.5
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	935	Specific Capacity:	0

Rock Top (ft): 0

G28
NW
1/4 - 1/2 Mile
Higher

MI WELLS **MI6000000676522**

WELLS:

Well ID:	63000004005	Permit #:	Not Reported
Owner:	BRYAN S COOPER	Well Depth (ft):	108
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	03-MAR-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	103.3
Screen Start Depth (ft):	103	Screen End Depth (ft):	108
Static Water Level (ft):	78	Flowing:	N
Test Drawdown Depth (ft):	95	Test Hours:	4
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

H29
SE
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000676623**

WELLS:

Well ID:	63000004107	Permit #:	Not Reported
Owner:	DONN BURKHOLDER	Well Depth (ft):	91
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	07-OCT-81
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	90
Screen Start Depth (ft):	87	Screen End Depth (ft):	91
Static Water Level (ft):	28	Flowing:	N
Test Drawdown Depth (ft):	54	Test Hours:	2
Test Rate:	18	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	906	Specific Capacity:	0
Rock Top (ft):	0		

H30
SSE
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000676625**

WELLS:

Well ID:	63000004110	Permit #:	Not Reported
Owner:	HAROLD EVANS	Well Depth (ft):	152

Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0413	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	18-FEB-83
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	148
Screen Start Depth (ft):	148	Screen End Depth (ft):	152
Static Water Level (ft):	28	Flowing:	N
Test Drawdown Depth (ft):	63	Test Hours:	1
Test Rate:	55	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	902	Specific Capacity:	0
Rock Top (ft):	0		

31
West
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000676515**

WELLS:

Well ID:	63000003997	Permit #:	Not Reported
Owner:	VICTOR BEGG	Well Depth (ft):	100
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	18-AUG-71
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	6	Case Depth (ft):	99.8
Screen Start Depth (ft):	95	Screen End Depth (ft):	100
Static Water Level (ft):	55	Flowing:	N
Test Drawdown Depth (ft):	77	Test Hours:	4
Test Rate:	50	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

H32
SE
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000715670**

WELLS:

Well ID:	63000056478	Permit #:	Not Reported
Owner:	EDWARD KENWOOD	Well Depth (ft):	98
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	22-JAN-75
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	92
Screen Start Depth (ft):	92	Screen End Depth (ft):	98
Static Water Level (ft):	14	Flowing:	N
Test Drawdown Depth (ft):	4	Test Hours:	0
Test Rate:	8	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	10

Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

G33
NW
1/4 - 1/2 Mile
Higher

MI WELLS **MI6000000676521**

WELLS:

Well ID:	63000004004	Permit #:	Not Reported
Owner:	MICHAEL A MALIS	Well Depth (ft):	103
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	13-SEP-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	6	Case Depth (ft):	95.8
Screen Start Depth (ft):	98	Screen End Depth (ft):	103
Static Water Level (ft):	68	Flowing:	N
Test Drawdown Depth (ft):	3	Test Hours:	75
Test Rate:	0	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

H34
SSE
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000676624**

WELLS:

Well ID:	63000004109	Permit #:	Not Reported
Owner:	RICHARD G BRANCH	Well Depth (ft):	55
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	08-MAY-74
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	52.5
Screen Start Depth (ft):	50	Screen End Depth (ft):	55
Static Water Level (ft):	12	Flowing:	N
Test Drawdown Depth (ft):	36	Test Hours:	1
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	902	Specific Capacity:	0
Rock Top (ft):	0		

I35
West
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000676516**

WELLS:

Well ID:	63000003999	Permit #:	Not Reported

Owner:	JOHN R HEAFIELD	Well Depth (ft):	90.3
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	12-FEB-69
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	84
Screen Start Depth (ft):	85.33	Screen End Depth (ft):	90.33
Static Water Level (ft):	53	Flowing:	N
Test Drawdown Depth (ft):	82	Test Hours:	8
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

36
ESE **MI WELLS** **MI6000000676531**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000004014	Permit #:	Not Reported
Owner:	JAMES T SEHN	Well Depth (ft):	130
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	12-APR-71
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	130
Screen Start Depth (ft):	125	Screen End Depth (ft):	130
Static Water Level (ft):	42	Flowing:	N
Test Drawdown Depth (ft):	121	Test Hours:	7
Test Rate:	11	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	899	Specific Capacity:	0
Rock Top (ft):	0		

37
NW **MI WELLS** **MI6000000676520**
1/2 - 1 Mile
Higher

WELLS:

Well ID:	63000004003	Permit #:	Not Reported
Owner:	CALVIN E BERTRAND	Well Depth (ft):	164
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0055	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	02-DEC-66
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	160
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	90	Flowing:	N
Test Drawdown Depth (ft):	120	Test Hours:	3
Test Rate:	30	Test Method:	UNK

Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

J38
South
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676628**

WELLS:

Well ID:	63000004113	Permit #:	Not Reported
Owner:	GERALD R DEHONDT	Well Depth (ft):	85
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	07-JUN-93
Case Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	81.3
Screen Start Depth (ft):	81.25	Screen End Depth (ft):	85.5
Static Water Level (ft):	45	Flowing:	N
Test Drawdown Depth (ft):	51	Test Hours:	1
Test Rate:	20	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	909	Specific Capacity:	0
Rock Top (ft):	0		

I39
West
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676528**

WELLS:

Well ID:	63000004011	Permit #:	Not Reported
Owner:	MELVIN VANDERBRUG	Well Depth (ft):	75
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	10-FEB-70
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	68.9
Screen Start Depth (ft):	70	Screen End Depth (ft):	75
Static Water Level (ft):	37	Flowing:	N
Test Drawdown Depth (ft):	65	Test Hours:	5
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

K40
South
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676631**

WELLS:

Well ID:	63000004116	Permit #:	Not Reported
Owner:	RICHARD BECHER	Well Depth (ft):	95.8
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	04-MAY-83
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	87.5
Screen Start Depth (ft):	87	Screen End Depth (ft):	95.75
Static Water Level (ft):	47	Flowing:	N
Test Drawdown Depth (ft):	73	Test Hours:	2
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	915	Specific Capacity:	0
Rock Top (ft):	0		

L41
NW
1/2 - 1 Mile
Higher

MI WELLS **MI6000000676527**

WELLS:

Well ID:	63000004010	Permit #:	Not Reported
Owner:	RICHARD & KRISTEN ROTH	Well Depth (ft):	103.3
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	30-SEP-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	98.33	Screen End Depth (ft):	103.33
Static Water Level (ft):	67	Flowing:	N
Test Drawdown Depth (ft):	85	Test Hours:	4
Test Rate:	17	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

J42
South
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676629**

WELLS:

Well ID:	63000004114	Permit #:	Not Reported
Owner:	ALMA KRIKORIAN	Well Depth (ft):	302
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0110	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	07-MAR-68
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	20	Flowing:	N
Test Drawdown Depth (ft):	120	Test Hours:	0

Test Rate:	20	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

K43
South
1/2 - 1 Mile
Lower

MI WELLS **MI6000000715673**

WELLS:

Well ID:	63000056481	Permit #:	Not Reported
Owner:	MARTIN GILLESPIE	Well Depth (ft):	70
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-1765	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	26-NOV-81
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	86
Screen Start Depth (ft):	66	Screen End Depth (ft):	70
Static Water Level (ft):	40	Flowing:	N
Test Drawdown Depth (ft):	45	Test Hours:	1
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	20
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

44
NNW
1/2 - 1 Mile
Higher

MI WELLS **MI6000000676518**

WELLS:

Well ID:	63000004001	Permit #:	Not Reported
Owner:	MICHAEL JACKSON	Well Depth (ft):	176
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0127	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	10-FEB-68
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	172
Screen Start Depth (ft):	172	Screen End Depth (ft):	176
Static Water Level (ft):	97	Flowing:	N
Test Drawdown Depth (ft):	105	Test Hours:	2
Test Rate:	15	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

M45
SE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000707861**

WELLS:

Well ID:	63000043477	Permit #:	10812000015
Owner:	GEOFFREY GOULD	Well Depth (ft):	107
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-2076	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	27-JUN-12
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	99
Screen Start Depth (ft):	99	Screen End Depth (ft):	107
Static Water Level (ft):	40	Flowing:	N
Test Drawdown Depth (ft):	80	Test Hours:	2
Test Rate:	25	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	15
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

L46
NW
1/2 - 1 Mile
Higher

MI WELLS **MI6000000676526**

WELLS:

Well ID:	63000004009	Permit #:	Not Reported
Owner:	ANTHONY CEBRIAN	Well Depth (ft):	88
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	08-DEC-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	84.4
Screen Start Depth (ft):	83	Screen End Depth (ft):	88
Static Water Level (ft):	65	Flowing:	N
Test Drawdown Depth (ft):	81	Test Hours:	5
Test Rate:	11	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

47
South
1/2 - 1 Mile
Higher

MI WELLS **MI6000000676630**

WELLS:

Well ID:	63000004115	Permit #:	Not Reported
Owner:	LOUIS R MERZ	Well Depth (ft):	98
Well Type:	Household	Other Type Info:	Not Reported

Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	09-MAY-77
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	93
Screen Start Depth (ft):	93	Screen End Depth (ft):	98
Static Water Level (ft):	60	Flowing:	N
Test Drawdown Depth (ft):	84	Test Hours:	1.5
Test Rate:	18	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	912	Specific Capacity:	0
Rock Top (ft):	0		

48
SE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000726082**

WELLS:

Well ID:	63000067000	Permit #:	108-21-000042
Owner:	SCACCIA BUILDINGCOMPANY	Well Depth (ft):	75
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-2617	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	01-SEP-21
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	55
Screen Start Depth (ft):	55	Screen End Depth (ft):	75
Static Water Level (ft):	31	Flowing:	N
Test Drawdown Depth (ft):	70	Test Hours:	2
Test Rate:	50	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	25
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

49
NNW
1/2 - 1 Mile
Higher

MI WELLS **MI6000000676529**

WELLS:

Well ID:	63000004012	Permit #:	Not Reported
Owner:	MARK WILLIS	Well Depth (ft):	121
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	29-MAR-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	0
Screen Start Depth (ft):	117	Screen End Depth (ft):	121
Static Water Level (ft):	96	Flowing:	N
Test Drawdown Depth (ft):	110	Test Hours:	2
Test Rate:	15	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0

Rock Top (ft): 0

M50
SE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000703821**

WELLS:

Well ID:	63000035395	Permit #:	10806000047
Owner:	SULLIVAN, HAROLD	Well Depth (ft):	73
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	28-JUL-06
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	61
Screen Start Depth (ft):	61	Screen End Depth (ft):	73
Static Water Level (ft):	40	Flowing:	N
Test Drawdown Depth (ft):	42	Test Hours:	2
Test Rate:	25	Test Method:	TSTPUM
Well Grouted:	Y	Pump Capacity (gpm):	23
Elevation (ft):	0	Specific Capacity:	.5952381
Rock Top (ft):	0		

51
South
1/2 - 1 Mile
Higher

MI WELLS **MI6000000676626**

WELLS:

Well ID:	63000004111	Permit #:	Not Reported
Owner:	THOMAS LONGE	Well Depth (ft):	129.2
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	31-AUG-93
Case Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	120
Screen Start Depth (ft):	120.66	Screen End Depth (ft):	129.2
Static Water Level (ft):	72	Flowing:	N
Test Drawdown Depth (ft):	81	Test Hours:	2
Test Rate:	13	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	912	Specific Capacity:	0
Rock Top (ft):	0		

52
West
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676525**

WELLS:

Well ID:	63000004008	Permit #:	Not Reported
Owner:	HERBERT L MISCH	Well Depth (ft):	93

Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	82-0155	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	20-DEC-66
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	88
Screen Start Depth (ft):	88	Screen End Depth (ft):	93
Static Water Level (ft):	50	Flowing:	N
Test Drawdown Depth (ft):	80	Test Hours:	4
Test Rate:	25	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

53
West
1/2 - 1 Mile
Lower

MI WELLS **MI6000000715572**

WELLS:

Well ID:	63000056380	Permit #:	Not Reported
Owner:	L LEWIS	Well Depth (ft):	110
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	82-0155	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	22-DEC-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	107
Screen Start Depth (ft):	107	Screen End Depth (ft):	110
Static Water Level (ft):	65	Flowing:	N
Test Drawdown Depth (ft):	102	Test Hours:	3
Test Rate:	15	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	10
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

54
WSW
1/2 - 1 Mile
Higher

MI WELLS **MI6000000672708**

WELLS:

Well ID:	63000000144	Permit #:	Not Reported
Owner:	KENNETH T WAY	Well Depth (ft):	75
Well Type:	Other	Other Type Info:	Abandoned
Well Status:	Not Reported	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0140	Drill Method:	Unknown
Other Method Info:	Not Reported	Construction Date:	03-NOV-97
Case Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	75
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	999.99	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0

Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

N55
ENE **MI WELLS** **MI6000000676548**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000004031	Permit #:	Not Reported
Owner:	RICHARD M MOSS	Well Depth (ft):	99
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0817	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	07-MAR-70
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	95
Screen Start Depth (ft):	95	Screen End Depth (ft):	99
Static Water Level (ft):	45	Flowing:	N
Test Drawdown Depth (ft):	45	Test Hours:	3
Test Rate:	35	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	915	Specific Capacity:	0
Rock Top (ft):	0		

O56
WNW **MI WELLS** **MI6000000715454**
1/2 - 1 Mile
Higher

WELLS:

Well ID:	63000056259	Permit #:	Not Reported
Owner:	Not Reported	Well Depth (ft):	83
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0413	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	30-JUL-80
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	79
Screen Start Depth (ft):	79	Screen End Depth (ft):	83
Static Water Level (ft):	40	Flowing:	N
Test Drawdown Depth (ft):	63	Test Hours:	1
Test Rate:	60	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	27
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

N57
ENE **MI WELLS** **MI6000000715587**
1/2 - 1 Mile
Higher

WELLS:

Well ID:	63000056395	Permit #:	Not Reported

Owner:	JOSEPH R GRAYSON	Well Depth (ft):	88.5
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	10-FEB-72
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	84
Screen Start Depth (ft):	83	Screen End Depth (ft):	88.5
Static Water Level (ft):	47	Flowing:	N
Test Drawdown Depth (ft):	75	Test Hours:	1
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	19
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

N58
ENE
1/2 - 1 Mile
Higher

MI WELLS **MI6000000676549**

WELLS:

Well ID:	63000004032	Permit #:	Not Reported
Owner:	HUBERT C SERRE	Well Depth (ft):	170
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0140	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	04-MAY-81
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	165
Screen Start Depth (ft):	166	Screen End Depth (ft):	170
Static Water Level (ft):	60	Flowing:	N
Test Drawdown Depth (ft):	65	Test Hours:	1
Test Rate:	60	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	915	Specific Capacity:	0
Rock Top (ft):	0		

O59
WNW
1/2 - 1 Mile
Higher

MI WELLS **MI6000000672709**

WELLS:

Well ID:	63000000145	Permit #:	Not Reported
Owner:	FOREST LAKE COUNTRY CLUB	Well Depth (ft):	70
Well Type:	Other	Other Type Info:	Abandoned
Well Status:	Not Reported	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0406	Drill Method:	Unknown
Other Method Info:	Not Reported	Construction Date:	05-MAY-99
Case Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	70
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	999.99	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK

Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	948	Specific Capacity:	0
Rock Top (ft):	0		

60
ENE
1/2 - 1 Mile
Higher

MI WELLS **MI6000000715590**

WELLS:

Well ID:	63000056398	Permit #:	Not Reported
Owner:	HORACE RODGERS	Well Depth (ft):	159.5
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	04-MAY-70
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	155
Screen Start Depth (ft):	154.5	Screen End Depth (ft):	159.5
Static Water Level (ft):	43	Flowing:	N
Test Drawdown Depth (ft):	67	Test Hours:	5
Test Rate:	21	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	17
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

61
NNW
1/2 - 1 Mile
Higher

MI WELLS **MI6000000715451**

WELLS:

Well ID:	63000056256	Permit #:	Not Reported
Owner:	MIRACLE MILE CHURCH OF CHRIST		
Well Depth (ft):	139	Well Type:	Household
Other Type Info:	Not Reported	Well Status:	Active
Other Status Info:	Not Reported	Water Supply Serial #:	0
Well #:	Not Reported	Driller ID:	63-0127
Drill Method:	Cable Tool	Other Method Info:	Not Reported
Construction Date:	21-JUL-67	Case Type:	Unknown
Other Casing Info:	Not Reported	Case Diameter (in):	4
Case Depth (ft):	135	Screen Start Depth (ft):	135
Screen End Depth (ft):	139	Static Water Level (ft):	70
Flowing:	N	Test Drawdown Depth (ft):	80
Test Hours:	1	Test Rate:	15
Test Method:	UNK	Well Grouted:	N
Pump Capacity (gpm):	15	Elevation (ft):	0
Specific Capacity:	0	Rock Top (ft):	0

62
SSE
1/2 - 1 Mile
Lower

Site ID:	630213
Groundwater Flow:	E
Shallowest Water Table Depth:	6
Deepest Water Table Depth:	11
Average Water Table Depth:	Not Reported
Date:	09/30/1998

AQUIFLOW **39761**

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

P63
East
1/2 - 1 Mile
Lower

MI WELLS **MI6000000672711**

WELLS:

Well ID:	63000000147	Permit #:	Not Reported
Owner:	HORACE J RODGERS	Well Depth (ft):	159.5
Well Type:	Other	Other Type Info:	Abandoned
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Unknown
Other Method Info:	Not Reported	Construction Date:	27-MAR-97
Case Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	155
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	999.99	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	902	Specific Capacity:	0
Rock Top (ft):	0		

P64
East
1/2 - 1 Mile
Lower

MI WELLS **MI6000000715585**

WELLS:

Well ID:	63000056393	Permit #:	Not Reported
Owner:	PARK WOODS BUILDING CO	Well Depth (ft):	126
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0480	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	17-MAY-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	122
Screen Start Depth (ft):	122	Screen End Depth (ft):	126
Static Water Level (ft):	65	Flowing:	N
Test Drawdown Depth (ft):	80	Test Hours:	5
Test Rate:	1440	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	1440
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

65
SE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676627**

WELLS:

Well ID:	63000004112	Permit #:	Not Reported
Owner:	MYRON ZUCKER TRUST	Well Depth (ft):	75
Well Type:	Household	Other Type Info:	Not Reported

Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	08-APR-80
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	6	Case Depth (ft):	71
Screen Start Depth (ft):	69.5	Screen End Depth (ft):	75
Static Water Level (ft):	39	Flowing:	N
Test Drawdown Depth (ft):	63	Test Hours:	1
Test Rate:	55	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	899	Specific Capacity:	0
Rock Top (ft):	0		

66
ENE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000703543**

WELLS:

Well ID:	63000035096	Permit #:	10806000007
Owner:	THOMAS G WHITE	Well Depth (ft):	59
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0512	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	13-MAY-06
Case Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	59
Screen Start Depth (ft):	55	Screen End Depth (ft):	59
Static Water Level (ft):	30	Flowing:	N
Test Drawdown Depth (ft):	45	Test Hours:	3
Test Rate:	30	Test Method:	TSTPUM
Well Grouted:	Y	Pump Capacity (gpm):	20
Elevation (ft):	0	Specific Capacity:	.66666667
Rock Top (ft):	0		

67
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000690410**

WELLS:

Well ID:	63000018151	Permit #:	Not Reported
Owner:	PAT KEENEY	Well Depth (ft):	238
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-1701	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	31-AUG-00
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	230
Screen Start Depth (ft):	230	Screen End Depth (ft):	238
Static Water Level (ft):	38	Flowing:	N
Test Drawdown Depth (ft):	200	Test Hours:	1
Test Rate:	50	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	18
Elevation (ft):	0	Specific Capacity:	0

Rock Top (ft): 0

68
ESE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000715589**

WELLS:

Well ID:	63000056397	Permit #:	Not Reported
Owner:	BLOOMFIELD BD OF EDUCATION		
Well Depth (ft):	132	Well Type:	Type I Public
Other Type Info:	Not Reported	Well Status:	Active
Other Status Info:	Not Reported	Water Supply Serial #:	0
Well #:	Not Reported	Driller ID:	63-0025
Drill Method:	Cable Tool	Other Method Info:	Not Reported
Construction Date:	23-JUN-75	Case Type:	Unknown
Other Casing Info:	Not Reported	Case Diameter (in):	6
Case Depth (ft):	127.75	Screen Start Depth (ft):	126.75
Screen End Depth (ft):	132	Static Water Level (ft):	37
Flowing:	N	Test Drawdown Depth (ft):	86
Test Hours:	2	Test Rate:	50
Test Method:	UNK	Well Grouted:	N
Pump Capacity (gpm):	80	Elevation (ft):	0
Specific Capacity:	0	Rock Top (ft):	0

69
SE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676635**

WELLS:

Well ID:	63000004120	Permit #:	Not Reported
Owner:	ADAM FRANK	Well Depth (ft):	85
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0127	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	31-OCT-66
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	80
Screen Start Depth (ft):	80	Screen End Depth (ft):	85
Static Water Level (ft):	58	Flowing:	N
Test Drawdown Depth (ft):	63	Test Hours:	2
Test Rate:	55	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	899	Specific Capacity:	0
Rock Top (ft):	0		

1G
SSE
1/2 - 1 Mile
Lower

Site ID:	630213
Groundwater Flow:	E
Shallowest Water Table Depth:	6
Deepest Water Table Depth:	11
Average Water Table Depth:	Not Reported
Date:	09/30/1998

AQUIFLOW **39761**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: MI Radon

Radon Test Results

Zipcode	Test Date	LT Sign	Result
48302	12/3/2005		1.6
48302	2/17/2004		1.5
48302	2/17/2004		1.4
48302	12/27/2004		1.4
48302	1/30/2009		1.5
48302	2/27/2009		1.5
48302	1/26/2009		4.2
48302	10/26/2009		4.3
48302	11/2/1999		4.4
48302	2/14/2009		4.1
48302	9/27/1995		3.2
48302	11/9/2004		7.1
48302	11/2/2007		5.2
48302	10/27/2009		5.2
48302	6/24/2002		5.9
48302	12/2/2006		5.5
48302	7/24/2002		5.8
48302	6/8/1998		5.0
48302	10/23/2009		5.8
48302	10/6/1998		5.3
48302	1/16/2008		5.0
48302	3/2/2009		5.3
48302	12/24/2002		4.9
48302	4/7/2005		7.0
48302	3/2/2002		6.9
48302	11/7/2006		6.9
48302	10/22/2007		16.5
48302	1/19/2002		14.9
48302	8/14/1999		13.0
48302	11/2/2002		12.2
48302	6/17/2008		8.5
48302	2/11/2002		8.3
48302	2/4/2003		8.6
48302	2/22/2002		2.1
48302	1/26/2009		8.6
48302	1/29/2000		2.1
48302	8/17/1996		31.7
48302	2/3/2009		2.0
48302	11/6/2002		25.7
48302	10/30/2009		2.6
48302	7/29/1996		2.5
48302	2/14/2009		2.8
48302	2/17/2004		2.5
48302	1/23/2006		2.5
48302	9/27/1995		2.4
48302	2/1/2006		2.4
48302			

AREA RADON INFORMATION

	12/27/2007		2.4
48302	2/17/2004		2.3
48302	2/17/2004		2.3
48302	2/17/2004		2.3
48302	3/3/2005		2.3
48302	4/18/2002		2.2
48302	10/31/2005		2.2
48302	2/17/2004		2.2
48302	11/9/1998		2.1
48302	1/31/2008		3.0
48302	2/17/2004		2.7
48302	2/13/2004		2.6
48302	3/16/2004		2.8
48302	11/4/2006		2.8
48302	10/27/2003		2.9
48302	1/3/2007		2.8
48302	2/17/2004		2.9
48302	9/30/2002		3.5
48302	1/27/2009		3.5
48302	11/7/2005		3.5
48302	7/11/2008		3.5
48302	9/9/2002		3.4
48302	9/9/2002		3.3
48302	2/6/2007		3.3
48302	1/24/2009		3.2
48302	5/7/2009		3.2
48302	11/14/2008		3.3
48302	12/23/2002		3.9
48302	2/17/2004		3.9
48302	1/25/2005		3.0
48302	8/22/2005		3.0
48302	8/26/2008		3.9
48302	4/12/2005		3.7
48302	3/24/2001		3.9
48302	8/14/1999		3.9
48302	10/29/2003		3.1
48302	10/4/2005		3.1
48302	3/16/2004		3.1
48302	2/14/2009		3.7
48302	12/8/2006		1.9
48302	10/2/2006		1.9
48302	3/17/2007		1.9
48302	12/24/2007		1.9
48302	11/9/2007		1.8
48302	2/27/2009		1.8
48302	3/30/1998		1.7
48302	12/2/2005		1.8
48302	11/20/2007		1.7
48302	2/17/2004		1.7
48302	3/31/2004		1.7
48302	3/23/2004		1.7
48302	11/22/2006		1.7
48302	11/7/2006		1.6
48302	4/27/2004	<	0.3
48302	11/12/2002	<	0.3
48302	3/19/2001		0.5
48302			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

	1/18/2003	<	0.3
48302	10/10/2003		0.8
48302	2/14/2004		0.8
48302	2/24/2006		0.7
48302	11/2/2007		0.8
48302	2/17/2009		0.7
48302	10/27/2009		0.8
48302	11/1/1999		0.9
48302	11/4/2002		0.6
48302	5/12/2007		1.4
48302	12/11/2001		1.3
48302	5/8/2009		1.3
48302	4/4/2000		1.2
48302	3/12/2004		1.2
48302	3/29/1995		1.1
48302	5/17/1999		1.2
48302	5/4/2005		1.1
48302	2/8/2007		1.1
48302	3/17/2007		1.1
48302	3/2/2004		1.0

Federal EPA Radon Zone for OAKLAND County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for OAKLAND COUNTY, MI

Number of sites tested: 61

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.189 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.539 pCi/L	93%	7%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Natural Resources
Telephone: 517-241-2254

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Data
Source: Department of Environmental Quality
Telephone: 517-335-9218
The data in this file was obtained from Wellogic, the Michigan Department of Environmental Quality Statewide Groundwater Database (SGWD). Wellogic contains approximately 425,000 water well records found within the State of Michigan, and although it represents the best available data, it cannot be considered a complete database of all the wells or well records in existence. Locations of verified municipal and private water well sites compiled from Michigan Department of Public Health, Water Well and Pump Records. Available in the following MI counties: Calhoun, Eaton, Genesee, Ingham, Jackson, Kalamazoo, Kent, Midland, Muskegon, Oakland, Ottawaw, Saginaw, St. Clair, Washtenaw.

OTHER STATE DATABASE INFORMATION

Michigan Oil and Gas Wells
Source: Department of Environmental Quality
Telephone: 517-241-1528
Locations of oil and gas wells are compiled from permit records on file at the Geological Survey Division (GSD), Michigan Department of Natural Resources.

RADON

State Database: MI Radon
Source: Department of Environmental Quality
Telephone: 517-335-9551
Radon Test Results

Michigan Radon Test Results
Source: Department of Environmental Quality
Telephone: 517-335-8037
These results are from test kits distributed by the local health departments and used by Michigan residents. There is no way of knowing whether the devices were used properly, whether there are duplicates (or repeat verification) test (i.e., more than one sample per home), etc.

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

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EGLE

Enforcement Actions - Perfected Lien List

Contact

Katelyn Wysocki
Wysockik@Michigan.gov
517-614-2058

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Remediation and Redevelopment Division (RRD) has perfected liens on property pursuant to Section 20138 of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL 324.20101 et seq. The following is a current listing of liens perfected by the RRD on property as of the date that appears on this list. The list will be updated only when the RRD has perfected a new lien on a property or has released a lien from a property. The information provided herein cannot be construed or interpreted as legal verification that a perfected lien does not exist on a particular property, or that a lien is the only perfected lien on a property. To obtain legal verification, you must access official records from the appropriate County Register of Deeds and/or the Michigan Secretary of State when applicable.

Downloadable Excel Spreadsheet

Updated: January 22, 2026; newly added items are indicated with yellow highlight - sort by 'Date Item Posted' to see the latest postings first. Note that documents posted prior to June 2023 do not have a date item posted.

More detailed information for properties can by found in the Excel spreadsheet.

Show 10 entries

Search: Oakland

County	Township	City	Address	Lot No	Tax Code	Date Item Posted

County	Township	City	Address	Lot No	Tax Code	Date Item Posted
Oakland	Farmington	Farmington Hills	29024 Grand River	Lots 45-51	23-36-304-022	
Oakland	Waterford/ White Lake				13-07-100-008 12-12-200-007	

Showing 1 to 2 of 2 entries (filtered from 100 total entries)

Previous 1 Next

EGLE

Enforcement Actions - Perfected Lien List

Copyright State of Michigan

Notice

We are proactively implementing preventative security measures for certain users. As a result, some users might have trouble logging in. Please follow the standard password reset procedure in NextRequest. You may need to also clear your browser cache before following the reset procedure.

We appreciate your patience and partnership.

Skip to main content

Bloomfield Township

NextRequest

Request 26-358 Closed

Dates

Received

April 08, 2026 via web

Staff assigned

Departments

No departments available

Point of contact

Catarina Yankey

Request

P26-0481.00

ASTI Environmental is conducting an environmental assessment and respectfully request any:

-Assessing Department records regarding historical and current assessing records and field sheets;

-Building Department records regarding any building permits, site plans, sketches, code violations, and

inspections; and

-Fire Department records regarding any reports of spills/releases, above ground and underground storage tanks, landfilling, fires, and Hazmat incidents.

If costs exceed $50.00, please let me know before proceeding. Thank you.

Timeline Documents

Request closed Anyone with access to this request

Hello,

Your FOIA Request was sent to three departments for review; below are their responses.

1. **Building Department:** Request granted partially. A document has been uploaded to your file.
    - All Building permits from 2000 to present can be found on www.bsaonline.com. Attached to this request is a list from Cornerstone with permits issued prior to 2000. If the requester would like copies of any of these permits, the Building Dept. will estimate the fee amount for copies.
2. **Assessing Department:** Request granted. A document has been uploaded to your file.
3. **Fire Department:** No records pertaining to your request.

- **REMINDER**: You will need to log into your account in order to view your documents. If this is your first time using this portal, click the link to Finish Creating an Account.

Please view the link of the Notice of Your Rights under the FOIA.

A copy of the Township's Procedures and Guidelines as well as our Written Public Summary may be found on the Township website at Bloomfield Twp, MI - Request for Public Records.

Sincerely,

Catarina Yankey

FOIA Coordinator Designee

April 16, 2026, 7:45am by Staff

Department assignment — Anyone with access to this request

Removed: General Records.

April 9, 2026, 11:06am by Staff

Department assignment — Anyone with access to this request

General Records

April 8, 2026, 3:07pm by the requester

Request opened — Anyone with access to this request

Request received via web

April 8, 2026, 3:07pm by the requester

Bailey Bishop

From: Oakland County Record Center <oaklandcountymi@mycusthelp.net>
Sent: Thursday, April 9, 2026 10:58 AM
To: ASTI FOIA
Subject: Freedom of Information Act (FOIA) Request :: F002404-040826

--- Please respond above this line ---

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID C

Kate Guzmán, Healt
(248) 858-1280 | health@oak

04/09/2026

Aliya Spotts
ASTI Environmental

10448 Citation Drive Suite 100
Brighton MI 48116
foia@asti-env.com

RE: FOIA REQUEST of April 08, 2026, Reference # F002404-040826

Dear Aliya Spotts:

This letter is in response to your Freedom of Information Act (FOIA) request referenced above.

Your request is granted in part. You may log in to the Oakland County Records Center to view the responsive records able to be released, which includes an active "Type II" well file for WSSN #2246463/El Johnson Nature Center Historical.

YOUR FURTHER LEGAL RIGHTS

To the extent that this response, in your opinion, constitutes a denial of your Freedom of Information Act (FOIA) rights, your statutory remedies are as follows:

For FOIA denials, you may submit to the head of the public body a written appeal that specifically states the word "appeal" and identifies the reason or reasons for reversal of the denial. Within 10 business days after the head of the public body receives a written appeal he or she will do one of the following:

1. Reverse the denial.
2. Issue a written notice to you upholding the denial.
3. Reverse the denial in part and issue a written notice to you upholding the denial in part.
4. Under unusual circumstances, issue a notice extending for not more than 10 business days the time to respond.

You may begin a civil action in circuit court to compel the public body's disclosure of the public records within 180 days after a public body's final determination to deny a request.

You have the right to receive attorneys' fees and damages as provided in MCL 15.240 if, after judicial review, the court determines that the public body has not complied with MCL 15.235 and orders disclosure of all or a portion of a public record.

For fee appeals, if the public body requires a fee that, in your opinion, exceeds the amount permitted under its procedures and guidelines or MCL 15.234, you may submit to the head of the public body a written fee appeal for a fee reduction that specifically states the word "appeal" and identifies how the required fee exceeds the amount permitted. Within 10 business days after the head of the public body receives a written fee appeal, he or she will do one of the following:

1. Waive the fee.
2. Reduce the fee and issue a written determination to the requesting person indicating the basis for the remaining fee.
3. Uphold the fee and issue a written determination to the requesting person indicating the basis for upholding the fee.
4. If necessary, issue a notice extending for not more than 10 business days the time to respond.

Within 45 days after the head of the public body issues a written determination on the fee appeal or if the head of the public body failed to respond to the fee appeal, you may begin a civil action in circuit court.

Oakland County's FOIA Procedures and Guidelines, and its Public Summary, can be found at https://www.oakgov.com/government/FOIA

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
DEPARTMENT OF HEALTH & HUMAN SERVICES

Christine Newcomb
Health Division

To monitor the progress or update this request please log into the FOIA Record Center.

OAKLAND
COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

January 30, 2024

BRIAN KLOSTERMAN
3325 FRANKLIN RD
BLOOMFIELD HILLS 48302,MI

RE: COLIFORM SAMPLING FREQUENCY WAIVER FOR E.L.JOHNSON NATURE CENTER

WSSN # 22484-63

Dear Operator:

In accordance with the Safe Drinking Water Act 399, P.A. of 1976 and Administrative Rules (R325.10706) water supplies which are serving less than 1,001 persons with a protected groundwater source may vary the frequency of sampling.

This facility is currently sampling monthly for coliform bacteria. It has been the determination of this office that your frequency be decreased to quarterly coliform sampling (once every three months). This determination was made due to the fact that this facility has one complete year of satisfactory monthly samples following a number of positive bacteriological samples.

Your next coliform bacteria sample is due by March 31, 2024.

If you have any questions please call me at (248) 897-2731.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Emilee Fouladpour
Public Health Sanitarian
Environmental Health Services

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE

LEVEL 2 ASSESSMENT FORM FOR NONCOMMUNITY PUBLIC WATER SUPPLIES

Issued under authority of the Safe Drinking Water Act, 1976 PA 399, as amended, MCL 325.1001 et seq., and its Administrative Rules (Act 399).
Failure to submit certification is a violation of Act 399 and may be subject the water supply to enforcement actions.

Noncommunity Water System Name:	Water Supply Serial Number:	Source ID (if applicable):	Date of Trigger:	Date of Onsite Assessment:
EL Johnson Nature Center	2246463	001	—	1/26/24

Name of Person Completing Onsite Assessment:	Name and Title of Person at Facility Present During Assessment:	Form in response to (check one):
Julia Rekydal Emilee Fauldpaer Michelle Mader	Brain Klosterman	*E. coli* MCL: ☐ 2nd Level 1 in 12 months: ☐ 2nd Level 1 in 2 years (annual monitoring): ☐ Annual Site Visit: Monthly → Quarterly ☑

	Issues	Check	Description and Corrective Action Taken (including date) (attach additional sheets if necessary)
1.	**Has anything unusual occurred prior to sample collection?**		
	Loss of pressure	~~Yes☐ No☐~~	
	Power outage	~~Yes☐ No☐~~	
	Operation & maintenance activities	Yes☐ No☒	
	Vandalism	Yes☐ No☑	
	Visible indicators of unsanitary conditions	Yes☐ No☑	
	Heavy rainfall	Yes☐ No☑	
2.	**Have there been any recent changes to the water system?**		
	New plumbing installed	~~Yes☐ No☐~~	
	Pump replacement	~~Yes☐ No☐~~	
	Pressure tank replacement	~~Yes☐ No☐~~	
	Treatment system installed	~~Yes☐ No☐~~	
	Operational changes	Yes☐ No☒	
	New potential sources of contamination	Yes☐ No☑	
3.	**Sampling Site/Protocol:**		
	Sample tap damaged or inaccessible	Yes☐ No☑	
	Improper sampling techniques	Yes☐ No☒	
	Improper sample location	Yes☐ No☑	
4.	**Well:**		
	Wellhead less than12" above grade	Yes☐ No☑	
	Unapproved/unsecured cap	Yes☐ No☒	
	Vent screen missing or damaged	Yes☐ No☑	
	Conduit damaged or not sealed to cap	Yes☐ No☒	
	Evidence of flooding/standing water around wellhead	Yes☐ No☒	
	Reduced isolation distance to sources of contamination	Yes☐ No☒	
	Integrity/age of water well may be an issue	Yes☐ No☑	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE

LEVEL 2 ASSESSMENT FORM FOR NONCOMMUNITY PUBLIC WATER SUPPLIES

Issued under authority of the Safe Drinking Water Act, 1976 PA 399, as amended, MCL 325.1001 et seq., and its Administrative Rules (Act 399).
Failure to submit certification is a violation of Act 399 and may be subject the water supply to enforcement actions.

	Issues	Check	Description and Corrective Action Taken (including date) (attach additional sheets if necessary)
5.	**Treatment Process (if applicable):** Interruptions in treatment Chemical refill overdue Filter change due Incorrect chemical solution concentration Dosage adjustment needed	Yes☐ No☐ Yes☐ No☐ Yes☐ No☐ Yes☐ No☐ Yes☐ No☐	N/A
6.	**Pressure Tank:** Recent work performed Leaks Pump runs more often	Yes☐ No☐ Yes☐ No☐ Yes☐ No☐	N/A
7.	**Distribution System:** Plumbing in disrepair Leaking joints Pressure loss Cross connections Dead-end plumbing Frozen pipes	Yes☐ No☐ Yes☐ No☐ Yes☐ No☐ Yes☐ No☐ Yes☐ No☐ Yes☐ No☐	N/A
8.	**Other Related Issue(s):** Check applicable box and describe event in adjacent space.	Yes☐ No☐	

Conclusions:

- ☐ Sanitary defect(s) were found (see above)
- ☐ Issues were found (see above)
- ☒ No obvious deficiencies or issues were identified
- ☐ Annual Site Visit Only – System approved to remain on annual monitoring

The following Corrective Action Plan (CAP) and/or action(s) are now required:

- ☐ Increase to monthly monitoring (required as a result of a trigger into a Level 2 Assessment)
- ☐ CAP – Disinfect the water supply system, flush the system, and collect two samples 24 hours apart*
- ☐ CAP – Repair/replace the following*:
- ☐ CAP – Other*:
- ☐ None (Satisfactory Annual Site Visit Only)

Monthly to Quarterly

* Actions required to be completed by _____ (date).

Tracking Form for Noncommunity Public Water Supply Positive Coliform Sample Results

Facility: E L JOHNSON NATURE CENTER WSCN 2246463 Source ID: 001

Contact person: BRIAN KOSTERMAN Phone: 810-614-0211

Monitoring frequency: ☐ Annual ☐ Quarterly ☒ Monthly ☐ Other

Date of initial POS: 9/26/23 Location of initial POS: HANDPUMP

Facility notified of initial POS: ☒ Letter ☐ Phone ☐ Other

Date(s) of repeat samples: 10/4/23 Number of repeat samples: 4

Sampling locations appropriate: ☒ Yes ☐ No

1 sample at raw water tap: ☒ Yes ☐ No GWR Violation form sent: ☐ Yes ☐ No ☒ NA

Results of repeat samples: 4 ND _____ TC POS _____ EC POS

EC MCL? ☐ Yes ☒ No

Level 1 Assessment conducted (1+ or more repeat sample TC POS): ☐ Yes ☐ No ☐ NA

Level 1 Assessment entered into spreadsheet: ☐ Yes ☐ No ☐ NA

Level 2 Assessment conducted (EC MCL, 2 LVT within 12 mo, 2 consecutive yrs): ☐ Yes ☐ No ☐ NA

Level 2 Assessment entered into spreadsheet: ☐ Yes ☐ No ☐ NA

Repairs made: ☐ Yes ☐ No Supply chlorinated: ☐ Yes ☐ No Chlorinated by:

Minimum of 2 consecutive coliform ND samples: ☐ Yes ☐ No

Date(s) of samples:

Three routine samples collected following month: ☐ Yes ☐ No MONTHLY

Results of routine samples: ____ ND ____ TC POS ____ EC POS

Routine samples waived: ☐ Yes ☐ No Waiver form completed: ☐ Yes ☐ No ☐ NA

Monitoring frequency increased: ☐ Yes ☐ No ☐ NA

Documented in file: ☐ Yes ☐ No

Comments:

If applicable

SIA Date: SIE Date: SIF Date: SOX Date:

OAKLAND
COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

October 6, 2023

BRIAN KLOSTERMAN
EL JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: POSITIVE TOTAL COLIFORM WATER SAMPLE RESULT AT E.L. JOHNSON NATURE CENTER HANDPUMP
WSSN: # 22464-63

Dear Owner/Operator:

A water sample was collected from your noncommunity water supply serving 1000 or fewer people per day on September 26, 2023. The sample tested positive for coliform bacteria. Under the provisions of the Safe Drinking Water Act, Act 399 P.A. 1976 and the Rules as amended, you must collect four (4) repeat samples within 24 hours of notification of unsatisfactory sample results.

Repeat samples must be collected at locations designated on your sample siting plan including:

- Four samples from the handpump

If you have not re-sampled as described above, do so immediately. If needed, please contact this office to review sample collection techniques and locations. Until safe samples are obtained, precautionary measures, such as providing bottled water, are highly encouraged.

Failure to collect all of your repeat samples or follow up in a timely manner will result in triggering a Level 1 or Level 2 Assessment and may result in increased monitoring.

If you have any questions, please contact me at 248-431-0930.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Michelle Mader, REHS
Senior Public Health Sanitarian
Environmental Health Services

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	**2023269-314**	**Previous Sample Date:**	
Test Reason:	**RESAMPLE**	**Test Set Up Date:**	**09/26/2023**
Application Number:		**Lab Method:**	**SM 9223B**
Parcel ID:		**Method Detection Limit:**	**1 CFU/100ml**

COLLECTION INFORMATION

Collected Date and Time:	**09/26/2023 10:30**	Phone#:	**8106140211**
Sampling Point:	**HAND PUMP LOC CABIN**	Collected By:	**BRIAN K**

LOCATION ADDRESS

Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip: **48302**

SAMPLING TYPE

Type II		WSSN:	**2246463**

MAIL RESULTS TO

Name 1:	**E. L. JOHNSON NATURE CENTER**	Name 2:	**E. L. JOHNSON NATURE CENTER**
Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip: **48302**

LABORATORY FINDINGS

Total Coliform:	21	M.P.N./100ml
E.Coli:	ND	M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By:	lafoyp, 09/27/2023	**Date and Time Analyzed:**	09/26/2023 11:15

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND
COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

October 10, 2023

BRIAN KLOSTERMAN
EL JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: RETURN TO COMPLIANCE FOR E.L. JOHNSON NATURE CENTER HANDPUMP

WSSN # 22464-63

Dear Owner/Operator:

The Oakland County Health Division has received the results of the coliform repeat samples that were taken on October 4, 2023 from E.L. Johnson Nature Center water supply. All sample results were satisfactory, indicating the presence of **no** coliform bacteria.

You may resume your routine coliform sampling of one coliform sample per calendar month. *Please consider this letter as notification to collect the required water samples.*

If utilizing the Oakland County Health Division Laboratory, normal business hours are Monday – Wednesday from 8:00 AM to 4:30 PM and Thursday from 8:00 AM to 3:00 PM. The lab is closed on Fridays.

If you have any questions please call me at (248) 285-8621.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Megan Strnad, REHS
Senior Public Health Sanitarian
Environmental Health Services

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2023277-305	**Previous Sample Date:**	
Test Reason:	RESAMPLE	**Test Set Up Date:**	10/04/2023
Application Number:		**Lab Method:**	SM 9223B
Parcel ID:		**Method Detection Limit:**	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	10/04/2023 12:15	Phone#:	8106140211
Sampling Point:	LOG CABIN PUMP	Collected By:	BRIAN

LOCATION ADDRESS

Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

SAMPLING TYPE

Type II		WSSN:	2246463

MAIL RESULTS TO

Name 1:	E. L. JOHNSON NATURE CENTER	Name 2:	E. L. JOHNSON NATURE CENTER
Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By:	marteka, 10/05/2023	**Date and Time Analyzed:**	10/04/2023 14:40

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432
(MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2023277-306	**Previous Sample Date:**	
Test Reason:	RESAMPLE	**Test Set Up Date:**	10/04/2023
Application Number:		**Lab Method:**	SM 9223B
Parcel ID:		**Method Detection Limit:**	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	10/04/2023 12:15	Phone#:	8106140211
Sampling Point:	LOG CABIN PUMP	Collected By:	BRIAN

LOCATION ADDRESS

Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

SAMPLING TYPE

Type II		WSSN:	2246463

MAIL RESULTS TO

Name 1:	E. L. JOHNSON NATURE CENTER	Name 2:	E. L. JOHNSON NATURE CENTER
Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By:	marteka, 10/05/2023	**Date and Time Analyzed:**	10/04/2023 14:40

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.
For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432
(MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2023277-307	**Previous Sample Date:**	
Test Reason:	RESAMPLE	**Test Set Up Date:**	10/04/2023
Application Number:		**Lab Method:**	SM 9223B
Parcel ID:		**Method Detection Limit:**	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	10/04/2023 12:15	Phone#:	8106140211
Sampling Point:	LOG CABIN PUMP	Collected By:	BRIAN

LOCATION ADDRESS

Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

SAMPLING TYPE

Type II		WSSN:	2246463

MAIL RESULTS TO

Name 1:	E. L. JOHNSON NATURE CENTER	Name 2:	E. L. JOHNSON NATURE CENTER
Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: marteka, 10/05/2023 **Date and Time Analyzed:** 10/04/2023 14:40

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	**2023277-308**	**Previous Sample Date:**	
Test Reason:	**RESAMPLE**	**Test Set Up Date:**	**10/04/2023**
Application Number:		**Lab Method:**	**SM 9223B**
Parcel ID:		**Method Detection Limit:**	**1 CFU/100ml**

COLLECTION INFORMATION

Collected Date and Time:	**10/04/2023 12:15**	Phone#:	**8106140211**
Sampling Point:	**NOT GIVEN**	Collected By:	**BRIAN**

LOCATION ADDRESS

Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip: **48302**

SAMPLING TYPE

Type II		WSSN:	**2246463**

MAIL RESULTS TO

Name 1:	**E. L. JOHNSON NATURE CENTER**	Name 2:	**E. L. JOHNSON NATURE CENTER**
Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip: **48302**

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By:	marteka, 10/05/2023	**Date and Time Analyzed:**	10/04/2023 14:40

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432
(MIDEQ ID 0012, and EPA ID MI00101)

EC+

Tracking Form for Noncommunity Public Water Supply Positive Coliform Sample Results

Facility: EC Johnson Nature Center PWSN: 2246463 Source ID: 001

Contact person: Brian or Joey Phone: 248-341-6185 810-614-0211

Monitoring frequency: ☐ Annual ☒ Quarterly ☐ Monthly ☐ Other

Date of initial POS: 11/21/22 Location of initial POS: hand pump

Facility notified of initial POS: ☒ Letter ☒ Phone ☐ Other

Date(s) of repeat samples: 11/30/22 Number of repeat samples: 4

Sampling locations appropriate: ☒ Yes ☐ No

1 sample at raw water tap: ☒ Yes ☐ No GWR Violation form sent: ☐ Yes ☐ No ☒ NA

Results of repeat samples: 1 ND 2 TC POS 1 EC POS

EC MCL? ☒ Yes ☐ No

Level 1 Assessment conducted (if 1 or more repeat sample TC POS): ☐ Yes ☐ No ☐ NA

Level 1 Assessment entered into spreadsheet: ☐ Yes ☐ No ☐ NA

Level 2 Assessment conducted (EC MCL, 2 LV1 within 12 mo, 2 consecutive yrs): ☒ Yes ☐ No ☐ NA

Level 2 Assessment entered into spreadsheet: ☒ Yes ☐ No ☐ NA

Repairs made: ☐ Yes ☐ No Supply chlorinated: ☒ Yes ☐ No Chlorinated by: Dave Cameron

Minimum of 2 consecutive coliform ND samples: ☒ Yes ☐ No

Date(s) of samples: 12/14/22 + 12/19/22

Three routine samples collected following month: ☒ Yes ☐ No

Results of routine samples: 3 ND ____ TC POS ____ EC POS

Routine samples waived: ☐ Yes ☒ No Waiver form completed: ☐ Yes ☐ No ☒ NA

Monitoring frequency increased: ☒ Yes ☐ No ☐ NA

Documented in file: ☒ Yes ☐ No

Comments:

12/8- Dave Cameron to chlorinate. Resample 12/14 + 12/15

3 ROUTINES WAIVED TO JANUARY 2023- FACILITY CLOSED UNTIL JANUARY.

If applicable

SIA Date: 12/1/22 SIE Date: 12/1/22 SIF Date: 12/1/22 SOX Date: 12/21/2022

OAKLAND
COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

November 23, 2022

E.L. JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: **POSITIVE TOTAL COLIFORM WATER SAMPLE RESULT AT E.L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD, BLOOMFIELD HILLS**
WSSN: **# 22464-63**

Dear Owner/Operator:

A water sample was collected from your noncommunity water supply serving 1000 or fewer people per day on November 21, 2022. The sample tested positive for coliform bacteria. Under the provisions of the Safe Drinking Water Act, Act 399 P.A. 1976 and the Rules as amended, you must collect four (4) repeat samples within 24 hours of notification of unsatisfactory sample results.

Repeat samples must be collected at locations designated on your sample siting plan including:

- four from the handpump

If you have not re-sampled as described above, do so immediately. If needed, please contact this office to review sample collection techniques and locations. Until safe samples are obtained, precautionary measures, such as providing bottled water, are highly encouraged.

Failure to collect all of your repeat samples or follow up in a timely manner will result in triggering a Level 1 or Level 2 Assessment and may result in increased monitoring.

In December 2022, 3 additional routine bacteriological samples will be required. The 3 additional samples will need to be collected on 3 different days. If you have any questions, please contact me at 248-285-8621.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Megan Strnad, REHS
Senior Public Health Sanitarian
Environmental Health Services

RLAND
TY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2022325-11	**Previous Sample Date:**	
Test Reason:	Routine Monitoring	**Test Set Up Date:**	11/21/2022
Application Number:		**Lab Method:**	SM 9223B
Parcel ID:		**Method Detection Limit:**	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	**11/21/2022 12:10**	Phone#:	**2483416485**
Sampling Point:	**WELL**	Collected By:	**JOEY MONFIRELLO**

LOCATION ADDRESS

Address:	**3325 FRANKLIN RD**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip: **48302**

SAMPLING TYPE

Type II WSSN:

MAIL RESULTS TO

Name 1:		Name 2:	
Address:	**3325 FRANKLIN RD**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip: **48302**

LABORATORY FINDINGS

Total Coliform:	POS	M.P.N./100ml
E.Coli:	ND	M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: lafoyp, 11/22/2022 **Date and Time Analyzed:** 11/21/2022 15:01

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND COUNTY MICHIGAN

OAKLAND COUNTY EXECUTIVE DAVID COULTER

HEALTH DIVISION

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

December 1, 2022

E.L. JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: E. COLI MAXIMUM CONTAMINANT LEVEL VIOLATION AT E.L. JOHNSON NATURE CENTER

WSSN # 22464-63

Dear Owner/Operator:

Water samples from the above listed well were collected on November 21, 2022 and were positive for total coliform bacteria.

A second set of samples was collected on November 30, 2022 and at least one of these samples was positive for E. coli and/or total coliform bacteria. Under the provisions of the Safe Drinking Water Act, Act 399 P.A. 1976 and the Rules as amended, this constitutes an E. coli maximum contaminate level (MCL) violation. Therefore you must now do the following:

1. Take the well out of service. This includes providing a safe alternate source of water available to the public for consumption. For continued business operation, you must use bottled water for all drinking water purposes, including making coffee and dishwashing.
2. The standard procedure and this departments recommendation is to have the well and water supply system chlorinated by a Michigan Registered Water Well Contractor. Once chlorination is completed and the well is flushed 2 additional samples collected 24 hours apart are required as indicated in step 3.
   We recommend the displacement method be used for chlorinating the well. A volume of chlorinated water (200 ppm concentration) equal to at least 5 times the casing volume be placed or pumped into the well. Allow a contact time (overnight). Pump the well to waste until no trace of chlorine is present.
3. Resample the well. Contact this office for assistance. Collect 2 samples, at least 24 hours apart, with verification that no chlorine residual is present. Submit a copy of the sample results to this office.
4. Public notice is required to be posted while the well is out of service. Please sign and fax the enclosed public notice as soon as possible and return to this office.
5. The water system may not be put back into service until approval from this health department has been issued.
6. In December 2022, three (3) additional bacteriological samples will need to be taken.

As a result of the E. coli MCL violation, a Level 2 Assessment (LV2) is required to be conducted and completed by the Oakland County Health Division. The purpose of the LV2 is to identify sanitary defects, establish corrective actions, and propose a timetable for any corrective actions.

As the result of triggering the LV2, the monitoring frequency for this facility will be increased to monthly sampling starting December 2022. A reduction in monitoring will be determined by Oakland County Health Division after 12 months of compliance.

A site visit will be conducted to review these requirements and conduct the Level 2 Assessment.

If you have questions concerning this correspondence please contact me at (248) 285-8621, or Shelby DeWitt at the Michigan Department of Environment, Great Lakes, and Energy, Noncommunity Drinking Water Unit, at (517) 388-9123. Thank you for your cooperation.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Megan Stroad, REHS
Senior Public Health Sanitarian
Environmental Health Services

Attachment

...AND
...Y MICHIGAN
...HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	**2022334-326**	**Previous Sample Date:**	
Test Reason:	**RESAMPLE**	**Test Set Up Date:**	**11/30/2022**
Application Number:		**Lab Method:**	**SM 9223B**
Parcel ID:		**Method Detection Limit:**	**1 CFU/100ml**

COLLECTION INFORMATION

Collected Date and Time:	**11/30/2022 13:00**	Phone#:	**8106140211**
Sampling Point:	**Hand Pump**	Collected By:	**Brian**

LOCATION ADDRESS

Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip:

SAMPLING TYPE

Type II		WSSN:	**2246463**

MAIL RESULTS TO

Name 1:	**E. L. JOHNSON NATURE CENTER**	Name 2:	**E. L. JOHNSON NATURE CENTER**
Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip:

LABORATORY FINDINGS

Total Coliform:	1	M.P.N./100ml
E.Coli:	ND	M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: lafoyp, 12/01/2022 **Date and Time Analyzed:** 11/30/2022 14:22

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

LAND
Y MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	**2022334-327**	**Previous Sample Date:**	
Test Reason:	**RESAMPLE**	**Test Set Up Date:**	**11/30/2022**
Application Number:		**Lab Method:**	**SM 9223B**
Parcel ID:		**Method Detection Limit:**	**1 CFU/100ml**

COLLECTION INFORMATION

Collected Date and Time:	**11/30/2022 13:00**	Phone#:	**8106140211**
Sampling Point:	**Hand Pump**	Collected By:	**Brian**

LOCATION ADDRESS

Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip:

SAMPLING TYPE

Type II		WSSN:	**2246463**

MAIL RESULTS TO

Name 1:	**E. L. JOHNSON NATURE CENTER**	Name 2:	**E. L. JOHNSON NATURE CENTER**
Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip:

LABORATORY FINDINGS

Total Coliform:	2	M.P.N./100ml
E.Coli:	1	M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: lafoyp, 12/01/2022 **Date and Time Analyzed:** 11/30/2022 14:22

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...Y MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	**2022334-328**	**Previous Sample Date:**	
Test Reason:	**RESAMPLE**	**Test Set Up Date:**	**11/30/2022**
Application Number:		**Lab Method:**	**SM 9223B**
Parcel ID:		**Method Detection Limit:**	**1 CFU/100ml**

COLLECTION INFORMATION

Collected Date and Time:	**11/30/2022 13:00**	Phone#:	**8106140211**
Sampling Point:	**Hand Pump**	Collected By:	**Brian**

LOCATION ADDRESS

Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip:

SAMPLING TYPE

Type II		WSSN:	**2246463**

MAIL RESULTS TO

Name 1:	**E. L. JOHNSON NATURE CENTER**	Name 2:	**E. L. JOHNSON NATURE CENTER**
Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip:

LABORATORY FINDINGS

Total Coliform:	1	M.P.N./100ml
E.Coli:	ND	M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By:	lafoyp, 12/01/2022	**Date and Time Analyzed:**	11/30/2022 14:22

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Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

LAND
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OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	**2022334-329**	**Previous Sample Date:**	
Test Reason:	**RESAMPLE**	**Test Set Up Date:**	**11/30/2022**
Application Number:		**Lab Method:**	**SM 9223B**
Parcel ID:		**Method Detection Limit:**	**1 CFU/100ml**

COLLECTION INFORMATION

Collected Date and Time:	**11/30/2022 13:00**	Phone#:	**8106140211**
Sampling Point:	**Hand Pump**	Collected By:	**Brian**

LOCATION ADDRESS

Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip:

SAMPLING TYPE

Type II		WSSN:	**2246463**

MAIL RESULTS TO

Name 1:	**E. L. JOHNSON NATURE CENTER**	Name 2:	**E. L. JOHNSON NATURE CENTER**
Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip:

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: lafoyp, 12/01/2022 **Date and Time Analyzed:** 11/30/2022 14:22

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)



Do Not Use Tap Water For:
- Drinking
- Soup, Juice, Coffee
- Making Ice
- Brushing teeth
- Dishwashing

Use Special Precautions For:
- Hand Washing
- Bathing

For your safety, until the problem is corrected, safe water is provided as follows: <fill in>

E. coli bacteria were found in the E.L. Johnson Nature Center water supply on November 30, 2022.

DO NOT DRINK THE WATER.
USE ALTERNATE SUPPLY OF WATER FOR CONSUMPTION AND OTHER USES AS NOTED

Potential Health Effects
E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems.

The symptoms above are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice. People at increased risk should seek advice about drinking water from their health care providers. Use commercially prepared hand sanitizer/wipes for hand washing. Do not allow infants or young children to bathe or shower in contaminated water since they may ingest it.

What happened and what is being done

Bacterial contamination can occur when surface waters gains entry to the drinking water source, storage or distribution system (after construction, repairs, or damage to the well, tanks or piping).

We are working with the local health department to resolve this problem. We anticipate resolving the problem within 10 days. For more information, please contact E.L. Nature Center at 248-341-6487 or the Oakland County Health Division at 248-858-1312.

PROOF OF DELIVERY

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature	Title	Date Distributed
[signature]	OPERATION	12/1/22

WSSN: 2246463

Reminder to water supplier: A signed & dated copy of this notice must be sent to the Local Health Department

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

December 21, 2022

BRIAN KLOSTERMAN
EL JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: CONCLUSION OF LEVEL TWO ASSESSMENT FOR EL JOHNSON NATURE CENTER

WSSN # 22464-63

Dear Owner/Operator:

I am in receipt of the results of the repeat coliform bacteria water samples, which were reported as "not detected".

You are required to submit a set of 3 routine coliform samples in DECEMBER 2022 – these samples have been waived to January 2023 as the facility is closed until January. Beginning February 2023 your new coliform monitoring frequency will be monthly, one coliform sample per month for at least 12 months.

Statute 325.1007 of Michigan's Safe Drinking Water Act allows this Division to impose a civil fine of $200 against a public water system that fails to collect the required water samples. Each subsequent violation may result in a $400 civil fine. We urge you to submit water samples diligently to avoid this type of enforcement action. *Please consider this letter as notification to collect the required water samples.*

Thank you for your cooperation. If you have any questions please call me at (248) 431-0930.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Michelle Mader, REHS
Senior Public Health Sanitarian
Environmental Health Services

...LAND
...Y MICHIGAN
...HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2022348-322	**Previous Sample Date:**	
Test Reason:	RESAMPLE	**Test Set Up Date:**	12/14/2022
Application Number:		**Lab Method:**	SM 9223B
Parcel ID:		**Method Detection Limit:**	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	12/14/2022 12:30	Phone#:	8106140211
Sampling Point:	LOG CABIN PUMP	Collected By:	BRIAN

LOCATION ADDRESS

Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip:

SAMPLING TYPE

Type II		WSSN:	2246463

MAIL RESULTS TO

Name 1:	E. L. JOHNSON NATURE CENTER	Name 2:	E. L. JOHNSON NATURE CENTER
Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip:

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: marteka, 12/15/2022 **Date and Time Analyzed:** 12/14/2022 14:40

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

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Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

MICHIGAN
EALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	**2022353-304**	**Previous Sample Date:**	
Test Reason:	**RESAMPLE**	**Test Set Up Date:**	**12/19/2022**
Application Number:		**Lab Method:**	**SM 9223B**
Parcel ID:		**Method Detection Limit:**	**1 CFU/100ml**

COLLECTION INFORMATION

Collected Date and Time:	**12/19/2022 14:00**	Phone#:	**8106140211**
Sampling Point:	**HAND PUMP**	Collected By:	**BRIAN**

LOCATION ADDRESS

Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip: **48302**

SAMPLING TYPE

Type II		WSSN:	**2246463**

MAIL RESULTS TO

Name 1:	**E. L. JOHNSON NATURE CENTER**	Name 2:	**E. L. JOHNSON NATURE CENTER**
Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip: **48302**

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: marteka, 12/20/2022 **Date and Time Analyzed:** 12/19/2022 16:00

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432
(MIDEQ ID 0012, and EPA ID MI00101)

EGLE

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
DRINKING WATER AND ENVIRONMENTAL HEALTH DIVISION

LEVEL 2 ASSESSMENT FORM FOR NONCOMMUNITY PUBLIC WATER SUPPLIES

Issued under authority of the Safe Drinking Water Act, 1976 PA 399, as amended, MCL 325.1001 et seq., and its Administrative Rules (Act 399).
Failure to submit certification is a violation of Act 399 and may subject the water supply to enforcement actions.

Noncommunity Water System Name:	Water Supply Serial Number:	Source ID (if applicable):	Date of Trigger:	Date of Onsite Assessment:
EL Johnson Nature Center (HANDPUMP)	2246463	001	11/30/22	12/1/22

Name of Person Completing Onsite Assessment:	Name and Title of Person at Facility Present During Assessment:	Form in response to (check one):	
Megan Strnad + Brian Klosterman	bklosterman@bloomfield.org	*E. coli* MCL:	☒
		2nd Level 1 in 12 months:	☐
		2nd Level 1 in 2 years (annual monitoring):	☐
		Annual Site Visit:	☐

	Issues	Check	Description and Corrective Action Taken (including date) (attach additional sheets if necessary)
1.	**Has anything unusual occurred prior to sample collection?**		
	Loss of pressure	Yes ☐ No ☒	
	Power outage	Yes ☐ No ☒	
	Operation & maintenance activities	Yes ☐ No ☒	
	Vandalism	Yes ☐ No ☒	
	Visible indicators of unsanitary conditions	Yes ☐ No ☒	
	Heavy rainfall	Yes ☐ No ☒	
2.	**Have there been any recent changes to the water system?**		
	New plumbing installed	Yes ☐ No ☒	
	Pump replacement	Yes ☐ No ☒	
	Pressure tank replacement	Yes ☐ No ☒	
	Treatment system installed	Yes ☐ No ☒	
	Operational changes	Yes ☐ No ☒	
	New potential sources of contamination	Yes ☐ No ☒	
3.	**Sampling Site/Protocol:**		
	Sample tap damaged or inaccessible	Yes ☐ No ☒	
	Improper sampling techniques	Yes ☐ No ☒	
	Improper sample location	Yes ☐ No ☒	
4.	**Well:**		
	Wellhead less than12" above grade	Yes ☐ No ☒	
	Unapproved/unsecured cap	Yes ☐ No ☒	
	Vent screen missing or damaged	Yes ☐ No ☒	
	Conduit damaged or not sealed to cap	Yes ☐ No ☒	
	Evidence of flooding/standing water around wellhead	Yes ☐ No ☒	
	Reduced isolation distance to sources of contamination	Yes ☐ No ☒	
	Integrity/age of water well may be an issue	Yes ☐ No ☒	

	Issues	Check	Description and Corrective Action Taken (including date) (attach additional sheets if necessary)
	Treatment Process (if applicable):		
	Interruptions in treatment	Yes ☐ No ☐	
	Chemical refill overdue	Yes ☐ No ☐	
	Filter change due N/A	Yes ☐ No ☐	
	Incorrect chemical solution concentration	Yes ☐ No ☐	
	Dosage adjustment needed	Yes ☐ No ☐	
6.	**Pressure Tank:**		
	Recent work performed	Yes ☐ No ☐	
	Leaks N/A	Yes ☐ No ☐	
	Pump runs more often	Yes ☐ No ☐	
7.	**Distribution System:**		
	Plumbing in disrepair	Yes ☐ No ☐	
	Leaking joints	Yes ☐ No ☐	
	Pressure loss	Yes ☐ No ☐	
	Cross connections N/A	Yes ☐ No ☐	
	Dead-end plumbing	Yes ☐ No ☐	
	Frozen pipes	Yes ☐ No ☐	
8.	**Other Related Issue(s):** Check applicable box and describe event in adjacent space.	Yes ☐ No ☐	

Conclusions:

- ☐ Sanitary defect(s) were found (see above).
- ☐ Issues were found (see above).
- ☒ No obvious deficiencies or issues were identified.
- ☐ Annual Site Visit Only – System approved to remain on annual monitoring.

The following Corrective Action Plan (CAP) and/or action(s) are now required:

- ☒ Increase to monthly monitoring (required as a result of a trigger into a Level 2 Assessment).
- ☒ CAP – Disinfect the water supply system, flush the system, and collect two samples 24 hours apart*.
- ☐ CAP – Repair/replace the following*:
- ☐ CAP – Other*:
- ☐ None (Satisfactory Annual Site Visit Only):

* Actions required to be completed by 1/15/23 (date).

Total Coliform Sampling Postponement Waiver Form

ssued under authority of the Safe Drinking Water Act, 1976 PA 399, as amended, MCL 325.1001 et seq., and its Administrative Rules (Act 399).

Supply Name: EL JOHNSON NATURE CENTER	
WSSN: 2246463	Source ID: 001
Bacteriological Sampling Frequency: MONTHLY	Number of Routine Samples Required: 3
Level 1 Assessment Trigger Date: 11/21/22	Level 1 Assessment reviewed Date: 12/1/22

This postponement waiver is solely for noncommunity systems utilizing groundwater; serving 1,000 people a day or fewer; and on quarterly or annual routine bacteria monitoring.

Requirement for collecting three routine coliform samples for the month of DECEMBER 2022 is postponed in accordance with R325.10704d(10), based on a site investigation and subsequent findings.

Date of site visit:

Check specific cause of repeat total coliform positive sample: (If no cause was found, a postponement waiver should not be considered.)

- ☐ System conducted construction and/or repairs followed by inadequate disinfection
- ☐ Sanitary deficiency in well, pumping equipment, distribution system (dead end lines in basement)
- ☒ Other: Describe: HANDPUMP - INADEQUATE PRESSURE.

Check applicable action taken to correct cause identified above:

- ☐ Corrected sanitary deficiency in well or pumping equipment. Date:
- ☐ Corrected sanitary deficiency in distribution system. Date:
- ☒ Disinfected well/distribution system according to procedure. Date: 12/8/22
- ☐ Additional monitoring will be required: Describe:
- ☐ Other: Describe:

* NOTE - FACILITY CLOSED 12/21 - JAN 3rd.

Three additional routine samples shall be collected during the month of JAN 2023 to satisfy Rule 704d(10). These samples must come from different drinking water sites if collected on the same date. If fewer sites are available, the additional routine samples shall be collected at regular time intervals throughout the month.

A Waiver postponement recommended by: MADER Date: 12/21/22

A previous waiver postponement has been issued to this system: ☐ Yes ☒ No

Date of previous waiver postponement:

No system should receive more than two postponement waivers in a rolling 12-month period.

Supervisor Signature: Deborah McArthur Date: 1/4/2023

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

January 24, 2023

BRIAN KLOSTERMAN
EL JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: RETURN TO COMPLIANCE FOR EL JOHNSON NATURE CENTER

WSSN # 22464-63

Dear Owner/Operator:

The Oakland County Health Division has received the results of the 3 routine coliform samples that were taken from EL Johnson Nature water supply. All sample results were satisfactory, indicating the presence of **no** Coliform bacteria.

You may now return to your normal monitoring frequency. The next coliform bacteria sample is due by February 28, 2023.

If you have any questions please call me at (248) 285-8621.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Megan Strnad, REHS
Senior Public Health Sanitarian
Environmental Health Services

LAND
MICHIGAN
EALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	**2023012-305**	**Previous Sample Date:**	
Test Reason:	**RESAMPLE**	**Test Set Up Date:**	**01/12/2023**
Application Number:		**Lab Method:**	**SM 9223B**
Parcel ID:		**Method Detection Limit:**	**1 CFU/100ml**

COLLECTION INFORMATION

Collected Date and Time:	**01/12/2023 10:30**	Phone#:	**8106140211**
Sampling Point:	**Log Cabin Pump**	Collected By:	**Brian**

LOCATION ADDRESS

Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip:

SAMPLING TYPE

Type II		WSSN:	**2246463**

MAIL RESULTS TO

Name 1:	**E. L. JOHNSON NATURE CENTER**	Name 2:	**E. L. JOHNSON NATURE CENTER**
Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip:

LABORATORY FINDINGS

Total Coliform:	ND / M.P.N./100ml
E.Coli:	/ M.P.N./100ml
Other:	/

ND = Not Detected

Comments:

Reported By: shahj, 01/13/2023 **Date and Time Analyzed:** 01/12/2023 11:00

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND
COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	**2023019-306**	**Previous Sample Date:**	
Test Reason:	**RESAMPLE**	**Test Set Up Date:**	**01/19/2023**
Application Number:		**Lab Method:**	**SM 9223B**
Parcel ID:		**Method Detection Limit:**	**1 CFU/100ml**

COLLECTION INFORMATION

Collected Date and Time:	**01/19/2023 12:30**	Phone#:	**8106140211**
Sampling Point:	**Log Cabin Hand Pump**	Collected By:	**Brian**

LOCATION ADDRESS

Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip:

SAMPLING TYPE

Type II		WSSN:	**2246463**

MAIL RESULTS TO

Name 1:	**E. L. JOHNSON NATURE CENTER**	Name 2:	
Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip:

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By:	lafoyp, 01/20/2023	**Date and Time Analyzed:**	01/19/2023 13:20

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.
For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432
(MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND
COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	**2023023-302**	**Previous Sample Date:**	
Test Reason:	**RESAMPLE**	**Test Set Up Date:**	**01/23/2023**
Application Number:		**Lab Method:**	**SM 9223B**
Parcel ID:		**Method Detection Limit:**	**1 CFU/100ml**

COLLECTION INFORMATION

Collected Date and Time:	**01/23/2023 13:30**	Phone#:	**8106140211**
Sampling Point:	**LOG CABIN HAND PUMP**	Collected By:	**BRIAN**

LOCATION ADDRESS

Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip: **48302**

SAMPLING TYPE

Type II		WSSN:	**2246463**

MAIL RESULTS TO

Name 1:	**E. L. JOHNSON NATURE CENTER**	Name 2:	**E. L. JOHNSON NATURE CENTER**
Address:	**3325 FRANKLIN RD.**		
City:	**BLOOMFIELD HILLS**	State: **MI**	Zip: **48302**

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: lafoyp, 01/24/2023 **Date and Time Analyzed:** 01/23/2023 15:14

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Calandra Green, Health Officer
(248) 858-1280 | health@oakgov.com

July 6, 2022

BRIAN KLOSTERMAN
E.L. JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: SANITARY SURVEY OF THE WATER SUPPLY AT– E.L. JOHNSON NATURE CENTER – 3325 FRANKLIN RD, BLOOMFIELD HILLS, MI

WSSN # 22464-63

Dear Owner/Operator:

A copy of the sanitary survey of your public water system is enclosed. The survey performed at the above captioned address on June 21, 2022 was conducted under the authority of the Michigan Safe Drinking Water Act, Act 399, P.A. of 1976, as amended and rules (Act), was to:

1. Determine if the system meets minimum construction and operation standards and require correction where necessary,
2. Determine if the system currently meets applicable state drinking water standards, and
3. Establish water quality monitoring (water sampling) requirements.

The following describes the results of the survey and your water quality monitoring requirements.

Construction/Operation

This public water supply is served by 1 well. The well is identified as source 001. The exact location of this well is indicated on the map of the site enclosed with this letter.

Water Storage and Pumps:
The water supply is a handpump.

Distribution System:
The water supply does not have a distribution system.

Water Treatment and Water Quality
A review of the most recent water quality test results shows that the water supply is in compliance with the appropriate drinking water standards at the time of sampling.

Water Treatment Systems:
The water supply does not utilize treatment.

Routine Monitoring (Sampling) Requirements

Unless you are required to sample more frequently as a condition of a license or policy, your system must meet the following sampling schedule:

Coliform (bacteriologic) -
Frequency: Quarterly (1 sample every 3 months)
Last sample was taken May 31, 2022
Next sample due before September 30, 2022
Sampling location: Handpump

***Nitrate (inorganic) -**
Frequency: Annually (1 sample every year)
Last sample was taken June 21, 2022
Next sample due before December 31, 2023
Sampling location: Handpump.

***Note:** A nitrite sample only has to be collected one time. The nitrite sample should be collected as part of the initial approval process. No additional nitrite samples are required.

Sample Procedures

The Oakland County laboratory offers drinking water analysis for coliform bacteria for a $12 fee, and nitrate/nitrite for a $10 fee. Sample bottles and forms may be obtained from our two offices in Pontiac and Southfield.

If you choose to use the EGLE laboratory, sample bottles may be obtained by ordering them directly from the EGLE laboratory.

If a laboratory other than the EGLE or Oakland County laboratory is used for sample analysis, it must be EGLE certified for the analysis performed. A copy of the results of the analysis must be provided to this office by the water supply owner/operator within ten days of the end of the monitoring period. Please be aware that all positive coliform sample results must be reported to this office within 48 hours. Payments of all laboratory fees are the responsibility of the owner/operator of the water supply.

A Water Supply Serial Number (WSSN), a computer number used for identification purposes, has been assigned to each public water supply in the state. Your water supply serial number is **WSSN #22464-63**, and must be recorded on each water sample form. Without this number on the sample form, you will not be credited for collecting a required sample.

Act 399 specifies that it is the owner/operator's responsibility to collect and submit the required water samples for analysis and to maintain and operate the water system in a sanitary condition.

The well that serves your facility has been mapped in a statewide ground water database through the use of geographical positioning system (GPS) units. When this information is compiled, the state can develop maps showing areas where public water supplies may be at risk.

If you have questions regarding the sanitary survey, the required upgrading, or monitoring (sampling) requirements, please contact me at (248) 858-1332.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Michelle Mader, REHS
Senior Public Health Sanitarian
Environmental Health Services

Enclosures

WaterTrack

SANITARY SURVEY REPORT

WSSN: 2246463

System Name : E. L. JOHNSON NATURE CENTER

Search Criteria :
WSSN : 2246463
Sanitary Survey Date : 6/21/2022

Address List:

BILLING:	E. L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	Phone: 2483416487 e-mail:
CONTACT:	BRIAN KLOSTERMAN, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	Phone: 8106140211
FACILITY:	E. L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	Phone: 2483416487 e-mail:
OWNER:	E. L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	Phone: 2483416487 e-mail:

Basic Information Details:

Nontransient Population:	6	System Type:	TRANSIENT	System Use:	PARK/RECREATION
Total Population:	50	License Type:	-	Status:	ACTIVE
# of Service Connections:	1	Contiguous:		Operational Season:	JANUARY 1 To DECEMBER 31

SANITARY SURVEY DATE : 6/21/2022 COMPLIANCE DATE :

Well / Pump Details:

Source ID: 001 Well ID: 63000023930

WELL

Source Type:	WELL	12" above Grade:	Yes	Source of Information:	DRILLER
Date Installed:	07/07/1997	Casing Diameter:	5	LHD Staff Assigned:	MICHELLE MADER
Well Depth:	64	Well Cap:	YES	Site Subjected to Flooding?:	NO
Casing Depth:	64	Drilling Method:	ROTARY	Purchased Water Source:	
Driller Name:		Grouted:	YES-0 PTS	Well Installation Approved:	IN COMPLIANCE

PUMP

Pump Type:	HAND	Gallons Per Minute(GPM):	-	Check Valve Location Approved:	YES
Pump Make:	BAKER MONITOR	Drop Pipe Length:	52	Pump Installation Approved:	IN COMPLIANCE
Pump Model:	BAKER-MONI	Protected Suction Line:	NO		

Contaminants and Treatment Details:

Source ID: 001

CONTAMINANT

Contaminant Installation Approved: IN COMPLIANCE

Source of Contaminant	Distance From Well	Direction
SURFACE WATER	138	SOUTH

TREATMENT

System Classification Level:	-
Certified Operator:	-
Operation Report Required:	-
Treatment Installation Approved:	IN COMPLIANCE

Storage and Distribution Details:

STORAGE

Approved Sample Tap:	YES
Storage Installation Approved:	IN COMPLIANCE

DISTRIBUTION

Distribution System Material:	NONE
Distribution System Installation Approved:	IN COMPLIANCE

Monitoring Frequency Details:

Source ID: 001

Analyte Groups	Frequency	Samples Required	Start Date
BACTERIOLOGICAL	QUARTERLY	1	1/1/2021
NITRATE	ANNUAL	1	1/1/1997

Sample Siting Plan Details:

BACTERIOLOGIC

Sample Purpose	Sample Location	Exact Location
Repeat Samples	Hand Pump	
Repeat Samples	Hand Pump	
Repeat Samples	Hand Pump	
Repeat Samples	Hand Pump	
Routine Monitoring	Hand Pump	

CHEMISTRY

Sample Purpose	Sample Location	Exact Location
Routine Monitoring	Hand Pump	

No Lead / Copper Records Found

Signature : MMad

Date: 7/6/22

E.L. Johnson Nature Center -2246463



Tracking Form for Noncommunity Public Water Supply Positive Coliform Sample Results

Facility: E.L. JOHNSON NATURE CTR HANDPUMP WSSN: 2246463 Source ID: 001

Contact person: BRIAN KLOSTERMAN Phone: 810-614-0211

Monitoring frequency: ☐ Annual ☒ Quarterly ☐ Monthly ☐ Other

Date of initial POS: 11/23/21 Location of initial POS: HANDPUMP

Facility notified of initial POS: ☒ Letter ☒ Phone ☐ Other

Date(s) of repeat samples: 11/29/21 Number of repeat samples: 4

Sampling locations appropriate: ☒ Yes ☐ No

1 sample at raw water tap: ☒ Yes ☐ No GWR Violation form sent: ☐ Yes ☐ No ☒ NA

Results of repeat samples: 4 ND _____ TC POS _____ EC POS

EC MCL? ☐ Yes ☒ No

Level 1 Assessment conducted (if 1 or more repeat sample TCPOS): ☐ Yes ☐ No ☐ NA

Level 1 Assessment entered into spreadsheet: ☐ Yes ☐ No ☐ NA

Level 2 Assessment conducted (EC MCL, 2 LV1 within 12 mo, 2 consecutive yrs): ☐ Yes ☐ No ☐ NA

Level 2 Assessment entered into spreadsheet: ☐ Yes ☐ No ☐ NA

Repairs made: ☐ Yes ☐ No Supply chlorinated: ☐ Yes ☐ No Chlorinated by:

Minimum of 2 consecutive coliform ND samples: ☐ Yes ☐ No

Date(s) of samples:

Three routine samples collected following month: ☐ Yes ☐ No 12/15, 12/16, 12/20

Results of routine samples: 3 ND _____ TC POS _____ EC POS

Routine samples waived: ☐ Yes ☒ No Waiver form completed: ☐ Yes ☐ No ☒ NA

Monitoring frequency increased: ☐ Yes ☒ No ☐ NA

Documented in file: ☒ Yes ☐ No

Comments:

If applicable

SIA Date: SIE Date: SIF Date: SOX Date:

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

November 29, 2021

BRIAN KLOSTERMAN
EL JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: POSITIVE TOTAL COLIFORM WATER SAMPLE RESULT AT E.L. JOHNSON NATURE CENTER HANDPUMP
WSSN: # 22464-63

Dear Owner/Operator:

A water sample was collected from your noncommunity water supply serving 1000 or fewer people per day on November 23, 2021. The sample tested positive for coliform bacteria. Under the provisions of the Safe Drinking Water Act, Act 399 P.A. 1976 and the Rules as amended, you must collect four (4) repeat samples within 24 hours of notification of unsatisfactory sample results.

Repeat samples must be collected at locations designated on your sample siting plan including:

- Four samples from the handpump

If you have not re-sampled as described above, do so immediately. If needed, please contact this office to review sample collection techniques and locations. Until safe samples are obtained, precautionary measures, such as providing bottled water, are highly encouraged.

Failure to collect all of your repeat samples or follow up in a timely manner will result in triggering a Level 1 or Level 2 Assessment and may result in increased monitoring.

In December 2021, 3 additional routine bacteriological samples will be required. If you have any questions, please contact me at 248-858-1332.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Michelle Mader, REHS
Senior Public Health Sanitarian
Environmental Health Services

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2021327-9	Previous Sample Date:	
Test Reason:	Routine Monitoring	Test Set Up Date:	11/23/2021
Application Number:		Lab Method:	SM 9223B
Parcel ID:		Method Detection Limit:	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	11/23/2021 11:30	Phone#:	8106146211
Sampling Point:	WELL PUMP	Collected By:	~~B.K.~~

810-614-0211
Brian
Klosterman

LOCATION ADDRESS

Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

SAMPLING TYPE

Type II		WSSN:	2246463

MAIL RESULTS TO

Name 1:	E. L. JOHNSON NATURE CENTER	Name 2:	E. L. JOHNSON NATURE CENTER
Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

LABORATORY FINDINGS

Total Coliform:	POS	M.P.N./100ml
E.Coli:	ND	M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: shahj, 11/24/2021 **Date and Time Analyzed:** 11/23/2021 14:30

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

December 6, 2021

BRIAN KLOSTERMAN
E.L. JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: RETURN TO COMPLIANCE FOR E.L. JOHNSON NATURE CENTER HANDPUMP

WSSN # 22464-63

Dear Owner/Operator:

The Oakland County Health Division has received the results of the coliform repeat samples that were taken on November 29, 2021 from E.L. Johnson Nature Center Handpump water supply. All sample results were satisfactory, indicating the presence of **no** coliform bacteria.

You are required to submit **three (3) additional** bacteriological samples during the month of December 2021. ***They must be collected on 3 different days***. *Please consider this letter as notification to collect the required water samples.*

If utilizing the Oakland County Health Division Laboratory, normal business hours are Monday – Wednesday from 8:00 AM to 4:30 PM and Thursday from 8:00 AM to 3:00 PM. The lab is closed on Fridays.

If you have any questions, please call me at (248) 858-1332.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Michelle Mader, REHS
Senior Public Health Sanitarian
Environmental Health Services

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2021333-305	Previous Sample Date:	
Test Reason:	RESAMPLE	Test Set Up Date:	11/29/2021
Application Number:		Lab Method:	SM 9223B
Parcel ID:		Method Detection Limit:	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	11/29/2021 11:00	Phone#:	8106140211
Sampling Point:	HAND PUMP LOG CABIN	Collected By:	BRIAN KLOSTERMAN

LOCATION ADDRESS

Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

SAMPLING TYPE

Type II

WSSN: 2246463

MAIL RESULTS TO

Name 1:	E. L. JOHNSON NATURE CENTER	Name 2:	E. L. JOHNSON NATURE CENTER
Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

LABORATORY FINDINGS

Total Coliform: ND M.P.N./100ml

E.Coli: ____ M.P.N./100ml

Other:

ND = Not Detected

Comments:

Reported By: shahj, 11/30/2021 **Date and Time Analyzed:** 11/29/2021 12:15

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2021333-304	Previous Sample Date:	
Test Reason:	RESAMPLE	Test Set Up Date:	11/29/2021
Application Number:		Lab Method:	SM 9223B
Parcel ID:		Method Detection Limit:	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	11/29/2021 11:00	Phone#:	8106140211
Sampling Point:	PUMP LOG CABIN	Collected By:	BK

LOCATION ADDRESS

Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

SAMPLING TYPE

Type II		WSSN:	2246463

MAIL RESULTS TO

Name 1:	E. L. JOHNSON NATURE CENTER	Name 2:	E. L. JOHNSON NATURE CENTER
Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: shahj, 11/30/2021 **Date and Time Analyzed:** 11/29/2021 12:15

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.
For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2021333-303	**Previous Sample Date:**	
Test Reason:	RESAMPLE	**Test Set Up Date:**	11/29/2021
Application Number:		**Lab Method:**	SM 9223B
Parcel ID:		**Method Detection Limit:**	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	11/29/2021 11:00	Phone#:	8106140211
Sampling Point:	HAND PUMP LOF CABIN	Collected By:	BRIAN KLOSTERMAN

LOCATION ADDRESS

Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

SAMPLING TYPE

Type II		WSSN:	2246463

MAIL RESULTS TO

Name 1:	E. L. JOHNSON NATURE CENTER	Name 2:	E. L. JOHNSON NATURE CENTER
Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: shahj, 11/30/2021 **Date and Time Analyzed:** 11/29/2021 12:15

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.
For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2021333-302	Previous Sample Date:	
Test Reason:	RESAMPLE	Test Set Up Date:	11/29/2021
Application Number:		Lab Method:	SM 9223B
Parcel ID:		Method Detection Limit:	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	11/29/2021 11:00	Phone#:	8106140211
Sampling Point:	HAND PUMP LOG CABIN	Collected By:	BRIAN KLOSTERMAN

LOCATION ADDRESS

Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

SAMPLING TYPE

Type II		WSSN:	2246463

MAIL RESULTS TO

Name 1:	E. L. JOHNSON NATURE CENTER	Name 2:	E. L. JOHNSON NATURE CENTER
Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip: 48302

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: shahj, 11/30/2021 **Date and Time Analyzed:** 11/29/2021 12:15

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND
COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

December 21, 2021

BRIAN KLOSTERMAN
E.L. JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: RETURN TO COMPLIANCE FOR E.L. JOHNSON NATURE CENTER HANDPUMP

WSSN # 22464-63

Dear Owner/Operator:

The Oakland County Health Division has received the results of the 3 routine coliform samples that were taken from E.L. Johnson Nature Center Handpump water supply. All sample results were satisfactory, indicating the presence of **no** Coliform bacteria.

You may now return to your normal monitoring frequency. The next coliform bacteria sample is due by March 31, 2022.

If you have any questions please call me at (248) 858-1342.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Megan Strnad, REHS
Senior Public Health Sanitarian
Environmental Health Services

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2021349-309	Previous Sample Date:	
Test Reason:	RESAMPLE	Test Set Up Date:	12/15/2021
Application Number:		Lab Method:	SM 9223B
Parcel ID:		Method Detection Limit:	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	12/15/2021 09:55	Phone#:	7346803522
Sampling Point:	Hand Well	Collected By:	William Jaquinde

LOCATION ADDRESS

Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip:

SAMPLING TYPE

Type II		WSSN:	2246463

MAIL RESULTS TO

Name 1:	E. L. JOHNSON NATURE CENTER	Name 2:	E. L. JOHNSON NATURE CENTER
Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip:

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By:	marteka, 12/16/2021	**Date and Time Analyzed:**	12/15/2021 11:34

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.
For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2021350-301	**Previous Sample Date:**	
Test Reason:	RESAMPLE	**Test Set Up Date:**	12/16/2021
Application Number:		**Lab Method:**	SM 9223B
Parcel ID:		**Method Detection Limit:**	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	12/16/2021 12:20	Phone#:	7346803522
Sampling Point:	HAND WELL	Collected By:	WILLIAM

LOCATION ADDRESS

Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip:

SAMPLING TYPE

Type II		WSSN:	2246463

MAIL RESULTS TO

Name 1:	E. L. JOHNSON NATURE CENTER	Name 2:	E. L. JOHNSON NATURE CENTER
Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip:

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: marteka, 12/17/2021 **Date and Time Analyzed:** 12/16/2021 15:15

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.
For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

Oakland County Health Division Laboratory

BACTERIOLOGICAL ANALYSIS OF WATER

Test ID:	2021354-9	**Previous Sample Date:**	
Test Reason:	Routine Monitoring	**Test Set Up Date:**	12/20/2021
Application Number:		**Lab Method:**	SM 9223B
Parcel ID:		**Method Detection Limit:**	1 CFU/100ml

COLLECTION INFORMATION

Collected Date and Time:	12/20/2021 11:00	Phone#:	2483416485
Sampling Point:	Well	Collected By:	Tom M

LOCATION ADDRESS

Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip:

SAMPLING TYPE

Type II — WSSN: 2246463

MAIL RESULTS TO

Name 1:	E. L. JOHNSON NATURE CENTER	Name 2:	E. L. JOHNSON NATURE CENTER
Address:	3325 FRANKLIN RD.		
City:	BLOOMFIELD HILLS	State: MI	Zip:

LABORATORY FINDINGS

Total Coliform:	ND	M.P.N./100ml
E.Coli:		M.P.N./100ml
Other:		

ND = Not Detected

Comments:

Reported By: lafoyp, 12/21/2021 **Date and Time Analyzed:** 12/20/2021 11:48

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

Analysis provided by Oakland County Health Division Laboratory, 1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (MIDEQ ID 0012, and EPA ID MI00101)

Mader, Michelle E 2246463

From: William Jaquinde <wjaquinde@bloomfield.org>
Sent: Wednesday, December 23, 2020 2:32 PM
To: Mader, Michelle E
Subject: Johnson Nature Center Pump

Hi Michelle,

The hand pump here continues to be inoperable. We are working to get it fixed. I will get back in touch for testing as soon as it is up and running.

Happy Holidays,

--
Will Jaquinde
Operations Specialist
Bloomfield Hills Schools
Bowers School Farm and Johnson Nature Center
C: 734-680-3522

12/28- INACTIVATED SUPPLY UNTIL REPAIRED. MM

Tracking Form for Noncommunity Public Water Supply Positive Coliform Sample Results

Facility: EL Johnson Nature Center	WSSN: 22464-63	Source ID: 001
Contact person: Dan Badgley	Phone: (248) 341-6487	
Monitoring frequency: ☐ Annual ☒ Quarterly ☐ Monthly ☐ Other		
Date of initial POS: 6/12/18	Location of initial POS: hand pump	
Facility notified of initial POS: ☒ Letter ☒ Phone ☐ Other	SIA date:	
Date(s) of repeat samples: 6/19/18	Number of repeat samples: 4	
MR Violation? ☐ Yes ☒ No	Sampling locations appropriate: ☒ Yes ☐ No	
1 sample at raw water tap: ☒ Yes ☐ No	GWR Violation form sent: ☐ Yes ☐ No ☒ NA	
Results of repeat samples: 4 ND _____ TC POS _____ EC POS	SIE Date:	
EC MCL? ☐ Yes ☒ No	SIF Date:	
Level 1 Assessment conducted (if 1 or more repeat sample TCPOS): ☐ Yes ☐ No ☐ NA		
Level 1 Assessment entered into spreadsheet: ☐ Yes ☐ No ☐ NA		
Level 2 Assessment conducted (EC MCL, 2 LV1 within 12 mo, 2 consecutive yrs): ☐ Yes ☐ No ☐ NA		
Level 2 Assessment entered into spreadsheet: ☐ Yes ☐ No ☐ NA		
Repairs made: ☐ Yes ☐ No	Supply chlorinated: ☐ Yes ☐ No	Chlorinated by:
Minimum of 2 consecutive coliform ND samples: ☐ Yes ☐ No	SOX Date:	
Date(s) of samples:		
Three routine samples collected following month: ☒ Yes ☐ No		
Results of routine samples: 3 ND _____ TC POS _____ EC POS		
Routine samples waived: ☐ Yes ☒ No	Waiver form completed: ☐ Yes ☐ No ☒ NA	
Monitoring frequency increased: ☐ Yes ☒ No ☐ NA		
Documented in file: ☒ Yes ☐ No		
Comments:		

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE L. BROOKS PATTERSON

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

June 14, 2018

DAN BADGLEY
E.L. JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: POSITIVE TOTAL COLIFORM WATER SAMPLE RESULT AT E.L. JOHNSON NATURE CENTER
WSSN: # 22464-63

Dear Owner/Operator:

A water sample was collected from your noncommunity water supply serving 1000 or fewer people per day on June 12, 2018. The sample tested positive for coliform bacteria. Under the provisions of the Safe Drinking Water Act, Act 399 P.A. 1976 and the Rules as amended, you must collect four (4) repeat samples within 24 hours of notification of unsatisfactory sample results.

Repeat samples must be collected at locations designated on your sample siting plan including:

- one from the same tap as the initial positive – initial sampling location - pump
- one from the raw water sample tap as the groundwater source – raw water tap
- two from the LHD designated sampling locations in the distribution system

If you have not re-sampled as described above, do so immediately. If needed, please contact this office to review sample collection techniques and locations. Until safe samples are obtained, precautionary measures, such as providing bottled water, are highly encouraged.

Failure to collect all of your repeat samples or follow up in a timely manner will result in triggering a Level 1 or Level 2 Assessment and may result in increased monitoring.

In July 2018, 3 additional routine bacteriological samples will be required. If you have any questions, please contact me at 248-858-1342.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Megan Retel, REHS
Senior Public Health Sanitarian
Environmental Health Services

BACTERIOLOGICAL ANALYSIS OF WATER

BACTERIOLOGICAL ANALYSIS FEE: 6
Water Source Located in Oakland County = $6.00
Water Source Located Out of Oakland County = $14.00

REASON FOR SAMPLING
☐ RESAMPLE
☒ ROUTINE MONITORING ☐ CONSTRUCTION/REPAIR
☐ REAL ESTATE TRANSACTION ☐ OTHER_____

MAIL RESULTS TO: Name: DAN BAGLEY	**Date** 6/12/18 **Time** 8 (Circle One) AM or PM
Address: 3325 FRANKLIN RD.	Collected By: D.B.
City, State, Zip: BLOOMFIELD HILLS MI 48302	Phone #: 248 341-6487
Location Name/Address (If Different)	Sampling Point (sample tap, kitchen, bath, etc.): PUMP
	Township: BLMFD. / County: OAKL.
	Parcel I.D. # - - -

Complete One Section Only

Sec A — DRINKING WATER

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☑ TYPE II (school, industry, restaurant, office, etc., serving 25 or more person - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)
- ☐ City Water
- ☐ Other_____

2246463 **WSSN** (Type I & II Only)

PAID

JUN 12'18 9:06AM

Sec C — SURFACE WATER

☐ Lake ☐ Stream ☐ Other_____

- ***Samples submitted without payment will not be tested.***
- ***Date and time MUST be on all samples.***
- ***Parcel I.D. # is mandatory for all drinking water samples.***
- ***WSSN is mandatory for all Type I & II sample.***
- ***Pool I.D. # is mandatory for all Swimming Pool samples.***

COMPLETE ALL MANDATORY FIELDS. FAILURE TO COMPLETE THE MANDATORY FIELDS MAY RESULT IN THE SAMPLE(S) NOT BEING PROCESSED. SEE INSTRUCTION SHEET FOR MORE INFORMATION.

ANALYSIS OF WATER

Bacteriological analysis of **DRINKING WATER** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **SWIMMING POOL** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **LAKE, STREAM, SURFACE** bathing area:

☐ Satisfactory ☐ Unsatisfactory

☐ **RESAMPLING RECOMMENDED**

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

REMARKS:_____

Date_____ _____
Environmentalist

LABORATORY FINDINGS

Total Coliform POS _____ _____M.P.N../100ml

E. Coli ND _____ _____M.P.N../100ml

Other_____ Reported by: AM

ND = Not Detected

Date & Time Analyzed: JUN 12 2015 1055

Analysis Provided by:
Oakland County Health Division Laboratory
1200 N. Telegraph Rd., Pontiac, MI 48341-0432
BLDG. 32E MDEQ #0012

METHOD SM 9223B
METHOD DETECTION LIMIT = 1 CFU/100ML

The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin, age or disability. State and federal eligibility requirements apply for certain programs.

A:\EHS\EHS 40-2N.DOC 1G
Rev. 11/4/14

OAKLAND
COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE L. BROOKS PATTERSON

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

June 21, 2018

DAN BADGLEY
E.L. JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: RETURN TO COMPLIANCE FOR E.L. JOHNSON NATURE CENTER

WSSN # 22464-63

Dear Owner/Operator:

The Oakland County Health Division has received the results of the coliform repeat samples that were taken on June 19, 2018 from E.L. Johnson Nature Center water supply. All sample results were satisfactory, indicating the presence of **no** coliform bacteria.

You are required to submit **three (3) additional** bacteriological samples during the month of July 2018. **They must be collected on different days since they will be taken from the same fixture.** *Please consider this letter as notification to collect the required water samples.*

If utilizing the Oakland County Health Division Laboratory, normal business hours are Monday – Wednesday from 8:00 AM to 4:30 PM and Thursday from 8:00 AM to 3:00 PM. The lab is closed on Fridays.

If you have any questions please call me at (248) 858-1342.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Megan Retel, REHS
Senior Public Health Sanitarian
Environmental Health Services

313

BACTERIOLOGICAL ANALYSIS OF WATER

BACTERIOLOGICAL ANALYSIS FEE:
Water Source Located in Oakland County = $6.00
Water Source Located Out of Oakland County = $14.00

REASON FOR SAMPLING
☑ RESAMPLE
☐ ROUTINE MONITORING ☐ CONSTRUCTION/REPAIR
☐ REAL ESTATE TRANSACTION ☐ OTHER

MAIL RESULTS TO: Name: DAN BADGLEY	**Date** 6/19/18 **Time** 10 (Circle One) AM or PM
Address: 3325 FRANKLIN RD.	Collected By: DS
City, State, Zip: BLOOMFIELD HILLS, MI 48302	Phone #: 248 341-6487
Location Name/Address (If Different)	Sampling Point (sample tap, kitchen, bath, etc.): HAND PUMP
	Township: BLMFD **County:** OAK.
Complete One Section Only	**Parcel I.D. #** - - -

Sec A — DRINKING WATER

2246463 **WSSN** (Type I & II Only)

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☑ TYPE II (school, industry, restaurant, office, etc., serving 25 or more person - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)
- ☐ City Water
- ☐ Other

Oak Cty Bac-T $ 6.00
TOTAL $ 24.00
CHANGE $ 0.00
06/11/18 11:54AM#135070 cn

Sec C — SURFACE WATER

☐ Lake ☐ Stream ☐ Other

- ***Samples submitted without payment will not be tested.***
- ***Date and time MUST be on all samples.***
- ***Parcel I.D. # is mandatory for all drinking water samples.***
- ***WSSN is mandatory for all Type I & II sample.***
- ***Pool I.D. # is mandatory for all Swimming Pool samples.***

COMPLETE ALL MANDATORY FIELDS. FAILURE TO COMPLETE THE MANDATORY FIELDS MAY RESULT IN THE SAMPLE(S) NOT BEING PROCESSED. SEE INSTRUCTION SHEET FOR MORE INFORMATION.

JUN 19'18 10:30AM

ANALYSIS OF WATER

Bacteriological analysis of **DRINKING WATER** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **SWIMMING POOL** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **LAKE, STREAM, SURFACE** bathing area:

☐ Satisfactory ☐ Unsatisfactory

☐ **RESAMPLING RECOMMENDED**

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

REMARKS:_____

_____

_____

Date_____ _____

Environmentalist

LABORATORY FINDINGS

Total Coliform ND _____ _____M.P.N../100ml

E. Coli_____ _____M.P.N../100ml

Other_____ Reported by: BC

ND = Not Detected

Date & Time Analyzed: JUN 19 2018 1315

Analysis Provided by:
Oakland County Health Division Laboratory
1200 N. Telegraph Rd., Pontiac, MI 48341-0432
BLDG. 32E MDEQ #0012

METHOD SM 9223B
METHOD DETECTION LIMIT = 1 CFU/100ML

The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin, age or disability. State and federal eligibility requirements apply for certain programs.

A:\EHS\EHS 40-2N.DOC 1G
Rev. 11/4/14

BACTERIOLOGICAL ANALYSIS OF WATER

314

BACTERIOLOGICAL ANALYSIS FEE:
Water Source Located in Oakland County = $6.00
Water Source Located Out of Oakland County = $14.00

EASON ☑ **RESAMPLE**
OR ☐ ROUTINE MONITORING ☐ CONSTRUCTION/REPAIR
AMPLING ☐ REAL ESTATE TRANSACTION ☐ OTHER_____

AIL RESULTS TO: Name DAN BAGLEY	**Date** 6/19/18 **Time** 10 (AM) or PM (Circle One)
dress 3325 FRANKLIN RD.	Collected By DB
y, State, Zip BLOOMFIELD HILLS, MI 48302	Phone # 248 341-6487
cation Name/Address (If Different)	Sampling Point (sample tap, kitchen, bath, etc.) HAND PUMP
	Township BLMFD / County OAK.
omplete One Section Only	**Parcel I.D. #** - - -

ec DRINKING WATER

224646 3
WSSN
(Type I & II Only)

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☑ TYPE II (school, industry, restaurant, office, etc., serving 25 or more person - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)
- ☐ City Water
- ☐ Other_____

Oak Cty Bac-T $ 6.00
TOTAL $ 24.00
CHANGE $ 24.00
CHANGE $ 0.00
06/11/18 11:54AM#135070 cn

ec SURFACE WATER

☐ Lake ☐ Stream ☐ Other_____

- ***Samples submitted without payment will not be tested.***
- ***Date and time MUST be on all samples.***
- ***Parcel I.D. # is mandatory for all drinking water samples.***
- ***WSSN is mandatory for all Type I & II sample.***
- ***Pool I.D. # is mandatory for all Swimming Pool samples.***

COMPLETE ALL MANDATORY FIELDS. FAILURE TO COMPLETE THE MANDATORY FIELDS MAY RESULT IN THE SAMPLE(S) NOT BEING PROCESSED. SEE INSTRUCTION SHEET FOR MORE INFORMATION.

JUN 19'18 10:31AM

ANALYSIS OF WATER

Bacteriological analysis of **DRINKING WATER** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **SWIMMING POOL** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **LAKE, STREAM, SURFACE** bathing area:

☐ Satisfactory ☐ Unsatisfactory

☐ **RESAMPLING RECOMMENDED**

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

REMARKS:_____

_____

_____

Date_____ _____

Environmentalist

LABORATORY FINDINGS

Total Coliform ND _____ _____M.P.N../100ml

E. Coli_____ _____M.P.N../100ml

Other_____ Reported by: BC

ND = Not Detected

Date & Time Analyzed: JAN 10 2018 1315

Analysis Provided by:
Oakland County Health Division Laboratory
1200 N. Telegraph Rd., Pontiac, MI 48341-0432
BLDG. 32E MDEQ #0012

JAN 19 2018

METHOD SM 9223B
METHOD DETECTION LIMIT = 1 CFU/100ML

The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin, age or disability. State and federal eligibility requirements apply for certain programs.

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Rev. 11/4/14

BACTERIOLOGICAL ANALYSIS OF WATER 315

BACTERIOLOGICAL ANALYSIS FEE:

Water Source Located in Oakland County = $6.00

Water Source Located Out of Oakland County = $14.00

EASON	☑ RESAMPLE	
OR	☐ ROUTINE MONITORING	☐ CONSTRUCTION/REPAIR
AMPLING	☐ REAL ESTATE TRANSACTION	☐ OTHER_____

AIL RESULTS TO: Name DAN BAGLEY	Date 6/19/18	Time 10 (Circle One) AM or PM
ress 3325 FRANKLIN RD.	Collected By DB	
, State, Zip BLOOMFIELD HILLS, MI 48302	Phone # 248 341-6487	
cation Name/Address (If Different)	Sampling Point (sample tap, kitchen, bath, etc.) HAND PUMP	
	Township BLAFO	County OAK.
	Parcel I.D. # - - -	

omplete One Section Only

ec DRINKING WATER

224463
WSSN
(Type I & II Only)

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☑ TYPE II (school, industry, restaurant, office, etc., serving 25 or more person - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)
- ☐ City Water
- ☐ Other_____

Bal Due $ 6.00
VISA $ 24.00
TOTAL $ 24.00
CHANGE $ 0.00
06/11/18 11:54AM #135070 cn

ec SURFACE WATER

☐ Lake ☐ Stream ☐ Other_____

- ***Samples submitted without payment will not be tested.***
- ***Date and time MUST be on all samples.***
- ***Parcel I.D. # is mandatory for all drinking water samples.***
- ***WSSN is mandatory for all Type I & II sample.***
- ***Pool I.D. # is mandatory for all Swimming Pool samples.***

COMPLETE ALL MANDATORY FIELDS. FAILURE TO COMPLETE THE MANDATORY FIELDS MAY RESULT IN THE SAMPLE(S) NOT BEING PROCESSED. SEE INSTRUCTION SHEET FOR MORE INFORMATION.

JUN 19'18 10:31AM

ANALYSIS OF WATER

Bacteriological analysis of **DRINKING WATER** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **SWIMMING POOL** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **LAKE, STREAM, SURFACE** bathing area:

☐ Satisfactory ☐ Unsatisfactory

☐ **RESAMPLING RECOMMENDED**

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For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

REMARKS:_____

_____

_____

Date_____ _____

Environmentalist

LABORATORY FINDINGS

Total Coliform ND _____M.P.N../100ml

E. Coli_____ _____M.P.N../100ml

Other_____ Reported by: BC

ND = Not Detected

Date & Time Analyzed: JUN 19 2018 1315

Analysis Provided by:
Oakland County Health Division Laboratory
1200 N. Telegraph Rd., Pontiac, MI 48341-0432
BLDG. 32E MDEQ #0012

METHOD SM 9223B
METHOD DETECTION LIMIT = 1 CFU/100ML

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Rev. 11/4/14

BACTERIOLOGICAL ANALYSIS OF WATER

316

BACTERIOLOGICAL ANALYSIS FEE:
Water Source Located in Oakland County = $6.00
Water Source Located Out of Oakland County = $14.00

REASON FOR SAMPLING
☑ RESAMPLE
☐ ROUTINE MONITORING
☐ REAL ESTATE TRANSACTION
☐ CONSTRUCTION/REPAIR
☐ OTHER

MAIL RESULTS TO: Name: DAN BADGLEY	**Date:** 6/19/18 **Time:** 10 (Circle One) AM or PM
Address: 3325 FRANKLIN RD.	Collected By: DB
City, State, Zip: BLOOMFIELD HILLS, MI 48302	Phone #: 248 341-6487
Location Name/Address (If Different):	Sampling Point (sample tap, kitchen, bath, etc.): HAND PUMP
	Township: BLMFD **County:** OAK
	Parcel I.D. # - - -

Complete One Section Only

Sec A — DRINKING WATER

☐ Private well (serves only a single or 2 family dwelling)
☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
☑ TYPE II (school, industry, restaurant, office, etc., serving 25 or more person - 60 days or more per year)
☐ TYPE III (all other public supplies, duplex, small office, etc.)
☐ City Water
☐ Other_____

2246463
WSSN
(Type I & II Only)

Bk Rcpt
VISA $ 24.00
TOTAL $ 24.00
CHANGE $ 0.00
06/11/18 11:54AM #135070 cn

Sec C — SURFACE WATER

☐ Lake ☐ Stream ☐ Other_____

- ***Samples submitted without payment will not be tested.***
- ***Date and time MUST be on all samples.***
- ***Parcel I.D. # is mandatory for all drinking water samples.***
- ***WSSN is mandatory for all Type I & II sample.***
- ***Pool I.D. # is mandatory for all Swimming Pool samples.***

COMPLETE ALL MANDATORY FIELDS. FAILURE TO COMPLETE THE MANDATORY FIELDS MAY RESULT IN THE SAMPLE(S) NOT BEING PROCESSED. SEE INSTRUCTION SHEET FOR MORE INFORMATION.

JUN 19'18 10:31AM

ANALYSIS OF WATER

Bacteriological analysis of **DRINKING WATER** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **SWIMMING POOL** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **LAKE, STREAM, SURFACE** bathing area:

☐ Satisfactory ☐ Unsatisfactory

☐ **RESAMPLING RECOMMENDED**

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

REMARKS:_____

_____

_____

Date_____ _____

Environmentalist

LABORATORY FINDINGS

Total Coliform ND _____ _____M.P.N../100ml

E. Coli_____ _____M.P.N../100ml

Other_____ Reported by: BC

ND = Not Detected

Date & Time Analyzed: JUN 19 2015 1315

Analysis Provided by:
Oakland County Health Division Laboratory
1200 N. Telegraph Rd., Pontiac, MI 48341-0432
BLDG. 32E MDEQ #0012

METHOD SM 9223B
METHOD DETECTION LIMIT = 1 CFU/100ML

The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin, age or disability. State and federal eligibility requirements apply for certain programs.

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Rev. 11/4/14

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE L. BROOKS PATTERSON

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

July 19, 2018

DAN BADGLEY
E.L. JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: RETURN TO COMPLIANCE FOR E.L. JOHNSON NATURE CENTER

WSSN # 22464-63

Dear Sir or Madam:

The Oakland County Health Division has received the results of the 3 routine coliform samples that were taken from E.L. Johnson Nature Center water supply. All sample results were satisfactory, indicating the presence of **no** Coliform bacteria.

You may now return to your normal monitoring frequency. The next coliform bacteria sample is due by September 30, 2018.

If you have any questions please call me at (248) 858-1342.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Megan Retel, REHS
Senior Public Health Sanitarian
Environmental Health Services

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE L. BROOKS PATTERSON

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

August 4, 2017

E.L. JOHNSON NATURE CENTER
ATTN: DAN BADGLEY
3325 FRANKLIN ROAD
BLOOMFIELD HILLS, MI 48302

RE: SANITARY SURVEY OF THE WATER SUPPLY AT – E.L. JOHNSON NATURE CENTER, 3325 FRANKLIN ROAD, BLOOMFIELD HILLS, MI 48302

WSSN # 22464-63

Dear Owner/Operator:

A copy of the sanitary survey of your public water system is enclosed. The purpose of this sanitary survey, conducted under the authority of the Michigan Safe Drinking Water Act, Act 399, P.A. of 1976, as amended and rules (Act), was to:

1. Determine if the system meets minimum construction and operation standards and require correction where necessary,
2. Determine if the system currently meets applicable state drinking water standards, and
3. Establish water quality monitoring (water sampling) requirements.

The following describes the results of the survey and your water quality monitoring requirements.

Construction/Operation
According to the items surveyed, the water system is in compliance with the construction standards established by the Act.

Routine Monitoring (Sampling) Requirements

Unless you are required to sample more frequently as a condition of a license or policy, your system must meet the following sampling schedule:

Coliform (bacteriologic) -

Frequency: Quarterly (1 sample every 3 months)
Last sample was taken July 6, 2017
Next sample due between: October 1, 2017 – December 31, 2017
Sampling location: Drinking water faucet.
Sample containers: Order unit 30, test code BPTC if using the Michigan Department of Environmental Quality (DEQ) laboratory.

*** Nitrate (inorganic) -**

Frequency: Annually (1 sample every year)
Last sample was taken July 6, 2017
Next sample due before July 6, 2018
Sampling location: A raw water sampling tap as close to the well as possible, and before any water treatment device.
Sample containers: Order unit 32, test code R if using DEQ laboratory.

***Note:** A nitrite sample only has to be collected one time. The nitrite sample should be collected as part of the initial approval process. No additional nitrite samples are required.

Sample Procedures

The Oakland County laboratory offers water analysis for coliform bacteria for a $6 fee, and nitrate/nitrite for a $5 fee. Sample bottles and forms may be obtained from our two offices in Pontiac and Southfield.

If you choose to use the DEQ laboratory, sample bottles may be obtained by ordering them directly from the DEQ laboratory.

If a laboratory other than the DEQ or Oakland County laboratory is used for sample analysis, it must be DEQ certified for the analysis performed. A copy of the results of the analysis must be provided to this office by the water supply owner/operator within ten days of the end of the monitoring period. Please be aware that all positive coliform sample results must be reported to this office within 48 hours. Payments of all laboratory fees are the responsibility of the owner/operator of the water supply.

A Water Supply Serial Number (WSSN), a computer number used for identification purposes, has been assigned to each public water supply in the state.
Your water supply serial number is **WSSN # 22464-63**, and must be recorded on each water sample form. Without this number on the sample form, you will not be credited for collecting a required sample.

Act 399 specifies that it is the owner/operator's responsibility to collect and submit the required water samples for analysis and to maintain and operate the water system in a sanitary condition.

The well that serves your facility has been mapped in a statewide ground water database through the use of geographical positioning system (GPS) units. When this information is compiled, the state can develop maps showing areas where public water supplies may be at risk.

If you have questions regarding the sanitary survey, the required upgrading, or monitoring (sampling) requirements, please contact me at (248) 858-1342.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Amanda McMahon, REHS, MS
Senior Public Health Sanitarian
Environmental Health Services

Enclosures

SANITARY SURVEY REPORT

WSSN: 2246463

System Name : E. L. JOHNSON NATURE CENTER

Search Criteria :
WSSN : 2246463
Sanitary Survey Date : 7/6/2017

Address List:

BILLING:	E. L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	Phone: 2483416487	e-mail:
CONTACT:	DAN BADGLEY, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	Phone: 2483416487	
FACILITY:	E. L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	Phone: 2483416487	e-mail:
OWNER:	E. L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	Phone: 2483416487	e-mail:

Basic Information Details:

Nontransient Population:	6	System Type:	TRANSIENT	System Use:	PARK/RECREATION
Total Population:	50	License Type:	-	Status:	ACTIVE
# of Service Connections:	1	Contiguous:	N	Operational Season:	JANUARY 1 To DECEMBER 31

SANITARY SURVEY DATE : 7/6/2017 COMPLIANCE DATE :

Well / Pump Details:

Source ID: 001 Well ID: 63000023930

WELL

Source Type:	WELL	12" above Grade:	Yes	Source of Information:	DRILLER
Date Installed:	07/07/1997	Casing Diameter:	5	LHD Staff Assigned:	AMANDA MCMAHON
Well Depth:	64	Well Cap:	YES	Site Subjected to Flooding?:	NO
Casing Depth:	64	Drilling Method:	ROTARY	Purchased Water Source:	
Driller Name:		Grouted:	YES-0 PTS	Well Installation Approved:	IN COMPLIANCE

PUMP

Pump Type:	HAND	Gallons Per Minute(GPM):	-	Check Valve Location Approved:	YES
Pump Make:	BAKER MONITOR	Drop Pipe Length:	52	Pump Installation Approved:	IN COMPLIANCE
Pump Model:	BAKER-MONI	Protected Suction Line:	NO		

Contaminants and Treatment Details:

Source ID: 001

CONTAMINANT
Contaminant Installation Approved: IN COMPLIANCE

Source of Contaminant	Distance From Well	Direction
SURFACE WATER	138	SOUTH

TREATMENT

System Classification Level:	-
Certified Operator:	-
Operation Report Required:	-
Treatment Installation Approved:	IN COMPLIANCE

Storage and Distribution Details:

STORAGE

Approved Sample Tap:	YES
Storage Installation Approved:	IN COMPLIANCE

DISTRIBUTION

Distribution System Material:	NONE
Distribution System Installation Approved:	IN COMPLIANCE

Monitoring Frequency Details:

Source ID: 001

Analyte Groups	Frequency	Samples Required	Start Date
BACTERIOLOGICAL	QUARTERLY	1	1/1/2016
NITRATE	ANNUAL	1	1/1/1997

Sample Siting Plan Details:

BACTERIOLOGIC

Sample Purpose	Sample Location	Exact Location

	Hand Pump	
	Hand Pump	
s	Hand Pump	
ples	Hand Pump	
Monitoring	Hand Pump	

EMISTRY

Sample Purpose	Sample Location	Exact Location
Routine Monitoring	Hand Pump	

No Lead / Copper Records Found

Signature : Date: 8/4/17

HEALTH
WWW.CO.OAKLAND.MI.US

E.L. Johnson Nature Center (WSSN: 22464-63)

Date: 8/4/2017



Legend

Highlighted Feature
Well-Applicant
Applicant Proposed Existing Well-Site
Proposed Existing Well-Final
Proposed Existing Structure-Applicant
Applicant Proposed Existing Structure-Site
Proposed Existing Structure-Final
Proposed Existing SoilBoring-Site
SoilBoring-Final
Septic Tank-Applicant
Applicant Proposed Existing Septic Tank-Site
Proposed Existing Septic Tank-Final
Proposed Existing Septic Field-Applicant
Applicant Proposed Existing Septic Field-Site
Proposed Existing Septic Field-Final
Proposed
Existing Septic Area-Site
Initial Area Reserve Area Septic Area-Final
Initial Area Reserve Area
Parcel Sketch Lines-Final
Parcel Sketch Lines-Site
Dimension Line-Applicant
Dimension Line-Site
Dimension Line-Final
Labels-Site
Labels-Final
MiscFeature-Site
Gas Utility
Electric Utility
Communication Utility
Sewer Utility
Water Utility
Storm Utility
Vegetation
Outbuilding
Other
MiscFeature-Final
Gas Utility
Electric Utility
Communication Utility
Sewer Utility
Water Utility
Storm Utility
Vegetation
Outbuilding
Other
GPS Wells
GPS Septic Tanks
Septic Lid
Field Corner
Pump Chamber Lid
D-Box
Alternative Treatment Unit
GPS Soil Borings
GPS Septic Field
GPS Field Notes
Well Depths
Wells
Abandoned
Commercial
Domestic
Heat Pump
Industrial
Irrigation
Monitoring
Oil
Other
Public
Test
Unknown
Roads
Interstate
Major
Minor
State
US
Contamination Buffers
Water Area
Swamp or Marsh
Lake or Pond
Stream or River
GPS Wells - Retired
GPS Septic Tanks - Retired
Septic Lid
Field Corner
Pump Chamber Lid
D-Box
Alternative Treatment Unit
GPS Soil Borings - Retired
GPS Septic Field - Retired
GPS Field Notes - Retired
UST
LUST
Landfill
201 Site
Restrictive Covenant

Disclaimer: The information provided in this system has been compiled from recorded deeds, plats, tax maps, surveys and other public records and data. It is not a legally recorded map or survey and is not intended to be used as one. Users of this data are hereby notified that the information sources mentioned above should be consulted for verification of the information.

BACTERIOLOGICAL ANALYSIS OF WATER

BACTERIOLOGICAL ANALYSIS FEE:
Water Source Located in Oakland County = $6.00
Water Source Located Out of Oakland County = $14.00

SON ☐ **RESAMPLE**
OR ☒ ROUTINE MONITORING ☐ CONSTRUCTION/REPAIR
SAMPLING ☐ REAL ESTATE TRANSACTION ☐ OTHER_____

MAIL RESULTS TO: Name E.L. Johnson	**Date** 7/6/17 **Time** (Circle One) 1030 AM or PM
Address 3325 Franklin	Collected By McMahon
City, State, Zip Bloomfield, MI 48302	Phone # 8-1342
Location Name/Address (If Different)	Sampling Point (sample tap, kitchen, bath, etc.) Hand Pump
	Township / County Oakland
Complete One Section Only	***Parcel I.D. #*** - - -

Sec A **DRINKING WATER**

2246463 ***WSSN*** *(Type I & II Only)*

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☒ TYPE II (school, industry, restaurant, office, etc., serving 25 or more person - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)
- ☐ City Water
- ☐ Other_____

Sec C **SURFACE WATER**

☐ Lake ☐ Stream ☐ Other_____

- ***Samples submitted without payment will not be tested.***
- ***Date and time MUST be on all samples.***
- ***Parcel I.D. # is mandatory for all drinking water samples.***
- ***WSSN is mandatory for all Type I & II sample.***
- ***Pool I.D. # is mandatory for all Swimming Pool samples.***

COMPLETE ALL MANDATORY FIELDS. FAILURE TO COMPLETE THE MANDATORY FIELDS MAY RESULT IN THE SAMPLE(S) NOT BEING PROCESSED. SEE INSTRUCTION SHEET FOR MORE INFORMATION.

JUL 6'17 2:31PM

ANALYSIS OF WATER

Bacteriological analysis of **DRINKING WATER** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **SWIMMING POOL** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **LAKE, STREAM, SURFACE** bathing area:

☐ Satisfactory ☐ Unsatisfactory

☐ **RESAMPLING RECOMMENDED**

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REMARKS:_____

_____

_____

Date_____ _____

Environmentalist

LABORATORY FINDINGS

Total Coliform ND _____M.P.N../100ml

E. Coli_____ _____M.P.N../100ml

Other_____ Reported by: BJ

ND = Not Detected

Date & Time Analyzed: 07 06 17 1505

Analysis Provided by:
Oakland County Health Division Laboratory
1200 N. Telegraph Rd., Pontiac, MI 48341-0432
BLDG. 32E MDEQ #0012

METHOD SM 9223B
METHOD DETECTION LIMIT = 1 CFU/100ML

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Rev. 11/4/14

CHEMICAL ANALYSIS OF WATER

PARTIAL CHEMICAL ANALYSIS FEE: $5.00

REASON FOR SAMPLING

- ☐ RESAMPLE Previous Sample Date_____
- ☒ ROUTINE MONITORING
- ☐ CONSTRUCTION/REPAIR
- ☐ REAL ESTATE TRANSACTION
- ☐ OTHER_____
- ☐ WATER QUALITY PROBLEM

MAIL RESULTS TO: Name: EL Johnson Nature Center	**Date** 7/6/17 **Time** (Circle One) AM or PM 1030
Address: 3325 Franklin Rd	Collected By: McMahon
City, State, Zip: Bloomfield MI, 48302	Phone #: 8-1342
Location Name/Address (If Different): DAN Badgley	Sampling Point (sample tap, kitchen, bath, etc.): Hand Pump
	Township / County: Oakland
	Parcel I.D. # - - -

SAMPLE SOURCE - Check One

2246463 ***WSSN*** *(Type I & II Only)*

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☒ TYPE II (school, industry, restaurant, office, etc., serving 25 or more person - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)

City Water

Other_____

JUL 6'17 2:31PM

submitted without payment will not be tested.
me MUST be on all samples.
s mandatory for all drinking water samples.
tory for all Type I & II sample.

TORY FIELDS. FAILURE TO COMPLETE THE RESULT IN THE SAMPLE(S) NOT BEING ION SHEET FOR MORE INFORMATION.

TEST CONDUCTED	REPORTING DETECTION LIMIT	RESULTS (*=REPEATED)	REPORTED
Fluoride	.5	0.7 ppm	DATE/TIME ANALYZED 07 06 1622
Chloride	5.0	27.2 ppm	
Nitrite	.1	ND ppm	
Nitrate	1.0	ND ppm	
Sulfate	5.0	117.1 ppm	Method: EPA 300.0

ND = Not Detected

INTERPRETATION OF TESTS

The Oakland County Health Division analyzes drinking water for five parameters in a routine testing procedure referred to as a partial chemical analysis. Below is a table of these parameters and associated problems.

Except for fluoride and nitrate, the levels listed below are general guidelines. State drinking water standards have been established and are listed for these two chemicals.

Analysis Provided by:
Oakland County Health Division Laboratory
1200 N. Telegraph Rd., Pontiac, MI 48341-0432
BLDG. 32E MDEQ #0012

TEST RESULTS IN MILLIGRAMS PER LITER (MG/L)				
TEST	**EXCELLENT**	**SATISFACTORY**	**OBJECTIONABLE**	**PROBLEM**
Fluoride	0.8-1.7*	1.7-4.0	Over 4.0 (State drinking water standardsis 4)	Low levels are beneficial in preventing tooth decay. High levels
Chloride	ND-20	20-250		
Nitrite	ND	0-1		
Nitrate as N	ND	1-10		
Sulfate	ND-50	50-250		

*** A doctor/dentist prescribed fluoride supp**

The Oakland County Health Division will not deny participa
State and federal eligib

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Reprint: 12/9/11

COMPLETE ALL MANDA
MANDATORY FIELDS MAY
PROCESSED. SEE INSTRUCT
• Samples
• Date and t
• Parcel I.D. # is
• WSSN is manda

☐ ☐ Ou

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE L. BROOKS PATTERSON

Kathleen Forzley, Manager
(248) 858-1280 | health@oakgov.com

October 28, 2015

E. L. JOHNSON NATURE CENTER
3325 FRANKLIN RD.
BLOOMFIELD HILLS MI 48302-

CHANGE OF COLIFORM BACTERIA SAMPLING FREQUENCY
E. L. JOHNSON NATURE CENTER
WSSN: 2246463

Dear Water Supply Owner:

On April 1, 2016, the Revised Total Coliform Rule (RTCR) replaces the current requirements in The Safe Drinking Water Act, 1976 PA 399, as amended (SDWA). In anticipation of this rule change, the Oakland County Health Division is placing all Type II facilities on quarterly coliform monitoring. Most facilities are already sampling quarterly for coliform, but a few are sampling annually. Your Type II facility is one of those few.

Be advised, your public water supply will be placed on quarterly sampling (one sample every three months) beginning January 1, 2016. You will be required to submit a coliform bacterial sample each calendar quarter: January – March, April – June, July – September and October – December. You will begin receiving quarterly reminders for coliform samples in February 2016. Remember, you may sample anytime in the quarter and do not have to wait until the due date on the postcard to submit your sample.

Please keep this documentation for your records. If you have any questions regarding this correspondence, please contact me at (248) 858-1332.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Michelle Mader
Public Health Sanitarian
Environmental Health Services

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION
Department of Health & Human Services

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

Kathleen Forzley, RS, MPA, Manager
HEALTH DIVISION

oakgov.com/health

July 17, 2012

DAN BADGLEY
E.L. JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: SANITARY SURVEY OF THE WATER SUPPLY AT– E.L. JOHNSON NATURE CENTER – 3325 FRANKLIN RD, BLOOMFIELD HILLS, MI

WSSN # 22464-63

Dear Owner/Operator:

A copy of the sanitary survey of your public water system is enclosed. The purpose of this sanitary survey, conducted under the authority of the Michigan Safe Drinking Water Act, Act 399, P.A. of 1976, as amended and rules (Act), was to:

1. Determine if the system meets minimum construction and operation standards and require correction where necessary,
2. Determine if the system currently meets applicable state drinking water standards, and
3. Establish water quality monitoring (water sampling) requirements.

The following describes the results of the survey and your water quality monitoring requirements.

Construction/Operation

According to the items surveyed, the water system is in compliance with the construction standards established by the Act.

Routine Monitoring (Sampling) Requirements

Unless you are required to sample more frequently as a condition of a license or policy, your system must meet the following sampling schedule:

Coliform (bacteriologic) -

Frequency: Annually (1 sample every year)
Last sample was taken July 9, 2012
Next sample due before July 9, 2013
Sampling location: Drinking water faucet.
Sample containers: Order unit 30, test code BPTC if using the Michigan Department of Environmental Quality (DEQ) laboratory.

*** Nitrate (inorganic) -**

Frequency: Annually (1 sample every year)
Last sample was taken July 9, 2012
Next sample due before July 9, 2013
Sampling location: A raw water sampling tap as close to the well as possible, and before any water treatment device.
Sample containers: Order unit 32, test code R if using DEQ laboratory.

***Note:** A nitrite sample only has to be collected one time. The nitrite sample should be collected as part of the initial approval process. No additional nitrite samples are required.

Sample Procedures

The Oakland County laboratory offers water analysis for coliform bacteria for a $6 fee, and nitrate/nitrite for a $5 fee. Sample bottles and forms may be obtained from our two offices in Pontiac and Southfield.

If you choose to use the DEQ laboratory, sample bottles may be obtained by ordering them directly from the DEQ laboratory.

If a laboratory other than the DEQ or Oakland County laboratory is used for sample analysis, it must be DEQ certified for the analysis performed. A copy of the results of the analysis must be provided to this office by the water supply owner/operator within ten days of the end of the monitoring period. Please be aware that all positive coliform sample results must be reported to this office within 48 hours. Payments of all laboratory fees are the responsibility of the owner/operator of the water supply.

A Water Supply Serial Number (WSSN), a computer number used for identification purposes, has been assigned to each public water supply in the state. Your water supply serial number is **WSSN #22464-63**, and must be recorded on each water sample form. Without this number on the sample form, you will not be credited for collecting a required sample.

Act 399 specifies that it is the owner/operator's responsibility to collect and submit the required water samples for analysis and to maintain and operate the water system in a sanitary condition.

The well that serves your facility has been mapped in a statewide ground water database through the use of geographical positioning system (GPS) units. When this information is compiled, the state can develop maps showing areas where public water supplies may be at risk.

If you have questions regarding the sanitary survey, the required upgrading, or monitoring (sampling) requirements, please contact me at (248) 858-1332.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Michelle Mader
Public Health Sanitarian
Environmental Health Services

Enclosures

WaterTrack

SANITARY SURVEY REPORT

WSSN: 2246463
System Name : E. L. JOHNSON NATURE CENTER

Search Criteria :
WSSN : 2246463
Sanitary Survey Date : 7/9/2012

Address List:

BILLING:	E. L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	**Phone:** 2483416487	**e-mail:**
CONTACT:	DAN BADGLEY, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	**Phone:** 2483416487	
FACILITY:	E. L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	**Phone:** 2483416487	**e-mail:**
OWNER:	E. L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	**Phone:** 2483416487	**e-mail:**

Basic Information Details:

Nontransient Population:	6	**System Type:**	TRANSIENT	**System Use:**	PARK/RECREATION
Total Population:	50	**License Type:**	-	**Status:**	ACTIVE
# of Service Connections:	1	**Contiguous:**	N	**Operational Season:**	JANUARY 1 To DECEMBER 31

SANITARY SURVEY DATE : 7/9/2012 **COMPLIANCE DATE :**

Well / Pump Details:

Source ID: 001 **Well ID:** 63000023930

WELL

Source Type:	WELL	**12" above Grade:**	Yes	**Source of Information:**	DRILLER
Date Installed:	07/07/1997	**Casing Diameter:**	5	**LHD Staff Assigned:**	MICHELLE MADER
Well Depth:	64	**Well Cap:**	YES	**Site Subjected to Flooding?:**	NO
Casing Depth:	64	**Drilling Method:**	ROTARY	**Purchased Water Source:**	
Driller Name:		**Grouted:**	YES-0 PTS	**Well Installation Approved:**	IN COMPLIANCE

PUMP

Pump Type:	HAND	**Gallons Per Minute(GPM):**	-	**Check Valve Location Approved:**	YES
Pump Make:	BAKER MONITOR	**Drop Pipe Length:**	52	**Pump Installation Approved:**	IN COMPLIANCE
Pump Model:	BAKER-MONI	**Protected Suction Line:**	NO		

Contaminants and Treatment Details:

Source ID: 001

CONTAMINANT
Contaminant Installation Approved: IN COMPLIANCE

Source of Contaminant	Distance From Well	Direction
SURFACE WATER	300	SOUTH

TREATMENT
System Classification Level: -
Certified Operator: -
Operation Report Required: -
Treatment Installation Approved: IN COMPLIANCE

Storage and Distribution Details:

STORAGE
Approved Sample Tap: YES
Storage Installation Approved: IN COMPLIANCE

DISTRIBUTION
Distribution System Material: NONE
Distribution System Installation Approved: IN COMPLIANCE

Monitoring Frequency Details:

Source ID: 001

Analyte Groups	Frequency	Samples Required	Start Date
BACTERIOLOGICAL	ANNUAL	1	1/1/1997
NITRATE	ANNUAL	1	1/1/1997

Sample Siting Plan Details:

BACTERIOLOGIC

Sample Purpose	Sample Location	Exact Location
Routine Monitoring	Hand Pump	

CHEMISTRY

Sample Purpose	Sample Location	Exact Location
Routine Monitoring	Hand Pump	

No Lead / Copper Records Found

Signature : MMMao Date: 7/13/12

E.L. Johnson Nature Center - WSSN: 22464-63

Date: 7/17/2012



Legend

Highlighted Feature
Selected Features
GPS Wells
GPS Septic Tanks
Septic Lid
Field Corner
Pump Chamber Lid
D-Box
Alternative Treatment Unit
GPS Soil Borings
GPS Septic Field
GPS Field Notes
Well Depths
Wells
Abandoned
Commercial
DHIMOOPTU
Domestic
Heat Pump
Industrial
Irrigation
Monitoring
Oil
Other
Public
Test
Unknown
Roads
Interstate
Major
Minor
State
US
Contaminati-on Buffers
Water Area
Swamp or Marsh
Lake or Pond
Stream or River
GPS Wells - Retired
GPS Septic Tanks - Retired
Septic Lid
Field Corner
Pump Chamber Lid
D-Box
Alternative Treatment Unit
GPS Soil Borings - Retired
GPS Septic Field - Retired
GPS Field Notes - Retired
Current Imagery

Disclaimer: The information provided in this system has been compiled from recorded deeds, plats, tax maps, surveys and other public records and data. It is not a legally recorded map or survey and is not intended to be used as one. Users of this data are hereby notified that the information sources mentioned above should be consulted for verification of the information.

http://land.oakgov.com/gisa0002/GisGateway?ServiceName=municipalBoundary&ClientVersion=4.0&Form=True&Encode=F... 7/17/2012

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION
Department of Health & Human Services
oakgov.com/health

BACTERIOLOGICAL ANALYSIS OF WATER

BACTERIOLOGICAL ANALYSIS FEE: $6.00

6.10

REASON FOR SAMPLING
☐ **RESAMPLE** Previous Sample Date_____
☐ ROUTINE MONITORING ☐ CONSTRUCTION/REPAIR
☐ REAL ESTATE TRANSACTION ☐ OTHER_____

MAIL RESULTS TO: Name: ELJOHNSON NATURE Ctr.	**Date** 7/9/12	**Time** 315 (Circle One) AM or PM
Address: 3325 FRANKLIN RD.	Collected By: Mader	
City, State, Zip: BLOOMFIELD Hills, MI	Phone #: 813332	
Location Name/Address (If Different)	Sampling Point (sample tap, kitchen, bath, etc.)	
	Township: BLOOMFIELD	County: Oak
	Parcel I.D. # - - -	

Complete One Section Only

Sec A DRINKING WATER

2241463
WSSN
(Type I & II Only)

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☒ TYPE II (school, industry, restaurant, office, etc., serving 25 or more person - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)
- ☐ City Water
- ☐ Other_____

Sec B SWIMMING POOLS
Public Swimming Pools with a State Pool # are exempt

Pool ID#

Sanitizer Type
☐ Chlorine ☐ Bromine Residual_____ppm pH_____

Sec C SURFACE WATER
☐ Lake ☐ Stream ☐ Other_____

- ***Samples submitted without payment will not be tested.***
- ***Date and time MUST be on all samples.***
- ***Parcel I.D. # is mandatory for all drinking water samples.***
- ***WSSN is mandatory for all Type I & II sample.***
- ***Pool I.D. # is mandatory for all Swimming Pool samples.***

COMPLETE ALL MANDATORY FIELDS. FAILURE TO COMPLETE THE MANDATORY FIELDS MAY RESULT IN THE SAMPLE(S) NOT BEING PROCESSED. SEE INSTRUCTION SHEET FOR MORE INFORMATION.

ANALYSIS OF WATER

Bacteriological analysis of **DRINKING WATER** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **SWIMMING POOL** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **LAKE, STREAM, SURFACE** bathing area:

☐ Satisfactory ☐ Unsatisfactory

☐ **RESAMPLING RECOMMENDED**

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

REMARKS:_____

_____

_____

Date_____ _____

Environmentalist

LABORATORY FINDINGS

Total Coliform ND _____M.P.N../100ml

E. Coli_____ _____M.P.N../100ml

Other_____ Reported by:_____

ND = Not Detected

Date & Time Analyzed: JUL 10 2012 11:04

Analysis Provided by:
Oakland County Health Division Laboratory
1200 N. Telegraph Rd., Pontiac, MI 48341-0432
BLDG. 32E MDEQ #0012

METHOD SM 9223B
METHOD DETECTION LIMIT = 1 CFU/100ML

The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin, age or disability. State and federal eligibility requirements apply for certain programs.

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Rev. 12/11

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION
Department of Health & Human Services
oakgov.com/health

CHEMICAL ANALYSIS OF WATER

PARTIAL CHEMICAL ANALYSIS FEE: $5.00

REASON FOR SAMPLING
☐ RESAMPLE Previous Sample Date_____
☑ ROUTINE MONITORING ☐ CONSTRUCTION/REPAIR
☐ REAL ESTATE TRANSACTION ☐ OTHER_____
☐ WATER QUALITY PROBLEM

MAIL RESULTS TO: Name	Date	Time (Circle One) AM or PM
EL JOHNSON NATURE CTR.	7/9/12	315
Address: 3325 FRANKLIN RD.	Collected By: Mader	
City, State, Zip: BLOOMFIELD HILLS, MI	Phone #: 81332	
Location Name/Address (If Different)	Sampling Point (sample tap, kitchen, bath, etc.)	
	Township: BLOOMFIELD	County: Oak
	Parcel I.D. # - - -	

SAMPLE SOURCE - Check One

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☑ TYPE II (school, industry, restaurant, office, etc., serving 25 or more person - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)
- ☐ City Water
- ☐ Other_____

2246463
WSSN
(Type I & II Only)

10 JUL '12 AM 8:00

- ***Samples submitted without payment will not be tested.***
- ***Date and time MUST be on all samples.***
- ***Parcel I.D. # is mandatory for all drinking water samples.***
- ***WSSN is mandatory for all Type I & II sample.***

COMPLETE ALL MANDATORY FIELDS. FAILURE TO COMPLETE THE MANDATORY FIELDS MAY RESULT IN THE SAMPLE(S) NOT BEING PROCESSED. SEE INSTRUCTION SHEET FOR MORE INFORMATION.

TEST CONDUCTED	REPORTING DETECTION LIMIT	RESULTS (*=REPEATED)	REPORTED BY: BC
Fluoride	.5	0.8 ppm	DATE/TIME ANALYZED: JUL 10 2012
Chloride	5.0	25.0 ppm	
Nitrite	.1	ND ppm	12:06
Nitrate	1.0	ND ppm	
Sulfate	5.0	97.3 ppm	Method: EPA 300.0

ND = Not Detected

INTERPRETATION OF TESTS

The Oakland County Health Division analyzes drinking water for five parameters in a routine testing procedure referred to as a partial chemical analysis. Below is a table of these parameters and associated problems.

Except for fluoride and nitrate, the levels listed below are general guidelines. State drinking water standards have been established and are listed for these two chemicals.

Analysis Provided by:
Oakland County Health Division Laboratory
1200 N. Telegraph Rd., Pontiac, MI 48341-0432
BLDG. 32E MDEQ #0012

TEST RESULTS IN MILLIGRAMS PER LITER (MG/L)				
TEST	**EXCELLENT**	**SATISFACTORY**	**OBJECTIONABLE**	**PROBLEM**
Fluoride	0.8-1.7*	1.7-4.0	Over 4.0 (State drinking water standardsis 4)	Low levels are beneficial in preventing tooth decay. High levels may cause mottling of teeth
Chloride	ND-20	20-250	Over 250	Taste; corrosion
Nitrite	ND	0-1	Over 1	Nitrite poisoning especially infants
Nitrate as N	ND	1-10	Over 10 (State drinking water standards is 10)	Nitrate poisoning especially infants
Sulfate	ND-50	50-250	Over 250	Laxative, taste, odor, scaling in boilers, heat exchangers

*** A doctor/dentist prescribed fluoride supplement may be appropriate below 0.8 mg/L.**

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Reprint: 12/9/11

OAKLAND
COUNTY MICHIGAN
HEALTH DIVISION
Department of Health & Human Services

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

Kathleen Forzley, R.S., M.P.A., Manager
HEALTH DIVISION

December 22, 2010

DAN BADGLEY
EL JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: RETURN TO COMPLIANCE FOR EL JOHNSON NATURE CENTER

WSSN # 22464-63

Dear Sir or Madam:

I have received the results of the 5 repeat coliform samples that were taken from EL Johnson Nature Center water supply. All sample results were satisfactory, indicating the presence of **no** Coliform bacteria.

You may now return to your normal monitoring frequency. The next coliform bacteria sample is due by March 31, 2011.

If you have any questions please call me at (248) 858-1332.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Human Services

Michelle Mader
Public Health Sanitarian
Environmental Health Services

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION
DEPARTMENT OF HEALTH & HUMAN SERVICES

OAKLAND COUNTY HEALTH DIVISION LABORATORY BACTERIOLOGICAL ANALYSIS OF WATER FOR A LARGE NUMBER OF SAMPLES MDEQ #0012

21 DEC '10 AM 9:18

(✓) Resample (✓) Drinking Water ( ) Surface Water

INSTRUCTIONS: Complete all parts of this form that apply to your samples.

COLLECTED BY: DAN BADGLEY

DATE COLLECTED: 12/20/2010 TIME: 4pm

CONTACT PERSON: DAN BADGLEY

CONTACT PHONE #: 248 341-6487

CITY/TWP/PROJECT NAME: E.L. JOHNSON NATURE CENTER

Other: _____

MAIL RESULTS TO:
Name DAN BADGLEY
Address 3325 FRANKLIN RD.
City/State/Zip BLOOMFIELD HILLS, ~~MI~~ MI 48302

RESULTS:
S - Satisfactory
U - Unsatisfactory

2246463

Reported by: _____

Date Reported: DEC 22 2010

LAB NUMBER (FOR LAB USE ONLY)	STATION NUMBER	STATION LOCATION/ ADDRESS CITY, VILLAGE OR TOWNSHIP	SAMPLE SITE (KITCHEN, BATH, ETC) AND WSSN REQUIRED FOR TYPE I & II PUBLIC WATER SUPPLIES	COLILERT METHOD (SM9223B) Reporting limit: <1 MPN/100ml		
				TOTAL COLIFORM	E-COLI	RESULTS
307	1	3325 Franklin Rd, B. Hills	HAND PUMP	ND		S U-Resample
308	2	〃	〃	ND		S U-Resample
309	3	〃	〃	ND		S U-Resample
310	4	〃	〃	ND		S U-Resample
311	5	〃	〃	ND		S U-Resample
	6					S U-Resample
	7					S U-Resample
	8					S U-Resample
	9					S U-Resample
	10					S U-Resample
	11					S U-Resample
	12					S U-Resample
	13					S U-Resample
	14					S U-Resample
	15					S U-Resample
	16					S U-Resample

ND= NOT DETECTED

_____ Sanitarian _____ Phone # _____ Date

Results Phoned: _____ Date: _____

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Reprint: 8/10/10

The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin, age or disability. State and federal eligibility requirements apply for certain programs.

LAB NUMBER (FOR LAB USE ONLY)	STATION NUMBER	STATION LOCATION/ ADDRESS CITY, VILLAGE OR TOWNSHIP	SAMPLE SITE (KITCHEN, BATH, ETC) AND WSSN REQUIRED FOR TYPE I & II PUBLIC WATER SUPPLIES	COLILERT METHOD (SM9223B) Reporting limit: <1 MPN/100ml		
				TOTAL COLIFORM	E-COLI	RESULTS
	17					S U-Resample
	18					S U-Resample
	19					S U-Resample
	20					S U-Resample
	21					S U-Resample
	22					S U-Resample
	23					S U-Resample
	24					S U-Resample
	25					S U-Resample
	26					S U-Resample
	27					S U-Resample
	28					S U-Resample
	29					S U-Resample
	30					S U-Resample
	31					S U-Resample
	32					S U-Resample
	33					S U-Resample
	34					S U-Resample
	35					S U-Resample
	36					S U-Resample
	37					S U-Resample
	38					S U-Resample
	39					S U-Resample

ND= NOT DETECTED

Sanitarian _____ Phone # _____ Date _____

Results Phoned: _____ Date: _____

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Reprint: 8/10/10

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OAKLAND
COUNTY MICHIGAN
HEALTH DIVISION
Department of Health & Human Services

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

Kathleen Forzley, R.S., M.P.A., Manager
HEALTH DIVISION

November 23, 2010

EL JOHNSON NATURE CENTER
DAN BADGLEY
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: RETURN TO COMPLIANCE FOR E L JOHNSON NATURE CENTER

WSSN # 22464-63

Dear Supply Owner/Operator:

I have received the results of the coliform repeat samples that were taken November 22, 2010 from the E L Johnson Nature Center water supply. All sample results were satisfactory, indicating the presence of **no** Coliform bacteria.

You are required to submit **five (5) additional** bacteriological sample results by December 27, 2010. They may be collected all at once or on different days. **Please be advised that if using the Oakland County Lab, the hours are Monday – Wednesday 8:00am – 4:30pm and Thursday 8:00am – 3:00pm and they are on closed Fridays.**

Rule 325.1007 of Michigan's Safe Drinking Water Act allows this division to impose a civil fine of $200 against a public water system that fails to collect the required water sample on more than one occasion in a 12-month period. Each subsequent violation may result in a $400 civil fine. We urge you to submit water samples diligently to avoid this type of enforcement action

If you have any questions please call me at (248) 858-1332.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Human Services

Michelle Mader
Public Health Sanitarian
Environmental Health Services

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION
DEPARTMENT OF HEALTH & HUMAN SERVICES

OAKLAND COUNTY HEALTH DIVISION LABORATORY BACTERIOLOGICAL ANALYSIS OF WATER FOR A LARGE NUMBER OF SAMPLES MDEQ #0012

22 NOV '10 PM 1:30

(X) Resample ( ) Drinking Water ( ) Surface Water

INSTRUCTIONS: Complete all parts of this form that apply to your samples.

COLLECTED BY: DAN BADGLEY

DATE COLLECTED: 11/22/2010 TIME: 1:00 PM

CONTACT PERSON: SAME

CONTACT PHONE # : 248 341-6487

CITY/TWP/PROJECT NAME: E. L JOHNSON NATURE CENTER

MAIL RESULTS TO:
Name DAN BADGLEY
Address 3325 FRANKLIN RD.
City/State/Zip BLOOMFIELD HILLS, MI 48302

RESULTS:
S - Satisfactory
U - Unsatisfactory
WSSN #22464-63
Other:
Reported by: PL
Date Reported: NOV 23 2010

LAB NUMBER (FOR LAB USE ONLY)	STATION NUMBER	STATION LOCATION/ ADDRESS CITY, VILLAGE OR TOWNSHIP	SAMPLE SITE (KITCHEN, BATH, ETC) AND WSSN REQUIRED FOR TYPE I & II PUBLIC WATER SUPPLIES	COLILERT METHOD (SM9223B) Reporting limit: <1 MPN/100ml		
				TOTAL COLIFORM	E-COLI	RESULTS
322	1	3325 Franklin Rd, B. Hills	Hand pump	ND		S U-Resample
323	2	↓	↓	ND		S U-Resample
324	3			ND		S U-Resample
325	4			ND		S U-Resample
	5					S U-Resample
	6					S U-Resample
	7					S U-Resample
	8					S U-Resample
	9					S U-Resample
	10					S U-Resample
	11					S U-Resample
	12					S U-Resample
	13					S U-Resample
	14					S U-Resample
	15					S U-Resample
	16					S U-Resample

ND= NOT DETECTED

Sanitarian _____ Phone # _____ Date _____

Results Phoned: _____ Date: _____

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Reprint: 8/10/10

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LAB NUMBER (FOR LAB USE ONLY)	STATION NUMBER	STATION LOCATION/ ADDRESS CITY, VILLAGE OR TOWNSHIP	SAMPLE SITE (KITCHEN, BATH, ETC) AND WSSN REQUIRED FOR TYPE I & II PUBLIC WATER SUPPLIES	COLILERT METHOD (SM9223B) Reporting limit: <1 MPN/100ml		
				TOTAL COLIFORM	E-COLI	RESULTS
	17					S U-Resample
	18					S U-Resample
	19					S U-Resample
	20					S U-Resample
	21					S U-Resample
	22					S U-Resample
	23					S U-Resample
	24					S U-Resample
	25					S U-Resample
	26					S U-Resample
	27					S U-Resample
	28					S U-Resample
	29					S U-Resample
	30					S U-Resample
	31					S U-Resample
	32					S U-Resample
	33					S U-Resample
	34					S U-Resample
	35					S U-Resample
	36					S U-Resample
	37					S U-Resample
	38					S U-Resample
	39					S U-Resample

ND= NOT DETECTED

Sanitarian _____ Phone # _____ Date _____

Results Phoned: _____ Date: _____

A:\EHS-1G\EHS400-1.DOC Rev. 9/26/05
Reprint: 8/10/10

The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin, age or disability. State and federal eligibility requirements apply for certain programs.

Bacti Test Report

Date set up:_____ Date read out: _____Tech:_____

Test Date: 11/22/2010

Test Reason: 'All' Sample Source :Drinking Water

Test ID	Address	Sample Site	Total Coliform	E-Coli
2010326308	5915 MAYBEE RD CLARKSTON MI	LAUNDRY TUB TAP	ND	
2010326309	5915 MAYBEE RD CLARKSTON MI	LAUNDRY TUB TAP	ND	
2010326310	3251 GRINDLEY AVE WEST BLOOMFIELD MI	BATH	ND	
2010326311	3251 GRINDLEY AVE WEST BLOOMFIELD MI	KITCHEN	ND	
2010326312	1268 CRAVEN DR HIGHLAND MI	S. TAP	15	ND
2010326313	1268 CRAVEN DR HIGHLAND MI	S. TAP	12	ND
2010326314	5338 SUNNYSIDE DR CLARKSTON MI	SAMPLE TAP	ND	
2010326315	5338 SUNNYSIDE DR CLARKSTON MI	SAMPLE TAP	ND	
2010326316	4665 STANTON RD OXFORD MI	SAMPLE TAP	4	ND
2010326317	4665 STANTON RD OXFORD MI	SAMPLE TAP	3	ND
2010326318	6970 HUBBARD RD CLARKSTON MI	SAMPLE TAP	2	ND
2010326319	6970 HUBBARD RD CLARKSTON MI	SAMPLE TAP	14	ND
2010326320	7529 BITTERBUSH CLARKSTON MI	SAMPLE TAP	ND	
2010326321	7529 BITTERBUSH CLARKSTON MI	SAMPLE TAP	ND	
2010326322	E.L. JOHNSON NATURE CENTER3325 FRANKLIN RD., BLOOMFIELD HILLS	HAND PUMP	ND	
2010326323	E.L. JOHNSON NATURE CENTER3325 FRANKLIN RD., BLOOMFIELD HILLS	HAND PUMP	ND	
2010326324	E.L. JOHNSON NATURE CENTER3325 FRANKLIN RD., BLOOMFIELD HILLS	HAND PUMP	ND	
2010326325	E.L. JOHNSON NATURE CENTER3325 FRANKLIN RD., BLOOMFIELD HILLS	HAND PUMP	ND	

OAKLAND
COUNTY MICHIGAN
HEALTH DIVISION

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

Department of Health & Human Services

Kathleen Forzley, R.S., M.P.A., Manager
HEALTH DIVISION

November 18, 2010

EL JOHNSON NATURE CENTER
DAN BADGLEY
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: **UNACCEPTABLE WATER SAMPLE RESULTS – E L JOHNSON NATURE CENTER**
WSSN: **# 22464-63**

Dear Sir or Madam:

On November 16, 2010, water samples were collected from E L Johnson Nature Center. One sample was positive (POS) for Coliform bacteria. Under the provisions of the Safe Drinking Water Act, Act 399, P.A. 1976 and Rules as amended, you must collect four (4) repeat samples **within 24 hours of notification** of unsatisfactory sampling results.

- One sample must be collected from the same tap as the initial POS.
- One sample must be collected from the raw water tap.
- The other resamples may be collected from other locations in the distribution system.

This letter is written notification. Verbal communication of its content occurred. If you have not resampled, please do so immediately.

If all four repeat samples are satisfactory, you are required to submit **five (5) additional** bacteriological samples the following month. They may be collected all at once or on different days. **Rule 325.1007 of Michigan's Safe Drinking Water Act allows this division to impose a civil fine of $200 against a public water system that fails to collect the required water sample on more than one occasion in a 12-month period. Each subsequent violation may result in a $400 civil fine. We urge you to submit water samples diligently to avoid this type of enforcement action.**

You must include your WSSN (water supply serial number) on the sample report form in order for OCHD to be able to credit you for sampling. Thank you for your cooperation. If you have any questions regarding the resampling, please call me at (248) 858-1332.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Human Services

Michelle Mader
Public Health Sanitarian
Environmental Health Services

BACTERIOLOGICAL ANALYSIS OF WATER

County Health Division Laboratory
Telegraph Rd., Pontiac, MI 48341-0432
G. 32E MDEQ #0012

PARCEL I.D. NUMBER ____-____-____-____

REASON FOR SAMPLING
- ☐ RESAMPLE Previous Sample Date
- ☒ ROUTINE MONITORING
- ☐ CONSTRUCTION/REPAIR
- ☐ REAL ESTATE TRANSACTION
- ☐ OTHER

13/16

MAIL RESULTS TO: Name DAN BADGLEY	Date 11/16/2010	Time (Circle One) 10 AM or PM
Address 3375 FRANKLIN RD.	Collected By DAN BADGLEY	
City, State, Zip BLOOMFIELD HILLS, MI 48302	Phone # 248 341-6487	
Location Name/Address (If Different) EL JOHNSON NATURE CENTER	Sampling Point (sample tap, kitchen, bath, etc.) PUMP	
	Township BLMFD.	County OAKLAND

Complete One Section Only

Sec A — DRINKING WATER

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☒ TYPE II (school, industry, restaurant, office, etc., serving 25 or more person - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)
- ☐ City Water
- ☐ Other

2246463 **WSSN** (Type I & II Only)

16 NOV '10 AM11:04

Sec B — SWIMMING POOLS

Sanitizer Type ☐ Chlorine ☐ Bromine Residual____ppm pH____

Pool ID#

Sec C — SURFACE WATER

☐ Lake ☐ Stream ☐ Other

COMPLETE ALL PARTS OF THIS FORM WHICH APPLY.
SEE INSTRUCTION SHEET FOR MORE INFORMATION.

Date and time MUST be on all samples.

- ***Parcel I.D. # is mandatory for all drinking water samples.***
- ***WSSN is mandatory for all Type I & II sample.***
- ***Pool I.D. # is mandatory for all Swimming Pool samples.***

FAILURE TO COMPLETE THE MANDATORY FIELDS MAY RESULT IN THE SAMPLE(S) NOT BEING PROCESSED.

ANALYSIS OF WATER

Bacteriological analysis of **DRINKING WATER** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **SWIMMING POOL** sample:

☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **LAKE, STREAM, SURFACE** bathing area:

☐ Satisfactory ☐ Unsatisfactory

☐ **RESAMPLING RECOMMENDED**

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

REMARKS:_____

_____

_____

Date_____ _____

Environmentalist

LABORATORY FINDINGS

Total Coliform POS. M.P.N../100ml

E. Coli ND M.P.N../100ml

Reported by:

Other_____ _____

Date: NOV 17 2016

ND = Not Detected

METHOD SM 92223B
METHOD DETECTION LIMIT = <1 MPN/100ML

The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin, age or disability. State and federal eligibility requirements apply for certain programs.

A:\EHS\EHS 40-2N.DOC 1G
Rev. 6/05
Reprint: 9/20/10

OAKLAND®
COUNTY MICHIGAN
HEALTH DIVISION
DEPARTMENT OF HEALTH AND HUMAN SERVICES

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

HEALTH DIVISION
George J. Miller, M.A., Manager

August 8, 2007

DAN BADGLEY
E. L. JOHNSON NATURE CENTER
3325 FRANKLIN RD
BLOOMFIELD HILLS, MI 48302

RE: WATER SUPPLY AT E L JOHNSON NATURE CENTER
WSSN # 22464-63

Dear Mr. Badgley:

A copy of the sanitary survey of your public water system is enclosed. The purpose of this sanitary survey conducted under the authority of Michigan's Safe Drinking Water Act (Act 399 of the Public Acts of 1976) and Administrative Rules, was to:

1. Determine if the system meets minimum construction and operation standards and require correction where necessary;
2. Determine if the system currently meets applicable state drinking water standards;
3. Establish water quality monitoring (water sampling) requirements; and
4. Complete a source water assessment that will assess the susceptibility of the water supply to contamination.

The following describes the results of the survey and your water quality monitoring requirements.

Construction/Operation

According to the items surveyed, the water system is in compliance with the construction standards established by the Act..

Routine Monitoring (Sampling) Requirements

Unless you are required to sample more frequently as a condition of a license or policy, your system must meet the following sampling schedule:

Coliform (bacteriologic) -
Frequency: Annually (1 sample every year)
Last sample was taken July 25, 2007
Next sample due before July 25, 2008
Sampling location: Drinking water faucet.
Sample containers: Order unit 30, test code BPTC if using MDEQ laboratory.

*** Nitrate (inorganic) -**

Frequency: Annually (1 sample every year)
Last sample was taken July 25, 2007
Next sample due before July 25, 2008
Sampling location: A raw water sampling tap as close to the well as possible, and before any water treatment device.
Sample containers: Order unit 32, test code R if using MDEQ laboratory.

- Beginning January 1, 1993, all noncommunity systems must sample annually for nitrate and collect at least one initial sample for nitrite. The nitrite analysis will be incorporated into the automated testing and will be done when a nitrate is run at the MDEQ or OCHD laboratory. However, if another lab is used the supplier must request both nitrate and nitrite analysis.

Sample Procedures

The Oakland County laboratory offers analysis of drinking water for coliform bacteria and nitrate/nitrite at no cost to Oakland County residents and businesses. Sample bottles and forms may be obtained from any of our three offices in Pontiac, Walled Lake and Southfield.

If you choose to use the Michigan Department of Environmental Quality (MDEQ) laboratory, sample bottles may be obtained by ordering them directly from the MDEQ laboratory (order form and fee schedule enclosed). Payments of MDEQ laboratory fees are the responsibility of the owner/operator of the water supply.

If a laboratory other than the MDEQ or Oakland County laboratory is used for sample analysis, it must be MDEQ certified for the analysis performed. A copy of the results of the analysis must be provided to this office by the water supply owner/operator within ten days of the end of the monitoring period. Please be aware that all positive coliform sample results must be reported to this office.

A Water Supply Serial Number (WSSN), a computer number used for identification purposes, has been assigned to each public water supply in the state. Your water supply serial number is **WSSN #22464-63**, and must be recorded on each water sample form. Without this number on the sample form, you will not be credited for collecting a required sample.

Act 399 specifies that it is the owner/operator's responsibility to collect and submit the required water samples for analysis and to maintain and operate the water system in a sanitary condition.

The well that serves your facility has been mapped in a statewide ground water database through the use of geographical positioning system (GPS) units. When this information is compiled, the state can develop maps showing area where public water supplies may be at risk.

If you have questions regarding the sanitary survey, the required upgrading, monitoring (sampling) requirements or source water assessment, please contact me at (248) 858-1332.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Human Services

Michelle Mader
Public Health Sanitarian
Environmental Health Services

Enclosures

WaterTrack

SANITARY SURVEY REPORT

WSSN: 2246463
System Name : E. L. JOHNSON NATURE CENTER

Search Criteria :
WSSN : 2246463
Sanitary Survey Date : 7/25/2007

Address List:

BILLING:	E. L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	**Phone:** 2483416487	**e-mail:**
CONTACT:	DAN BADGLEY, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	**Phone:** 2483416487	
FACILITY:	E. L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	**Phone:** 2483416487	**e-mail:**
OWNER:	E. L. JOHNSON NATURE CENTER, 3325 FRANKLIN RD., BLOOMFIELD HILLS, MI - 48302	**Phone:** 2483416487	**e-mail:**

Basic Information Details:

Nontransient Population:	6	**System Type:**	TRANSIENT	**System Use:**	PARK/RECREATION
Total Population:	50	**License Type:**	-	**Status:**	ACTIVE
# of Service Connections:	1	**Contiguous:**	N	**Operational Season:**	JANUARY 1 To DECEMBER 31

SANITARY SURVEY DATE : 7/25/2007 **COMPLIANCE DATE :**

Well / Pump Details:

Source ID: 001 **Well ID:** 63000023930

Source Type:	WELL	**12" above Grade:**	Yes	**Source of Information:**	DRILLER
Date Installed:	07/07/1997	**Casing Diameter:**	5	**LHD Staff Assigned:**	MICHELLE MADER
Well Depth:	64	**Well Cap:**	YES	**Site Subjected to Flooding?:**	NO
Casing Depth:	64	**Drilling Method:**	ROTARY	**Purchased Water Source:**	
Driller Name:	CRIBLEY	**Grouted:**	YES-0 PTS	**Well Installation Approved:**	IN COMPLIANCE
Pump Type:	HAND	**Gallons Per Minute(GPM):**	-	**Check Valve Location Approved:**	YES
Pump Make:	BAKER MONITOR	**Drop Pipe Length:**	52	**Pump Installation Approved:**	IN COMPLIANCE
Pump Model:	BAKER-MONI	**Protected Suction Line:**	NO		

Contaminants and Treatment Details:

Source ID: 001

CONTAMINANT
Contaminant Installation Approved: IN COMPLIANCE

Source of Contaminant	Distance From Well	Direction
SURFACE WATER	300	SOUTH

TREATMENT

System Classification Level:	-
Certified Operator:	-
Operation Report Required:	-
Treatment Installation Approved:	IN COMPLIANCE

Storage and Distribution Details:

STORAGE

Approved Sample Tap:	YES
Storage Installation Approved:	POTENTIAL RISK

DISTRIBUTION

Distribution System Material:	NONE
Distribution System Installation Approved:	IN COMPLIANCE

Monitoring Frequency Details:

Source ID: 001

Analyte Groups	Frequency	Samples Required	Start Date
BACTERIOLOGICAL	ANNUAL	1	1/1/1997
NITRATE	ANNUAL	1	1/1/1997

Signature : MMMacLe Date: 8/7/07

E. L. Johnson Nature Center - WSSN: 22464-63

Date: 8/8/2007



Disclaimer: The information provided in this system has been compiled from recorded deeds, plats, tax maps, surveys and other public records and data. It is not a legally recorded map or survey and is not intended to be used as one. Users of this data are hereby notified that the information sources mentioned above should be consulted for verification of the information.

ERIOLOGICAL ANALYSIS OF WATER

y Health Division Laboratory
graph Rd., Pontiac, MI 48341
E MDEQ #0012

PARCEL I.D. NUMBER
_____-_____-_____-_____

ASON FOR SAMPLING
- ☐ RESAMPLE Previous Sample Date _____
- ☒ ROUTINE MONITORING
- ☐ REAL ESTATE TRANSACTION
- ☐ CONSTRUCTION/REPAIR
- ☐ OTHER

MAIL RESULTS TO: Name EL JOHNSON NAT CTR	Date 7/25/07	Time 315 (Circle One) AM or PM
Address 3325 FRANKLIN RD.	Collected By Mader	
City, State, Zip BLOOMFIELD HILLS, MI	Phone #	
Location Name/Address (If Different)	Sampling Point (sample tap, kitchen, bath, etc.) HANDPUMP	
	Township BLOOMFIELD	County OAKLAND

Complete One Section Only

Sec A DRINKING WATER

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☒ TYPE II (school, industry, restaurant, office, etc., serving 25 or more person - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)
- ☐ City Water
- ☐ Other _____

2246463
WSSN
(Type I & II Only)

JUL 26 AM 9:14

Sec B SWIMMING POOLS

Pool ID#

Sanitizer Type
☐ Chlorine ☐ Bromine Residual _____ ppm pH _____

Sec C SURFACE WATER

☐ Lake ☐ Stream ☐ Other _____

COMPLETE ALL PARTS OF THIS FORM WHICH APPLY.
SEE INSTRUCTION SHEET FOR MORE INFORMATION.

Date and time MUST be on all samples.

- ***Parcel I.D. # is mandatory for all drinking water samples.***
- ***WSSN is mandatory for all Type I & II sample.***
- ***Pool I.D. # is mandatory for all Swimming Pool samples.***

FAILURE TO COMPLETE THE MANDATORY FIELDS MAY RESULT IN THE SAMPLE(S) NOT BEING PROCESSED.

ANALYSIS OF WATER

Bacteriological analysis of **DRINKING WATER** sample:
☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **SWIMMING POOL** sample:
☐ Satisfactory ☐ Unsatisfactory

Bacteriological analysis of **LAKE, STREAM, SURFACE** bathing area:
☐ Satisfactory ☐ Unsatisfactory

☐ **RESAMPLING RECOMMENDED**

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliforms are commonly associated with sewage and used as indicator organisms. This is due to their origin in the intestinal tract in humans and other warm blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

REMARKS:_____

_____

_____

Date_____ _____
Environmentalist

LABORATORY FINDINGS

Total Coliform ND M.P.N../100ml

E. Coli_____M.P.N../100ml

Reported by:

Other_____ _____

Date: JUL 27 2007

ND = Not Detected

METHOD SM 92223B
METHOD DETECTION LIMIT = <1 MPN/100ML

The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin, age or disability. State and federal eligibility requirements apply for certain programs.

A:\EHS\EHS 40-2N.DOC 1G
Rev. 6/05
Reprint: 9/05

CHEMICAL ANALYSIS OF WATER

ty Health Division Laboratory
egraph Rd., Pontiac, MI 48341
2E MDEQ #0012

PARCEL I.D. NUMBER
____-____-____-____

REASON FOR SAMPLING
- ☐ RESAMPLE Previous Sample Date_____
- ☒ ROUTINE MONITORING
- ☐ REAL ESTATE TRANSACTION
- ☐ WATER QUALITY PROBLEM
- ☐ CONSTRUCTION/REPAIR
- ☐ OTHER_____

MAIL RESULTS TO: Name	Date	Time (Circle One) AM or PM
E L JOHNSON NATURE CTR.	7/25/07	315
Address: 3325 FRANKLIN RD.	Collected By: Mader	
City, State, Zip: BLOOMFIELD HILLS, MI	Phone #	
Location Name/Address (If Different)	Sampling Point (sample tap, kitchen, bath, etc.): HAND PUMP	
	Township: BLOOMFIELD	County: OAKLAND

SAMPLE SOURCE - Check One

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☒ TYPE II (school, industry, restaurant, office, etc., serving 25 or more person - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)
- ☐ City Water
- ☐ Other_____

2246463
WSSN
(Type I & II Only)

JUL 26 AM 7:01

SEE BACK FOR RESULTS

COMPLETE ALL PARTS OF THIS FORM WHICH APPLY.
SEE INSTRUCTION SHEET FOR MORE INFORMATION.

Date and time MUST be on all samples.
- *Parcel I.D. # is mandatory for all drinking water samples.*
- *WSSN is mandatory for all Type I & II sample.*

FAILURE TO COMPLETE THE MANDATORY FIELDS MAY RESULT IN THE SAMPLE(S) NOT BEING PROCESSED.

TEST CONDUCTED	REPORTING DETECTION LIMIT	RESULTS	REPORTED BY: BL
Fluoride	.5	0.7 mg/L	* = REPEATED
Chloride	5.0	23.6 mg/L	
Nitrite	.1	ND mg/L	
Nitrate	1.0	ND mg/L	JUL 27 2007
Sulfate	5.0	84.4 mg/L	

ND = Not Detected

INTERPRETATION OF TESTS

The Oakland County Health Division analyzes drinking water for five parameters in a routine testing procedure referred to as a partial chemical analysis. Below is a table of these parameters and associated problems.

Except for fluoride and nitrate, the levels listed below are general guidelines. State drinking water standards have been established and are listed for these two chemicals.

TEST RESULTS IN MILLIGRAMS PER LITER (MG/L)

TEST	EXCELLENT	SATISFACTORY	OBJECTIONABLE	PROBLEM
Fluoride	0.8-1.7*	1.7-4.0	Over 4.0 (State drinking water standardsis 4)	Low levels are beneficial in preventing tooth decay. High levels may cause mottling of teeth
Chloride	ND-20	20-250	Over 250	Taste; corrosion
Nitrite	ND	0-1	Over 1	Nitrite poisoning especially infants
Nitrate as N	ND	1-10	Over 10 (State drinking water standards is 10)	Nitrate poisoning especially infants
Sulfate	ND-50	50-250	Over 250	Laxative, taste, odor, scaling in boilers, heat exchangers

*** A doctor/dentist prescribed fluoride supplement may be appropriate below 0.8 mg/L.**

A:\EHS-1G\EH5 40-4 (Rev 6/05)

The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin, age or disability. State and federal eligibility requirements apply for certain programs.

OAKLAND
COUNTY MICHIGAN
DEPARTMENT OF HUMAN SERVICES

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

HEALTH DIVISION
George J. Miller, M.A., Manager

September 23, 2002

E.L. JOHNSON NATURE CENTER
DAN BADGLEY
3325 FRANKLIN RD
BLOOMFIELD HILLS MI 48302

RE: WATER SUPPLY
WSSN #22464-63

Dear Mr. Badgley:

A copy of the sanitary survey of your public water system is enclosed. The purpose of this sanitary survey conducted under the authority of Michigan's Safe Drinking Water Act (Act 399 of the Public Acts of 1976) and Administrative Rules, was to:

1. Determine if the system meets minimum construction and operation standards and require correction where necessary;
2. Determine if the system currently meets applicable state drinking water standards;
3. Establish water quality monitoring (water sampling) requirements; and
4. Complete a source water assessment that will assess the susceptibility of the water supply to contamination.

The following describes the results of the survey and your water quality monitoring requirements.

Construction/Operation

According to the items surveyed, the water system is in compliance with the construction standards established by the Act. The items of noncompliance and the necessary corrections are as follows:

Water Quality

The results of the laboratory analysis of water samples collected as part of the survey indicate that the water was in compliance with the appropriate drinking water standards for Coliform and Nitrate at the time of sampling.

Routine Monitoring (Sampling) Requirements

Unless you are required to sample more frequently as a condition of a license or policy, your system must meet the following sampling schedule:

Coliform (bacteriologic) -

Frequency: Annually (1 sample every year)
Last sample was taken September 17, 2002
Next sample due before September 17, 2003
Sampling location: Drinking water faucet.
Sample containers: Order unit 30, test code BPTC if using MDEQ laboratory.

*** Nitrate (inorganic) -**

Frequency: Annually (1 sample every year)
Last sample was taken September 17, 2002
Next sample due before September 17, 2003
Sampling location: A raw water sampling tap as close to the well as possible, and before any water treatment device.
Sample containers: Order unit 32, test code R if using MDEQ laboratory.

- Beginning January 1, 1993, all noncommunity systems must sample annually for nitrate and collect at least one initial sample for nitrite. The nitrite analysis will be incorporated into the automated testing and will be done when a nitrate is run at the MDEQ or OCHD laboratory. However, if another lab is used the supplier must request both nitrate and nitrite analysis.

Sample Procedures

The Oakland County laboratory offers analysis of drinking water for coliform bacteria and nitrate/nitrite at no cost to Oakland County residents and businesses. Sample bottles and forms may be obtained from any of our three offices in Pontiac, Walled Lake and Southfield.

If you choose to use the Michigan Department of Environmental Quality (MDEQ) laboratory, sample bottles may be obtained by ordering them directly from the MDEQ laboratory (order form and fee schedule enclosed). Payments of MDEQ laboratory fees are the responsibility of the owner/operator of the water supply.

If a laboratory other than the MDEQ or Oakland County laboratory is used for sample analysis, it must be MDEQ certified for the analysis performed. A copy of the results of the analysis must be provided to this office by the water supply owner/operator within ten days of the end of the monitoring period. Please be aware that all positive coliform sample results must be reported to this office.

A Water Supply Serial Number (WSSN), a computer number used for identification purposes, has been assigned to each public water supply in the state. Your water supply serial number is **WSSN #22464-63**, and must be recorded on each water sample form. Without this number on the sample form, you will not be credited for collecting a required sample.

Act 399 specifies that it is the owner/operator's responsibility to collect and submit the required water samples for analysis and to maintain and operate the water system in a sanitary condition.

Source Water Assessment

The 1996 amendments to the federal Safe Drinking Water Act (SDWA) require states to develop a source water assessment program (SWAP) to:

1. Identify the areas that supply public drinking water;

2. Assess the susceptibility of those water supplies to contamination;

3. Inform the public of the results.

Source water assessments are being performed on all of the approximately 10,500 noncommunity public water supplies and approximately 1300 community water supplies throughout the state of Michigan. The assessments performed on noncommunity public water supplies will result in a source water assessment score, which reflects the "inherent vulnerability" of the well and source water. The score is based on the following information:

1. Geologic Sensitivity - the degree of natural protection afforded by the overlying soils or rock formations and depth to water table;

2. Physical Properties of the Well - the well depth, age, depth of casing, grouting method and other key factors that contribute to the integrity of the water system;

3. Water Quality History - the chemical and isotope data of the well water as it indicates any influence from surface or near surface activities;

4. Contaminant Sources - the isolation of the water supply well from potential sources of contamination such as sewers, septic systems, fuel/chemical storage, lagoon, landfills and others.

The score that has been calculated for your water supply is indicated on an attachment to this letter.

The well that serves your facility will also be mapped in a statewide ground water database through the use of geographical positioning system (GPS) units. When this information is compiled, the state can develop maps showing area where public water supplies may be at risk.

If you have questions regarding the sanitary survey, the required upgrading, monitoring (sampling) requirements or source water assessment, please contact me at (248) 858-1332.

Very truly yours,

OAKLAND COUNTY HEALTH DIVISION
Department of Human Services

Christy Lupu
Public Health Sanitarian
Environmental Health Services

Enclosures

Source Water Assessment Worksheet

Date: 08/27/2002

Wssn: 2246463 Well No. 1

System:
Name: E. L. JOHNSON NATURE CENTER
Address: 3325 FRANKLIN RD.
City: BLOOMFIELD HILLS, MI 48302-

County: OAKLAND
Type: TRANSIENT
Status: ACTIVE

Owner:
Name: E. L. JOHNSON NATURE CENTER
Address: 3325 FRANKLIN RD.
City: BLOOMFIELD HILLS, MI 48302-

Well Log and Location

Well log is Available
Well Log is not entered in Wellkey
GPS Location was not Obtained for Well(s)

Geologic Sensitivity - SWAS(G)

CCM Pts. Deducted:	9
CPCM Pts. Deducted:	3
Total Swas(G) Points:	18

Well Construction, Maintenance and Use SWAS(W)

Well Grouting Points:	10
Well Age Points:	0
Casing Depth Points:	10
Pumping Rate:	15
Total Swas(W) Points:	35

Water Chemistry and Isotope Data - SWAS(C)

Nitrate and Nitrites Points:	0
VOCs and SOCs:	5
Tritium Results:	0
Total Swas(C) Points:	5

Isolation from Contamination - SWAS(S)

Number of Major Sources from 75 TO 800 feet:	0 x 10	0
Number of Major Sources within 75 feet:	0 x 20	0
Number of Standard Sources within 75 feet:	0 x 10	0
Number of Known Sources within 800 feet:	0 x 25	0
Sum of pts. from sources of contamination:		0

Source Water Assessment Score - SWAS

SWAS(G)	+	SWAS(W)	+	SWAS(C)	+	SWAS(S)	=	SWAS
18		35		5		0		58

Verified by Christy Lepa 8/27/02

Name Date

NONCOMMUNITY PUBLIC WATER SUPPLY
SANITARY SURVEY REPORT

I. Basic Information

Supply Name E.L. Johnson Nature Center WSSN 22464-63 Phone (248)339-3497

Supply Address 3325 Franklin Rd. City Bloomfield Hills Zip 48302

County Oakland Township Bloomfield Town 2 (N)S Range 10 (E)W Section No. 9 NW 1/4 SW 1/4 SW 1/4

Type of Establishment School (school, restaurant, etc.) Total Pop. Served 100 No. of Employees 4 No. Service Connections Ø

Contact Person Dan Badgley Title _____ Type: ☐ IIa ☒ IIb ☐ Nontransient ☐ III

Owner E.L. Johnson Nature Center Phone (248) 339-3497

Owner Mailing Address 3325 Franklin City Bloomfield Hls State MI Zip 48302

Period of Operation: ☒ 12 Month ☐ Seasonal If Seasonal: From _____ to _____

License Type: ☒ Not Licensed ☐ Food ☐ Campground ☐ DSS Facility ☐ Other _____

II. Well (Source of information: ☐ Owner ☐ Measured ☒ Well log)

Total No. of Wells 1 Well I.D. _____ Drilling Method Rotary Depth 64 ft. Casing Depth 54 ft.

Casing Diameter 5 in. Year Installed 6/10/97 Well Driller Cribley Pump Installer Cribley

III. Well Installation - Approved: ☒ Yes ☐ No ☐ See Comments page 2

Casing Termination: ☐ Pitless Adaptor ☐ Well House ☐ Basement Offset ☐ Pit (Gravity Drain): ☐ Yes ☐ No

☒ Other Handpump 12 in. Above Grade or Floor: ☒ Yes ☐ No Approved Vent Provided: ☒ Yes ☐ No

Approved Well Seal/Cap: ☒ Yes ☐ No Make/Model # Baker Well or Well Site Subject to Flooding: ☐ Yes ☒ No

IV. Well Isolation - Approved: ☒ Yes ☐ No ☐ See Comments page 2

Distance to Nearest Sewer — ft. Type of Sewer none in area within 800ft. (storm, building, sanitary)

If Sewer is within Isolation Area, is Material and Installation Approved: ☐ Yes ☐ No Type of material _____

Distance to Potential Contamination ≥300 ft. Source surface water (tile field, surface water)

Distance to Major Source of Contamination _____ ft. Source _____ (landfill, chemical waste, sewage lagoon)

Distance to Underground Storage Tanks _____ ft. Size of tanks _____ gallons Compound in Tank _____ (fuel oil, gas, etc.)

V. Pump Installation - Approved: ☒ Yes ☐ No ☐ See Comments page 2

Type: ☐ Shallow Well Jet ☐ Deep Well Jet ☐ Submersible ☐ Turbine ☒ Hand Pump ☐ Other _____

Brand Name: Baker Handpump Model No. 11 HDSA Hp _____ Pump Capacity Adequate: ☒ Yes ☐ No

Location: ☒ Well ☐ Well House ☐ Basement ☐ Pit (Gravity Drain): ☐ Yes ☐ No ☐ Other _____

Pump Setting/Drop Pipe Length 52 ft. Protected Suction Line: ☐ Yes ☐ No ☒ Not Applicable

Check Valve on Pump Discharge Line: ☐ Yes ☒ No Check Valve Location Approved: ☐ Yes ☐ No

VI. Storage Tank Installation - Approved: ☐ Yes ☐ No ☐ See Comments page 2 No Storage

Type: ☐ Galvanized ☐ Bladder/Diaphram ☐ Buried ☐ Bulk Storage ☐ Other _____

Tank Location: — Operating Range — - — psi Number of Tanks —

Tank #1-Brand Name: — Model # — or Capacity — or Height/Length — X Diameter —

Tank #2-Brand Name: _____ Model # _____ or Capacity _____ or Height/Length _____ X Diameter _____

Approved Sampling Tap Provided: ☐ Yes ☐ No —NA

VII. Distribution System —NA

Material: ☐ Copper ☐ Galvanized ☐ Plastic (type _____) ☐ Cast Iron ☐ Other _____

VIII. Treatment — No treatment

Type: ☐ Softener ☐ Chlorination ☐ Filtration ☐ Phosphate ☐ Iron Removal ☐ Other _____

NONCOMMUNITY PUBLIC WATER SUPPLY SANITARY SURVEY REPORT WSSN: 2246463

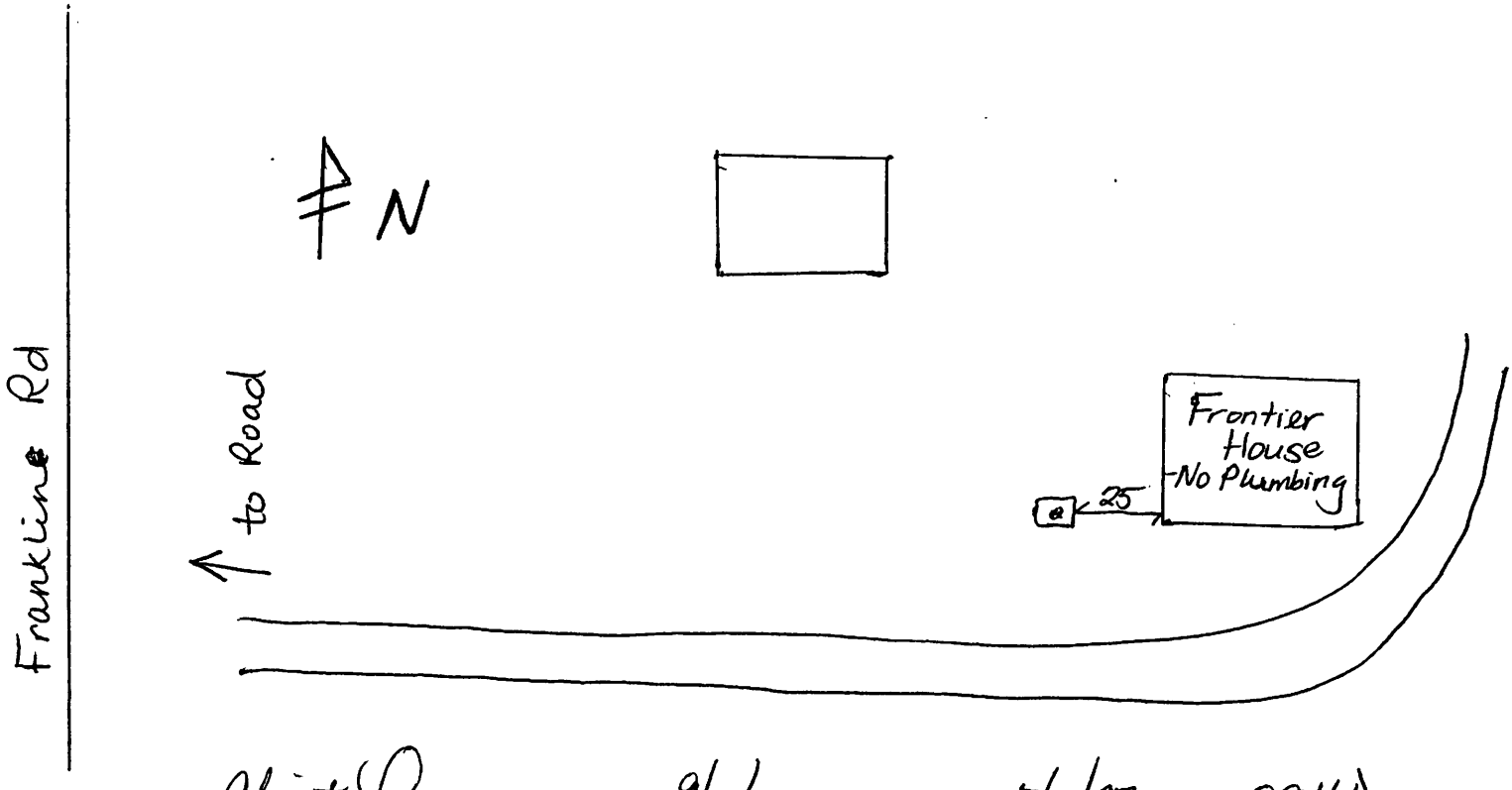
IV. Cross Connections - Protection Provided?

	Yes	No	N/A
Toilets			X
Urinals			X
Hose Bibs			X
Boilers			X
Kitchen Fixtures			X
Cooling Water			X
Water Softeners			X
Tanks Containing Hazardous Material			X
Irrigation Systems			X
Fire Protection Systems			X
Others (explain)			X

X. Comments/Recommendations

Well is currently in compliance.

XI. Drawing (include all buildings, drives, roads, wells, storm and sanitary sewers, sewage disposal facilities, chemical storage areas, buried fuel tanks, arrow indicating north, etc.) or attach a site plan.



Surveyed By Christy Lupu Date 9/17/02 Date Last Surveyed 7/23/97 Agency OCHD

D-241 5/89
Authority: Act 399, P.A. 1976

White Copy - MDPH Copy
Pink Copy - Local Health Dept. Copy
Yellow Copy - Owner's Copy

CHEMICAL ANALYSIS OF WATER
OAKLAND COUNTY HEALTH DIVISION LABORATORY
1200 N. Telegraph Rd., Pontiac, Mich. 48341
BLDG 32E MDEQ #0012

3277

INSTRUCTIONS: Complete all parts of this form which pertain to your water sample. See sampling instructions for additional information.

Collected by:		Date	Time
LUDM		9/17/02	10:15
Collection Site (Name and Address)			**Telephone #**
EL Johnson 3325 Franklin			
City	**State**	**Zip**	
Bloomfield Hls			
Township	**County**	**Sampling Point (kitchen, bath, etc.)**	
		HP	

SAMPLE SOURCE - Check One

2246463
WSSN
(Type I & II Only)

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☒ TYPE II (school, industry, restaurant, office, etc., serving 25 or more persons - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)
- ☐ City water
- ☐ Other _____

SEP 17 PM 1:58

PURPOSE OF TEST - Check One

- ☐ Real Estate Transaction
- ☐ Repair/Construction
- ☐ **Resample (Previous Sample Date _____)**
- ☐ Routine Monitoring
- ☐ Water Quality Problem
- ☐ Other _____

MAIL RESULTS TO:

NAME

ADDRESS

CITY, STATE, ZIP

SEE BACK FOR RESULTS

A:\EHS-1G\EHS-40-4.FRM (10/99)

METHOD 300.0

TEST CONDUCTED	REPORTING DETECTION LIMIT	RESULTS	REPORTED BY:
Fluoride	.5	0.5 mg/L	* = REPEATED
Chloride	5.0	19 mg/L	
Nitrite	.1	ND mg/L	
Nitrate	1.0	ND mg/L	
Sulfate	5.0	83 mg/L	

ND = Not Detected

ok Lupu 9/23/02

SEP 18 2002

INTERPRETATION OF TESTS

The Oakland County Health Division analyzes drinking water for five parameters in a routine testing procedure referred to as a partial chemical analysis. Below is a table of these parameters and associated problems.

Except for fluoride and nitrate, the levels listed below are general guidelines. State drinking water standards have been established and are listed for these two chemicals.

TEST RESULTS IN MILLIGRAMS PER LITER (MG/L)

TEST	EXCELLENT	SATISFACTORY	OBJECTIONABLE	PROBLEM
Fluoride	0.8-1.7*	1.7-4.0	Over 4.0 (State drinking water standards is 4)	Low levels are beneficial in preventing tooth decay. High levels may cause mottling of teeth
Chloride	ND-20	20-250	Over 250	Taste; corrosion
Nitrite	ND	0-1	Over 1	Nitrite poisoning especially infants
Nitrate as N	ND	1-10	Over 10 (State drinking water standards is 10)	Nitrate poisoning especially infants
Sulfate	ND-50	50-250	Over 250	Laxative, taste, odor, scaling in boilers, heat exchangers

* A doctor/dentist prescribed fluoride supplement may be appropriate below 0.8 mg/1.

A:\EHS-1G\EHS 40-4 (Rev 10/99)

BACTERIOLOGICAL ANALYSIS OF WATER
Oakland County Health Division Laboratory
1200 N. Telegraph Rd., Pontiac, MI 48341-0469
BLDG 32E MDEQ #0012

77
17

REASON FOR SAMPLING:
- ☐ RESAMPLE Previous Sample Date _____
- ☒ ROUTINE MONITORING
- ☐ CONSTRUCTION/REPAIR
- ☐ REAL ESTATE TRANSACTION
- ☐ OTHER _____

MAIL RESULTS TO: Name	Date	Time
E.L. Johnson	9/17/02	10:15
Address	Collected By	
3325 Franklin	Lupu.	
City, State, Zip	Phone #	
Bloomfield Hls.		
Location Name/Address (If Different)	Sampling Point (Kitchen, Bath, etc)	
	HP	
	Township	County

Complete One Section Only

Sec A DRINKING WATER

2246463
WSSN
(Type I & II Only)

- ☐ Private well (serves only a single or 2 family dwelling)
- ☐ TYPE I (municipal, apartments, subdivision, mobile home park, etc., with 25 or more residents year round)
- ☒ TYPE II (school, industry, restaurant, office, etc., serving 25 or more persons - 60 days or more per year)
- ☐ TYPE III (all other public supplies, duplex, small office, etc.)
- ☐ City water
- ☐ Other _____

SEP 17 PM1:57

Sec B SWIMMING POOLS

Pool ID # _____ Required

Sanitizer Type
- ☐ Chlorine
- ☐ Bromine

Residual _____ ppm

pH _____

Sec C SURFACE WATER
- ☐ LAKE
- ☐ STREAM
- ☐ OTHER

COMPLETE ALL PARTS OF THIS FORM WHICH APPLY. RETURN SAMPLE TO HEALTH DIVISION FOR ANALYSIS. SAMPLES NOT PROPERLY IDENTIFIED MAY NOT BE TESTED. SEE INSTRUCTION SHEET FOR MORE INFORMATION.

ANALYSIS OF WATER

Bacteriological analysis of DRINKING WATER sample: Satisfactory ☒ Unsatisfac.

Bacteriological analysis of SWIMMING POOL sample: Satisfactory ☐ Unsatisfactory ☐

Bacteriological analysis of LAKE-STREAM-SURFACE bathing area: Normal ☐ Unsatisfactory ☐

☐ **RESAMPLING RECOMMENDED**

Note that the bacteriological analysis of water is for the coliform bacterial group only. Such an analysis does not detect the presence of other types of bacteria or chemical contamination which may be present. Coliform are used as indicator organisms because they are found in sewage since they have their origin in the intestinal tract of humans and all other warm-blooded animals.

For on-site drinking water supplies, this analysis reports only the results of the water test. No evaluation of the safety of well construction features can be made by Environmental Health Services without a complete on-site inspection of the water supply system.

REMARKS: _____

DATE 9/23/02 _____ _____
ENVIRONMENTALIST

LABORATORY FINDINGS

Total Coliform ND M.P.N../100ml

E. Coli _____ M.P.N../100ml

Other _____

Reported By: _____

Date: SEP 18 2002

ND = Not Detected

METHOD SM 92223B
METHOD DETECTION LIMIT = <I MPN/100ML

AI\EHS-1G\EHS40-2N.FRM (10/99)

OAKLAND
COUNTY MICHIGAN
DEPARTMENT OF HUMAN SERVICES

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

HEALTH DIVISION
Rosemarie Rowney, R.N., M.P.H., Manager

July 30, 1997

E L JOHNSON
DAN BADGLEY
3325 FRANKLIN
BLOOMFIELD HILLS MI 48302

RE: Type II transient public water supply permit final inspection, and sanitary survey.

WSSN: 22464-63

Dear Mr. Badgley:

Enclosed is a copy of the final inspection report, and water sample report results for the new type II public water supply well, and public water supply distribution system located at the above captioned address.

In accordance with the State of Michigan, Safe Drinking Water Act, Act 399, P.A. of 1976, and Administrative Rules as Amended, it is the responsibility of the supplier of water to the public to meet minimum water system construction, operation, sampling, and water quality standards. The purpose of the Type II public water supply permit final inspection, and sanitary survey of the public water supply distribution system is to:

1. Determine if the public water supply well, and distribution system meets minimum construction, and operation standards.

2. Determine if the public water supply well, and distribution system meets applicable water quality standards.

3. Establish future sampling requirements in accordance with state, and Federal law.

The following describes the results of the final inspection, sanitary survey, and your future sampling requirements.

CONSTRUCTION/OPERATION

According to the final inspection of all items surveyed, the Type II public water supply well, and public water supply distribution system is in compliance with the construction standards established by the Act. All records related to this Type II public water supply system which includes the final inspection report/approved permit, water well log, water sample result forms, and any repair receipts are required to be maintained as a file of the water system for a minimum of five (5) years.

WATER QUALITY

The results of the laboratory analysis of the water samples collected as part of the final inspection, and survey are also enclosed. These results indicate that the water was in compliance with the appropriate drinking water standards at the time of sampling.

MONITORING (SAMPLING) REQUIREMENTS

Unless you are required to sample more frequently by the Michigan Department of Public Health, or the Oakland County Health Division as a condition of a license or policy, your system must meet the following sampling schedule:

Coliform (bacteriologic) -

Frequency:	1 sample per year
Next sample due before:	May 1, 1998
Sampling location:	handpump
Sample containers:	Order unit 30, test code BPTC if using MDPH laboratory.

Nitrate (inorganic) -

Frequency:	1 sample per year
Next sample due before:	May 1, 1998
Sampling location:	A raw water sampling tap located as close to the well as possible, and before any water treatment device.
Sample containers:	Order unit 32, test code R if using MDPH laboratory.

Sample Procedures

Sample bottles may be obtained by ordering them directly from the MDPH laboratory (order form and fee schedule enclosed). Payment of MDPH laboratory fees are the responsibility of the owner/operator of the water supply.

If a laboratory other than the MDPH laboratory is used for sample analysis, it must be MDPH certified for the analysis performed, and a copy of the results of the analysis must be provided to this office by the water supply owner/operator. The Oakland County laboratory can only test for Bacti, Nitrites, and Nitrates - each of which are done at no charge.

A computer number used for identification purposes called a Water Supply Serial Number (WSSN) has been assigned to each public water supply in the State of Michigan. Your public Water Supply Serial Number is **WSSN 72464-63** and must be recorded on each water sample form. Without this number on the sample form, you may not be credited for collecting a required sample.

Act 399 specifies that it is the owner, and/or operator's responsibility to collect, and submit the required water samples for analysis. Also, Act 399 specifies that the owner, and/or operator must maintain, and operate the public water system in a sanitary condition.

If you have any questions regarding the Type II public water supply permit final inspection, sanitary survey, or monitoring (sampling) requirements, please contact the Oakland County Health Division at (810) 858-1332. Thank you for your cooperation.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Institutional and Human Services

Michael G. Pylar, R.S., B.S.
Public Health Sanitarian
Environmental Health Services

MGP/taf

a:\ehs\johnson.ltr 1

APPLICATION AND PERMIT TO INSTALL WATER SUPPLY FACILITIES

For Health Department Use
W9763-0301
Well Permit Number
—
Corresponding Sewage Permit No.
22464-63
WSSN

___ Construct a Public Well Under Act 399, P.A. 1976 or Sanitary Code

_____ Alter a Public Water Supply Under Act 399, P.A. 1976 or Sanitary Code

ESTABLISHMENT NAME Bloomfield Hills Schools (E.L. Johnson Nature Center) ADDRESS 3325 Franklin Rd. CITY Blmfd. Hills ZIP 48302

COUNTY Oakland TOWNSHIP Bloomfield TOWN 2N N/S RANGE 10E E/W SECTION 9 FRACTION W ½ SW ¼ ___ ¼

OWNER/MANAGER Dan Badgley ADDRESS same CITY _____ ZIP _____

BUSINESS TELEPHONE 810 / 339-3497 OWNERSHIP GOVERNMENT ☑ PRIVATE ☐ AVERAGE NO. OF PERSONS SERVED PER DAY 20

NO. OF SERVICE CONNECTIONS 1 PREMISE TYPE Nature Center (Campground, School, Airport, etc.) LICENSE TYPE Type II (Campground, Food, DSS, Migrant Labor, etc.)

IF SEASONAL: FROM _____ TO _____ WELL CONTRACTOR Cribley TELEPHONE 800 / 628-9755 PUMP INSTALLER same

APPLICANT'S NAME Dan Badgley ADDRESS same CITY _____ ZIP _____

I hereby apply for this permit and have authorization to do so. I understand this is a construction permit only, and that the well is not to be put into service until final approval has been granted. I further state the information given is accurate and complete.

Applicant's Signature: Dan Badgley Date 2/28/97 Phone (810) 339-3497

(FOR HEALTH DEPARTMENT USE ONLY — DO NOT WRITE IN SHADED AREA)

WELL SITE EVALUATION INFORMATION DATE OF EVALUATION 3-27-97 By M. Flynn

CLASSIFICATION: TYPE IIA TYPE IIB (IF ISOLATION DISTANCES ARE LESS THAN ESTABLISHED

STANDARD ISOLATION AREA 800 FT. MINIMUM STANDARDS, COMPLETE DEVIATIONS SECTION)

MAJOR ISOLATION AREA 75 FT.

PERMIT CONDITIONS/DEVIATIONS: —

WELL CONSTRUCTION PERMIT: APPROVAL / DENIAL

DO NOT PROCEED WITH CONSTRUCTION WITHOUT SIGNATURE FROM HEALTH DEPARTMENT REPRESENTATIVE

Michael A. Flynn 3-31-97

By Date

(Not valid unless signed by the Health Department)

REQUIRED MINIMUM CAPACITY _____ GPM

FINAL INSPECTION DATE 7/23/97 BY M. Flynn

WELL: CASING TERMINATION APPROVED: YES ☒ NO ☐

WELL LOCATION APPROVED: YES ☒ NO ☐

WELL CONSTRUCTION SATISFACTORY: YES ☒ NO ☐

VENTED: YES ☐ NO ☒

BURIED SUCTION LINE PROTECTED: YES ☐ NO ☐ N.A. ☒

PUMP: SHALLOW WELL JET ☐ DEEP WELL JET ☐

SUBMERSIBLE ☐ HAND PUMP ☒ TURBINE ☐

OTHER ☐

PIPING MATERIALS: MATERIAL PVC

PRESSURE RATING PSI. ASTM. #

STORAGE: TYPE —

LOCATION —

CAPACITY _____ GALLONS OPERATING RANGE — – —

TREATMENT: TYPE (IF ANY) —

LOCATION —

TEST RESULTS: BACTERIOLOGIC (1ST.) ND

DATE COLLECTED 7-15-97

BACTERIOLOGIC (2ND) ND

DATE COLLECTED 7-23-97

NITRATE 7-15-97 - ND — MG/L

DATE COLLECTED 7-15-97

FUTURE BACTI SAMPLING: BY: OWNER ☒ L.H.D. ☐

OTHER ☐

FREQUENCY: QUARTERLY ☐ ANNUALLY ☒

OTHER _____

WELL RECORD: DATE RECEIVED _____

WATER SUPPLY APPROVED YES ☒ NO ☐ BY M. Flynn

DATE 7-23-97

COMMENTS: grout insp. 6-10-97 OK, M. Flynn

SCALE DRAWING: Make a SCALE DRAWING, including dimensions, in the space provided below. Show well location in respect to all possible sources of contamination, including adjacent properties, sewer lines, septic systems, and major sources of contamination. This drawing must be approved by the Health Department. Indicate North.

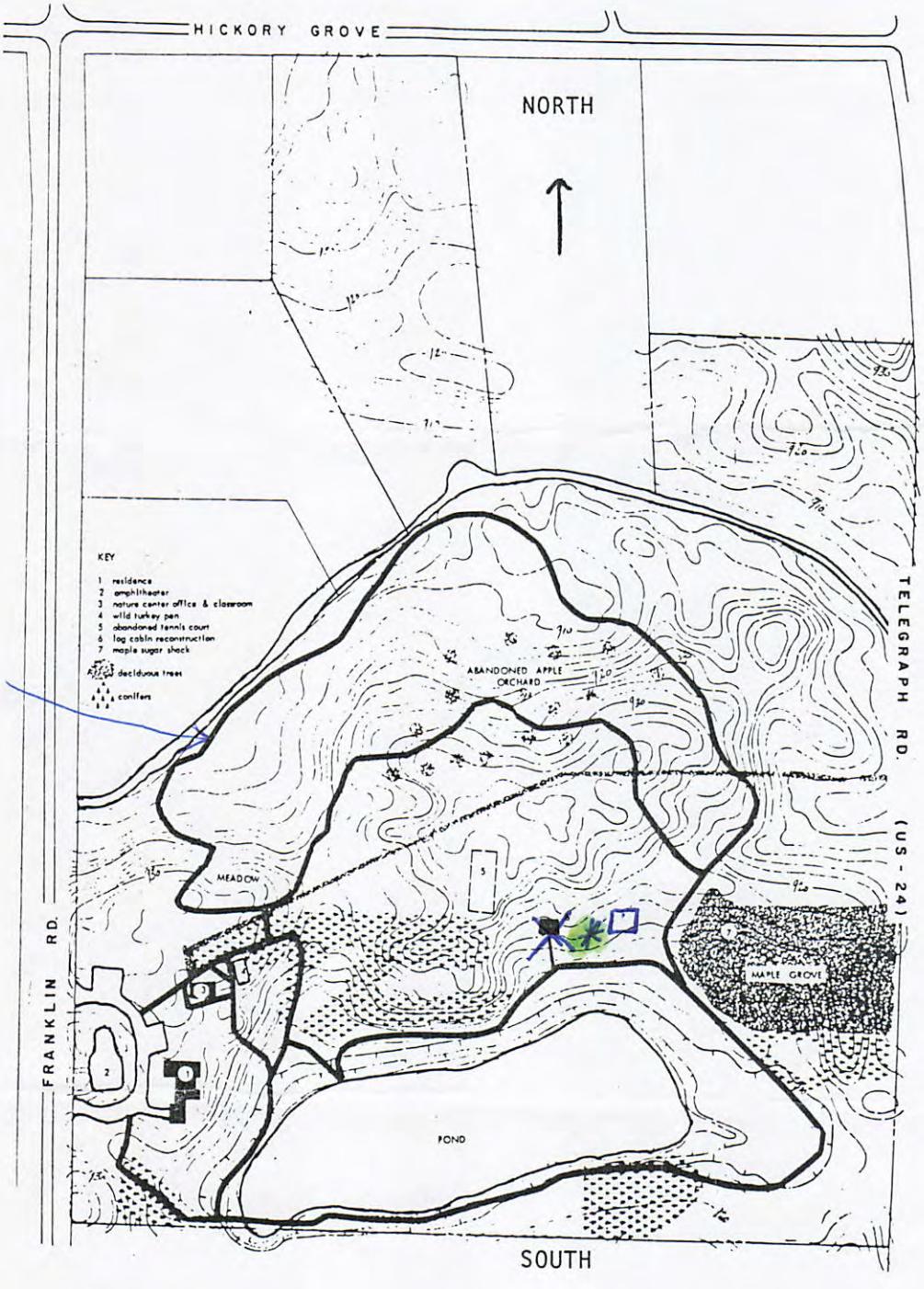
03/25/97 8:37AM 0008#9304 ****

CHECK $110.00

White -LHD
Canary -MDPH
Pink Copy -Owner
Gold Copy -Owner

D-6 / 10/87
AUTHORITY: Act 399, P.A. 1976

"After well construction is completed, a water well record must be submitted, and the Health Department notified for final inspection and sampling of the well."



HIKING TRAILS

1" = 300'

* Proposed Well Site

E.L. JOHNSON NATURE CENTER
3325 FRANKLIN ROAD
BLOOMFIELD HILLS, MI 48302

OAKLAND
COUNTY MICHIGAN
DEPARTMENT OF HUMAN SERVICES

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

HEALTH DIVISION
Rosemarie Rowney, R.N., M.P.H., Manager

April 1, 1997

E.L. Johnson Nature Center
Attn: Dan Badgley
3325 Franklin
Bloomfield Hills, MI 48302

RE: Type II water supply well permit for E.L. Johnson Nature Center

Dear Mr. Badgley:

Enclosed is the approved Type II well permit application for the above captioned site.

Please note the conditions of the permit are as follows:

ISOLATION

Type II water wells are to be located at least 800 feet from underground storage tanks.

Type II water wells are to be located at least 75 feet away from septic systems, sewer lines, storm water run-off catch basins and buried storm water lines.

GROUTING

The well must be grouted using material and methods approved by the Michigan Department of Public Health. The grouting addendum enclosed with the permit addresses proper grouting requirements. The grouting addendum specifies grout from the bottom of the casing up to the surface.

INSPECTION

Please inform the well driller that in addition to a final well inspection, a grouting inspection is required. The well driller should call (810) 858-1332 to plan an inspection during the grouting operation.

WELL RECORD

The well contractor is to complete the well record upon completion of the well, and submit a copy directly to the Oakland County Health Division.

The well record will be used for verification of well installation at time of final inspection.

DISINFECTION AND SAMPLING

The Michigan Department of Public Health has found that the most effective method is placing heavily chlorinated water into the well to displace at least two times the amount of water in the casing. This method is called the displacement method. Heavily chlorinated water is pumped into the system, and allowed to remain in the system for a minimum of twenty four (24) hours. After a contact time of a minimum of twenty four (24) hours, the system is pumped to waste. After disinfection and pumping to waste, and the entire distribution system is operational, the Oakland County Health Division must be contacted for final inspection, and sampling. A minimum of two (2) consecutive samples (at least eight (8) hours apart with no chlorine residual in the system) must be obtained prior to use of the well by the public.

If there are any question regarding what is required, or if changes to the permit are proposed, please contact the Oakland County Health Division prior to well construction at (810) 858-1332.

Very truly yours,

OAKLAND COUNTY HEALTH DIVISION
Department of Human Services

Michael G. Pylar, B.S.
Public Health Sanitarian
Environmental Health Services

MGP/ss

MICHIGAN DEPARTMENT OF PUBLIC HEALTH
GROUTING ADDENDUM TO PERMIT

Permit No. W9763-0301 Name: E. L. JOHNSON NATURE CTR. WSSN: 22464-63

This permit addendum is intended to notify the property owner and well drilling contractor for grouting requirements for the proposed water well. It is the owner's responsibility to provide the well drilling contractor with a coy of the permit and grouting addendum prior to beginning construction.

WELL TYPE: ___ Single Family Dwelling _X_ Public ___ Other

WELL SITE STATUS: ___ Standard Well Site

___ Groundwater Contamination Site: Contaminant Type _____ Level _____

___ Reduced Isolation Distance Flowing Well Site _____ Other _____

GROUTING METHOD FOR DRIVING CASING
(E.G. CABLE TOOL, HOLLOW ROD)

GROUTING METHOD:

_X_ Standard Method
(Driving With Granular Bentonite)

___ Conductor Pipe To _____ Feet

___ Other _____

GROUTING METHOD FOR CASING SET IN OVERSIZED DRILL HOLE
(E.G. ROTARY, AUGER)

GROUTING METHOD:

_X_ Entire Casing Length

___ Surface Into Clay Layer At _____ Feet

___ Other _____

GROUTING METHODS: (See other side for material specifications)

___ Neat Cement Slurry ___ High Solids Bentonite ___ Granular

_X_ Any Of The Above ___ Other (specify) _____

GROUTING METHODS:

Grout slurries are to be placed either down the casing or a grout pipe placed in the annulus. Pouring of cement or bentonite slurries into the annulus is not permitted.

COMMENTS: _____

LHD/MDPH NOTIFICATION:

_X_ LHD/MDPH Must Be Notified Prior to Grouting Of The Well

___ LHD/MDPH Notification Not Required

A:\EHS-1C\GROUTADD.BLK

3325 FRANKLIN

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH
WATER WELL AND PUMP RECORD

W97 | 63 | 0301
PERMIT NUMBER

1 LOCATION OF WELL

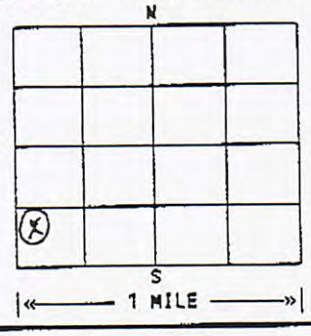
County	Township Name	Fraction	Section Number	Town Number	Range Number
OAKLAND	BLOOMFIELD	NW ¼ SW ¼ SW ¼	9	2 N	10 E

Distance And Direction From Road Intersection

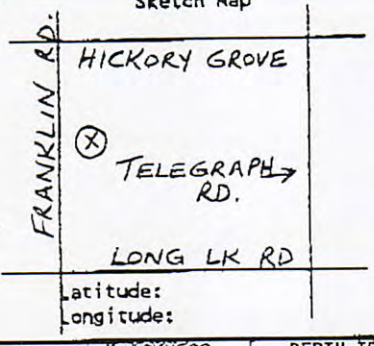
3325 FRANKLIN
BLOOMFIELD HILLS 48302
Street Address & City of Well Location

2246463

Locate with "X" in Section Below



Sketch Map



Latitude:
Longitude:

3 OWNER OF WELL

E. L. JOHNSON NATURE CENTER
Address 3325 FRANKLIN
BLOOMFIELD HILLS, MI 48302

Address Same As Well Location? YES

4 WELL DEPTH: 64 FT. **Date Completed** 06/10/97 NEW WELL

5 DRILLING METHOD: ROTARY

6 USE: IRRIGATION

7 CASING: PLASTIC
Diameter 5 " to 64 ft. depth
Diameter ___ " to ___ ft. depth
Grouted Drill Hole Diameter
8.75" to 45 ft. depth
___ " to ___ ft. depth
Height: ABOVE
Surface 1'
Weight SDR 21
Drive Shoe: NO

8 SCREEN: Type PVC Diameter 5 " Nominal
SLOT 12 Length 10 ft.
Set Between 54 ft. and 64 ft.
FITTINGS: ___ Blank above screen ___ ft.

9 STATIC WATER LEVEL
35 ft. below land surface Flow: NO

10 PUMPING LEVEL: below land surface
35 ft. after 2 hrs. pumping at 12 G.P.M.
___ ft. after ___ hrs. pumping at ___ G.P.M.

11 WELL HEAD COMPLETION:

12 WELL GROUTED? YES
BEN-SEAL From 0 to 45 ft.
4 bags of cement. Additives ___

13 Nearest source of contamination
Type SEWER Distance 300 ft Direction SW
Well disinfected upon completion? YES
Was old well plugged?

14 PUMP:
Manufacturers name BAKER HAND PUMP
Model number 11 -HDSA HP ___ VOLTS ___
Length of Drop Pipe 52 ft. capacity ___ G.P.M.
Type ___
PRESSURE TANK:
Manufacturers Name NONE
Model Number ___ Capacity ___ Gallons

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
SANDY BROWN CLAY	13	13
SAND/GRAVEL	16	29
GRAY CLAY	16	45
FINE GRAY SAND	19	64

MS
PS
1-1/4" GALV

15. Remarks, elevation, source of data, etc.
600 #SAND

17. Rig Operator's Name:
TROY REVILL

16. WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Cribley Drilling Co., Inc. 81-0524
REGISTERED BUSINESS NAME REGISTRATION NO.

Address 8300 Dexter Chelsea Rd. Dexter, MI 48130

Signed [signature] Date 7/7/97
AUTHORIZED REPRESENTATIVE

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

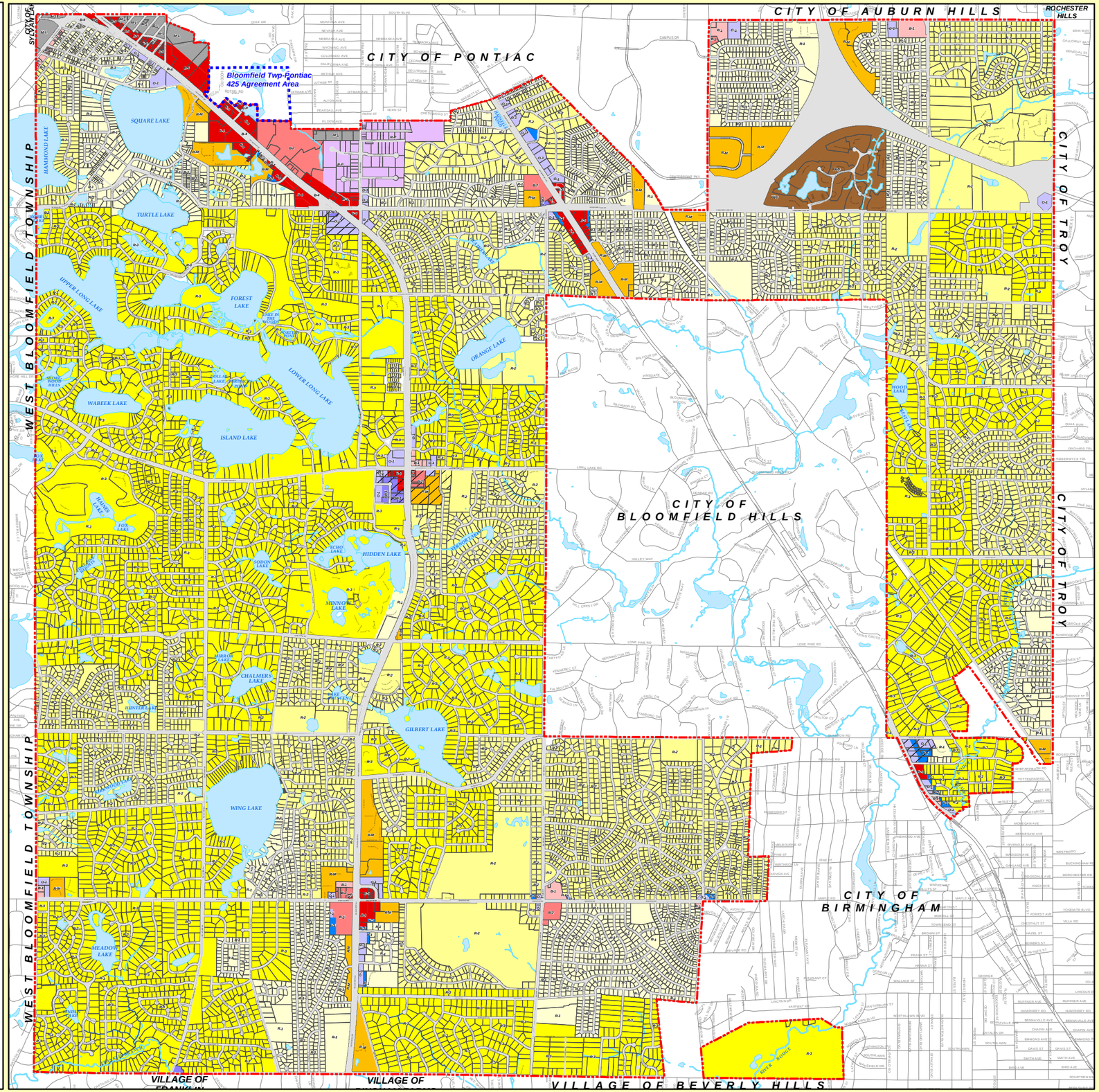
D67d 2/89 CDCW13122P16718

IMPORTANT: File with deed.

TOTAL P.02

Permit #	Application #	Permit Type	Work Type	Building Use	Project Description	Status	#	Street	Type	Post Dir	Unit #	Address(2)	Sidwell
B96-0404	A96-1640	Building	Signs	Single Family	80 Sq. Ft. Ground	Completed	3325	Franklin				Section 9	SECTION 9
B94-0895	A94-2951	Building	Alteration	Business	Replace Tool Shed	Completed	3325	Franklin				Section 9	SECTION 9
M91-00280	A91-1557	Mechanical	Alteration	Single Family	Wood Stove	Completed	3325	Franklin				Section 9	SECTION 9
B90-2425		Building	Alteration	Educational	Remodel & Drywall,	Completed	3325	Franklin				Section 9	SECTION 9
E90-00110	A90-00446	Electrical	Alteration	Educational	Wire Electrical	Completed	3325	Franklin	Rd			Section 9	3325 Franklin
90-348		Electrical	Alteration	Educational		Completed	3325	Franklin	Rd			Section 9	3325 Franklin
89-691		Electrical	Alteration	Single Family	Nature Center	Completed	3325	Franklin	Rd			Section 9	SECTION 9

Bloomfield Township - Zoning Map



LEGEND

Zoning Designations		Acres	Percent of Total:
R-1	ONE FAMILY RESIDENTIAL DISTRICT	2,013	14.5 %
R-2	ONE FAMILY RESIDENTIAL DISTRICT	3,846	27.8 %
R-3	ONE FAMILY RESIDENTIAL DISTRICT	6,799	49.1 %
R-M	MULTIPLE FAMILY RESIDENTIAL DISTRICT	332	2.4 %
PRD	PLANNED RESIDENTIAL DEV DISTRICT	170	1.2 %
B-1	LOCAL BUSINESS DISTRICT	39	0.3%
B-2	COMMUNITY BUSINESS DISTRICT	102	0.7 %
B-3	GENERAL BUSINESS DISTRICT	155	1.1 %
B-4	PLANNED BUSINESS DISTRICT*	NA	NA %
O-1	OFFICE BUILDING DISTRICT	129	1.0 %
OR-1	OFFICE RETAIL DISTRICT	15	0.1 %
M-X	MIXED USE OVERLAY DISTRICT	NA	NA %
R-P	RESEARCH PARK DISTRICT	116	0.8 %
P-1	VEHICULAR PARKING DISTRICT	83	0.6 %
M-L	LIGHT MANUFACTURING DISTRICT	57	0.4 %
		13,856	**100%**

★PLANNED BUSINESS DISTRICT (B-4) - Properties located along the corridor of Telegraph Road (US 24), North of Square Lake Road, with frontage or direct access to Telegraph Road. See Zoning Ordinance Section 42-3.1.16.

- PARCEL BOUNDARY
- RIGHT-OF-WAY
- LAKE OR POND
- STREAM OR RIVER
- SWAMP OR MARSH
- STREAM OR RIVERS
- PONTIAC 425 AGREEMENT BOUNDARY
- TOWNSHIP BOUNDARY

Map Publish Date:
January 11, 2018

Sources:
Bloomfield Township GIS
Bloomfield Township Planning
Oakland County GIS Utility

Prepared by:
Bloomfield Township GIS

0 1,600 3,200 6,400 Feet

Scale: 1 inch = 3,200 feet

The information provided here is intended for reference purposes only. It was compiled from a variety of available sources with varying degrees of accuracy. It is not a legally recorded map or survey and is not intended to be used as one. Bloomfield Township assumes no responsibility for errors that arise from the use of the data.

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
WATER RESOURCES DIVISION
PERMIT

Issued To:

Dan Badgley, Bloomfield Hills Schools
3325 Franklin Road
Bloomfield Hills, MI 48302

Permit No:	**WRP024492 v.1**
Submission No.:	**HNW-A3EW-T6E43**
Site Name:	**63-3325 Franklin Rd-Bloomfield Hills**
Issued:	**August 24, 2020**
Revised:	
Expires:	**August 24, 2025**

This permit is being issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division, under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); specifically:

- ☐ **Part 301, Inland Lakes and Streams**
- ☐ **Part 303, Wetlands Protection**
- ☐ **Part 315, Dam Safety**
- ☐ **Part 323, Shorelands Protection and Management**
- ☐ **Part 325, Great Lakes Submerged Lands**
- ☐ **Part 353, Sand Dunes Protection and Management**
- ☒ **Part 31, Water Resources Protection (Floodplain Regulatory Authority)**

Permission is hereby granted, based on permittee assurance of adherence to State of Michigan requirements and permit conditions, to:

Authorized Activity:

This permit authorizes 10 cubic yards of fill for the construction of two pedestrian crossings of the Long Lake-Forest Lake Drain.

The 100 base flood elevation at this site ranges from 906.98 to 907.15 NAVD 88.

All work shall be completed in accordance with the attached approved plans and conditions of this permit.

Waterbody Affected:	Long Lake-Forest Lake Drain
Property Location:	Oakland County, Bloomfield Hills, Town/Range/Section 02N10E09, Property Tax No. 19-09-301-051

Authority granted by this permit is subject to the following limitations:

A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
B. The permittee, in exercising the authority granted by this permit, shall not cause unlawful pollution as defined by Part 31 of the NREPA.

EGLE
WRP024492 v1.0
Approved
Issued On:08/24/2020
Expires On:08/24/2025

C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
D. All work shall be completed in accordance with the approved plans and specifications submitted with the application and/or plans and specifications attached to this permit.
E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved.
F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with 2013 PA 174 (Act 174) and comply with each of the requirements of Act 174.
G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits, or complying with other state statutes.
H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
I. Permittee shall notify EGLE within one week after the completion of the activity authorized by this permit by completing and forwarding the attached preaddressed postcard to the office addressed thereon.
J. This permit shall not be assigned or transferred without the written approval of EGLE.
K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific state act, federal act, and/or rule under which this permit is granted.
L. All dredged or excavated materials shall be disposed of in an upland site (outside of floodplains, unless exempt under Part 31 of the NREPA, and wetlands).
M. In issuing this permit, EGLE has relied on the information and data that the permittee has provided in connection with the submitted application for permit. If, subsequent to the issuance of a permit, such information and data prove to be false, incomplete, or inaccurate, EGLE may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
N. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representative of the permittee, undertaken in connection with this permit. The permittee's obligation to indemnify the State of Michigan applies only if the state: (1) provides the permittee or its designated representative written notice of the claim or cause of action within 30 days after it is received by the state, and (2) consents to the permittee's participation in the proceeding on the claim or cause of action. It does not apply to contested case proceedings under the Administrative Procedures Act, 1969 PA 306, as amended, challenging the permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
O. Noncompliance with these terms and conditions and/or the initiation of other regulated activities not specifically authorized shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, EGLE may initiate criminal and/or civil proceedings as may be deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.
P. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from EGLE. Such revision request shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by EGLE prior to being implemented.
Q. This permit may be transferred to another person upon written approval of EGLE. The permittee must submit a written request to EGLE to transfer the permit to the new owner. The new owner must also submit a written request to EGLE to accept transfer. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties that includes all the above information may be provided to EGLE. EGLE will review the request and, if approved, will provide written notification to the new owner.
R. Prior to initiating permitted construction, the permittee is required to provide a copy of the permit to the contractor(s) for review. The property owner, contractor(s), and any agent involved in exercising the permit are held responsible to ensure that the project is constructed in accordance with all drawings and specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by the permit.

EGLE
WRP024492 v1.0
Approved
Issued On:08/24/2020
Expires On:08/24/2025

S. Construction must be undertaken and completed during the dry period of the wetland. If the area does not dry out, construction shall be done on equipment mats to prevent compaction of the soil.
T. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA).
U. Authority granted by this permit does not waive permit requirements under the authority of Part 305, Natural Rivers, of the NREPA. A Natural Rivers Zoning Permit may be required for construction, land alteration, streambank stabilization, or vegetation removal along or near a natural river.
V. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.
W. Unless specifically stated in this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on bottomland of the water body are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.
X. For projects with potential impacts to fish spawning or migration, no work shall occur within fish spawning or migration timelines (i.e., windows) unless otherwise approved in writing by the Michigan Department of Natural Resources, Fisheries Division.
Y. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

1. Authority granted by this permit does not waive permit or program requirements under Part 91 of the NREPA or the need to acquire applicable permits from the CEA. To locate the Soil Erosion Program Administrator for your county, visit www.mi.gov/eglestormwater and select "Soil Erosion and Sedimentation Control Program" under "Related Links."
2. The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, state, or federal approval or authorization necessary to conduct the activity.
3. No fill, excess soil, or other material shall be placed in any wetland, floodplain, or surface water area not specifically authorized by this permit, its plans, and specifications.
4. This permit does not authorize or sanction work that has been completed in violation of applicable federal, state, or local statutes.
5. The permit placard shall be kept posted at the work site in a prominent location at all times for the duration of the project or until permit expiration.
6. This permit is being issued for the maximum time allowed and no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by EGLE, will be for a five-year period beginning on the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.

All work shall be completed in accordance with plans prepared by Fishbeck, dated January 31, 2020, being sheets 1-4 entitled Bloomfield Hills Schools, E. L. Johnson Nature Center. Said plans are kept on file at EGLE's Water Resources Division, Warren.

All fill/backfill shall consist of clean inert material that will not cause siltation nor contain soluble chemicals, organic matter, pollutants, or contaminants. All fill shall be contained in such a manner so as not to erode into any surface water, floodplain, or wetland. All raw areas associated with the permitted activity shall be stabilized with sod and/or seed and mulch, riprap, or other technically effective methods as necessary to prevent erosion.

The design flood or 1% annual chance (100-year) floodplain elevation at this location on Long Lake-Forest Lake Drain ranges from 906.98 to 907.15 feet NAVD 88.

EGLE
WRP024492 v1.0
Approved
Issued On:08/24/2020
Expires On:08/24/2025

Under Appendix G of the Michigan Building Code 2009, a local building permit is required for development located in flood hazard areas.

The compensating cut (excavations) for floodplain fill, as authorized by this permit, shall be completed prior to, or concurrently with, the placement of the fill. The compensating cut and fill areas shall be properly stabilized to prevent soil erosion and off-site sedimentation in conformance with Part 91, Soil Erosion and Sedimentation Control, of the NREPA.

This permit does not waive the requirements of Michigan Building Code and its referenced standards, ASCE 7: Minimum Design Loads for Buildings and Other Structures, and ASCE 24: Flood Resistant Design and Construction, for substantial improvements to existing structures or new construction. Please reference the Code for details.

The project is located within a community that participates in the National Flood Insurance Program (NFIP). As a participant in the NFIP, the community must comply with the Michigan Building Code (including Appendix G and listed supporting materials); the Michigan Residential Code; and Title 44 of the Code of Federal Regulations, Part 60, Criteria for Land Management and Use. The community is also responsible to ensure that its floodplain maps and studies are maintained to show changes to flood elevations and flood delineations as described in 44 CFR, Part 65, Identification and Mapping of Special Hazard Areas.

Issued By: 

Pat Durack
Warren District Office
Water Resources Division
586-256-7273

cc: Bloomfield Hills or Township Clerk
Oakland County Drain Commissioner
Oakland County

EGLE
WRP024492 v1.0
Approved
Issued On:08/24/2020
Expires On:08/24/2025

December 10, 2024

IN THE MATTER OF THE AQUATIC NUISANCE CONTROL (ANC)
PERMIT NO. ANC9806709

LakePro, Inc.
9353 Hill Road
Swartz Creek, MI 48473

SUBJECT: Declaration of Termination, ANC9806709, WB-4316-1: El Johnson Pond: Lake Pro, Inc., Oakland County

Dear LakePro, Inc.:

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), Permits Section, has reviewed LakePro, Inc.'s December 4, 2024 request for termination of ANC Permit No. ANC9806709, issued May 11, 2021, for the chemical treatment of WB-4316-1: El Johnson Pond: Lake Pro, Inc. Based on the information provided to the WRD in the request for termination, it is understood that LakePro, Inc. no longer intends to conduct chemical treatment at this location under the ANC Permit No. ANC9806709.

Therefore, ANC Permit No. ANC9806709 is hereby terminated. There shall be no treatment conducted by LakePro, Inc. at this site without applying for and obtaining a new permit from EGLE's Aquatic Nuisance Control Program, through the MiEnviro Portal permitting database.

Be advised that this Declaration of Termination does not in any way release LakePro, Inc. from any of its obligations under Part 31, Water Resources Protection; and Part 33, Aquatic Nuisance Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) for past conduct outside the bounds of the terminated ANC Permit.

The ANC Permit No. ANC9806709 is terminated as of December 10, 2024.

Lisa Huberty
Water Quality and Aquatic Nuisance Control Permits Unit
Water Resources Division

APPENDIX E

Historical Research Documentation
EDR Aerial Photo Decade Package
EDR Sanborn Report
LightBox City Directory Report
EDR Historical Topo Map Report

ASTI Project No. P26-0481.00
June 15, 2026

3325 Franklin Rd

3325 Franklin Rd

Bloomfield Hills, MI 48302

Inquiry Number: 8305563.8

April 07, 2026

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

04/07/26

Site Name:

3325 Franklin Rd
3325 Franklin Rd
Bloomfield Hills, MI 48302
EDR Inquiry # 8305563.8

Client Name:

Applied Science & Technology
10448 Citation Drive
Brighton, MI 48116
Contact: Alyssa Celano

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2024	1"=500'	Flight Year: 2024	USDA/NAIP
2020	1"=500'	Flight Year: 2020	USDA/NAIP
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1999	1"=500'	Acquisition Date: March 28, 1999	USGS/DOQQ
1997	1"=500'	Flight Date: May 04, 1997	DTE
1987	1"=500'	Flight Date: June 14, 1987	USDA
1983	1"=500'	Flight Date: May 05, 1983	USDA
1976	1"=500'	Flight Date: March 25, 1976	USDA
1972	1"=500'	Flight Date: July 01, 1972	USDA
1967	1"=500'	Flight Date: May 12, 1967	DTE
1956	1"=500'	Flight Date: May 07, 1956	DTE
1952	1"=500'	Flight Date: April 25, 1952	DTE
1949	1"=500'	Flight Date: May 03, 1949	DTE
1940	1"=500'	Flight Date: August 01, 1940	USDA
1937	1"=500'	Flight Date: September 20, 1937	USDA

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EDR


INQUIRY #: 8305563.8
YEAR: 2020
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EDR


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EDR


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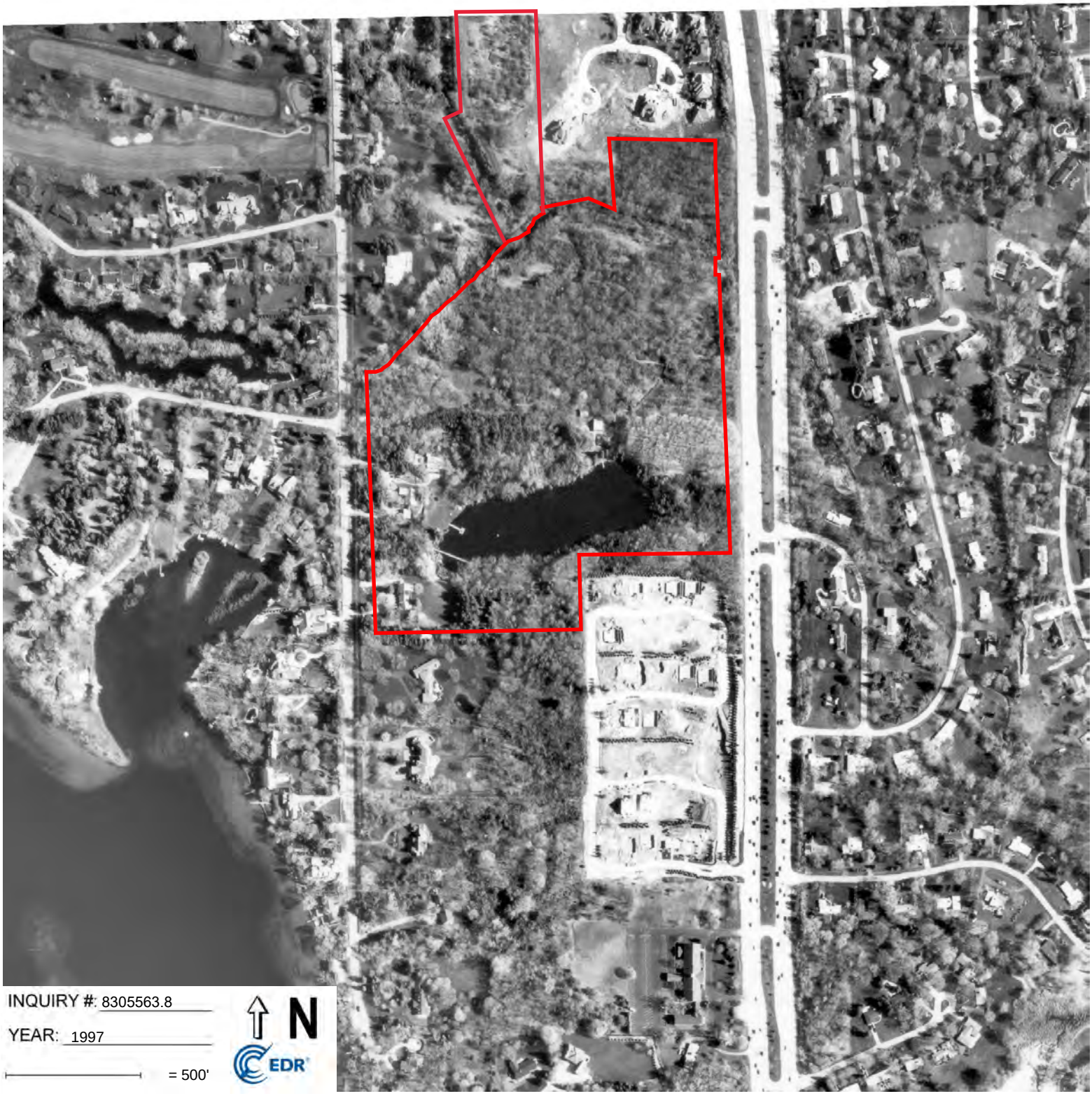
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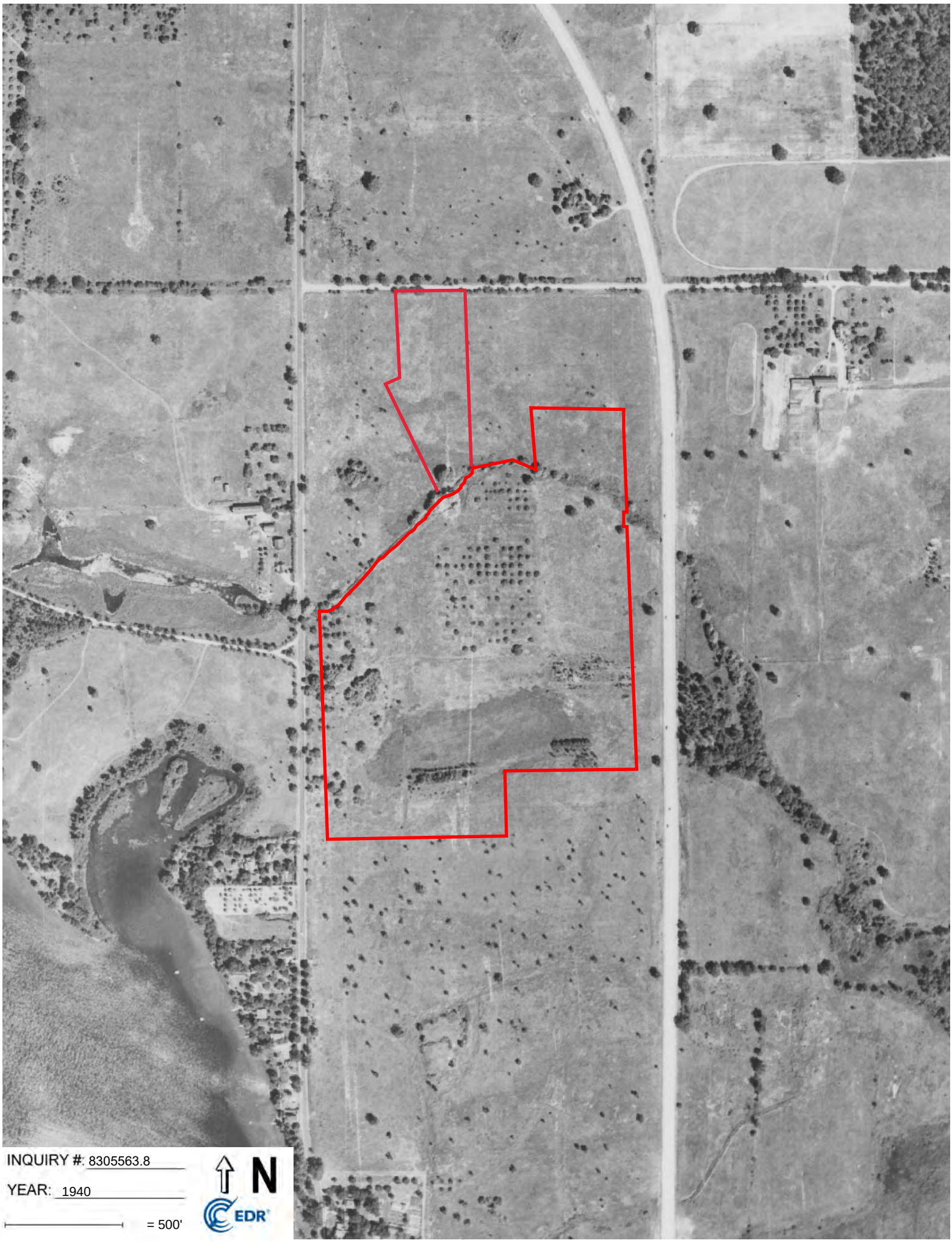
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EDR


INQUIRY #: 8305563.8
YEAR: 1937
= 500'
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EDR

3325 Franklin Rd

3325 Franklin Rd

Bloomfield Hills, MI 48302

Inquiry Number: 8305563.3

April 07, 2026

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

04/07/26

Site Name:

3325 Franklin Rd
3325 Franklin Rd
Bloomfield Hills, MI 48302
EDR Inquiry # 8305563.3

Client Name:

Applied Science & Technology
10448 Citation Drive
Brighton, MI 48116
Contact: Alyssa Celano

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The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 056A-42AA-9664

PO # NA

Project P26-0481.00

UNMAPPED PROPERTY

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Sanborn® Library search results

Certification #: 056A-42AA-9664

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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LIGHTBOX

LightBox City Directory Report

3325 Franklin Rd

3325 Franklin Rd

Bloomfield Hills, MI 48302

Inquiry Number: 8305563.5

April 7, 2026

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Shelton, CT 06484
800.352.0050
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LIGHTBOX LIVE

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https://lightbox.live/environmental/analysis/66b877be-7cf2-46d3-bb6b-b6af7a7b8c68

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Please contact LightBox at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

The LightBox City Directory Report is designed to assist environmental professionals in evaluating potential liabilities on select properties resulting from past activities. The report includes a search of available business directory data at approximately five-year intervals.

SOURCES

Through agreements with major city directory publishers, including Cole Information, InfoUSA, and Bresser, as well as our own collections (Haines & Stewart), the LightBox City Directory Report offers comprehensive national coverage.

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This report includes a search of the following sources:

Year	Source
2024	Cole Information
2022	Cole Information, Data Axle
2017	Cole Information, Data Axle
2014	Cole Information, Data Axle
2010	Cole Information
2005	Cole Information, Data Axle
2000	Cole Information, Data Axle
1995	Cole Information
1992	Cole Information
1989	Polk Directory Co
1987	Bressers
1985	Polk Directory Co
1982	Bressers
1981	Michigan Bell Telephone Company
1980	Polk Directory Co
1977	Bressers
1976	Michigan Bell Telephone Company
1975	Polk Directory Co
1972	Bressers
1970	Polk Directory Co
1969	Polk Directory Co
1967	Bressers
1965	Polk Directory Co
1962	Bressers
1960	Polk Directory Co
1958	Bressers
1957	Bressers
1956	Polk Directory Co

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

Franklin Rd

3325 FRANKLIN RD

2024	Bloomfield Hills School Dst	Cole Information
	Friends Of Johnson Nature Ctr	Cole Information
	SHELLEY L LAZARUS	Cole Information
	SCOTT OCANO	Cole Information
2022	BLOOMFIELD HILLS SCHOOLS	Cole Information
	BLOOMFIELD HILLS MICHI	Cole Information
	JOHNSON NATURE CENTER	Cole Information
2017	ERIC M LAZARUS	Cole Information
	E L JOHNSON NATURE CTR	Data Axle
2014	ERIC M LAZARUS	Cole Information
	E L JOHNSON NATURE CTR	Data Axle
2010	JOHNSON NATURE CTR	Cole Information
	ERIC M LAZARUS	Cole Information
2005	SCOTT D BROCKERT	Cole Information
2000	DENNIS HURLEY	Cole Information
1995	BHSD NATURE CTR	Cole Information
	TRAVIS, DENNIS B	Cole Information
1992	BLMFLD NATURE CNTR	Cole Information
	TRAVIS, DENNIS B	Cole Information
1987	BLMFLD NATURE CNTR	Bressers
	DON HOLLUMS	
1982	BLMFLD HL NATR CTR	Bressers
	DON HOLLUMS	
1977	BLMFLD H NATR CTR	Bressers
	DON HOLLUMS O	
1972	DON HOLLUMS O	Bressers
1967	DR RICHARD E OLSEN	Bressers
1962	DR RICHARD F OLSEN-	Bressers

3325 1/2 FRANKLIN RD

1958	OLSEN	Bressers
	RICHARD E MD FEA	

TARGET PROPERTY SEARCH RESULTS

Franklin Rd (contd.)

3343 FRANKLIN RD

2014	JENNIFER HILL	Cole Information

3355 FRANKLIN RD

2014	OCCUPANT UNKNOWN	Cole Information
2005	NED HAKIM	Cole Information
2000	C B BOWERS	Cole Information
1995	BOWERS, CHARLES L	Cole Information
1992	BOWERS, CHARLES L	Cole Information
1987	CHARLES L BOWERS	Bressers
1982	DR CHAS L BOWERS	Bressers
	PETER S BOWERS	
1977	DR CHAS L BOWERS	Bressers
1972	DR CHARLES BOWERS4	Bressers
1967	CHARLES L BOWERS	Bressers

Telegraph Rd

3080 TELEGRAPH RD

1995	TCI AGENCY INC	Cole Information

3100 TELEGRAPH RD

1995	SIGMA INVESTMENT COUNSELORS	Cole Information
	BEACHUM & ROESER DEV CO	Cole Information

3194S TELEGRAPH RD

1992	DOUGLAS, J	Cole Information

TARGET PROPERTY SEARCH RESULTS

Telegraph Rd (contd.)

3196 TELEGRAPH RD

1992	COLEMAN, L K	Cole Information

3238 TELEGRAPH RD

1992	RUPERSBURG, JEFFREY	Cole Information

3272 TELEGRAPH RD

1992	BUSH, KENNETH	Cole Information

FINDINGS

This section includes records sorted by street then year.

STREETS

Franklin Rd
Telegraph Rd
Acorn Rd
Barlyn Ln
Cedarholm Ln
Club Dr
Devon Brook Ct
Devon Brook Dr
E Ridge Ct
E Ridge Rd
Eastpointe Ln
Park Place Ct
W Hickory Grove Rd
W Ridge Ct
W Ridge Rd

FRANKLIN RD

2024

Cole Information

3017	Theresa M Jamora
3063	RULA AL-KHUDAIRE
3170	ANDREW S JOHNSON
3185	COLIN W GOLDSMITH
3200	RON HINTCH
3224	BRANDON N LACHINE
3325	Bloomfield Hills School Dst
	Friends Of Johnson Nature Ctr
	SHELLEY L LAZARUS
	SCOTT OCANO
3350	Moufid Mitri Md Pc
	ABIADAL M EVA
3376	MTANIUS SULTANI
3424	BROOKE MALLORY
	FRANK L WALDRON
	PATRICIA NEELY
3456	IYER BALAKRISHNA
3490	HIKMAT F MAHMOOD
	RAFAL MAHMOOD
3499	ABUBAKAR SHEIKH

FRANKLIN RD

2022

Cole Information

3017	Manolo B Magno
3170	Andrew S Johnson
3185	Colin W Goldsmith
3200	Ron Hintch
3224	Brandon N Lachine
3320	John M Logue
3325	BLOOMFIELD HILLS SCHOOLS
	BLOOMFIELD HILLS MICHI
	JOHNSON NATURE CENTER
3350	Abiadal M Eva
3376	Mtanius Sultani
3424	Frank L Waldron
3433	Jennifer L Hill
3456	Balkrishna Ramkumar
	Balakrishna Iyer
3490	
	Hikmat Mahmood
3499	James F Nelson JR

FINDINGS

FRANKLIN RD

2022 Data Axle

3456	S Y B R INC

FRANKLIN RD

2017 Cole Information

3017	MANOLO B MAGNO
3170	ANDREW S JOHNSON
3200	SPENCER SCHAFER
3224	SAMIR I LACHINE
3320	JOHN M LOGUE
3325	ERIC M LAZARUS
3350	ABIADAL M EVA
3376	MTANIUS SULTANI
3424	MCCORMICK-BILTON ENTPS LLC
	FRANK L WALDRON
3433	WILLIAM E HILL
3490	RAFEL H MAHMOOD
3499	JOE J DUMARS

FRANKLIN RD

2017 Data Axle

3325	E L JOHNSON NATURE CTR

FRANKLIN RD

2014 Cole Information

3017	MANOLO B MAGNO
3115	OCCUPANT UNKNOWN
3170	SUSAN S SCHULTE
3185	COLIN W GOLDSMITH
3200	JOHN J SCHAFER
3224	GEORGE DOLCE

FRANKLIN RD

2014 (cont.) Cole Information

3320	JOHN M LOGUE
3325	ERIC M LAZARUS
3343	JENNIFER HILL
3350	MITRI MOUFID MD
	OCCUPANT UNKNOWN
3355	OCCUPANT UNKNOWN
3376	GUY J NASSER
3424	OCCUPANT UNKNOWN
3433	WILLIAM E HILL
3490	RAFEL H MAHMOOD
3499	DEBRA M NELSON

FRANKLIN RD

2014 Data Axle

3325	E L JOHNSON NATURE CTR

FRANKLIN RD

2010 Cole Information

3170	ANDREW S JOHNSON
3185	JOHN H LITTLE
3200	JOHN J SCHAFER
3320	JOHN L LOGUE
3325	JOHNSON NATURE CTR
	ERIC M LAZARUS
3350	MOUFID MITRI
3433	JENNIFER L HILL
3456	BALKRISHNA RAMKUMAR
3490	RAFEL MAHMOOD

FINDINGS

FRANKLIN RD

2005 Cole Information

3017	MANOLO B MAGNO
3115	CHANTRA WILLIAMS
3170	ANDREW S JOHNSON
3185	JOHN H LITTLE
3200	JOHN J SCHAFER
3320	WAYNE HOLMAN
3325	SCOTT D BROCKERT
3355	NED HAKIM
3424	FRANK L WALDRON
3456	K FLANNERY
3499	JOE J DUMARS

FRANKLIN RD

2000 Cole Information

3015	LLOYD E SMITH
3115	V TALLA
3170	ANDREW S JOHNSON
3185	JOHN H LITTLE
3224	JACK I LIPTON
3320	JOHN M LOGUE
3325	DENNIS HURLEY
3355	C B BOWERS
3424	FRANK WALDRON
3433	DANIEL H HERBERT
3456	WALTER R FLANNERY

FRANKLIN RD

1995 Cole Information

3015	SMITH, LLOYD E
3115	TALLA, S
3185	LITTLE, JOHN H
3200	REID, WILLIAM
3224	OCCUPANT UNKNOWNN

FRANKLIN RD

1995 (cont.) Cole Information

3325	BHSD NATURE CTR
	TRAVIS, DENNIS B
3350	OCCUPANT UNKNOWNN
3355	BOWERS, CHARLES L
3376	GURKA, JOZEF
3424	WALDRON, DAWN S
3456	FLANNERY, WALTER R
3490	COWIN, FRED H
3499	RIGGS, HARRY

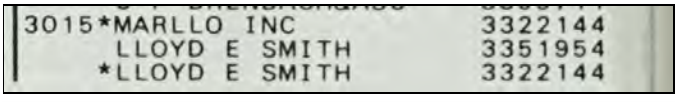
FRANKLIN RD

1992 Cole Information

3185	LITTLE, JOHN H
3200	REID, WILLIAM
3224	LIPTON, JACK I
3325	BLMFLD NATURE CNTR
	TRAVIS, DENNIS B
3355	BOWERS, CHARLES L
3456	FLANNERY, WALTER R

FRANKLIN RD

1987 Bressers



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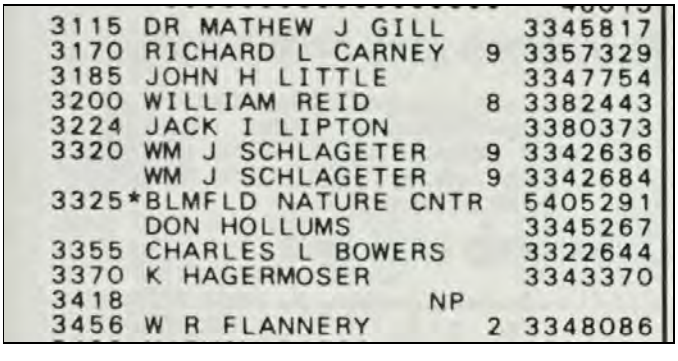
	LLOYD E SMITH		3351954
	*LLOYD E SMITH		3322144



3115	DR MATHEW J GILL		3345817
3170	RICHARD L CARNEY	9	3357329
3185	JOHN H LITTLE		3347754
3200	WILLIAM REID	8	3382443
3224	JACK I LIPTON		3380373
3320	WM J SCHLAGETER	9	3342636
	WM J SCHLAGETER	9	3342684
3325	*BLMFLD NATURE CNTR		5405291
	DON HOLLUMS		3345267
3355	CHARLES L BOWERS		3322644
3370	K HAGERMOSER		3343370
3418		NP	
3456	W R FLANNERY	2	3348086

FINDINGS

FRANKLIN RD

1987 (cont.) Bressers

```
3499 MARVIN RIGGS                -3329495
```

FRANKLIN RD

1982 Bressers

```
3015*MARLLO INC                   3322144
     LLOYD E SMITH                3351954
    *LLOYD E SMITH                3322144
3115 DR MATHEW J GILL             3345817
3170 RICHARD L CARNEY          9  3357329
3185 JOHN H LITTLE                3347754
3200 WILLIAM REID              8  3382443
3224 JACK I LIPTON                3380373
3320 WM J SCHLAGETER           9  3342636
3325*BLMFLD HL NATR CTR           3350204
     DON HOLLUMS                  3345267
3355 DR CHAS L BOWERS             3322644
     PETER S BOWERS            1  3324961
3370 K HAGERMOSER              7  3343370
3418                    NP
3456 W R FLANNERY                 ¤3348086
```

FRANKLIN RD

1981 Michigan Bell Telephone Company

3109	Res

FRANKLIN RD

1977 Bressers

```
3115 DR MATTHEW J GILL            FE45817
3170                    NP
3185 JOHN H LITTLE                FE47754
3200                    NP
3224 JACK I LIPTON             1  3380373
3320                    NP
3325*BLMFLD HL NATR CTR           3350204
     DON HOLLUMS               0  3345267
3355 DR CHAS L BOWERS             3322644
3370 K HAGERMOSER                 ¤3343370
3418 S K JOHNSON                  ¤3321598
3433                    NP
3456                    NP
```

```
3490                    NP
3499                    NP
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FRANKLIN RD

1972 Bressers

```
3015*MARLLO INC                   ¤FE22144
     LLOYD E SMITH                3351954
3115 CHRISTOPHER GILL          1  3350240
     GREGORY GILL              1  3350240
     JEROME F GILL             7  3350240
     DR MATTHEW J GILL            FE45817
3170 GORDON J KERR                ¤3348573
3185 JOHN H LITTLE                FE47754
3200 GEORGE E WILSON              ¤3329706
3224 JACK I LIPTON             1  3380373
3320                    NP
3325 DON HOLLUMS               0  3345267
3355 DR CHARLES BOWERS         4  3322644
3370 HARRY H RICHARDSON
                               6  3345570
3418 A JOHNSON                    3321598
3456                    NP
3490 R W CHISSUS                  MI61222
3499 DR HARRY L RIGGS             3323333
```

FRANKLIN RD

1967 Bressers

```
3115 CHRISTOPHER GILL             ¤3350240
     JEROME GILL                  ¤3350240
     DR MATTHEW J GILL         2  FE45817
3170 ROBERT A ROGERS           6  3347671
3185 JOHN H LITTLE             2  FE47754
3200 90BERT E MEHOKE           2  FE56440
3224                    NP
3320                    NP
3325 DR RICHARD E OLSEN
                               2  FE47956
3355 CHARLES L BOWERS          4  3322644
3370 HARRY H RICHARDSON
                               6  3345570
3418 A JOHNSON                 2  FE21598
3456                    NP
3490 R W CHISSUS               1  MI61222
3499 DR HARRY L RIGGS          2  FE23333
```

FRANKLIN RD

1962 Bressers

```
3015 LLOYD E SMITH               -FE51954
    *L E SMITH HOMES             -FE22144
3115 DR MATTHEW J GILL           -FE45817
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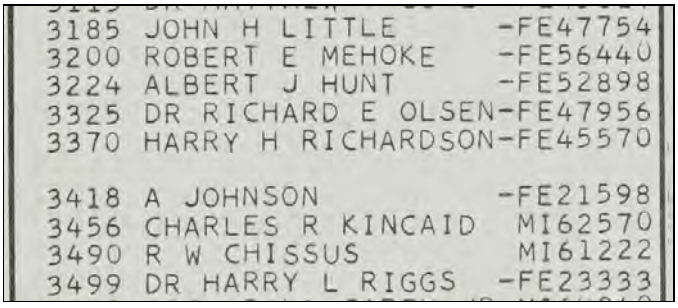
FINDINGS

FRANKLIN RD

1962 (cont.) Bressers

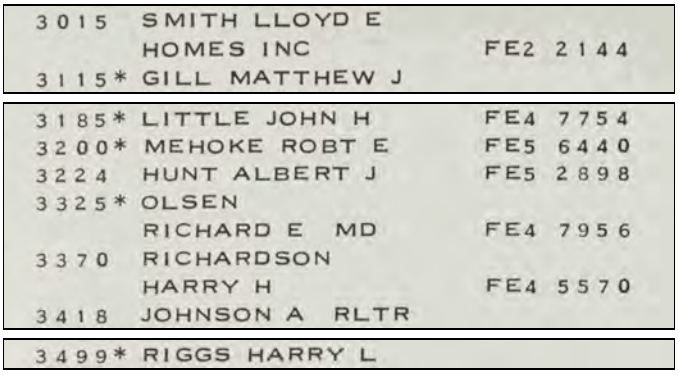


3185 JOHN H LITTLE -FE47754
3200 ROBERT E MEHOKE -FE56440
3224 ALBERT J HUNT -FE52898
3325 DR RICHARD E OLSEN-FE47956
3370 HARRY H RICHARDSON-FE45570

3418 A JOHNSON -FE21598
3456 CHARLES R KINCAID MI62570
3490 R W CHISSUS MI61222
3499 DR HARRY L RIGGS -FE23333

FRANKLIN RD

1958 Bressers



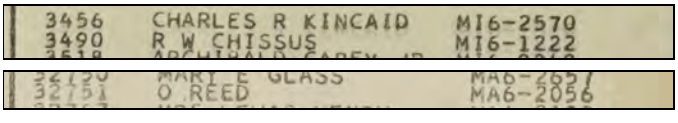
3015 SMITH LLOYD E
HOMES INC FE2 2144
3115* GILL MATTHEW J

3185* LITTLE JOHN H FE4 7754
3200* MEHOKE ROBT E FE5 6440
3224 HUNT ALBERT J FE5 2898
3325* OLSEN
RICHARD E MD FE4 7956
3370 RICHARDSON
HARRY H FE4 5570
3418 JOHNSON A RLTR

3499* RIGGS HARRY L

FRANKLIN RD

1957 Bressers



3456 CHARLES R KINCAID MI6-2570
3490 R W CHISSUS MI6-1222

32751 O REED MA6-2056

FINDINGS

TELEGRAPH RD

1995 Cole Information

3080	TCI AGENCY INC
3100	SIGMA INVESTMENT COUNSELORS
	BEACHUM & ROESER DEV CO
3383	J C WAGNER ATY

TELEGRAPH RD

1992 Cole Information

3015	MOSS, BILLY
3017	LONG, PAUL E JR
3051	QUAST, J
3058	ESORDI, REMI
3059	BUFORD, MICHAEL
3093	ODNEAL, BILLIE L
3097	RUSETZKE, LEE
3113	ELLIS, ROBERT G
3193	FOGARASI, AARON
3194S	DOUGLAS, J
3196	COLEMAN, L K
3197	BRZOSKA, MICHAEL J JR
3231	MEISSNER, DIANE M
3238	RUPERSBURG, JEFFREY
3272	BUSH, KENNETH
3279	WALSH, THOMAS F
	BROOME, WILLIAM
3383	J C WAGNER ATY

FINDINGS

ACORN RD

2024 Cole Information

2960	KAHLA RASHID
2971	ALLISON L MANCINI

ACORN RD

2022 Cole Information

2960	Kahla Rashid
2971	SPRINGER LAWN SERVICE
	Allison Mancini

ACORN RD

2017 Cole Information

2971	MICHAEL D ROBERTS

ACORN RD

2014 Cole Information

2960	JASON J LEWY
2971	SPRINGER LAWN SERVICE
	OCCUPANT UNKNOWN

ACORN RD

2010 Cole Information

2960	YOSHIHIRO NAKAMURA
2971	SPRINGER LAWN SVC
	DUE V SPRINGER

ACORN RD

2005 Cole Information

2971	DUE V SPRINGER

ACORN RD

2005 Data Axle

2971	SPRINGER LAWN SVC

ACORN RD

2000 Cole Information

2960	CHARLES NEFF
2971	SPRINGER LAWN SERVICE

ACORN RD

1995 Cole Information

2960	BORRMANN, DIRK
2971	SPRINGER, BARBARA J

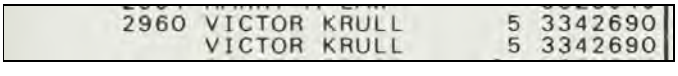
ACORN RD

1992 Cole Information

2960	TERAO, KATSUO

ACORN RD

1987 Bressers



FINDINGS

ACORN RD

1982 Bressers



2960	JOHN J MOFFATT		3341023
	JOHN J MOFFATT		3355184

ACORN RD

1977 Bressers



2960	JOHN J MOFFATT	1	3341023
	JOHN J MOFFATT	1	3355184

ACORN RD

1972 Bressers



2960	JOHN J MOFFATT	1	3341023
	JOHN J MOFFATT	1	3345139

FINDINGS

BARLYN LN

2024 Cole Information

3321	ERIC D MCINTOSH
3332	DEVONNA WALKER
3355	Sabre Properties
	ERIC K CASSADY
3380	JOVANI GONZALEZ-BUSTOS
3416	TANIA G MANITIU

BARLYN LN

2022 Cole Information

3321	Eric D McIntosh
	Lavender T Arnold
3332	Devonna Walker
3355	SABRE PROPERTIES
	Eric K Cassady
3380	Christopher Fontana
3416	Tania G Manitiu

BARLYN LN

2017 Cole Information

3321	ELNORA ARNOLD
3355	ERIC K CASSADY
3416	MIHAELA MANITIU

BARLYN LN

2014 Cole Information

3321	ELNORA ARNOLD
3332	HENRY W PARKER
3355	ERIC K CASSADY
3380	EDWIN A WUDYKA
3416	TANIA G MANITIU

BARLYN LN

2010 Cole Information

3321	ALBERTA MILTON
3332	HENRY W PARKER
3355	ERIC K CASSADY
3380	BRIAN M HUNT
3416	CAROL C LEVEQUE

BARLYN LN

2005 Cole Information

3321	SAMIR MAHMOUD
3332	HENRY W PARKER
3355	ERIC K CASSADY
3380	PATRICIA D HUNT
3416	CAROL C LEVEQUE

BARLYN LN

2000 Cole Information

3321	PETER PAVLOVICH
3332	HENRY W PARKER
3380	P HUNT
3416	Unit 2 CAROL C LEVEQUE

BARLYN LN

1995 Cole Information

3416	SMATHERS, MARY

BARLYN LN

1992 Cole Information

3321	FISH, ELDRED R

FINDINGS

BARLYN LN

1992 (cont.) Cole Information

3355 SCHOCK, JOHN E

BARLYN LN

1989 Polk Directory Co

3321 Fish Eldred R ◎ 335-6904
3332 Parker H Wallace ◎ 332-8472
3355 No Return
3380 Wormnest Dennis ◎

3416 Le Veque Carol C ◎ 338-1551

BARLYN LN

1987 Bressers

3321	ELDRED R FISH	3356904
3332	3355 3380 NP	
3415	THOMAS W PINNEY	3382912
3416	CAROL C LEVEQUE	H3357059
	CAROL C LEVEQUE	H3357059

BARLYN LN

1985 Polk Directory Co

3321 Fish Eldred R ◎
3332 Parker H Wallace ◎ 332-8472
3355 No Return
3380★Womnest Dennis

3416 Le Veque Carol C ◎

BARLYN LN

1982 Bressers

3321	ELDRED R FISH	3356904
3332	3355 NP	
3380	GEORGE H VITTA 1	3344916
3415	THOMAS W PINNEY	3382912
3416	NP	

BARLYN LN

1980 Polk Directory Co

3321 Fish Eldred R ◎
3332 Parker H Wallace ◎ 332-8472
3355 Vacant
3380★Vitta Geo H ◎ 334-4916
3415 Pinney Thos W ◎ 338-2912
3416 Le Veque Carol C ◎

BARLYN LN

1977 Bressers

3321	ELDRED R FISH	3356904
3332	NP	
3355	NP	
3380	MICHL J DORSEY JR 6	3380549
3415	THOMAS W PINNEY	FE82912
3416	NP	

BARLYN LN

1975 Polk Directory Co

3321 Fish Eldred R ◎ FE5-6904
3332 Parker H Wallace ◎ 332-8472
3355 Meyer Joyce K Mrs 335-5251
3380★Romero Wm A ◎
3415 Pinney Thos W ◎ 338-2912
3416 Le Veque Carol C ◎

BARLYN LN

1972 Bressers

3321	ELDRED R FISH	3356904
3332	NP	
3355	NP	
3380	NP	
3416	NP	

BARLYN LN

1970 Polk Directory Co

3321 Fish Eldred R ◎ FE5-6904
3332 Kuehn Geo E ◎ FE4-3658

FINDINGS

BARLYN LN

1970 (cont.) Polk Directory Co

3355 Meyer Joyce K Mrs © 335-5251
3380 Lecznar Thaddeus W © 332-1841
3415 Pinney Thos W © 338-2912
3416 Le Veque Carol C 335-7059

BARLYN LN

1969 Polk Directory Co

3321 FISH ELDRED R • FE5-6904
3332 KUEHN GEO E • FE4-3658
3355 MEYER JOYCE K MRS • 335-5251
3380 BRANDT CLIFFORD L •

3416 LE VEQUE CAROL C 335-7059

BARLYN LN

1967 Bressers

3321 ELDRED R FISH 2 3356904
3332 GEORGE E KUEHN 2 FE43658

3355 NP
3380 NP
3415 THOMAS W PINNEY 2 FE82912
3416 NP

BARLYN LN

1965 Polk Directory Co

3321 Fish Eldred R © FE 5-6904
3332 Kuehn Geo E © FE 4-3658
3355 Vacant
3380 No return
3415 Pinney Thos W © FE 8-2912
3422 Yee Henry © 332-1346

BARLYN LN

1962 Bressers

3321 ELDRED R FISH FE56904
3332 GEORGE E KUEHN FE43658
3355 DR J H NESSEL FE20758

BARLYN LN

1962 (cont.) Bressers

DR JOYCE CARROW FE20758
3380 CLIFFORD L BRANDT FE29367

BARLYN LN

1960 Polk Directory Co

3321 Fish Eldred R FE5-6904
3332 Kuehn Geo E © FE4-3658
3355 Nessel Jack H © FE2-0758
3380 Brandt Clifford L © FE2-9367
3415 Pinney Thos W © FE8-2912
3422 Smith Eug R © FE4-4897

BARLYN LN

1958 Bressers

3355 CARROW JOYCE MD RES FE2 0758
3355 NESSEL J H PHY

BARLYN LN

1956 Polk Directory Co

3355 Nessel J H ©

FINDINGS

CEDARHOLM LN

2024 Cole Information

1206	GREGG DONALD
1215	AARON M GRAY
1223	AHLAM ENNABUT
1231	LISA CATTO

CEDARHOLM LN

2022 Cole Information

1206	Gregg Donald
1215	Aaron M Gray
1223	Yahya Jamal
1231	Darlene S Larsen

CEDARHOLM LN

2017 Cole Information

1215	AARON M GRAY
1231	FRANK LARSEN

CEDARHOLM LN

2014 Cole Information

1206	DONALD I GREGG
1215	AARON M GRAY
1223	OCCUPANT UNKNOWN
1231	OCCUPANT UNKNOWN

CEDARHOLM LN

2010 Cole Information

1206	DONALD I GREGG
1215	WARREN C STOUT

CEDARHOLM LN

2010 (cont.) Cole Information

1231	DARLENE S LARSEN

CEDARHOLM LN

2005 Cole Information

1206	DONALD I GREGG
1215	WARREN C STOUT
1223	EMMA P MONK
1231	DARLENE S LARSEN

CEDARHOLM LN

2000 Cole Information

1223	EMMA P MONK
1231	DARLENE S LARSEN

CEDARHOLM LN

1995 Cole Information

1206	SANBACK, CHARLES D
1215	STOUT, WARREN C
1223	MONK, SEAN
1231	LARSEN, DARLENE S

CEDARHOLM LN

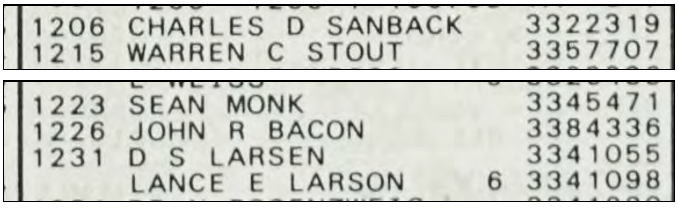
1992 Cole Information

1215	STOUT, WARREN C
1223	MONK, SEAN
1231	LARSEN, LANCE

FINDINGS

CEDARHOLM LN

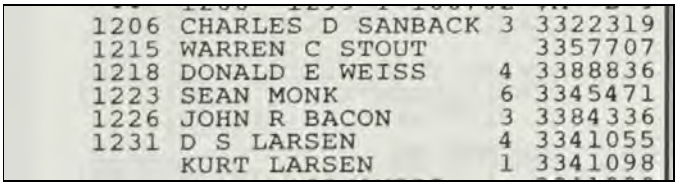
1987 Bressers



1206	CHARLES D SANBACK		3322319
1215	WARREN C STOUT		3357707
1223	SEAN MONK		3345471
1226	JOHN R BACON		3384336
1231	D S LARSEN		3341055
	LANCE E LARSON	6	3341098

CEDARHOLM LN

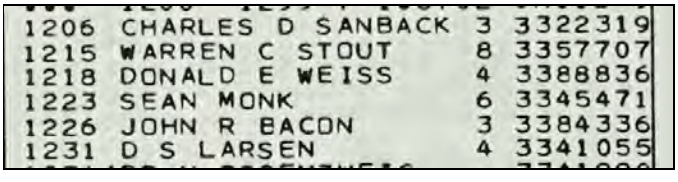
1982 Bressers



1206	CHARLES D SANBACK	3	3322319
1215	WARREN C STOUT		3357707
1218	DONALD E WEISS	4	3388836
1223	SEAN MONK	6	3345471
1226	JOHN R BACON	3	3384336
1231	D S LARSEN	4	3341055
	KURT LARSEN	1	3341098

CEDARHOLM LN

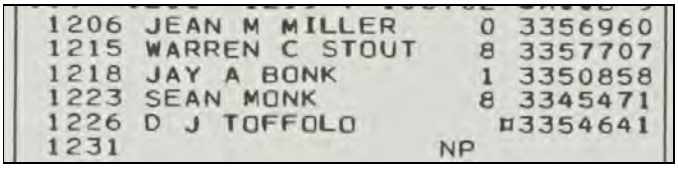
1977 Bressers



1206	CHARLES D SANBACK	3	3322319
1215	WARREN C STOUT	8	3357707
1218	DONALD E WEISS	4	3388836
1223	SEAN MONK	6	3345471
1226	JOHN R BACON	3	3384336
1231	D S LARSEN	4	3341055

CEDARHOLM LN

1972 Bressers



1206	JEAN M MILLER	0	3356960
1215	WARREN C STOUT	8	3357707
1218	JAY A BONK	1	3350858
1223	SEAN MONK	8	3345471
1226	D J TOFFOLO		¤3354641
1231		NP	

CEDARHOLM LN

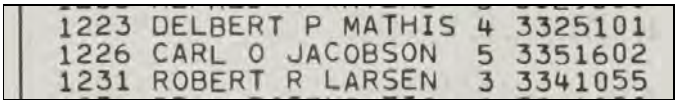
1967 Bressers



1215	JOHN H PRESTEL	-3342006

CEDARHOLM LN

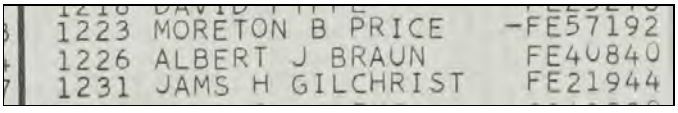
1967 (cont.) Bressers



1223	DELBERT P MATHIS	4	3325101
1226	CARL O JACOBSON	5	3351602
1231	ROBERT R LARSEN	3	3341055

CEDARHOLM LN

1962 Bressers



1223	MORETON B PRICE	-FE57192
1226	ALBERT J BRAUN	FE40840
1231	JAMS H GILCHRIST	FE21944

CEDARHOLM LN

1958 Bressers



1231*	GILCHRIST JAS H	FE2 1944

FINDINGS

CLUB DR

2024 Cole Information

1209	Management Technologies
	STEPHEN H HOUGHAM
1211	MICHAEL A VLASIC

CLUB DR

2022 Cole Information

1207	Paul Arslanian
1209	MANAGEMENT TECHNOLOGIES
	Frances C Hougham
1211	Michael A Vlasic

CLUB DR

2017 Cole Information

1200	PAUL J FORTINO
1207	PAUL ARSLANIAN
1209	MANAGEMENT TECHNOLOGIES
	STEPHEN S HOUGHAM
1211	MICHAEL A VLASIC

CLUB DR

2014 Cole Information

1200	OCCUPANT UNKNOWN
1207	PAUL ARSLANIAN
1209	MANAGEMENT TECHNOLOGIES
	STEPHEN S HOUGHAM
1211	MICHAEL A VLASIC

CLUB DR

2010 Cole Information

1200	DOUGLAS M DEEDS
1209	MANAGEMENT TECHNOLOGIES INC
	STEPHEN S HOUGHAM
1211	MICHAEL A VLASIC

CLUB DR

2005 Cole Information

1209	STEPHEN S HOUGHAM
1211	MICHAEL VLASIC
1215	GREGORIO V FERRER

CLUB DR

2000 Cole Information

1200	EUGENE LEICH
1207	MYONG C NEFF
1209	STEPHEN H HOUGHAM
1215	MICHAEL A VLASIC

CLUB DR

1995 Cole Information

1200	OCCUPANT UNKNOWNN
1207	OCCUPANT UNKNOWNN
1209	HOUGHAM, STEPHEN H
1211	VLAASIC, HELEN A
1215	FERRER, G

FINDINGS

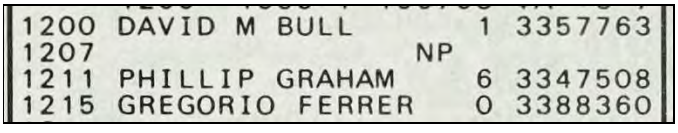
CLUB DR

1992 Cole Information

1200	LEICH, EUGENE
1209	HOUGHAM, STEPHEN H
1215	FERRER, G

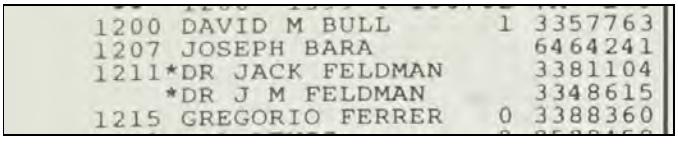
CLUB DR

1987 Bressers



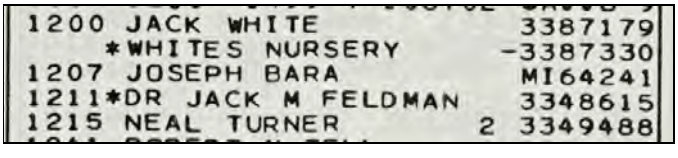
CLUB DR

1982 Bressers



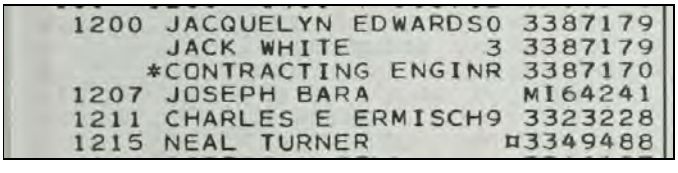
CLUB DR

1977 Bressers



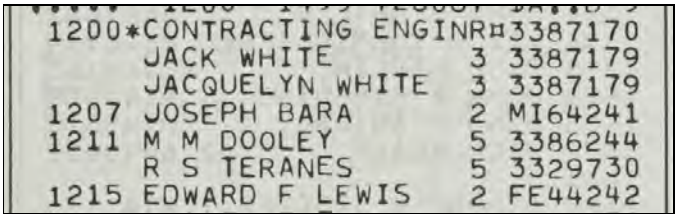
CLUB DR

1972 Bressers



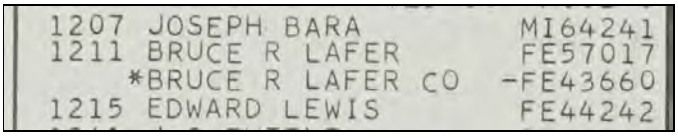
CLUB DR

1967 Bressers



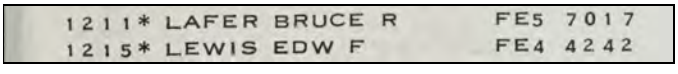
CLUB DR

1962 Bressers



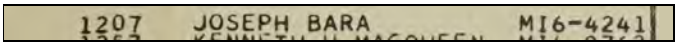
CLUB DR

1958 Bressers



CLUB DR

1957 Bressers



FINDINGS

DEVON BROOK CT

2024 Cole Information

3151 RICHARD BOOMS

DEVON BROOK CT

2022 Cole Information

3151 Richard Booms

DEVON BROOK CT

2017 Cole Information

3151 DETROITCINE LLC
JOSEPH N VAUGHN

DEVON BROOK CT

2014 Cole Information

3151 LENNY T WALDMAN

DEVON BROOK CT

2014 Data Axle

3151 VAUGHN MEDIA INC

DEVON BROOK CT

2010 Cole Information

3151 VAUGHN JOSEPH

DEVON BROOK CT

2005 Cole Information

3151 LAUREN M AMSTERDAM

DEVON BROOK CT

2000 Cole Information

3151 MARK COHN

DEVON BROOK CT

1995 Cole Information

3151 COHN, MARK S

DEVON BROOK CT

1992 Cole Information

3151 COHN, MARK S

DEVON BROOK CT

1989 Polk Directory Co

3151 Cohn Mark S 335-3039

DEVON BROOK CT

1985 Polk Directory Co

3151 Reimer Henry 335-3865

DEVON BROOK CT

1980 Polk Directory Co

3151 Reimer Henry C adv & promotion ◎
334-4514

FINDINGS

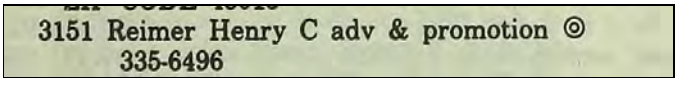
DEVON BROOK CT

1977 Bressers


3151*MARKETING ASSOC 3344514
*PROFSSNL COLO PHTO 3344514

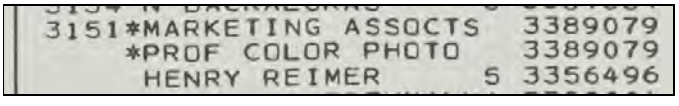
DEVON BROOK CT

1975 Polk Directory Co


3151 Reimer Henry C adv & promotion ◎
335-6496

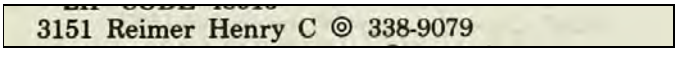
DEVON BROOK CT

1972 Bressers


3151*MARKETING ASSOCTS 3389079
*PROF COLOR PHOTO 3389079
HENRY REIMER 5 3356496

DEVON BROOK CT

1970 Polk Directory Co


3151 Reimer Henry C ◎ 338-9079

DEVON BROOK CT

1969 Polk Directory Co


3151 REIMER HENRY C • 338-9079

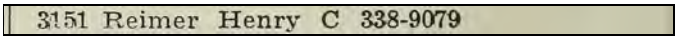
DEVON BROOK CT

1967 Bressers


3151 HENRY REIMER 5 3389079

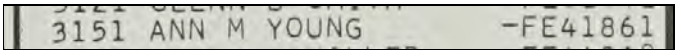
DEVON BROOK CT

1965 Polk Directory Co


3151 Reimer Henry C 338-9079

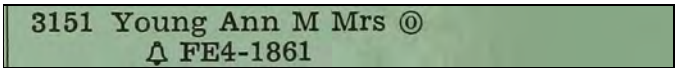
DEVON BROOK CT

1962 Bressers


3151 ANN M YOUNG -FE41861

DEVON BROOK CT

1960 Polk Directory Co


3151 Young Ann M Mrs ◎
FE4-1861

FINDINGS

DEVON BROOK DR

2024 Cole Information

3017	RAFAAI HAMO
3038	PAMELA L RAMACHER
3041	RICHARD L O'CONNOR
3062	SHAWN I SHIN
3065	SALIM B RAID
3086	Kayyyscollections Llc
	Pmh Millennial Llc
	PORCHEA M RUTHERFORD
3091	ALEXA C RUHFASS
3158	BRANDON BAHOURA
3200	Nooloos Llc
3225	MARCIE Y ZOREF
3230	WILLIAM A MCPHARILIN
3259	Exotic Flower Thing Jamaica
	FAY T ALSTON
3260	DANIEL J MARTEL
3290	AHMED F RAHMAN

DEVON BROOK DR

2022 Cole Information

3017	Rafaai Hamo
3041	Richard L O'Connor
3062	Shawn Shin
3065	Salim B Raid
3086	Porchea Rutherford
3091	Alexa C Ruhfass
3158	Brandon Bahoura
3200	LIBERTY MUTUAL INSURANCE
3225	Marcie Y Weitzman-Zoref
3230	Phillip Mansour
	William A McPharilin
3259	Fay T Alston
3290	Yolanda Sitjar
3320	Chelsea M Russell
3360	David Patel

DEVON BROOK DR

2022 (cont.) Cole Information

3475	Dushon L Watkins

DEVON BROOK DR

2017 Cole Information

3014	FRANCIS O NWAMGBE
3038	STEVEN K RAMACHER
3041	RICHARD L OCONNOR
3062	IMSIK I SHIN
3065	SALIM B RAID
3091	ALEXA C WIESENBERGER
3110	BASSAM F JWAIDA
3134	KEVIN R WILLIAMS
3200	NOOLOOS LLC
	ADAM J HOSLER
3225	ALEX AND JANE SHAPEMAKERS LLC
	MARCIE Y ZOREF
3259	EXOTIC FLOWER THING JAMAICA
	DESIGN BY SUZANN
	PAULA M DIEDRICH
3290	HEATHER M HAUSMANN
3320	CHELSEA M RUSSELL
3475	ALBERT I GOJANI

DEVON BROOK DR

2014 Cole Information

3014	OTEKA NWAMGBE
3017	DWIGHT W BUTLER
3038	RICHARD D ALEXANDER
3041	OCCUPANT UNKNOWN
3062	IMSIK S SHAWN
3065	OCCUPANT UNKNOWN
3086	MOHAMED ALMASMARI
3091	ALEXA C WIESENBERGER

FINDINGS

DEVON BROOK DR

2014 (cont.)

Cole Information

3110	KATHY J THOMPSON
3121	OCCUPANT UNKNOWN
3134	KEVIN R WILLIAMS
3158	OCCUPANT UNKNOWN
3200	ADAM J HOSLER
3225	MARCIE Y ZOREF
3230	WILLIAM A MCPHARLIN
3259	FAY T ALSTON
3260	JAY W ADAMS
3290	OCCUPANT UNKNOWN
3320	ROBERT E DUNN
3360	KEVIN L HAGOOD
3475	GOJANI DRITA

DEVON BROOK DR

2010

Cole Information

3017	DWIGHT W BUTLER
3062	IMSIK S SHIN
3065	PATRICIA A JONAS
3110	KATHY J THOMPSON
3134	KEVIN R WILLIAMS
3200	ADAM J HOSLER
3225	ROFFEY ART MD
3230	WILLIAM A MCPHARLIN
3259	MICHELLE M STANKU
3260	JAY W ADAMS
3290	STEPHANIE R WATKINS
3320	ROBERT E DUNN
3360	A CAMP
3475	STEVEN J BACKALUKAS
	GOJANI DRITA
	DRITA GOJANI

DEVON BROOK DR

2005

Cole Information

3017	DWIGHT W BUTLER
3038	MARY V BRAND
3062	MAXUS LLC
	IMSIK S SHIN
3065	PATRICIA JONAS
3086	CONCETTA C DIPONIO
3110	KATHY J THOMPSON
3134	KEVIN R WILLIAMS
3200	ADAM J HOSLER
3225	ART E ROFFEY
3230	WILLIAM A MCPHARLIN
3259	EXOTIC FLOWERS & THINGS JAMAIC
	EDWARD J ALSTON
3260	JAY W ADAMS
3290	BRINEY FINANCIAL REPORTING
	JOHN E BIRNEY
3320	ROBERT E DUNN
3360	DAVID B MORIARTY
3475	STEVEN J BACKALUKAS

DEVON BROOK DR

2000

Cole Information

3014	KATHY A PFEIFFER
3017	JACK CRANE
3038	R R BRAND
3062	SAMUEL CAMPOS
3065	EDWARD L JONAS
3091	CHARLES BREITMEYER
3110	SAM P KENTROS
3121	FLOYD K COMPTON
3200	ROBERT H CHONOLES
3225	BRIAN HUTCHESON
	GAIL E DANTO
	ARTHUR E ROFFEY
3230	W MCPHARLIN

FINDINGS

DEVON BROOK DR

2000 (cont.) Cole Information

3259	FAY FRASERALSTON
3260	JAY W ADAMS
3290	JOHN BIRNEY
3360	JAMES V MORIARTY
3475	STEVEN J BACKALUKAS

DEVON BROOK DR

1995 Cole Information

3017	TERHALL, KEITH
3038	BRAND, ROBERT R
3041	OCONNOR, RICHARD
3062	CAMPOS, SAMUEL
3065	JONAS, EDWARD L
3086	DIPONIO, PIERINO D
3091	BREITMEYER, CHARLES JR
3110	KENTROS, SAM P
3121	COMPTON, FLOYD K
3134	WILLIAMS, KEVIN
3200	WARBURTON, PHILIP
3225	ROFFEY, ARTHUR
3230	GRIKSCHEIT, PHYLLIS M
3259	ALSTON, FAY T
3260	ADAMS, JAY W
3290	BIRNEY, JOHN
3320	DUNN, ROBERT E
3360	OCCUPANT UNKNOWNN
3475	BACKALUKAS, STEVEN J

DEVON BROOK DR

1992 Cole Information

3038	BRAND, ROBERT R
3041	OCONNOR, RICHARD
3062	CAMPOS, SAMUEL

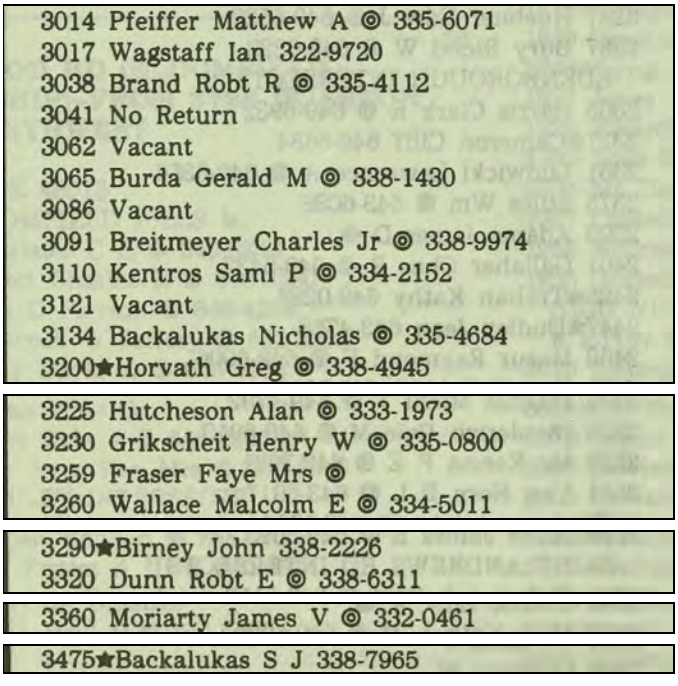
DEVON BROOK DR

1992 (cont.) Cole Information

3091	BREITMEYER, CHARLES JR
3110	KENTROS, SAM P
3134	BACKALUKAS, N
3225	HUTCHESON, ALAN
3230	GRIKSCHEIT, HENRY W
3320	DUNN, ROBERT E
3360	MORIARTY, JAMES V
3475	BACKALUKAS, STEVEN J

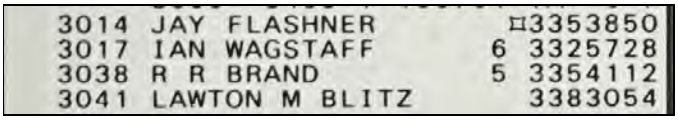
DEVON BROOK DR

1989 Polk Directory Co


3014 Pfeiffer Matthew A ◎ 335-6071
3017 Wagstaff Ian 322-9720
3038 Brand Robt R ◎ 335-4112
3041 No Return
3062 Vacant
3065 Burda Gerald M ◎ 338-1430
3086 Vacant
3091 Breitmeyer Charles Jr ◎ 338-9974
3110 Kentros Saml P ◎ 334-2152
3121 Vacant
3134 Backalukas Nicholas ◎ 335-4684
3200★Horvath Greg ◎ 338-4945
3225 Hutcheson Alan ◎ 333-1973
3230 Grikscheit Henry W ◎ 335-0800
3259 Fraser Faye Mrs ◎
3260 Wallace Malcolm E ◎ 334-5011
3290★Birney John 338-2226
3320 Dunn Robt E ◎ 338-6311
3360 Moriarty James V ◎ 332-0461
3475★Backalukas S J 338-7965

DEVON BROOK DR

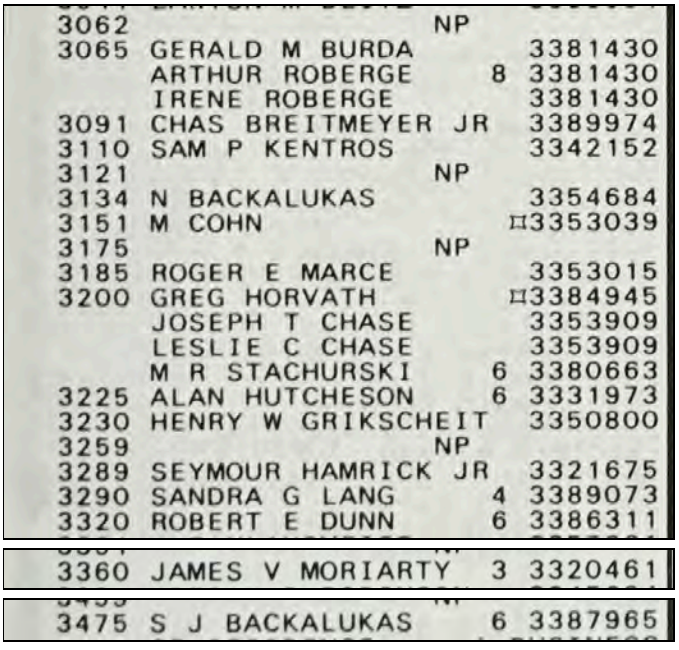
1987 Bressers


3014 JAY FLASHNER ☐3353850
3017 IAN WAGSTAFF 6 3325728
3038 R R BRAND 5 3354112
3041 LAWTON M BLITZ 3383054

FINDINGS

DEVON BROOK DR

1987 (cont.) Bressers



3062		NP	
3065	GERALD M BURDA		3381430
	ARTHUR ROBERGE	8	3381430
	IRENE ROBERGE		3381430
3091	CHAS BREITMEYER JR		3389974
3110	SAM P KENTROS		3342152
3121		NP	
3134	N BACKALUKAS		3354684
3151	M COHN		¤3353039
3175		NP	
3185	ROGER E MARCE		3353015
3200	GREG HORVATH		¤3384945
	JOSEPH T CHASE		3353909
	LESLIE C CHASE		3353909
	M R STACHURSKI	6	3380663
3225	ALAN HUTCHESON	6	3331973
3230	HENRY W GRIKSCHEIT		3350800
3259		NP	
3289	SEYMOUR HAMRICK JR		3321675
3290	SANDRA G LANG	4	3389073
3320	ROBERT E DUNN	6	3386311
3360	JAMES V MORIARTY	3	3320461
3475	S J BACKALUKAS	6	3387965

DEVON BROOK DR

1985 Polk Directory Co

3014 Kessel Robt J ◎
3017★Tysklind Eric 334-2198
3038 Brand Robt R ◎
3041 Blitz Lawton M ◎ 338-3054
3062 Wilson Paul ◎
3065 Burda Gerald M ◎ 338-1430
3086 Di Ponio Concetta ◎ 337-8856
3091 Breitmeyer Charles Jr ◎ 338-9974
3110 Kentros Saml P ◎ 334-2152
3121 Compton Floyd K ◎
3134 Backalukas Nicholas ◎ 335-4684
3200★Naik Mohan R ◎ 332-7111

3225★Hutcheson Alan ◎ 333-1973
3230 Grikscheit Henry W ◎ 335-0800
3259 Fraser Faye Mrs ◎
3260 Wallace Malcolm E ◎ 334-5011

3290 No Return
3320★Frisch Jerry S ◎ 338-1588

3360 Moriarty James V ◎ 332-0461

DEVON BROOK DR

1985 (cont.) Polk Directory Co

3475★Rashead Phil 332-2146

DEVON BROOK DR

1982 Bressers

3014		NP	
3017	DAVID EBSTEIN		-3340685
3038	FRANK E GRIFFIN		3351570
3041	LAWTON M BLITZ	5	3383054
3062	MICHAEL MEGREGIAN		3386509
3065	GERALD M BURDA		3381430
	ARTHUR ROBERGE	8	3381430
	IRENE ROBERGE		3381430
3091	CHAS BREITMEYER JR		3389974
3110	SAM P KENTROS		3342152
3121		NP	
3134	N BACKALUKAS		3354684
3151	*MARKETING ASSOC		3344514
	*PROFSSNL COLO PHTO		3344514
3175		NP	
3185	ROGER E MARCE		3353015
3200	JOSEPH T CHASE		3353909
	LESLIE C CHASE		3353909
3225	MORTON DISNEY	5	3345113
3230	HENRY W GRIKSCHEIT		3350800
3259		NP	
3260	L WALLACE	9	3329601
3289	SEYMOUR HAMRICK JR		3321675
3290	M ROBERTSON		¤3381218
3320	WILLIAM J THOMAS		-3388404
3360	JAMES V MORIART		¤3320461
3475	ANTHONY BELLI	7	3355466

DEVON BROOK DR

1981 Michigan Bell Telephone Company

3041 Blitz Lawton M

DEVON BROOK DR

1980 Polk Directory Co

3014 Kessel Robt J ◎
3017★Andries P ◎ 332-9365

FINDINGS

DEVON BROOK DR

1980 (cont.) Polk Directory Co

3038 Griffin Jo Ann R Mrs ◎ 335-1570
3041 Blitz Lawton M ◎ 338-3054
3062 Megregian Michl ◎ 338-6509
3065 Burda Gerald M ◎ 338-1430
Roberge Arth ◎ 338-1430
3086 Pogany Elish M ◎
3091 Breitmeyer Charles Jr ◎ 338-9974
3110 Kentros Saml P ◎ 334-2152
3121 Compton Floyd K ◎ 335-4528
3134 Backalukas Nicholas ◎ 335-4684
3200 Chase Margt P Mrs ◎ 335-3909
3225 Vacant
3230★Grikscheit Henry ◎
3259 No Return
3260 Wallace Malcolm E ◎ 332-9601

3290 Robertson Wm O ◎ 338-1218
3320 Dunn Robt E ◎

3360 Moriarty James V ◎ 332-0461

DEVON BROOK DR

1977 Bressers

3014		NP	
3017	BRUCE C DIXON	4	3327012
3038	FRANK E GRIFFIN		3351570
3041	LAWTON M BLITZ	5	FE83054
3062	MICHAEL MEGREGIAN		3386509
3065	GERALD M BURDA	1	3381430
	IRENE ROBERGE	0	3381430
	FRANCES TRYBUS	0	3381430
3091	CHAS BREITMEYER JR	9	3389974
3110	SAM P KENTROS	8	3342152
3121	FLOYD K COMPTON	3	3354528
3134	N BACKALUKAS		3354684

3200	JOSEPH T CHASE	2	3353909
	LESLIE C CHASE	2	3353909
3225	MORTON DISNEY	5	3345113
	NEIL DISNEY		¤3387404
3230	HENRY W GRIKSCHEIT	8	3350800
3259	WM P PERKINSON	6	3384965
3260		NP	
3289	SEYMOUR HAMRICK JR		3321675
3290	WM O ROBERTSON JR	3	3381218
3320	ROBERT E DUNN	4	3321514

3360	JAMES V MORIARTY		3320461

3475	ANTHONY BELLI		¤3355466

DEVON BROOK DR

1976 Michigan Bell Telephone Company

3041 Blitz Lawton M

DEVON BROOK DR

1975 Polk Directory Co

3014 Kessel Robt J ◎
3017 Dixon Bruce C ◎ 322-7012
HICKORY GROVE RD INTERSECTS
3038 Griffin Frank E investment banking ◎ 335-1570

3041 Blitz Lawton M ◎ 338-3054
3062 Megregian Michl ◎ 338-6509
3065 Burda Gerald M ◎ 338-1430
Roberge Arth ◎ 338-1430
3086 Vacant
3091 Breitmeyer Charles Jr ◎ 338-9974
3110 Kentros Saml P ◎ 334-2152
3121 Compton Floyd K 335-4528
3134 Backalukas Nicholas ◎ 335-4684
3200 Chase Margt P Mrs ◎ 335-3909
3225 Dyttmer Leonard C ◎ 332-4837
3230 Grikscheit Henry W ◎ 335-0800
3259 Choppala John ◎ 335-5255
3260 Wallace Malcolm E ◎ 338-8250
3289 Hamrick Seymour K Jr ◎ 332-1675
3290 No Return
3320★Dunn Robt E ◎ 332-1514

3360 Moriarty James V ◎ 332-0461

3475 Rowston Wm H ◎ 646-5286

DEVON BROOK DR

1972 Bressers

3014	DAVID H GLEASON	1	3355196
3017	SARA BETH BENTON	9	3345114
	BARRY BENTON	1	3345114
	JOSEPH F BRODER	8	3347630
3038	FRANK E GRIFFIN		3351570
3041	LAWTON M BLITZ	5	FE83054
3062	MICHAEL MEGREGIAN		3386509
3065	GERALD M BURDA	1	3381430
	IRENE ROBERGE	0	3381430
	FRANCES TRYBUS	0	3381430

FINDINGS

DEVON BROOK DR

1972 (cont.) Bressers

3091 CHAS BREITMEYER JR
9 3389974
3110 SAM P KENTROS 8 3342152
3121 MICHAEL J MCCARTHY
6 3388517
3134 N BACKALUKAS 6 3354684

3200 JOSEPH T CHASE ¤3353909
JOSEPH T CHASE -3353909
3225 L C DYTTMER 5 3324837
3230 HENRY W GRIKSCHEIT
8 3350800
3259 JOHN D CHOPPALA -3355255
3260 MALCOLM E WALLACE9 3388250

3290 HENRY C WOLFE 0 3349167
3320 ROBERT J DUNLAY 3 FE25993
3321 JOHN E BRINK 4 3381980
3360 JAMES V MORIARTY 6 3320461

3475 WILLIAM H ROWSTON 6465286

DEVON BROOK DR

1970 Polk Directory Co

3014 Wingerter Kenneth L ◎ 332-6189
Wingerter Anne 332-6189
3017 Broder Joseph F ◎ 334-7630
HICKORY GROVE RD INTERSECTS
3038 Griffin Frank E ◎ 335-1570
3041 Blitz Lawton M prntr ◎ 338-3054
3062 Megregian Michl ◎ 338-6509
3065 Buida Gerald M ◎ 338-1430
3086 Vacant
3091 Breitmeyer Charles Jr ◎ 338-9974
3110 Kentros Saml P ◎ 334-2152
3121 Mc Carthy Michl J ◎ 338-8517
3134 Backalukas Nicholas ◎ 335-4684
3200 No Return
3225 Dyttmer Leonard C ◎ 332-4837
3230 Grikscheit Henry W ◎ 335-0800
3259 Awodey Wm L ◎ 334-3460
3260 Wallace Malcolm E ◎ 338-8250
3289 Hamrick Seymour K Jr ◎ 332-1675
3290 Wolfe Henry C ◎ FE2-0318
3320 Dunlay Robt J ◎ 332-5993

3360 Moriarty James V ◎ 332-0461

3475 Rowston Wm H ◎ 646-5286

DEVON BROOK DR

1969 Polk Directory Co

3014 WINGERTER KENNETH L •
332-6189
3017 BRODER JOSEPH F • 334-7630
---HICKORY GROVE RD INTERSECTS
3038 GRIFFIN FRANK E • 335-1570
3041 BLITZ LAWTON M PRNTR •
338-3054
3062 MEGREGIAN MICHL • 338-6509
3065 WELDON DONALD L • 338-2593
3086 POGANY ELISH M •
3091 BREITMEYER CHARLES JR •
338-9974
3110 KENTROS SAML P • 334-2152
3121 MC CARTHY MICHL J • 338-8157
3134 BACKALUKAS NICHOLAS •
335-4684
3200 KLEIN EDWIN C • 338-3167
3225 DYTTMER LEONARD C • 332-4837
3230 GRIKSCHEIT HENRY W • 335-0800
3259 AWODEY WM L • 334-3460
3260 WALLACE MALCOLM E • 338-8250
3289 HAMRICK SEYMOUR K • 332-1675
3290 WOLFE HENRY C • FE2-0318
3320 DUNLAY ROBT J • 332-5993

3360 MORIARTY JAMES V • 332-0461

3475 ROWSTON WM H • 646-5286

DEVON BROOK DR

1967 Bressers

3014 K L WINGERTER FE26189
3017 ROGER H STINSON 6 3346488
3038 FRANK E GRIFFIN 2 3351570
3041 LAWTON M BLITZ 2 FE83054
3062 MICHAEL MEGREGIAN2 FE86509
3065 DONALD L WELDON 2 FE86420
3091 C BREITMEYER JR 2 FE46450
3110 JOHN W MISTELL 2 FE86564
3121 MICHAEL J MCCARTHY
6 3388517
3134 N BACKALUKAS 6 3354684

3200 CHARLOTTE BENNETT2 FE54821
WILLIAM F BENNETT2 FE54821
3225 L C DYTTMER 5 3324837
3230 ALEX MINIDIS 3322228
3259 JACK V RYAN 2 3358455
3260 RICHARD F TOEPFER2 FE45444

FINDINGS

DEVON BROOK DR

1967 (cont.) Bressers

3290 NP
3320 ROBERT J DUNLAY 3 FE25993

3360 JAMES V MORIARTY 6 3320461

3475 WILLIAM H ROWSTON 6465286

DEVON BROOK DR

1965 Polk Directory Co

3014 Wingerter Kenneth L © FE 2-6189
3017 Roger Stinson H © 334-6488
Hickory Grove rd intersects
3038 Griffin Frank E © 335-1570

3041 Blitz Lawton M © prntr FE 8-3054
3062 Megregian Michl © FE 8-6509
3065 Weldon Donald L © FE 8-6420
3086 Vacant
3091 Breitmeyer Chas jr © FE 4-6450
3110 Mistell John W © FE 8-6564
3121 Smith Glenn B © FE 8-1671
3134 Backalukas Nicholas © FE 5-4684
3200 Bennett Wm F © FE 5-4821
3225 Dyttmer Leonard C © 332-4837
3230 Minidis Alex © FE 5-2228
3259 Ryan Jack V © FE 5-8455
3260 Toepfer Richd F © FE 4-5444
3289 Lionberger Douglas F
3290 Wolfe Henry C ©
3320 Dunlay Robt J © FE 2-5993

3360 Chieger Danl © FE 5-2934

3475 Rowston Wm H © MI 6-5286

DEVON BROOK DR

1962 Bressers

3014 K L WINGERTER FE26189
3017 JACK O HAINES FE48992
3038 FRANK E GRIFFIN -3351570
3041 LAWTON M BLITZ FE83054
3062 MICHAEL MEGREGIAN -FE86509
3065 DONALD L WELDON -FE86420

DEVON BROOK DR

1962 (cont.) Bressers

3110 JOHN W MISTELL -FE86564
3121 GLENN B SMITH -FE81671

3200 CHARLOTTE BENNETT FE54821
WILLIAM F BENNETT FE54821
3225 DAVID J BEATTY FE40044
3230 ALEX MINIDIS MI72499
*MAGNETIC AMPLIFIER MI72499
3259 JACK V RYAN -FE58455
3260 RICHARD F TOEPFER FE45444
3289 G H FRENCH FE51049
3290 HENRY C WOLFE FE42651
3320 ROBERT J DUNLAY -FE25993

3360 DAN CHIEGER FE52934

3475 WILLIAM H ROWSTON MI65286

DEVON BROOK DR

1960 Polk Directory Co

3014 Wingerter Kenneth L © FE2-6189
3017 Haines Jack O © FE4-8992
Hickory Grove rd intersects
3041 Blitz Lawton M © FE8-3504
3065 Weldon Donald L © FE8-6420
3091 Breitmeyer Chas © FE4-6450
3110 Mistell John W © FE8-6564
3121 Smith Glenn B © FE8-1671
3200 Bennett Wm F © FE5-4821
3225 Beatty David J © FE4-0044
3230 Minidis Alex © MI7-2499
3259 Ryan Jack V © FE5-8455
3260 Toepfer Richd F © FE4-5444
3289 French Geo H © FE5-1049
3290 Wolfe Henry C © FE4-2651
3320 Dunlay Robt J © FE2-5993

3360 Chieger Danl © FE5-2934

3475 Rowston Wm H © MI6-5286

FINDINGS

DEVON BROOK DR

1958 Bressers

3320* TERHAAR LUKE FE4 8971

3360 KANIE MITCHELL FE8 3578

DEVON BROOK DR

1957 Bressers

3475 WILLIAM H ROWSTON DM6-5286

DEVON BROOK DR

1956 Polk Directory Co

3475 Vacant

FINDINGS

E RIDGE CT

2024 Cole Information

3021	WILLIAM E STEWART
3023	Mary & Charles A Parkhill
3027	KAREN A JAKUBOWSKI
3029	Alliance Group Prperty Mgt Llc
	Social Climber Llc
	KOSTAN D KOSTOPOULOS
3033	SAYEED MIR

E RIDGE CT

2022 Cole Information

3021	Jennifer Stewart
3029	Fadi H Daouk
3033	Mir Sayeed
3035	Christine Cameron

E RIDGE CT

2017 Cole Information

3019	EMMA SOGOIAN
3023	CHARLES A PARKHILL
3025	ELAINE M HOUSTON
3027	SANDRA D EDDEN
3029	FADI H DAOUK
3031	MARC S BERGER
3033	YUXIANG U ZHOU

E RIDGE CT

2014 Cole Information

3019	EMMA SOGOIAN
3021	JANG O YI
3023	JOSEPHINE PETTINATO

E RIDGE CT

2014 (cont.) Cole Information

3023	CHARLES A PARKHILL
3025	ELAINE M HOUSTON
3027	OCCUPANT UNKNOWN
3031	MARC S BERGER
3035	GREGORY K MONROE

E RIDGE CT

2014 Data Axle

3023	MARY & CHARLES A PARKHILL

E RIDGE CT

2010 Cole Information

3019	EMMA SOGOIAN
3021	JANG O YI
3023	CHARLES A PARKHILL
3025	ANTHONY D CARMAN
3027	MARILYNN A JAKUBOWSKI
3029	WENDY T SCHRADER
3033	BRYAN E LITTLE
3035	EBONY K THOMAS
	THOMAS E HATZ

E RIDGE CT

2005 Cole Information

3019	KALOUST P SOGOIAN
3021	WILLIAM E BOGGS
3023	CHARLES A PARKHILL
3025	Unit 4 ELAINE M HOUSTON
3027	ROBERT J MCDONALD
3029	DONALD M LEONARD

E RIDGE CT

2005 (cont.) Cole Information

3031	Unit 7 MARC BERGER
3035	Unit 9 THOMAS E HATZ

E RIDGE CT

2000 Cole Information

3025	THOMAS J WALL
3027	MCDONALD ROBERT J MD
3029	MARK HUTCHINS

E RIDGE CT

1995 Cole Information

3027	JAKUBOWSKI, KATHY
	MCDONALD, ROBERT J

FINDINGS

E RIDGE RD

1995 Cole Information

3019	OCCUPANT UNKNOWNN
3021	RINKE, RAYMOND
3023	BRUCE E BORDENER & ASSOC
	HICKORY RIDGE CONDOS

FINDINGS

EASTPOINTE LN

2022 Cole Information

3351	Monte L Falcoff

EASTPOINTE LN

2017 Cole Information

3351	MONTE L FALCOFF

EASTPOINTE LN

2014 Cole Information

3351	MONTE L FALCOFF

EASTPOINTE LN

2010 Cole Information

3351	ALI D SHIRKHODA

EASTPOINTE LN

2005 Cole Information

3351	ALI D SHIRKHODA

EASTPOINTE LN

2000 Cole Information

3351	ALI D SHIRKHODA

EASTPOINTE LN

1995 Cole Information

3351	KANE, RONALD

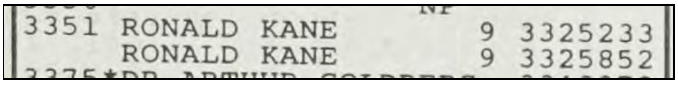
EASTPOINTE LN

1987 Bressers



EASTPOINTE LN

1982 Bressers



FINDINGS

PARK PLACE CT

2024

Cole Information

1051	MARNI E SCOTT
1054	SONAL PATEL
1061	KRISTEN L MESSELIAN
1071	Moores Llc
	STEPHEN F BUFFA
1074	Cooper Investments
1081	LEON M SCHURGIN
	AUDREY H SCHURGIN
1084	ANGELA GEORGE
1091	ASYA BAILEY
1094	ERICA D HOLTON
1104	ALEXANDER J RUSCIANO
	ANTHONY J RUSCIANO
1110	ALBERTINA SIMONE
1120	CAROL J MOORE
1129	Realty Enterprises Inc
	ARLENE E HABER
1130	JOSEPH K KNOLLENBERG
1139	MARIANNE N McBrearty
1140	DAVID J CHINSKY
1149	JOSHUA N ABRAMSON
1150	HARRY S COLBURN
1160	Hsb Properties Llc
	CHARLES CROUCH
1170	JOSEPH J GLAUB

PARK PLACE CT

2022

Cole Information

1051	Marni E Scott
1054	Sonal Patel
1061	Solange Messelian
	Kristen L Messelian
1064	Paul F Hsu
1071	Beverly J Moore
1074	Jeff Dudovitz

PARK PLACE CT

2022 (cont.)

Cole Information

1081	Audrey H Schurgin
	Leon M Schurgin
1084	Angela George
1091	Evelyn C Barnett
1094	NEWMAN GROUP
	Michael A Kus
1101	Vijay K Katukuri
1104	Anthony Rusciano
1110	Albertina Simone
1119	David H Freedman
1120	Carol L Moore
1130	Joseph K Knollenberg
1140	David J Chinsky
1149	Joshua N Abramson
1150	Harry Colburn
1160	David J Blatt
1169	Kimberly A Morley
1170	Robert T Chrysler

PARK PLACE CT

2017

Cole Information

1054	ASHISH VAKHARIYA
1071	MARY E MOORE
1074	COOPER INVESTMENTS
	GERALD M COOPER
1081	ROBERT SCHURGIN
1091	EVELYN C BARNETT
1101	JUNEAU DAVID
1104	ALEXANDER J RUSCIANO
1110	ALBERTINA S SIMONE
1119	JAMIE N JOHNSON
1130	JOSEPH K KNOLLENBERG
1140	LAYNE G COLMAN
1149	MARGARET E STARK
1150	HARRY S COLBURN

FINDINGS

PARK PLACE CT

2017 (cont.) Cole Information

1160	COMMERCIAL PROPERTY SVCS INC
	DAVID J BLATT
1169	KIMBERLY A MORLEY

PARK PLACE CT

2017 Data Axle

1140	DAVID CHINSKY & ASSOC

PARK PLACE CT

2014 Cole Information

1051	MAUREEN D DOHERTY
	SUN BLUE
1054	LISA M LOUGH
1061	NORMAN P MESSELIAN
1064	PAUL F HSU
1071	PAUL T MOORE
1074	GERALD M COOPER
1081	ROBERT SCHURGIN
1091	EVELYN C BAILEY
1094	JOHN C PALMER
1101	OCCUPANT UNKNOWN
1104	ANTHONY J RUSCIANO
1110	ALBERTINA S SIMONE
1119	BLAKE A BRADSHER
1120	ANTHONY L GUCCIARDO
1130	JOSEPH K KNOLLENBERG
1149	MARGARET E STARK
1150	HARRY S COLBURN
1159	SUSAN BUTLER
1160	COMMERCIAL PROPERTY SERVICES INC
	DAVID J BLATT
1169	ANNE D MORLEY
1170	KELLY A GLAUB

PARK PLACE CT

2014 Data Axle

1074	COOPER INVESTMENTS

PARK PLACE CT

2010 Cole Information

1051	SUN BLUE
	SCOTT MARNI
	MAUREEN D DOHERTY
1054	BEATRICE L DILLON
1061	NORMAN P MESSELIAN
1064	PAUL F HSU
1071	PATRICIA MOORE
	PAUL M THOMAS
1074	GERALD M COOPER
1081	LEON M SCHURGIN
1084	DONALD E ROSE
	ROSE DONALD
1091	EVELYN C BARNETT
	EVELYN C BAILEY
1094	CARY W NEWMAN
1101	K JAYAKAR
1104	ANTHONY J RUSCIANO
1110	ALBERTINA S SIMONE
	SAL M VARANO
1119	DAVID W PRITCHARD
1120	ANTHONY L GUCCIARDO
1129	JOEL H HABER
1130	JOSEPH K KNOLLENBERG
1139	JOHN H MCBREARTY
1149	WALTER M STARK
	STARK WALTER
1150	HARRY S COLBURN
1159	SUSAN BUTLER
1160	COMMERCIAL PROPERTY SVC INC
	S B HEDY
	DAVID J BLATT

FINDINGS

PARK PLACE CT

2010 (cont.) Cole Information

1170	BETH M GLAUB

PARK PLACE CT

2005 Cole Information

1051	MAUREEN D DOHERTY
1054	Unit 29 BEATRICE DILLON
1061	Unit 19 NORMAN P MESSELIAN
1064	Unit 28 PAUL F HSU
1071	Unit 20 PATRICIA MOORE
1074	Unit 27 BRAD E COOPER
1084	Unit 26 STEVEN D ZALLA
1091	Unit 22 EVELYN C BARNETT
1094	NEWMAN GROUP
	B & W PRODUCTIONS LLC
	CARY W NEWMAN
1104	Unit 24 ANTHONY J RUSCIANO
1110	ALBERTINA SIMONE
	Unit 36 ALBERTINA VARANO
1119	Unit 35 DAVID W PRITCHARD
1120	Unit 37 ANTHONY L GUCCIARDO
1129	PROFESSIONAL CARPET INSTALLATION
	REALTY ENTERPRISES
	Unit 34 JAMES D FLACK
1130	Unit 38 JOSEPH K KNOLLENBERG
1140	DAVID FOULKES
1149	Unit 32 WALTER M STARK
1150	Unit 40 HARRY S COLBURN
1159	SUSAN BUTLER
1160	DDJ ENTERPRISES INC
	Unit 41 DAVID J BLATT
1169	Unit 30 KENNETH J ROCHLEN
1170	Unit 42 CHRISTOPHER W GLAUB

PARK PLACE CT

2000 Cole Information

1051	RAINNA FURNARIBRAZIL
1054	L D GERALD
1061	PAUL MAZLOUMIAN
1064	MARVIN H WEINTRAUB
1071	JAMES B FITZPATRICK
1074	OLIVER C SLOCUM
1081	CAROLYN PANTAZIDES
1084	STEVEN D ZALLA
1091	EVELYN C BARNETT
1094	CARY NEWMAN
1104	ANTHONY J RUSCIANO
1110	SIMONE ALBERTINA
1119	DAVID W PRITCHARD
1120	ANTHONY L GUCCIARDO
1129	JAMES D FLACK
1130	ERIK T KNOLLENBERG
1140	CYRIL WEINER
1149	CHARLES BECHER
1150	HARRY COLBURN
1159	PAUL SILVERMAN
1160	DAVID J BLATT
1169	ALBERT SCHNEIDER
1170	BETH M GLAUB

PARK PLACE CT

2000 Data Axle

1129	REALTY ENTERPRISES

FINDINGS

W HICKORY GROVE RD

2024 Cole Information

1040	GLENN W FRALEY

W HICKORY GROVE RD

2022 Cole Information

1040	Glenn W Fraley

W HICKORY GROVE RD

2017 Cole Information

1040	GLENN W FRALEY

W HICKORY GROVE RD

2014 Cole Information

1040	JOHANNA M WIGGINS

W HICKORY GROVE RD

2005 Cole Information

1040	JANICE R GRZYWA

W HICKORY GROVE RD

1995 Cole Information

1040	OCCUPANT UNKNOWNN

W HICKORY GROVE RD

1992 Cole Information

1001	MONTAGNE, G
1005	GANNON, HELEN G
1006	RICKARDS, JOHN E
	GALVIN, V A
1007	VOUHARAAS, H
1008	STOCKWELL, ISABEL
	DUNNING, A L
1040	ROBISCH, TIMOTHY

W HICKORY GROVE RD

1987 Bressers



W HICKORY GROVE RD

1982 Bressers



W HICKORY GROVE RD

1958 Bressers



FINDINGS

W RIDGE CT

2024 Cole Information

3018	MARILYN H MEIER
3020	GERALD O BRODY
3022	Anne & Martin Welch Char Fdn
	MARTIN E WELCH
	ANNE M WELCH
3024	Bethany Helfman Psyd
	SHUSHTARI SAHAR
3026	STEVEN M KHOURY
	CAROLE A CITRON
3028	FRANK M JERNEYCIC
	DANIEL J JERNEYCIC
3030	ALEXANDER W JOSS
3032	HABIB P MAMOU
3034	Aaa Commerce Llc
	ANASTASIA E MCKENDRICK
	ANDRIANNA M MCKENDRICK
3036	ROBERT S MEYER
	TIMOTHY R MEYER
	JONATHAN T MEYER

W RIDGE CT

2022 Cole Information

3018	Marilyn H Meier
3020	Gerald O Brody
3024	HELFMAN & ASSOC PC
	Sahar Shushtari
3028	Daniel J Jerneycic
	Frank M Jerneycic
3032	Habib P Mamou
3034	
	Andrianna M McKendrick
3036	Rebekah Meyer
	Timothy R Meyer

W RIDGE CT

2017 Cole Information

3018	DONALD A MEIER
3020	GERALD O BRODY
3024	BETHANY HELFMAN PSYD
	SETH M HELFMAN
3026	SILVER LAKE ASSOC HARRISVILLE
	MALCOLM S MACDONALD
3030	BERNARD I ROBERTSON
3032	HABIB P MAMOU
3034	ARTCRAFT NG LLC
3036	TIMOTHY R MEYER

W RIDGE CT

2014 Cole Information

3018	DONALD A MEIER
3020	CLAUDE O OSTER
	GERALD O BRODY
3026	GARY J CLOUTIER
	MALCOLM S MACDONALD
3028	MAUREEN D JERNEYCIC
3030	OCCUPANT UNKNOWN
3032	ROBERT THEWES
3034	BLAIR T MCKENDRICK
3036	TIMOTHY R MEYER

W RIDGE CT

2010 Cole Information

3018	DONALD A MEIER
3022	BRIAN R WELCH
3024	BEATRICE A PALMER
3032	ROBERT THEWES
3034	MCKENDRICK BLAIR
	BLAIR T MCKENDRICK
3036	TIMOTHY MEYER

FINDINGS

W RIDGE CT

2005 Cole Information

3018	Unit 19 DONALD A MEIER
3022	SUMMITVIEW LLC
	Unit 17 JAMES M WELCH
3024	RICHARD F PALMER
3026	Unit 15 GARY J CLOUTIER
3028	Unit 14 FRANK M JERNEYCIC
3030	Unit 13 BERNARD I ROBERTSON
3032	Unit 12 ROBERT THEWES
3034	Unit 11 BLAIR T MCKENDRICK
3036	DAVID A GOLDENBERG

W RIDGE CT

2000 Cole Information

3030	BERNARD I ROBERTSON

FINDINGS

W RIDGE RD

1995 Cole Information

3023	BORDENER REALTY
	OAKLAND SOLID SURFACE

3325 Franklin Rd

3325 Franklin Rd

Bloomfield Hills, MI 48302

Inquiry Number: 8305563.4

April 07, 2026

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

04/07/26

Site Name:

3325 Franklin Rd
3325 Franklin Rd
Bloomfield Hills, MI 48302
EDR Inquiry # 8305563.4

Client Name:

Applied Science & Technology
10448 Citation Drive
Brighton, MI 48116
Contact: Alyssa Celano

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Applied Science & Technology were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA
Project: P26-0481.00

Coordinates:

Latitude:	42.591903 42° 35' 31" North
Longitude:	-83.284196 -83° 17' 3" West
UTM Zone:	Zone 17 North
UTM X Meters:	312587.29
UTM Y Meters:	4718026.90
Elevation:	929.30' above sea level

Maps Provided:

2023	1952
2019	1943
2017	1936
2014	1907
1997	
1983	
1973	
1968	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2023 Source Sheets



Pontiac South
2023
7.5-minute, 24000



Birmingham
2023
7.5-minute, 24000

2019 Source Sheets



Pontiac South
2019
7.5-minute, 24000

2017 Source Sheets



Pontiac South
2017
7.5-minute, 24000

2014 Source Sheets

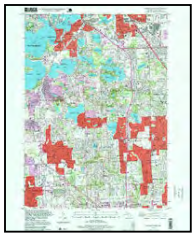


Pontiac South
2014
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1997 Source Sheets



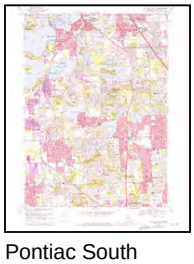
Pontiac South
1997
7.5-minute, 24000
Aerial Photo Revised 1997

1983 Source Sheets



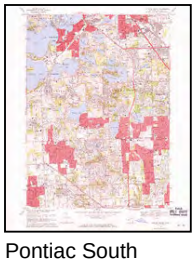
Pontiac South
1983
7.5-minute, 24000
Aerial Photo Revised 1982

1973 Source Sheets



Pontiac South
1973
7.5-minute, 24000
Aerial Photo Revised 1973

1968 Source Sheets

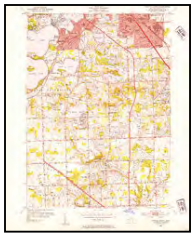


Pontiac South
1968
7.5-minute, 24000
Aerial Photo Revised 1967

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1952 Source Sheets



Pontiac South
1952
7.5-minute, 24000

1943 Source Sheets



Pontiac South
1943
7.5-minute, 24000

1936 Source Sheets



Pontiac South
1936
7.5-minute, 31680

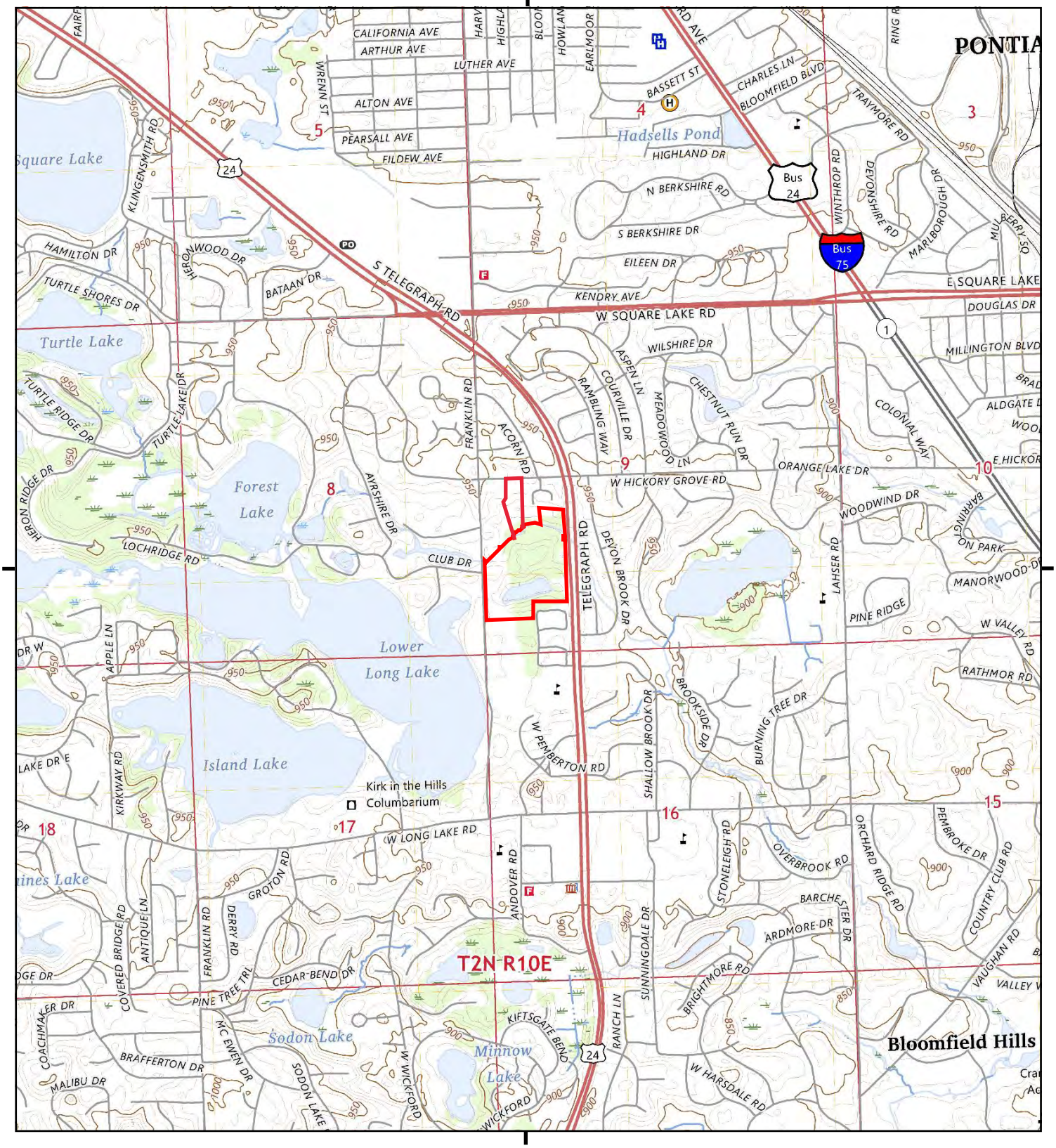
1907 Source Sheets



Pontiac
1907
15-minute, 62500

Historical Topo Map

2023



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pontiac South, 2023, 7.5-minute
E, Birmingham, 2023, 7.5-minute

SITE NAME: 3325 Franklin Rd
ADDRESS: 3325 Franklin Rd
Bloomfield Hills, MI 48302
CLIENT: Applied Science & Technology

N

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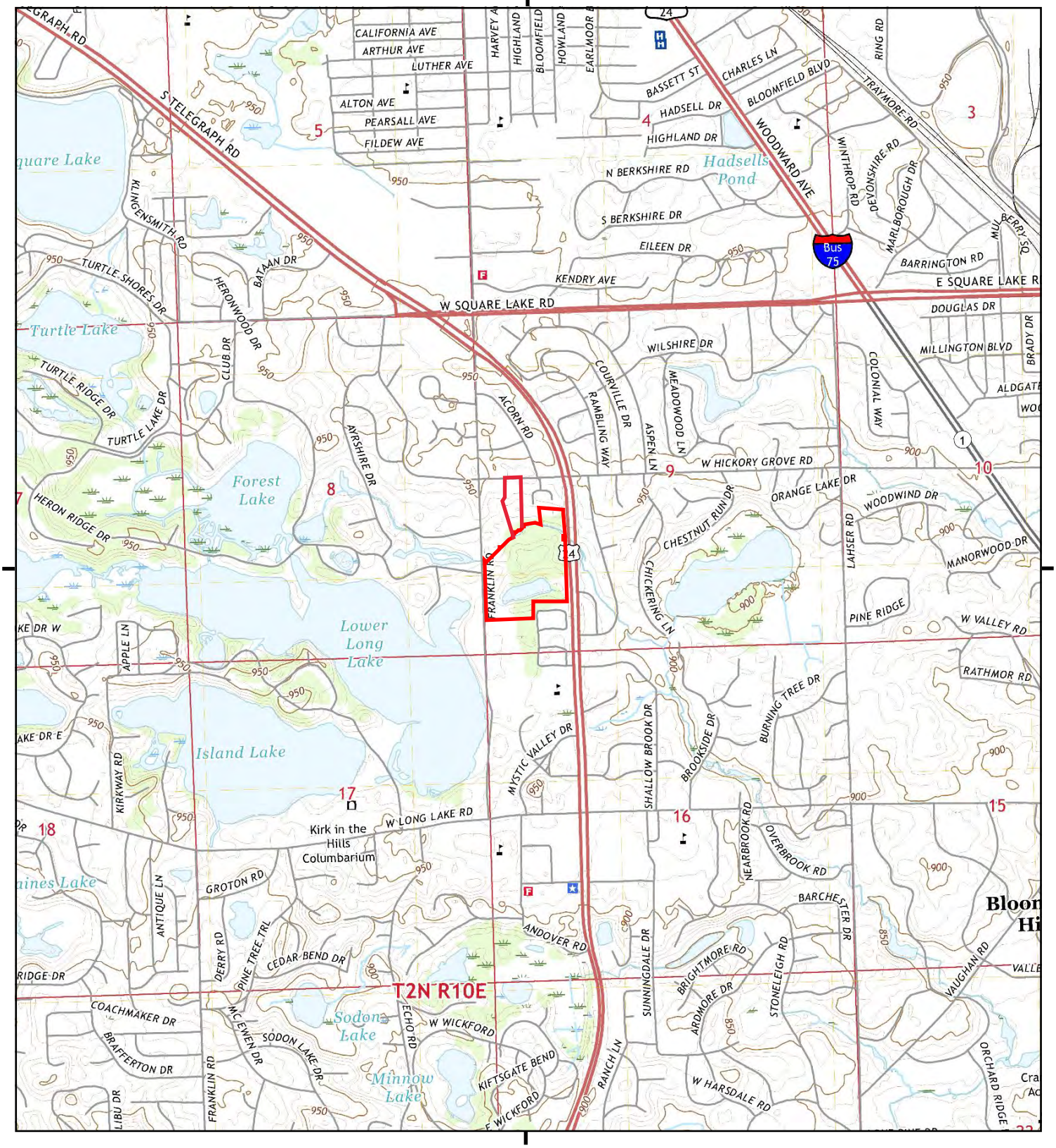
Historical Topo Map

2019



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pontiac South, 2019, 7.5-minute

SITE NAME: 3325 Franklin Rd
ADDRESS: 3325 Franklin Rd
Bloomfield Hills, MI 48302
CLIENT: Applied Science & Technology

N

8305563 - 4 page 7



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pontiac South, 2017, 7.5-minute

SITE NAME: 3325 Franklin Rd
ADDRESS: 3325 Franklin Rd
Bloomfield Hills, MI 48302
CLIENT: Applied Science & Technology

N

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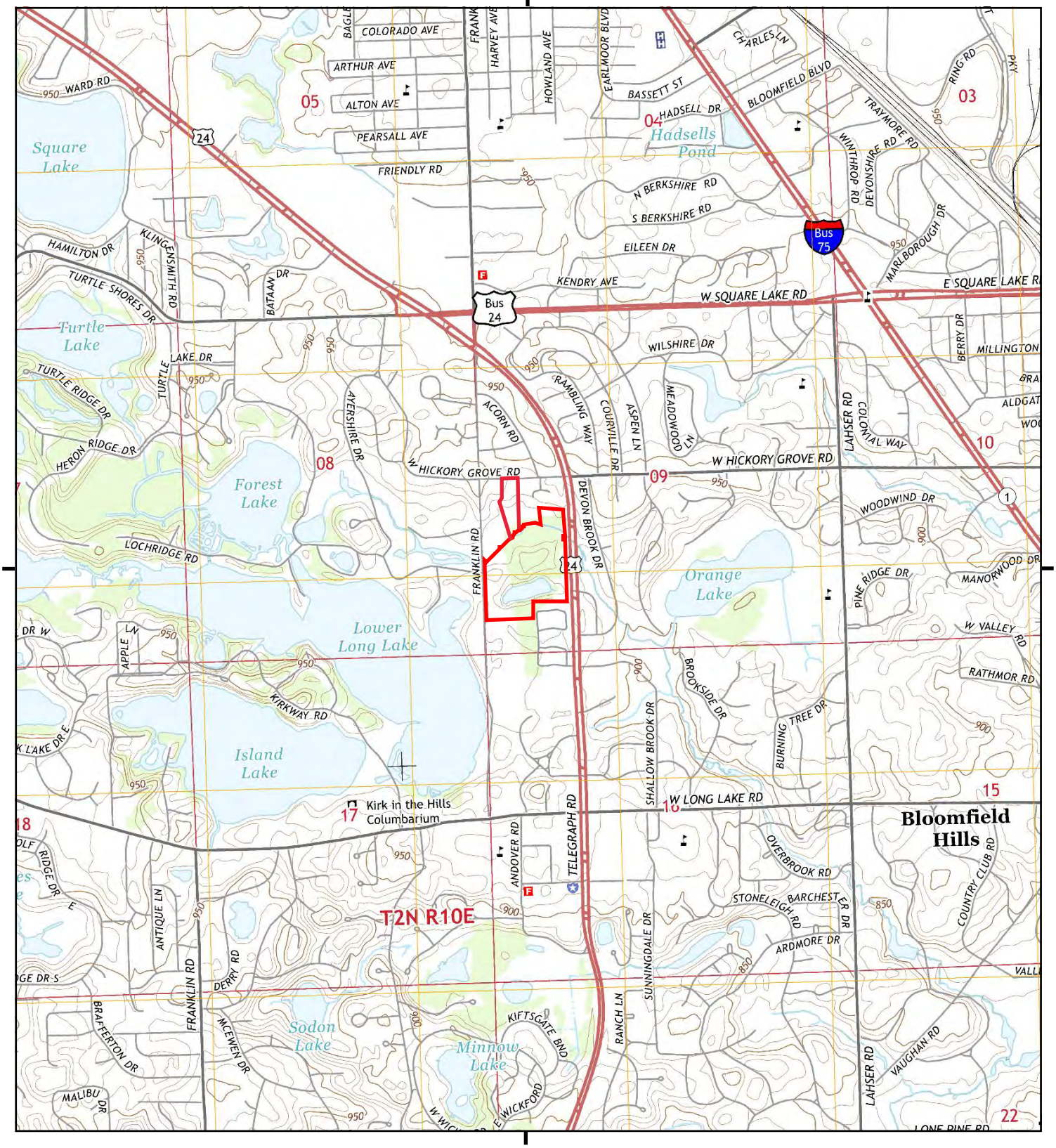
Historical Topo Map

2014



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pontiac South, 2014, 7.5-minute

SITE NAME: 3325 Franklin Rd
ADDRESS: 3325 Franklin Rd
Bloomfield Hills, MI 48302
CLIENT: Applied Science & Technology

N

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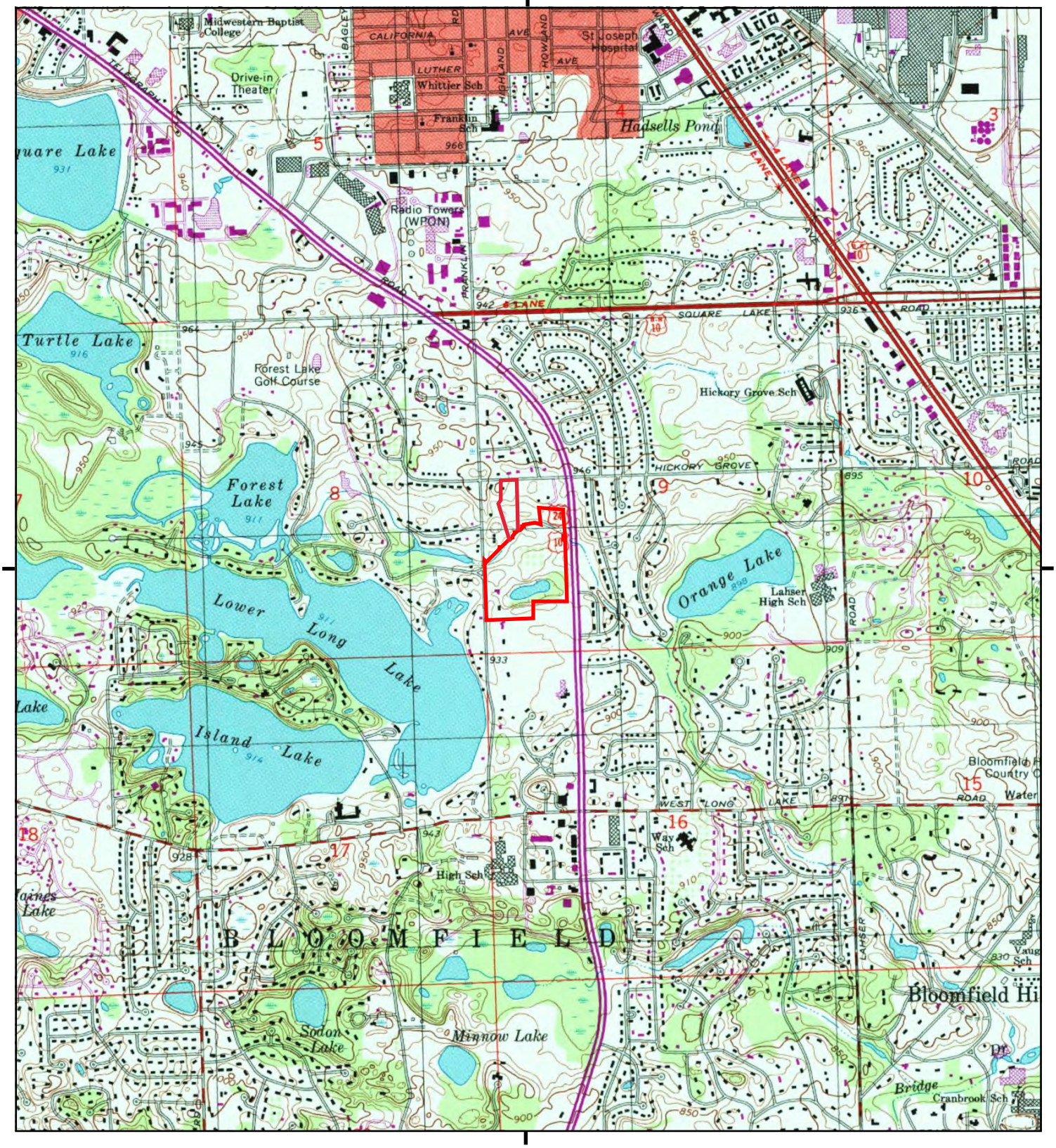
Historical Topo Map

1997



This report includes information from the following map sheet(s).

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NW N NE
W E
SW S SE

TP, Pontiac South, 1997, 7.5-minute

SITE NAME: 3325 Franklin Rd
ADDRESS: 3325 Franklin Rd
Bloomfield Hills, MI 48302
CLIENT: Applied Science & Technology

N

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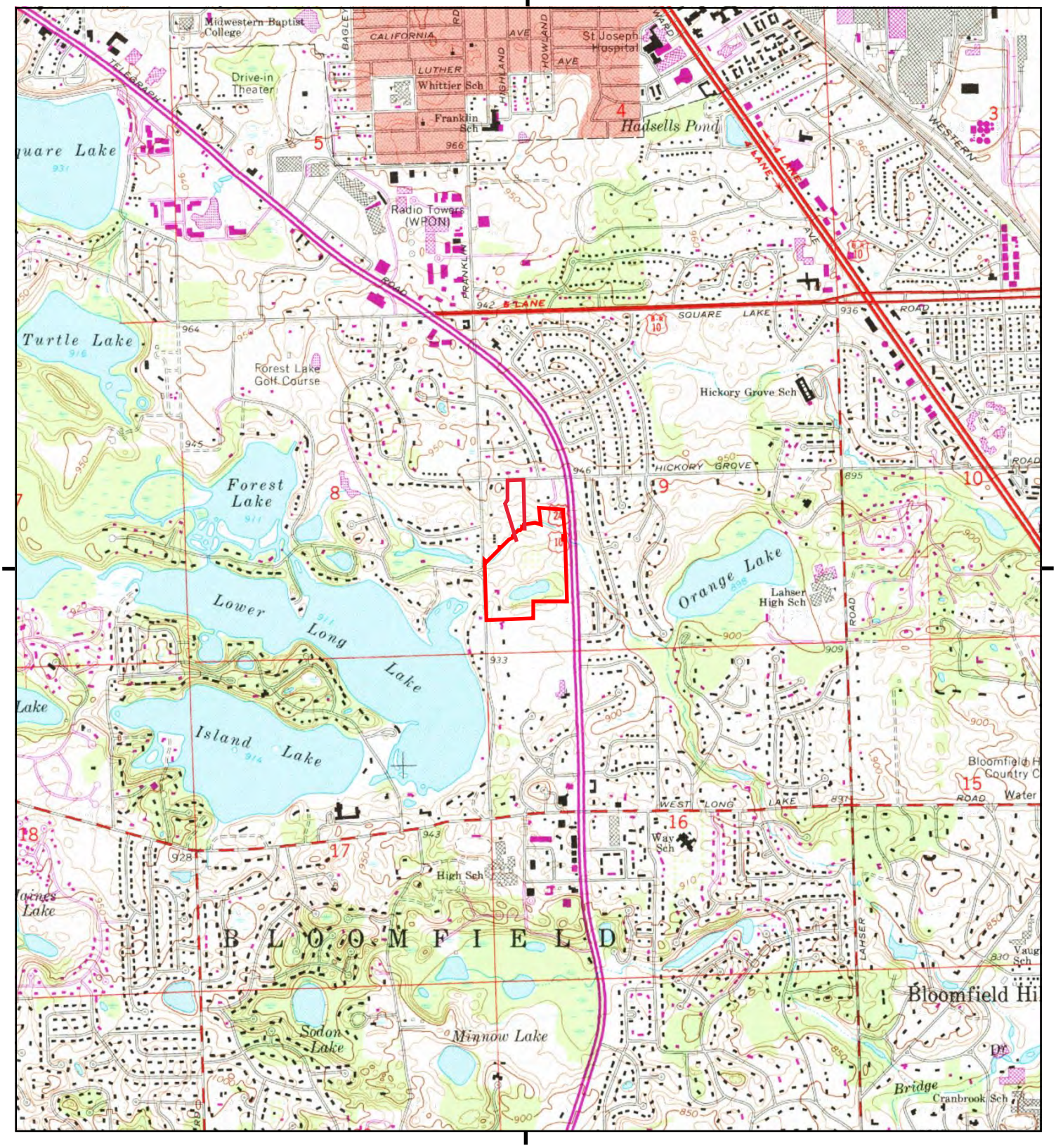
Historical Topo Map

1983



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pontiac South, 1983, 7.5-minute

SITE NAME: 3325 Franklin Rd
ADDRESS: 3325 Franklin Rd
Bloomfield Hills, MI 48302
CLIENT: Applied Science & Technology

N

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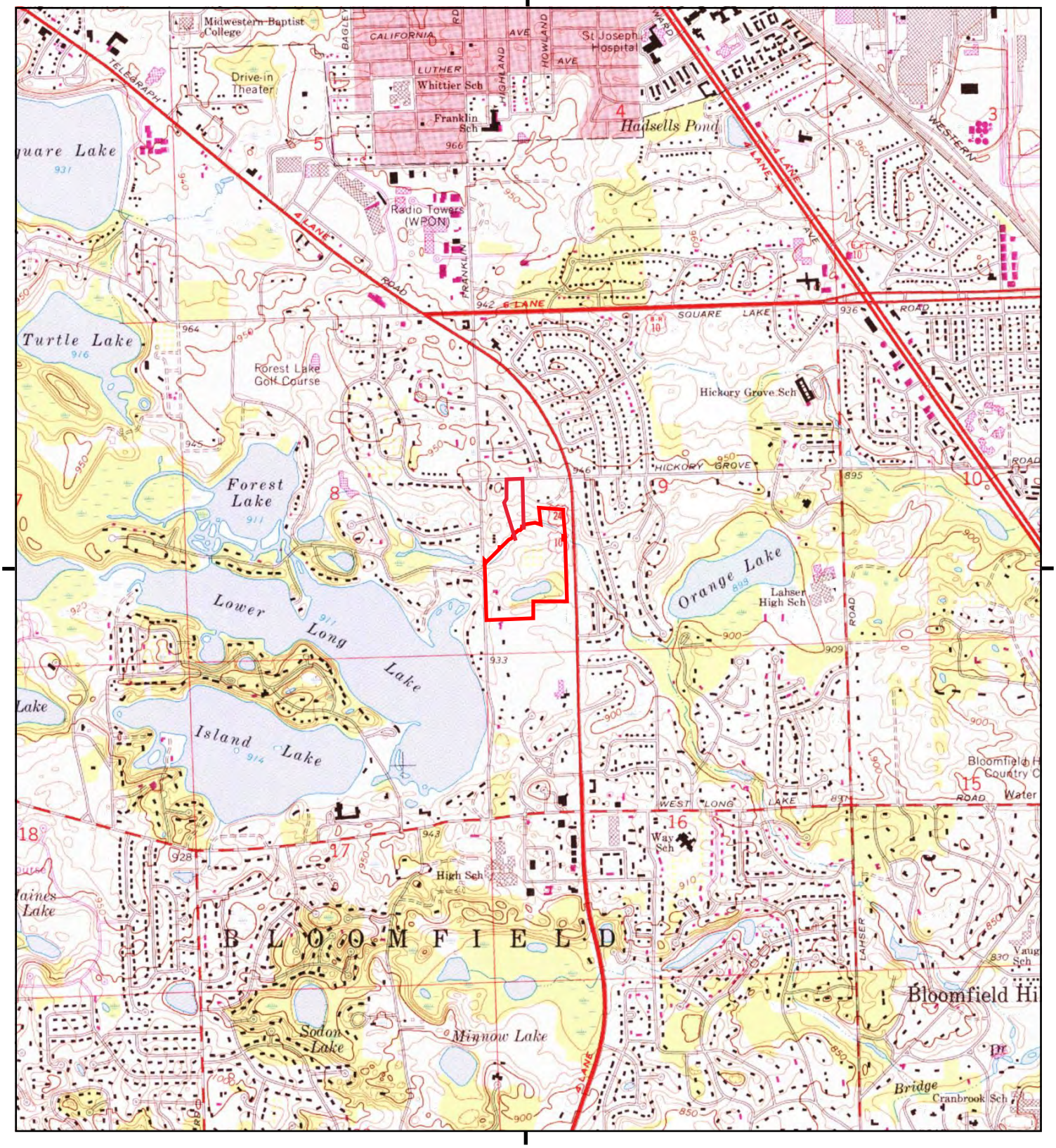

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pontiac South, 1973, 7.5-minute

SITE NAME: 3325 Franklin Rd
ADDRESS: 3325 Franklin Rd
Bloomfield Hills, MI 48302
CLIENT: Applied Science & Technology

N

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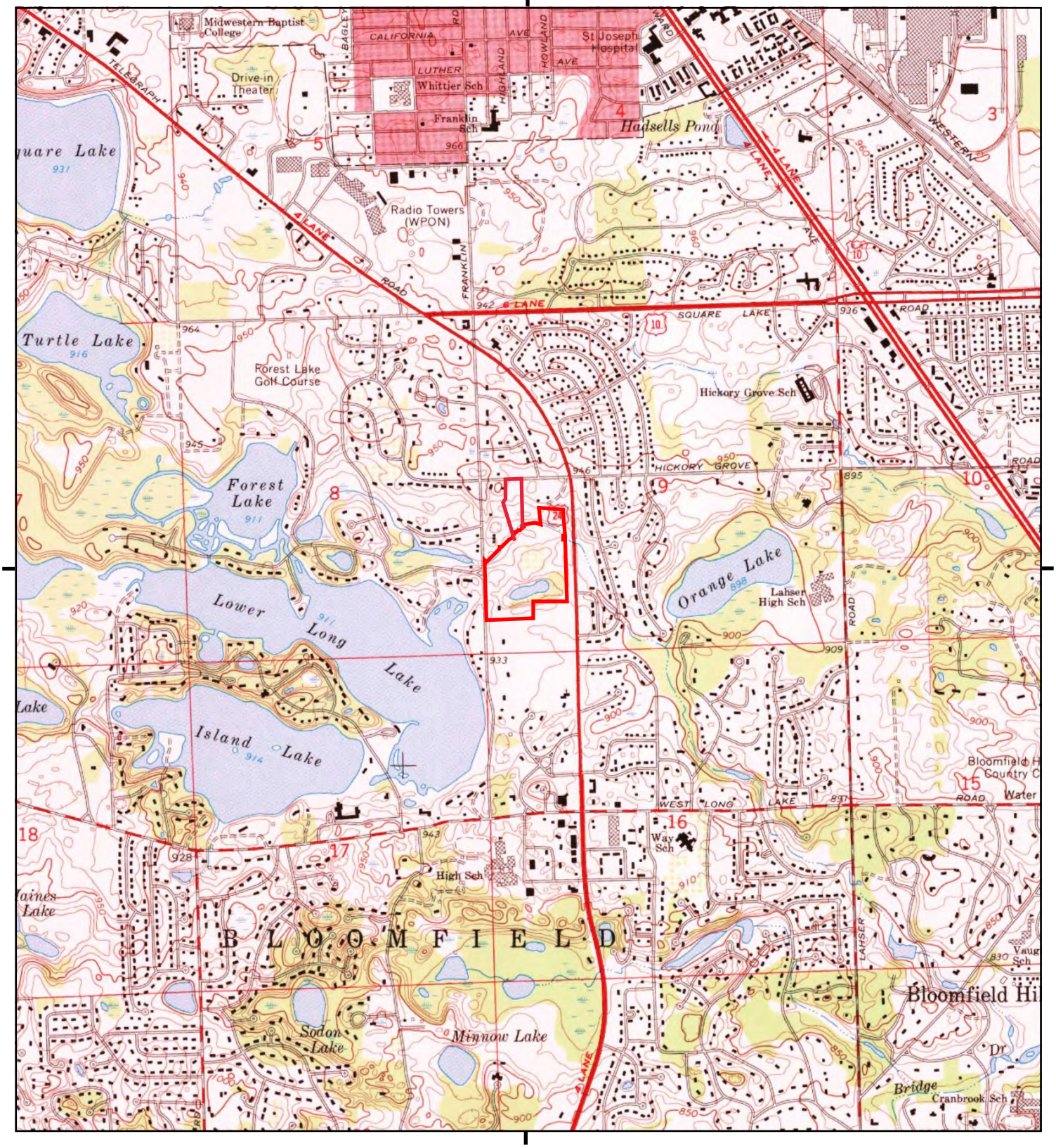

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pontiac South, 1968, 7.5-minute

SITE NAME: 3325 Franklin Rd
ADDRESS: 3325 Franklin Rd
Bloomfield Hills, MI 48302
CLIENT: Applied Science & Technology

N

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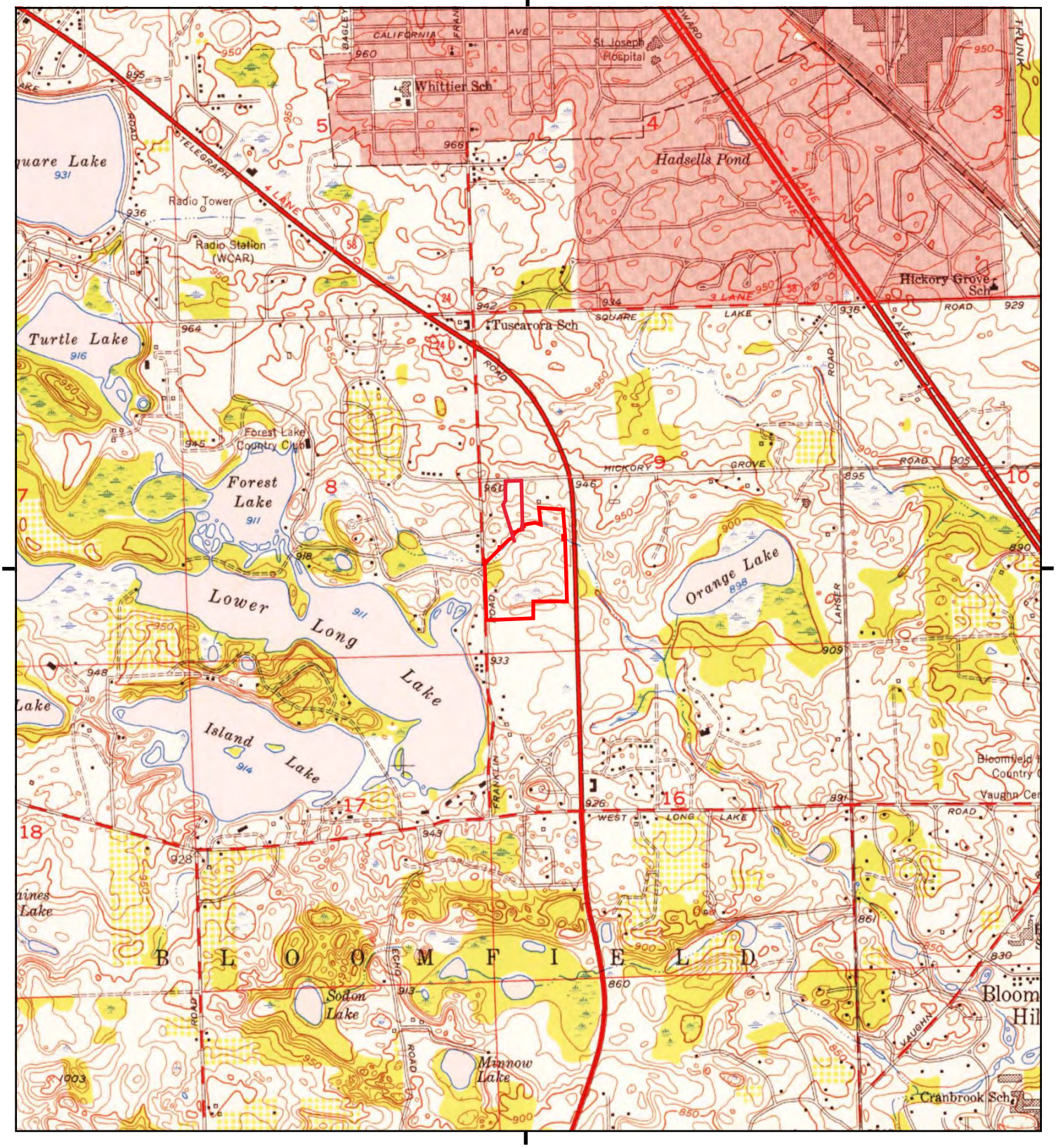
Historical Topo Map

1952



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

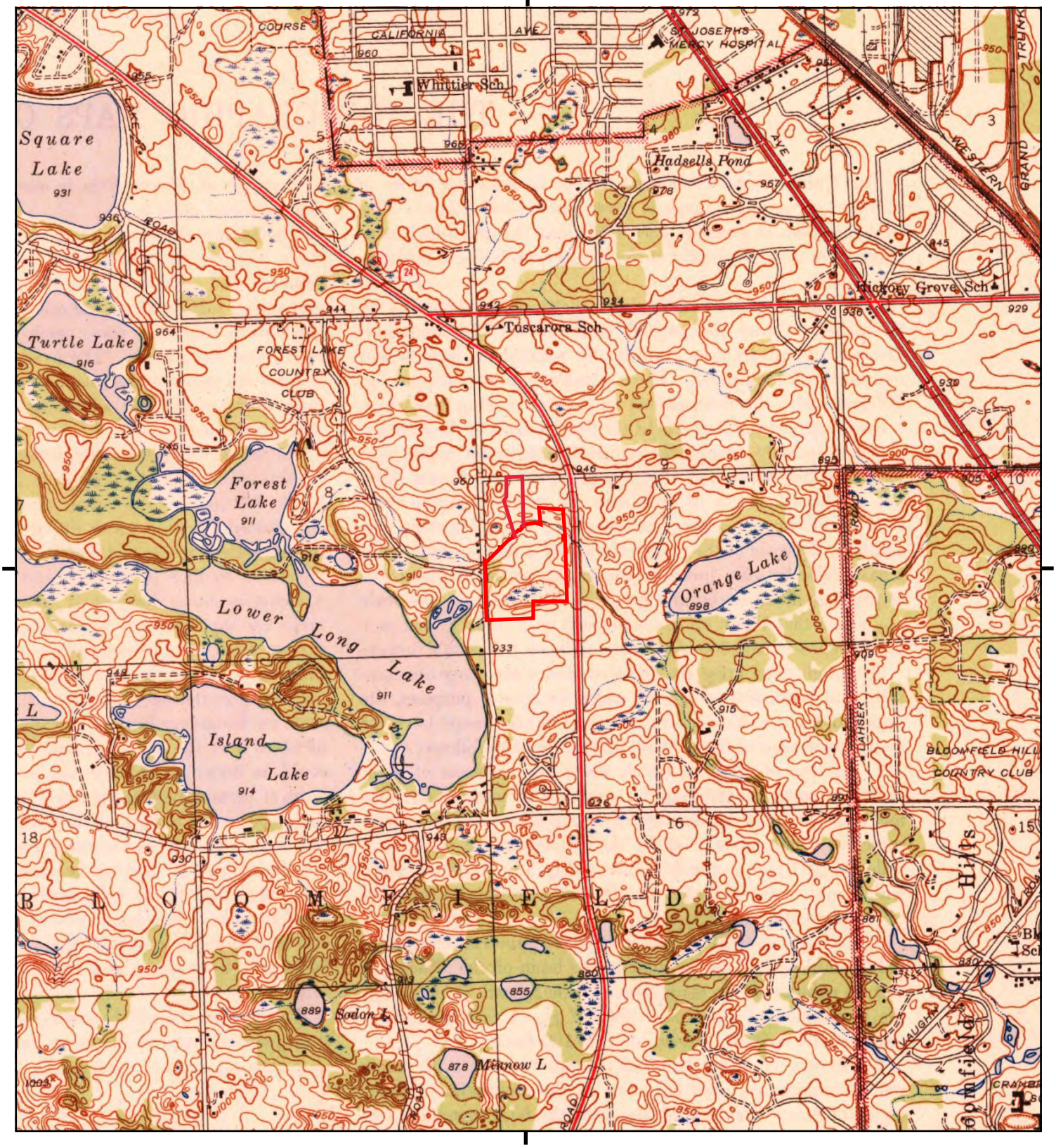
NW N NE
W E
SW S SE

TP, Pontiac South, 1952, 7.5-minute

SITE NAME: 3325 Franklin Rd
ADDRESS: 3325 Franklin Rd
Bloomfield Hills, MI 48302
CLIENT: Applied Science & Technology

N

8305563 - 4 page 14



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pontiac South, 1943, 7.5-minute

SITE NAME: 3325 Franklin Rd
ADDRESS: 3325 Franklin Rd
Bloomfield Hills, MI 48302
CLIENT: Applied Science & Technology

N

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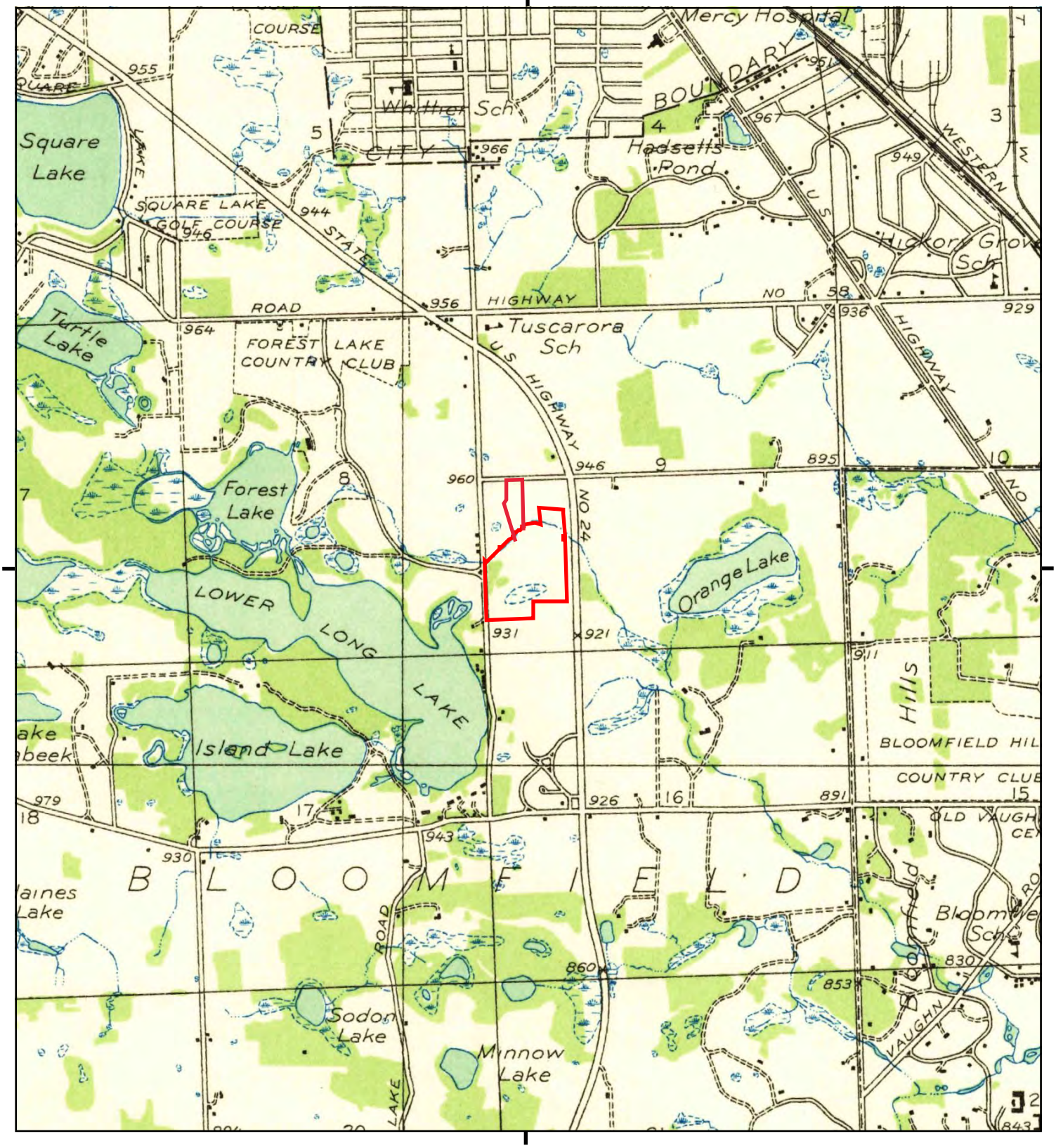

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pontiac South, 1936, 7.5-minute

SITE NAME: 3325 Franklin Rd
ADDRESS: 3325 Franklin Rd
Bloomfield Hills, MI 48302
CLIENT: Applied Science & Technology

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pontiac, 1907, 15-minute

SITE NAME: 3325 Franklin Rd
ADDRESS: 3325 Franklin Rd
Bloomfield Hills, MI 48302
CLIENT: Applied Science & Technology

N

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APPENDIX F

Qualifications
Resumes

Bailey Bishop

Environmental Technician

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP



Bailey Bishop is an environmental technician at ASTI Environmental, specializing in Hydrology, Geomorphology, GIS, and AQTESOLV. She supports Phase I Environmental Site Assessments (ESAs) across Michigan and Indiana, conducting site inspections, initiating projects, and preparing reports for various property types. In addition, Bailey reviews municipal and county Freedom of Information Act documents to ensure compliance.

Beyond Phase I work, Bailey is skilled in Phase II ESA investigations, including soil and water sampling, overseeing drillers, and conducting hydrological studies. Her technical expertise ensures thorough and accurate assessments, supporting project success.

Education

Eastern Michigan University, BS in Environmental Science, 2024

Washtenaw Community College, Associate in Environmental Science, 2022

Years of Practice

2023-Present

Certifications

40-Hour OSHA HAZWOPER Training and Annual Refreshers

Select Project Experience

Phase I Environmental Site Assessments, Livingston, Washtenaw, Jackson, Wayne, Oakland, Macomb, Genessee, Hillsdale, Kent, Ottawa, Van Buren, Allegan, St. Joseph, Cheboygan, Muskeogon, Grand Traverse, and Leelanau Counties, MI, and Elkhart County, IN

Phase II Environmental Site Assessments, Livingston, Washtenaw, Jackson, Wayne, and Oakland Counties, MI

Lead Inspection Assistance, Flint, MI

Hydrological Investigation, Bruce Township, MI

Per- and Polyfluoroalkyl Substances Ground Water Sampling, Farmington Hills, MI

Anthony Spencer

Project Manager

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP



Anthony Spencer brings nearly 15 years of experience in Phase I and Phase II Environmental Site Assessments. He has worked on a variety of projects across Michigan, Ohio, Kentucky, Oklahoma, Pennsylvania, and North Carolina, including residential, commercial, and industrial sites. His portfolio features assessments for apartment complexes, shopping plazas, and auto dealerships.

Anthony's comprehensive evaluations encompass site inspections, historical research, interactions with federal, state, and local agencies, subsurface sampling, geophysical surveys, and underground tank closures.

Education

Wayne State University, BS in Environmental Science, Minor in Geology, 2011

Years of Practice

2010-Present

Certifications

EPA Environmental Professional: ASTM Practice, E1527-21

40-Hour OSHA HAZWOPER Training and Annual Refreshers

Select Project Experience

Vacant Land Due Diligence and Site Assessments, Multiple Locations, MI

Agricultural Due Diligence and Site Assessments, Multiple Locations, MI

Residential Due Diligence and Site Assessments, Multiple Locations, MI

Commercial Due Diligence and Site Assessments, Multiple Locations, MI

Industrial Due Diligence and Site Assessments, Multiple Locations, MI

Phase I ESA, Multi-Family Building, Detroit, MI

Phase I ESA, Historic Apartment Buildings, HUD Choice Neighborhood Initiative, Detroit, MI

Phase I ESA, 53-Unit, 2-Story Apartment Building, Detroit MI

Phase I ESA, Multi-Family Building, Pontiac, MI

Phase I ESA, Coil Wire Plant, Warren, MI

Phase I ESA, Metal Stamping Plant, Madison Heights, MI

Phase I ESA, Marina, Boyne City, MI

Phase II ESA, Mixed-Use Site, Detroit, MI

Phase II ESA, Commercial Site, Marshall, MI

Phase II ESA, Commercial Site, Pontiac, MI

Phase II ESA, Residential Site, Detroit, MI

Phase II ESA, Sanitary System Sampling for PFAS Investigation, Oakland County Water Resources Commission, Oakland County, MI

Description of Landowner Liability Protections for All Appropriate Inquiry and User Continuing Obligations

In order to maintain a LLP, landowners must also comply with pre-acquisition and post-acquisition requirements under CERCLA and All Appropriate Inquiry. A summary of each LLP is provided below.

Innocent Landowner Defense (ILO): The defendant did not know and had no reason to know of the hazardous substance with respect to the Subject Property and must show that All Appropriate Inquiries into the past ownership and uses of the property in accordance with generally good commercial and customary standards and practices. All Appropriate Inquiries cannot result in knowledge of contamination.

Post- Acquisition Obligations

1. Cooperate, assist, and provide access to persons that are authorized to conduct response actions or natural resource restoration at the property.
2. Comply with any land use restrictions established or relied on in connection with the response action at a vessel or facility.
3. Must not impede on the effectiveness or integrity of any institutional control employed at the vessel or facility in connection with a response action.
4. Take reasonable steps to 1) stop any continuing release, 2) prevent any threatened future release, and 3) prevent or limit any human, environmental, or natural resources exposure to any previously released hazardous substance.

Bona Fide Prospective Purchaser (BFPP): Allows a purchaser to acquire a property with knowledge that it is contaminated. This applies to purchasers (and their tenants) that acquire ownership of a facility after January 11, 2002. To qualify, prior to acquiring title, a person must show 1) that all disposal of hazardous substances at the facility occurred before the person acquired the facility, 2) conducted All Appropriate Inquiry, and 3) the person is not a Potentially Responsible Party (PRP) or affiliated with any other PRP for the property through any direct or indirect familial relationship, any contractual, corporate or financial relationship or as a result of a reorganization of a business entity that was a PRP.

Post- Acquisition Obligations

1. Provide all legally required notices with respect to the discovery or release of any hazardous substances at the facility.
2. Exercise appropriate care with respect to hazardous substances by taking reasonable steps to stop any continuing release; prevent any threatened future release; and prevent or limit human, environmental, or natural resource exposure to any previously released hazardous substance.
3. Provide full cooperation, assistance, and access to persons who are authorized to conduct response actions or natural resource restoration (including the cooperation and access necessary for the installation, integrity, and maintenance of any complete or partial response actions or natural resource restoration).
4. Comply with any land use restrictions established or relied on in connection with the response action, and not impede the effectiveness or integrity of any institutional control employed at the vessel or facility in connection with a response action.
5. Comply with any request for information or administrative subpoena issues under CERCLA.

Explanation of LLPs and User Continuing Obligations Continued

Contiguous Property Owner (CPO): A CPO must not know or have reason to know following performance of All Appropriate Inquiries that their property was or could be contaminated by the adjacent or contiguous real property. The property owner must show that they did not cause, contribute, or consent to the release and is not a PRP or affiliated with any other PRP, and conducted All Appropriate Inquiries.

Post- Acquisition Obligations

1. Take reasonable steps to 1) stop any continuing release, 2) prevent any threatened future release, and 3) prevent or limit any human, environmental, or natural resources exposure to any previously released hazardous substance.
2. Provide full cooperation, assistance, and access to persons who are authorized to conduct response actions or natural resource restoration (including the cooperation and access necessary for the installation, integrity, and maintenance of any complete or partial response actions or natural resource restoration).
3. Comply with any land use restrictions established or relied on in connection with the response action at the facility.
4. Not impede the effectiveness or integrity of any institutional control employed in connection with a response action.
5. Comply with any request for information or administrative subpoena issues under CERCLA.
6. Provide all legally required notices with respect to the discovery or release of any hazardous substances at the facility.

ASTI ENVIRONMENTAL

A DIVISION OF PEA GROUP

Our services include:

- Asbestos, Lead, Mold, and Radon Assessments
- Brownfield/Greyfield Redevelopment Assistance
- Development Incentives and Grant Management
- Ecological Assessments and Restoration
- Environmental Assessments and Impact Statements
- Environmental Opportunities Assessment
- GIS Mapping
- Hazard Mitigation Planning
- Mining and Reclamation Assistance
- Phase I ESA and Environmental Due Diligence Assessments
- Regulatory Compliance and Permitting
- Remediation Implementation, Operation, and Maintenance
- Soil and Groundwater Assessments
- Soil and Groundwater Remediation
- Storage Tank Compliance and Closure
- Stream Assessments and Mitigation Design
- Threatened and Endangered Species Surveys
- Tree Surveys
- Watershed and Stormwater Management Programs
- Wetland Delineation, Permitting, Mitigation, and Banking

For a full list of services, visit our website: www.asti-env.com

800.395.2784 ■ WWW.ASTI-ENV.COM ■ ENVIRONMENTAL@ASTI-ENV.COM

Dan Badgley JNC Land Management Ecological Restoration 2023

BO-E02

Source Record

JNC Land Management Ecological Restoration_created 2023 Dan Badgley.docx

Review Context

Dated ecological management baseline; current status required

Reproduced source pages: 15
Appendix source-page range: 767–781

Open Source Record in Google Drive

JNC Property Management Zones

Zone #1-Thicket, scattered trees.
West border along Franklin Rd. north of parking lot/east border Warbler Loop trail
North border stream/south border parking lot

- Special species to protect-misc. native spring wildflowers near parking lot
- Aesthetics to protect-Protect habitat of Warbler Loop trail. Always screen Franklin Rd./screen parking lot/protect habitat near stream.
- Suggested Improvements- Slow removal of limited buckthorn and immediate replacement with native trees/shrubs/forbs.

Zone #2-Some thicket, newly planted forest restoration, vernal pond.
North border Streamside Trail/South border west end Fox Ridge Trail/east border along Fox Ridge trail/west border along mowed meadow and Stream Trail down to stream

- Special species to protect-many species of trees/shrubs planted in 2018-19 at bottom of hill parallel to stream. Some native forbs also moving into that space.
- Aesthetics to protect-the south part of this zone visually separates the Fox Ridge Trail from the mowed meadow. That should be maintained. A buffer of vegetation should always be maintained near the stream. Cover should be maintained in/around vernal pond.
- Suggested improvements- A slow, limited removal of buckthorn and immediate replacement with native trees/shrubs. Continue to monitor new trees/shrubs, maintain cages as long as needed/remove invasive plants in the newly planted area.

Zone #3- A very large zone, half prairie, half thicket including "wet thicket-formally old orchard".
North border stream prairie and Stream Trail/South border an E-W Line between F.R. and C.P. Trails. East border Cottontail Pass Trail/West border Fox Ridge Trail and tower prairie.

- Special species to protect- all the native prairie species that have been introduced need monitoring and managed (fire/hand pulling/top seeding/ etc.)
- Aesthetics to protect-This zone visually separates the Fox Ridge and Cottontail Pass Trails. That visual barrier needs to be maintained.
- Suggested improvements-A limited buckthorn removal could take place near the intersection of Stream Trail and Cottontail Pass with immediate replacement using native trees/shrubs. The wet thicket is valuable spring bird habitat.

Zone #4-The largest zone, some thicket, planted evergreens, some native hardwoods.
North border Sugar Maple Loop/East border Telegraph Rd./South border the sugar bush/West border Sugar Maple Loop, Cottontail Pass, and Schrot prairie.

- Special species to protect-Native Oaks and hickories and other native trees.
- Aesthetics to protect-This zone provides a vital visual barrier along Telegraph Rd.
- Suggested improvements-EXTREMELY LIMITED removal of buckthorn with native species replacement. A mix of evergreens and hardwoods. Introduce native spring forbs, ferns. Etc.

Zone #5-Mix of evergreens planted by Olsen's and a few hickory.
formerly SW corner of property/North border is the south driveway and owl cage area/East border pond/South border old Bowers prop. Line/West border Franklin Rd.

- Special species to protect-there are some native wildflowers spread throughout, a few tamarack growing near the pond, spice bush near the shed.
  The trees in this zone provide cover for wild owls to roost near the owl cage.
- Aesthetics to protect-the trees along Franklin Rd. provide a visual barrier for the Owl Loop Trail.
- Suggested Improvements-carefully remove garlic mustard and any other invasive weed, maintain tree cover, consider adding new trees if sufficient sunlight, manage as a forest.

Zone #6-Mix of white pine, jack pine, and some hardwoods, limited native shrubs & buckthorn

The upland area between the cabin trail south to the top of the hill overlooking pond. The North border is the Cabin Trail/East border cabin steps to pond/South border the top of the hill overlooking pond/West border the un-named trail that connects cabin and pond trails.

- Special species to protect-there are few jack pine on the property, this is one of the places. Some native shrubs were planted in this zone in early 2000's. The tall white pines will probably live several more years.
- Aesthetics to protect- Visitors have always enjoyed walking under the white pine canopy.
- Suggested improvements-retain the white pines as long as possible, remove scattered buckthorn without losing visual cover between Cabin Trail and pond.

Zone #7-Mix of sugar maple along north border, jack pine and buckthorn thicket in center area, large stand of black locust trees near Telegraph and south border, a mix of other native hardwoods near south border. A vernal wet area is in the center.

The southeast corner of the property (Locust Trail area)/North border is the sugar bush/East border Telegraph Rd./South border the fence line along condo's/West border Pond trail.

•Special species to protect-all native trees, especially sugar maple and jack pine.
•Aesthetics to protect-this zone is a very important buffer along Telegraph Rd. and the south border near the condominiums. Any removal of buckthorn or other invasives needs to protect that visual barrier.
•Suggested improvements-some limited buckthorn removal could occur with native replacement. Some sugar maple may spread south into the area from existing sugar bush.

Zone #8- Mixed forest surrounding deer pen and hawk cage area. Remnants of a Red Pine stand planted by Olsen family.

North border Stream Trail/East border mowed meadow/South border Cabin Trail/West border beginning of Stream Trail.

•Special species to protect-there are some native wildflowers along the west border. The trees on north side of deer pen were planted recently. There are some young shagbark hickory mixed with the pines.
•Aesthetics to protect- Maintain a diverse tree stand around the deer pen so that it blends in with the surroundings, looking natural rather than like a "pen".
•Suggested improvements-as the red pines continue to die, replace with new trees as sunlight conditions allow. Maintain the hickory and any other hardwoods growing there.

Zone #9-A mixed evergreen stand with some hardwoods present.

Across from deer pen, includes outdoor classroom/North border Cabin Trail/East border the trail that connects Pond Trail with Cabin Trail/South border near pond/West border Visitor Center paths.

•Species to protect- Woodland Poppies, Baneberry and other native forbs are found near split-rail fence. White Pine, Hemlock, and Norway Spruce dominate canopy.
•Aesthetics to protect- Very important zone due to high visibility near building and trail heads.
•Suggested improvements- Maintain as a forest, replace trees as light conditions allow, continue adding native forbs.

Zone #10- Circle drive area, contains a bio-swale, mix of trees, shrubs, and wetland forbs.

Bordered by Franklin Rd. on the west and the circle drive on the north, south, and east.

•Special species to protect- Many native trees, shrubs, and wetland forbs have been planted throughout the zone in 2020 through 2022. They were paid for by the Wild Ones Chapter and the Tuesday volunteers planted and monitored their condition.
•Aesthetics to protect- This zone offers an important visual barrier to Franklin Rd. and is a highly visible site for visitors when they arrive. The fence row vegetation needs to be protected and the effects of water run-off from the parking lot monitored.
•Suggested improvements- If benches are added near the trail make sure they do not infringe upon the wetland forbs planted there. If the amount of water run-off is altered by an improved parking lot monitor that impact. As some of the old blue spruce trees die they should carefully be removed. This zone will need continued monitoring and maintenance by "knowledgeable" plant staff and volunteers due to its highly visible location and fragile growing conditions.

Zone #11- Wooded SE corner of pond, includes old red pine stand and mixed hardwoods.

North border the Pond Trail/ East border a N-S line starting at intersection of Locust Trail and Pond Trail/South border the fence along condominiums/West border at condo property line.

•Special species to protect-The mixed hardwoods on the east part of this zone seem stable for many years. The red pine stand is in decline and will eventually need replacing. There may be some native wildflowers growing in the hardwoods. A few Giant Green Arborvitae were planted in 2019 to help screen the last condo
•Aesthetics to protect- Once again this zone is very important as a visual barrier to screen the condominiums. Tree replacement should be done in small stages as light conditions allow. The mixed hardwoods is one of the few forest patches on the property that look like a typical Michigan forest.
•Suggested improvements- Start replacing dead red pine if light conditions allow. Maintain a tree buffer along fencerow to screen condo's. A few large Norway Maples, planted by the Olsen's, are declining and may present hazards to the fence, neighbors condo's, or valuable plants. Might have to top them or remove at some point.

Zone #12- Wooded hillside overlooking north side of pond.

North border top of hill/East border cabin area/South border Pond Trail/West border connecting trail between Pond Trail and Cabin Trail.

•Special species to protect- There is a nice mix of hardwoods growing here including birch, black cherry, red oak, and a butternut, probably the only one on the property. Some wildflowers and ferns have been planted along the edge of the Pond Trail in past years.
•Aesthetics to protect- This zone helps screen the pond area from the Cabin Trail and the trees provide important erosion control on the hillside.
•Suggested improvements-remove limited buckthorn if present but always maintain a green screen and mixed forest. Native forbs could be added where they will not be walked on.

Zone #13- A mixed forest, heavily planted in 2018/2019 and wooded vernal pond area.

North border the Warbler Loop Trail/East border edge of meadow and Stream Trail/South border top of hill near deer pen/West border Warbler Loop Trail

•Special Species to protect- Many native trees and shrubs were planted and caged in 2018-19. Some native wildflowers have been introduced or are moving in such as Jack-In-Pulpit, Wild Geranium, Trillium, Bloodroot, and others.
•Special aesthetics to protect-The goal for this zone was to create a natural looking mixed hardwood forest typical of Michigan.
•Suggested improvements- continue to remove invasive plants, monitor planted trees and shrubs, maintain cages as long as necessary. Replace boardwalk through vernal pond area.

Zone #14- A dense thicket of buckthorn growing in old orchard area.

North border Sugar Maple Loop/East border Schrot Prairie/South border Schrot Praire edge/West border Cottontail Pass Trail.

•Special Species to protect- Old apple trees and any native trees/shrubs. Most of the zone is buckthorn though it does provide good bird habitat near the stream.
•Special aesthetics to protect-If all the buckthorn was removed at the same time it may open up views of the homes across the stream.
•Suggested Improvements- This zone could be converted from thicket to native forest, perhaps best done in stages with immediate re-planting. Save all native species.

Zone #15- Mixed hardwoods and a few evergreens north side of sugar bush.

North border – short connector trail between Cottontail Pass and Sugar Maple Loop/East border Sugar Maple Loop/South border edge of Sugar Bush/West border Cottontail Pass Trail.

•Special species to protect- Some sugar maple may be seeding into this zone. Ferns and some wildflowers have been planted here in the past. Evergreens were planted many years ago to help screen Telegraph Rd.
•Special aesthetics to protect- Evergreen trees were planted in this zone years ago to help screen Telegraph. They still provide that function.
•Suggested improvements- Monitor if sugar maple seedlings/saplings are present and encourage their growth to help replace some trees from the existing sugar bush.

Zone #16- Savanna like area comprised of mixed hardwoods and prairie forbs/grasses.

Triangle shape- North border an E-W line between Fox Ridge Trail on the west and Cottontail Pass on the east/East border Cottontail Pass/South border intersection of Fox Ridge and Cottontail Pass/West border Fox Ridge Trail.

•Special species to protect- Many native prairie plants (forbs, grasses) were planted in 2016. The trees give this area the look of a true savanna habitat.
•Special aesthetics to protect- Maintain as a savanna. This represents a remnant of what the entire property looked like before settlement.
•Suggested improvements- Periodic prescribed burns will be needed to prevent woody species from taking over the understory.

Zone #17- A natural stand of Shagbark Hickory and small thicket area.

Just south of tower. This zone is surrounded by the Fox Ridge Prairie on the N/E/S sides and Fox Ridge Trail on the West.

•Special species to protect- The hickory trees are a natural stand having been seeded in by one very large hickory that stood in the center of the stand. Native wildflowers and a few shrubs have been added along the trail in recent years. Non-native Lily of the Valley is present but not worth removing.
•Aesthetics to protect- The trees provide great fall color.
•Suggested improvements- On two different occasions understory buckthorn was completely removed from the hickory stand. Unsuccessful attempts were made to plant native shrubs there. The stand was included in the prescribed burns. Any removal of buckthorn in the zone should be replaced by native shrubs with attention to the native wildflowers currently growing there.

Zone #18- Wetland. The entire pond edge encircling the pond including the buffer zone on the west end, paw-paw enclosure on the north side, and pollinator garden enclosed in the split rail fence area on the east end of the pond.

This zone completely encircles the pond reaching back to the edge of the surrounding Pond Trail.

•Special species to protect-The buffer zone on west end has been planted with many native wetland forbs over the years. (Cardinal Flower, Marsh Marigold, Joe Pye Weed, Ironweed, etc.) The paw-paw enclosure includes species not found elsewhere on the property. The pollinator garden on the east end of the pond has been planted with several native species in recent years. There is a tall Tamarack Tree and a Sweetgum along the north shore of the pond.
•Special aesthetics to protect- Maintaining a green buffer around the pond is very important both aesthetically and ecologically. Many bird species use the overhanging branches of trees and shrubs to rest and feed, especially during migration.
•Suggested improvements- Continue to burn the buffer zone on the west end and top seed it occasionally with native wetland seed. Keep the paw-paw enclosure intact until the trees are large enough to not be damaged by deer. Some limited buckthorn removal could take place with immediate native species replacement. The fluctuating water levels make pond edge planting difficult. Planting Tamarack around the pond would add great value.

Zone #19- Called the "Grow Zone" planted with native prairie species in 2009 and 2010.

Includes the hillside outside the Visitor Center building. The borders include the building, the trail leading from the building to the pond, the lawn at the bottom of the hill, and the steps leading down the hill to the lawn area.

Special species to protect- The entire zone was planted with native seed (see lists). It has been part of the prescribed burn area. Hand pulling aggressive non-natives helps protect the natives.
•Special aesthetics to protect- This zone provides color and interest next to the building and helps protect the pond from erosion.
•Suggested improvements- Continue prescribed burning and occasional top seeding. Hand pulling of invasive species may be needed. Add appropriate native species currently not found there.

Zone #20- A small triangle-shape mixed hardwood stand between the cabin and sugar bush.

This small zone is bordered by three trails-North border just past log cabin/ East border is the start of the Cottontail Pass Trail/West border is the hillside trail just past cabin.

Zone #20 cont.
•Special species to protect- Several spring wildflowers and ferns have been planted here in recent years throughout the zone. White-snakeroot is spreading from across the trail. This is one of the rare forested parts of the NC that appears to look like a natural MI forest-it lacks buckthorn and other invasive plants. There may be young sugar maple present.
•Aesthetics to protect- This zone provides a nice example of MI hardwood forest.
•Suggested improvements- Since it is in good shape probably nothing should be done at the present time unless problems pop up.

Zone #21- The area along both sides of the old tennis ct. trail. A mix of evergreens, a few hardwoods, some thicket, a black raspberry patch, and a few old lilac planted by Olsen's.

The North border is the mowed meadow and Fox Ridge prairie/East border is the old tennis ct./South border is the row of white pine along cabin trail/West border is across from hawk cage.

•Special species to protect- No recent planting has been done here. This zone does provide important dense habitat good for birds, rabbits, etc. and is a transition zone between the open prairie and the rows of white pine on the south side.
•Aesthetics to protect- This zone provides a visual barrier, screening the center of the property.
•Suggested improvements- There has been some removal of bittersweet vines from this zone and might need more. The dense shrubbery provides good habitat. New trees or shrubs may need to be planted across from the hawk cage as the old lilac dies. The old tennis ct. is a good teaching example of how "nature takes over" what humans build.

Zone #22- The Fox Ridge prairie/savanna. Seeded entirely with native prairie mix in 2000. Also contains a few native trees that were saved.

This zone is surrounded by the Fox Ridge Trail. The South border runs parallel to the tennis ct. trail.

•Special species to protect- The many native prairie-savanna forbs and grasses that have been planted there. See lists.
•Aesthetics to protect- This zone is one of the few "open" habitats on the property and it is an example of the pre-settlement vegetation that once grew here.
•Suggested improvements- Continue to burn periodically and top-seed occasionally. Watch for invasive plants trying to move in. Trim back the south border edge if it is encroaching on the prairie. Add appropriate native forbs currently not found there.

Zone #23- The Tower Prairie starts at the tower, runs downhill and to the east. Seeded originally in 2000, native prairie mix.

North border is the tree line at the bottom of the hill and along the Stream Trail/East border is the tree line edge/South border the tree line edge and Fox Ridge Trail/West border the tree line west of tower.

•Special species to protect- The many native prairie forbs-grasses currently growing there. See lists.
•Aesthetics to protect- Another one of the few "open habitats" supporting a diversity of plants, birds. Insects, and other species. An example of pre-settlement vegetation.
•Suggested improvements- Same as Zone #22.

Zone #24- The Schrot prairie. Seeded originally in 2001.

This zone is outlined by either thicket or forest on all four sides with the Cottontail Pass Trail running through it.

•Special species to protect- The many native prairie forbs-grasses that have been planted there. See lists.
•Aesthetics to protect- Another "grassland-like" habitat giving the property diversity of both plant and animal. An example of pre-settlement vegetation.
•Suggested improvements- Same as Zone #22 and Zone #23.

Zone #25- Log Cabin buffer woods. A mix of thicket, some native trees, and prairie plants.

This zone is located behind both cabins and the east side of the big cabin.

•Special species to protect- The east side of the cabin was cleared and seeded with native prairie plants (see lists).
•Aesthetics to protect- The tree line behind the cabins serves an important function in separating the cabin area from the center of the property to the north. This zone provides an appropriate "wooded" background setting for the log cabins.
•Suggested improvements- The large Norway maple behind the log barn may need trimming at some point. If any of the existing buffer needs removed, it should be done in small increments over several years so the buffering effect is not lost. The small prairie on the east side of the big cabin should be maintained as such using same strategies as in Zone #'s 22, 23, 24.

Zone #26- Bowers forested area.

This zone comprises the east half of the former Bower's property (wooded area). The North border is the Pond Trail/East border is a brick wall along the Bloomfield Chase sub/South border an east-west line along the adjacent property owners lot/West border is the tree line that meets the former backyard.

•Special species to protect-The trees in this zone have ID tags placed there by the former owner. There is a key listing the species. There are some valuable trees found along the west border including sweet gum and white oak. The Bowers family planted a row of evergreens to screen their backyard, most of the other trees present seeded themselves in naturally. No native plant introductions have been conducted here though there may be some wildflowers present. Dolls-eye has been observed and Jack-In-the-Pulpit.
•Aesthetics to protect-The wooded area above the pond was the most important reason to acquire this property. The wooded nature should be maintained both to protect the pond ecologically and to provide habitat.
•Suggested improvements- Invasive plants can be removed if that activity does not diminish the forest cover significantly. Native tree/shrub plantings can take place where enough light is present, such as in the center of this zone where the tree canopy seems thin.

Zone #27- Tool shed area near parking lot.

This area is adjacent to the driveway/parking lot and is behind the tool shed. The borders include the driveway, the VC walkway and the short path that leads to staff parking.

•Special species to protect- Several trees/shrubs have been planted here over the years including Red Bud, Eastern Hemlock, Hazelnut, Kentucky Coffee Tree, and others. There are a few large Yews along the driveway that provide a nice screen. There are also large yews that screen the residence from the VC.
•Aesthetics to protect- This is one of the most important zones aesthetically due to its "upfront" visibility when visitors arrive. A diverse green screen needs to hide both the tool shed and the residence.
•Suggested improvements- The old Blue Spruce trees that are found here could be removed carefully as long as new trees/shrubs are planted "immediately" afterword. The trees/shrubs that should be kept have been flagged with tape. The old large yews still provide nice green screening.

Zone #28- Kiosk area/protected wildflower area within split-rail fence north of Visitor Center building.

This zone contains mostly wildflowers that have been planted over the years on the north end of the VC. It includes the area behind the kiosk and the beds within the split-rail fence across from the deer pen. The zone also includes 13-15 species of trees.

•Special species to protect- There are many native wildflowers that should be monitored and protected. Foot traffic should be kept to a minimum and mulch should not be added. The aspen trees found here are rare on the property.
•Aesthetics to protect- This zone once again is very important due to its highly visible location. Some of the plants found here are not found elsewhere on the property.
•Suggested improvements- Limited additions of native plants can be made as conditions require. Monitor light conditions dictated by the overhanging trees. Some careful trimming of the trees may be needed. Maintain fences to restrict foot traffic.

Zone #29- Cabin hillside- contains many wildflowers/ferns planted in 2022.

This zone is located on either side of the steps leading from the front of the large cabin to the bottom of the short hill found there**.**

•Special species to protect- All of the plants added here in 2022 need to be monitored, protected, and maintained, including the two apple trees planted in memory of Bob Schrupp. A list of plants is available.
•Special aesthetics to protect- These native plants are not only highly visible, but also add to the atmosphere of the pioneer cabin and due to their low profile help maintain a nice open view of the pond from the cabin porch.
•Suggested improvements- Native plants may need to be added in the future depending on how well the 2022 planting takes hold. It is important to keep foot traffic out of this area-that may require a split-rail fence be added.

Zone #30- West half of the former Bower's property. (formerly the front and backyard)

This zone includes the mostly open space that was formerly mowed yard. The East border is the tree line.

•Special species to protect-The Bower's family planted a variety of trees, several are still living. Jim Bowers has provided a pictorial key of these trees.
•Aesthetics to protect- This is a zone where the neighbors view should be highly considered. If "overflow" parking is created here, a carefully thought out landscaping plan should be included which screens the parking lot from Franklin Rd.

Zone #30 cont.
•Suggested improvements- The former backyard area could be planted as a native grassland/prairie since it does not have a shade factor. There are some existing invasive shrubs that would need to be removed first. The former front yard could serve as overflow parking provided screening occurs along Franklin Rd. There is a dense stand of box elder trees along the north border of this zone that could be removed and replanted with natives. Some understory shrubs may need to be added to screen the home along south border of this zone.

Zone #31- 4-5 acre parcel north of the stream bordering Hickory Grove Rd. Some scattered native trees, wetlands near the stream, and dense buckthorn thickets.

This zone is north of the stream bordered by Hickory Grove Rd. to the North/Hickory Ridge subdivision on the East/stream on the South/private property on the West.

•Special species to protect- This zone has not been closely studied but it is known that Swamp-white Oaks grow here, Douglas Fir may still be living along the west border, and large white or red oaks grow along Hickory Grove Rd.
•Aesthetics to protect- This zone is watched closely by the neighbors to the east so screening efforts are important. Maintaining a stream border is important. If dense thickets of buckthorn are to be removed, it should be done in small increments with a native replanting plan implemented immediately afterword.
•Suggested improvements- The creosoted telephone pole wall located just across the stream should be removed. A sampling dock could be added to the larger of the two ponds. A new trail could be added along the stream to connect the two existing loops north of the stream. 75 feet of boardwalk would be required and a permit from EAGLE.

Zone #32- 2-3 acre parcel north of stream along Telegraph Rd. Some scattered native trees, stream frontage, and dense buckthorn thickets.

This zone is bordered by the Hickory Ridge subdivision to the north/Telegraph Rd. to the East/the stream to the South/ and Hickory Ridge commons area to the West.

•Special species to protect- This zone has not been studied much due to inaccessibility in past years. The existing plants provide a nice buffer along Telegraph Rd. and stream.
•Aesthetics to protect- Maintaining a visual buffer along Telegraph and the subdivision to the north are very important.
•Suggested improvements- Like Zone #31 any removal of buckthorn or other invasive should be done in small increments so the buffer function is not lost. Conducting an existing plant survey would be helpful to know what is currently there.

Zone #33- Sugar bush

This zone is bordered by the current sugar bush. It includes mostly Sugar Maple and a few Red Maple.

•Special species to protect- the mature maple trees and sugar maple seedlings which will hopefully provide sap in the future.
•Aesthetics to protect- Having a sugar bush is a special feature that should always be maintained.
•Suggested improvements- The existing sugar bush may be able to tolerate a limited thinning without negative effects to other trees. However, due to how tall/thin the current trees are, thinning may make the trees susceptible to high wind damage. Allowing the maple trees to naturally seed themselves to the north or south is the best option for expanding the bush. Limiting foot traffic in the off season where many current seedlings are growing would also help.

Zone #34- Stream corridor

This zone runs along the stream from Franklin Rd. to Telegraph Rd. including both sides of the stream where school property is located.

•Special species to protect- While no formal plant survey has been done here there are some native wetland shrubs such as buttonbush and dogwood growing there.
•Aesthetics to protect- A plant buffer along the stream is an important habitat requirement for many birds and mammals. The buffer is also important for erosion protection and water quality improvement (water temp., oxygen, etc.)
•Suggested improvements- Some limited log removal and occasional trimming of overhanging vegetation could take place to help keep the stream flow moving. If any buckthorn is removed along the stream edge it should be replaced with natives immediately. The sampling docks should be replaced and the new bridges monitored. Monitor the entire corridor for invasive plants such as purple loosestrife, phragmites, and other wetland non-natives.

JNC Property Management Zone List

1. Thicket, scattered native trees.
2. Some thicket, newly planted forest restoration, vernal pond.
3. A very large zone, half prairie, half thicket including “wet thicket and old orchard”.
4. The largest zone, some thicket, planted evergreens, some native hardwoods.
5. Mix of evergreens planted by Olsen family and a few hickory.
6. Mix of white pine, jack pine, and some hardwoods, limited native shrubs & buckthorn.
7. Mix of sugar maple along north border, jack pine and buckthorn thicket in center area which often floods in spring. A large stand of black locust trees dominates the area along Telegraph and the south border. A nice mix of hardwoods along the west border of this zone.
8. Mixed forest surrounding the deer pen and hawk cage area. Remnants of a red pine stand planted by the Olsen family.
9. A mixed evergreen stand with some hardwoods present.
10. Circle drive area that contains a bio-swale, mix of trees, shrubs, and wetland forbs all recently planted.
11. Wooded SE corner of pond, includes declining red pine stand and some mixed hardwoods along the east border.
12. Wooded hillside overlooking the north side of the pond.
13. A mixed forest, heavily planted in 2018/19 and wooded vernal pond area.
14. A dense thicket of buckthorn growing in old orchard area.
15. Mixed hardwoods and a few evergreens north side of sugar bush.
16. Savanna-like area comprised of mixed hardwoods and prairie forbs/grasses.
17. A natural stand of Shagbark Hickory and small thicket area.
18. Wetland. The entire pond edge encircling the pond including a planted buffer zone on the west end, paw-paw planting on the north side, and pollinator garden enclosed in a split-rail fence on the east end of the pond.
19. Called the “Grow Zone” planted with native prairie species in 2009-10.
20. A small triangle shaped zone of mixed hardwoods between the cabin and sugar bush.
21. The area along both sides of the old tennis court trail. A mix of evergreens, a few hardwoods, some thicket, a black raspberry patch, and a few old lilac planted by the Olsen’s.
22. The Fox Ridge prairie/savanna. Once a dense buckthorn thicket, this area was cleared and seeded entirely with native prairie mix in 2000. Also contains a few native trees that were saved.
23. The Tower prairie. Once a dense buckthorn thicket, it was cleared and seeded in 2000 with native prairie mix.
24. The Schrot prairie. Once a dense buckthorn thicket, it was cleared and seeded with prairie mix in the fall of 2001.
25. Log cabin buffer woods. A mix of thicket, some native trees, and prairie plants.
26. Bower’s forested area. The wooded portion of the former Bowers property.

27. Behind tool shed near parking lot-a highly visible green and valuable green space.
28. Kiosk area and surrounding flower beds on north end of Visitor Center.
29. Cabin hillside-contains many native wildflowers and ferns planted in 2022.
30. West half of former Bower's property.
31. A 5-acre parcel north of the stream bordering Hickory Grove Rd. Mostly thicket.
32. A 2.5-acre parcel north of the stream bordering Telegraph Rd. Mostly thicket.
33. Sugar Bush
34. Stream corridor from Franklin Rd. to Telegraph Rd.

Bloomfield Oaks Community Data

BO-V02

Source Record

Bloomfield Oaks Community Data.pdf

Review Context

Resident service-area data; not visitor demographics.

Reproduced source pages: 2
Appendix source-page range: 783–784

Open Source Record in Google Drive

Figure A. Bloomfield Oaks 10-minute walk and 10-minute drive area

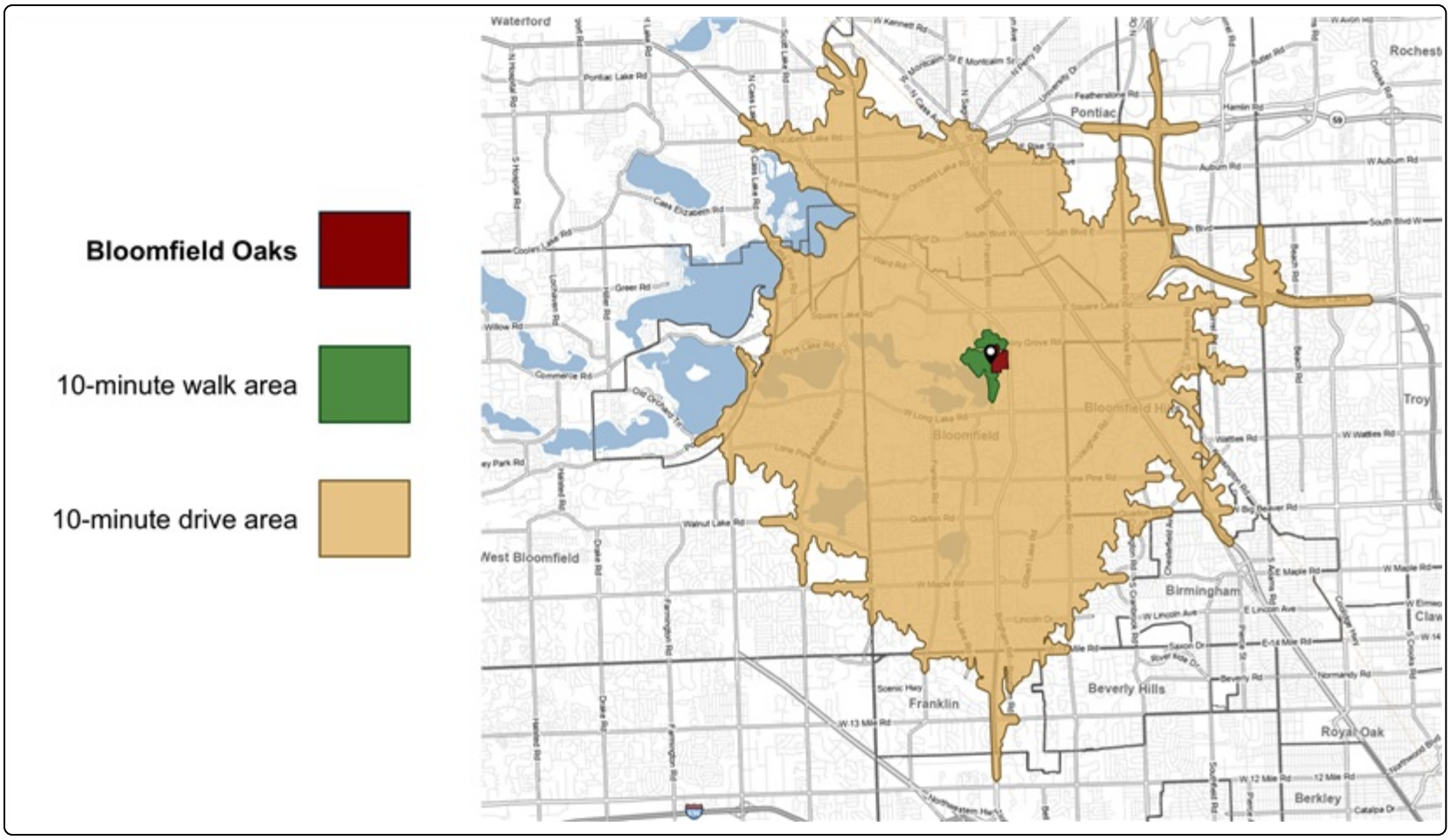


Table 1. Population, Household Income, and Diversity Index

Source: 2026 Esri

Geography	Total Population	Total Households	Median Household Income	Diversity Index
Oakland County, MI	1,275,400	545,282	$105,660	55
Bloomfield Oaks (10m drive)	71,176	28,625	$125,167	59
Bloomfield Oaks (10m walk)	113	38	$241,867	50

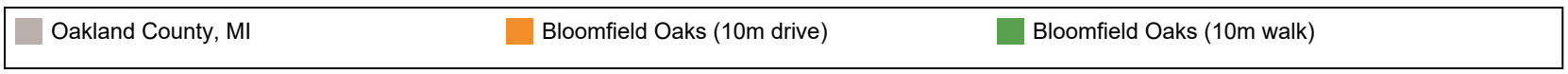
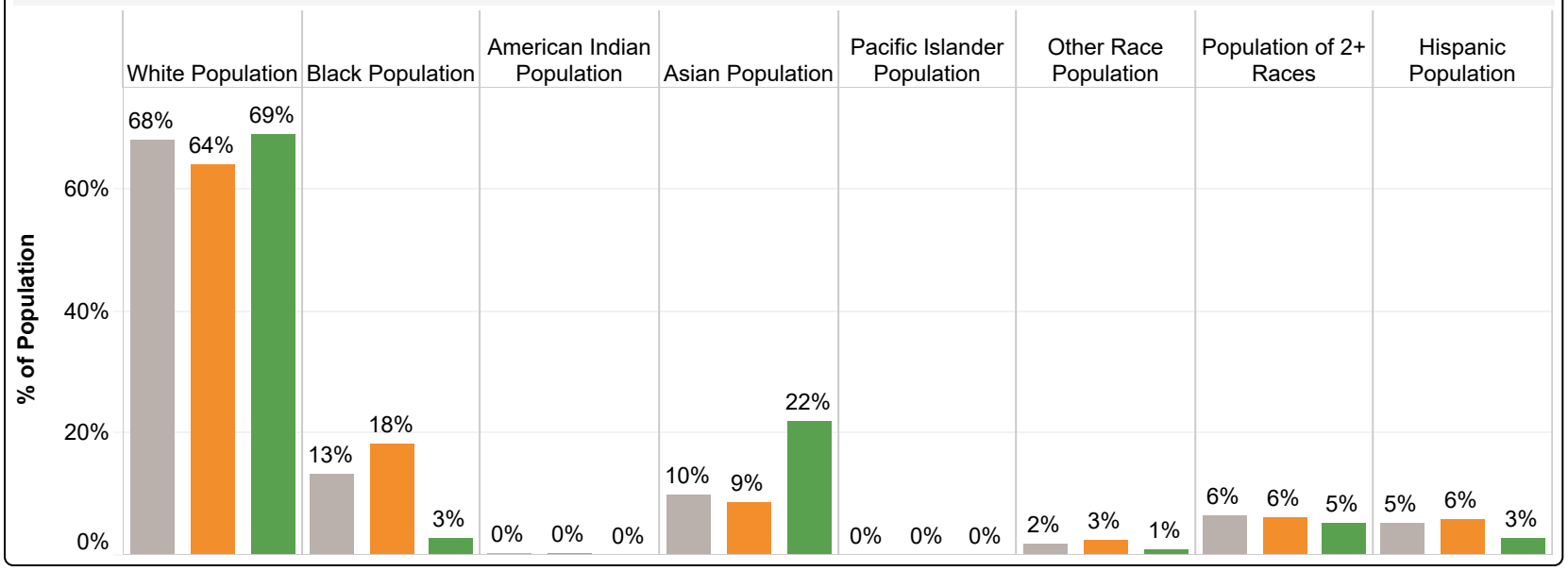


Figure B: Demographic comparison – Race and ethnicity

Source: 2026 Esri



Oakland County, MI | Bloomfield Oaks (10m drive) | Bloomfield Oaks (10m walk)

Figure C: Demographic comparison – Languages spoken in the home

Source: 2023 ACS 5-Yr

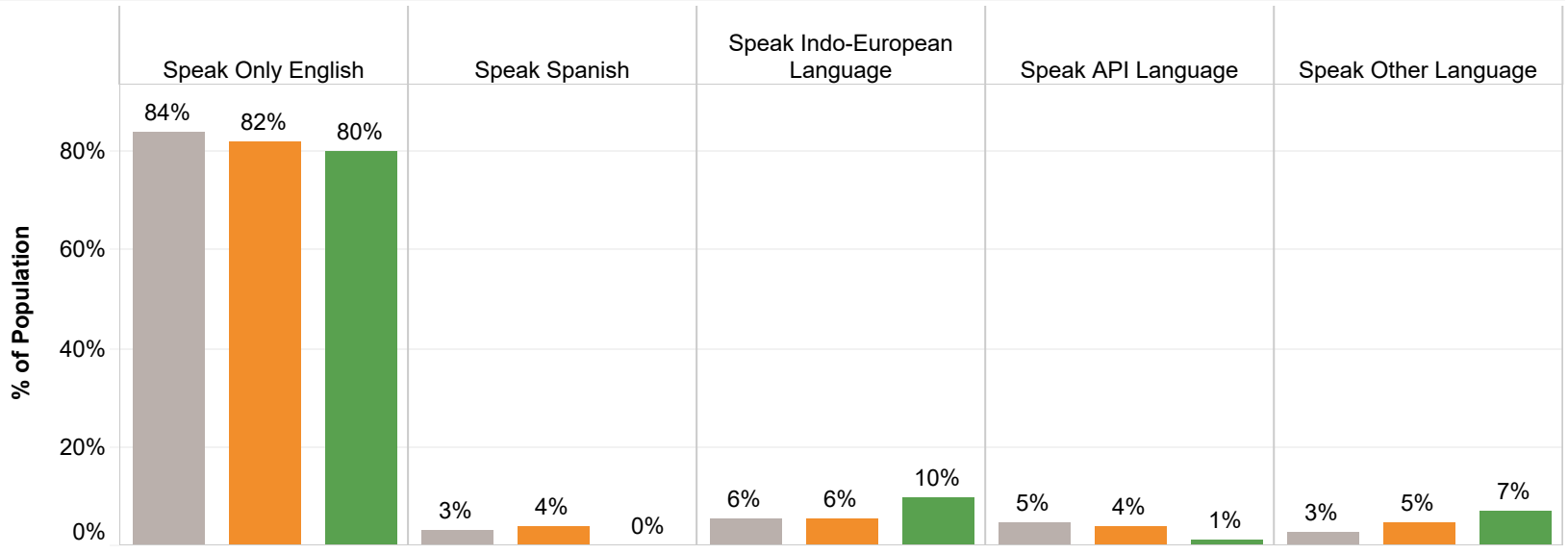


Figure D: Demographic comparison – Age distribution

Source: 2026 Esri

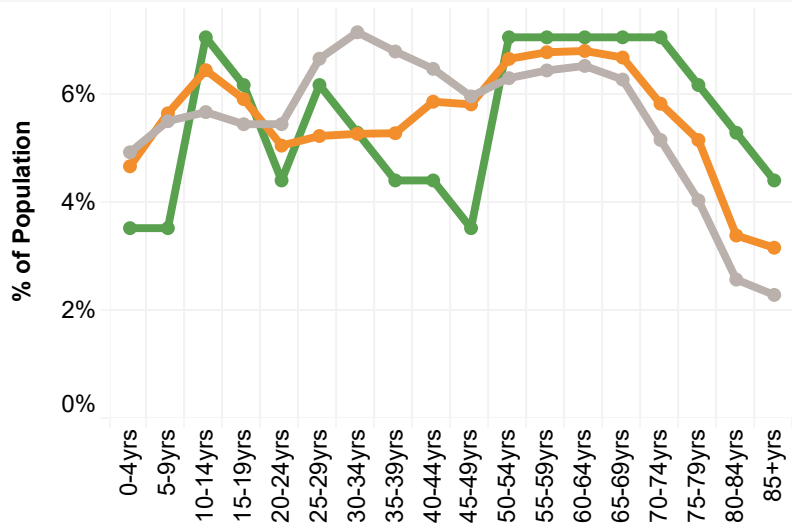


Figure E: Demographic comparison – Household income distribution

Source: 2026 Esri

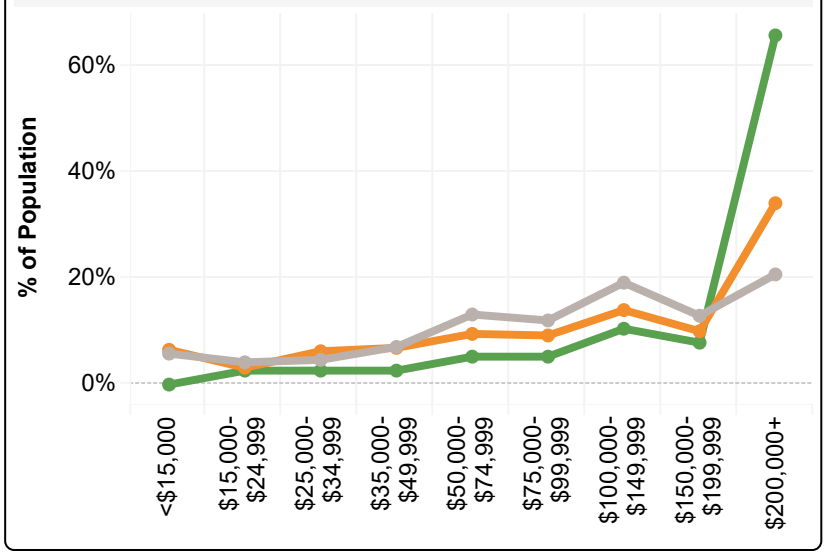
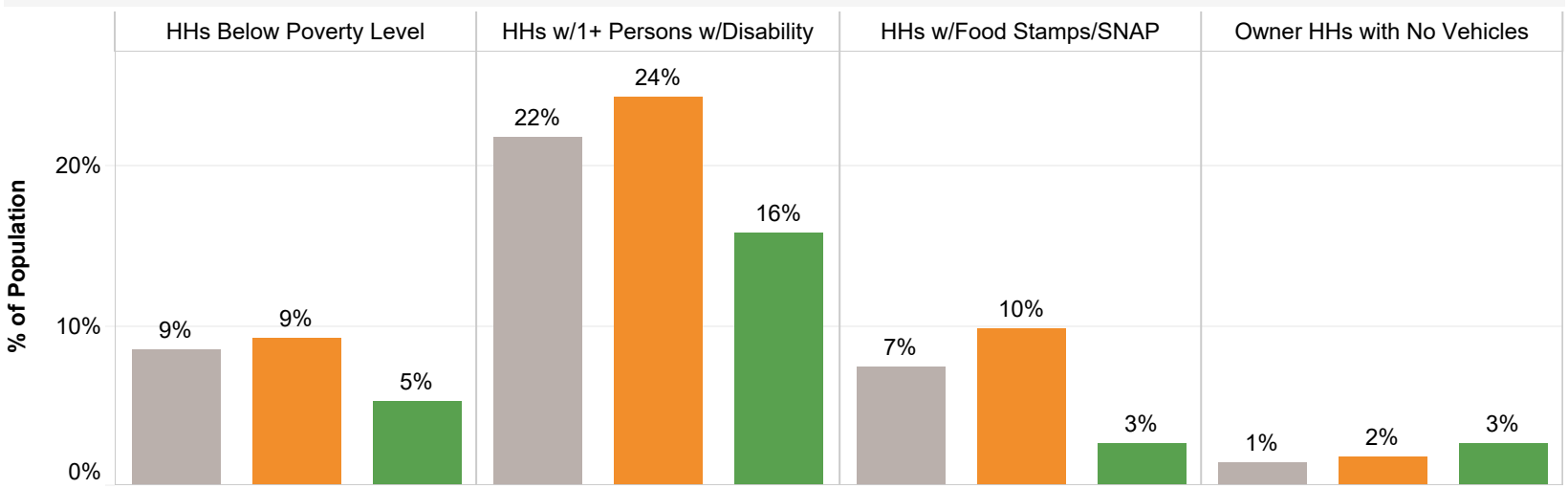


Figure F: Demographic comparison – Economic status and disability

Source: 2023 ACS 5-yr



Oakland County, MI | Bloomfield Oaks (10m drive) | Bloomfield Oaks (10m walk)

Public Engagement Result Summary

BO-D02

Source Record

BHS Survey Summary Report [Public].pdf

Review Context

Published public summary of the 2025 engagement. Combined partnership support is not Johnson-only support or approval of the IPP. Historical visitation statements are distinct from the later mobility estimates.

Reproduced source pages: 25
Appendix source-page range: 786–810

Open Source Record in Google Drive

BOWERS SCHOOL FARM
BLOOMFIELD HILLS SCHOOLS

JOHNSON NATURE CENTER
BLOOMFIELD HILLS SCHOOLS

Bloomfield Hills Schools and Oakland County Parks
Public Engagement Result Summary

Liz Caltagirone, OCP Data Analyst
November 24, 2025

BH Bloomfield Hills Schools

OAKLAND COUNTY PARKS

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Overview

Purpose of online survey:

- Measure the amount of public support for Bloomfield Hills Schools to continue dialogue with Oakland County Parks about this potential partnership.
- Determine community priorities related to Bowers School Farm and the Johnson Nature Center.
- Analyze how often these facilities are visited and the different ways visitors use them.

Stakeholders:

- Bloomfield Hills Schools
  - Bowers School Farm
  - Johnson Nature Center
- Oakland County Parks
- Bloomfield Hills Schools residents
- Current and potential visitors to Bowers School Farm and the Johnson Nature Center

Engagement Opportunities:

- Saturday, October 18th, 2025 – In-Person @ Bowers School Farm
- Monday, October 20th, 2025 – In-Person @ Johnson Nature Center
- October 6th – October 31st – Online survey open

Bloomfield Hills Schools

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Community Feedback at a Glance

- Engagement Overview:
  - Nearly **750 participants** (646 complete, valid online responses, 80 in-person)
- Opinions on Potential Partnership:
  - **61% in support**
  - 25% need more information to decide
  - **14% not in support**
  - These groups of participants are most opposed by percentage:
    - Residents of zipcodes in Bloomfield Township (21%)
    - Respondents who have donated money to the Johnson Nature Center (21%)
    - Respondents who have never visited Bowers School Farm (23%)
- Community Priorities:
  - Participants highly **value agriculture education, weekend events, natural areas/trails, and youth education opportunities**
  - Popular activities include the **farm store and kitchen, Fall Festival, field trips, and hiking**
- Differences by Group:
  - The following factors influence results: the **age** of the participant, whether the participant has **children under 19 y/o**, **how often they visit** the locations, and whether they are **in support of the potential partnership**

Bloomfield Hills Schools

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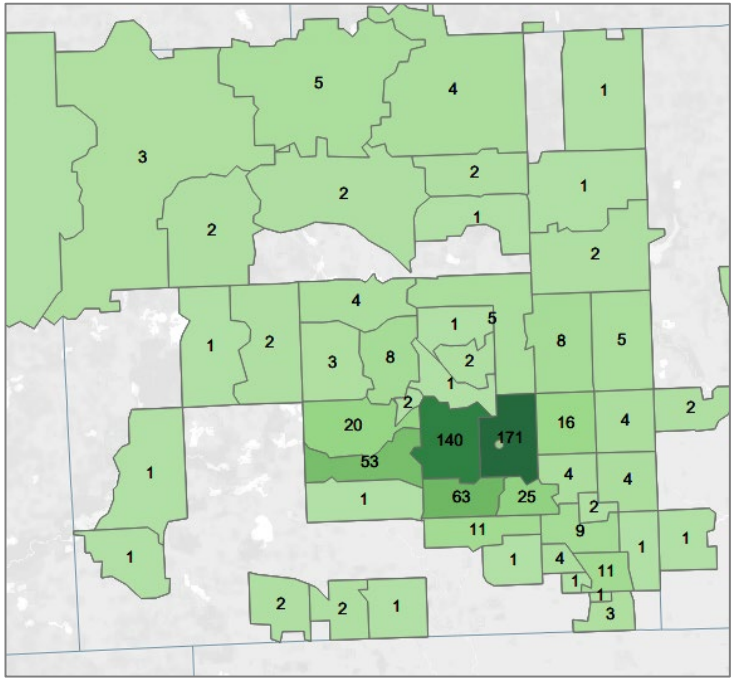
Participant Demographics

- 97% live within Oakland County
  - **32% live in Bloomfield Township**
  - 27% live in Bloomfield Hills
- **68% live within Bloomfield Hills Schools** district boundaries
- **41% are a parent or guardian** of a child currently enrolled in Bloomfield Hills Schools
- **56% have children** under 19 years old in their household
  - Most common child age range is 6-11 years

A few responses are from areas outside map boundaries



Bloomfield Hills Schools

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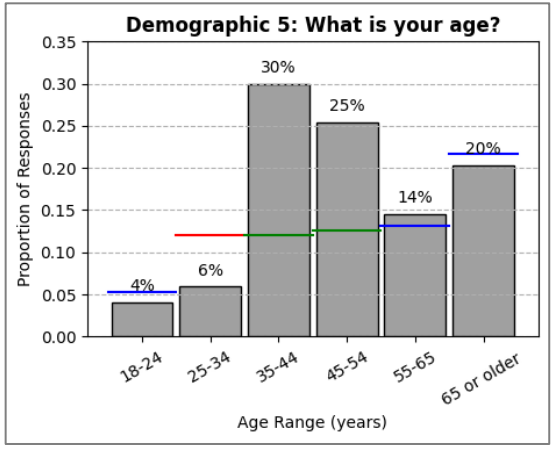
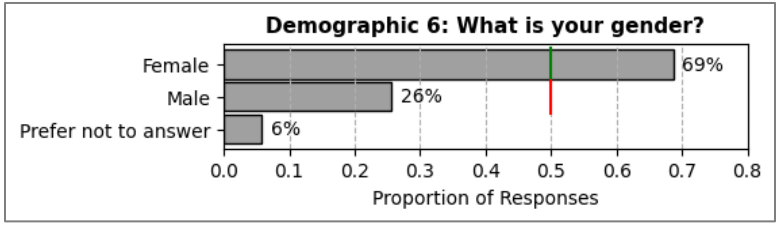
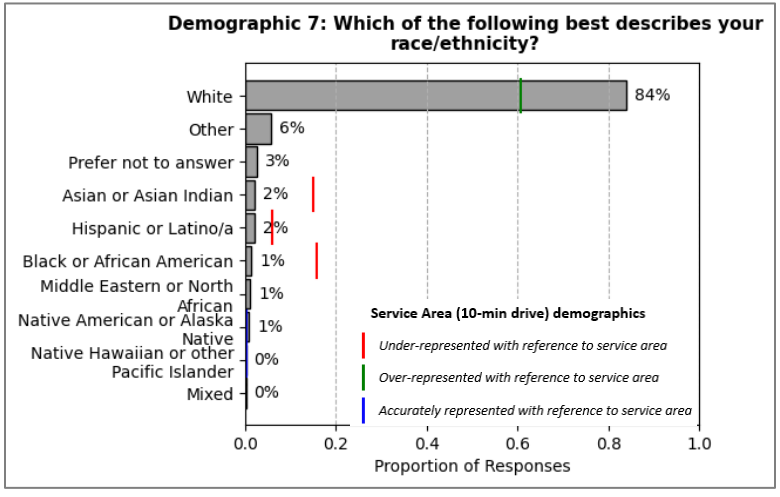
Representation

- The 35-54 y/o age range is greatly over-represented compared to the 10-minute drive service areas for both facilities
  - The 25-34 y/o age range is under-represented
- Participants overwhelmingly identify as female and are over-represented relative to the service area
- White participants are over-represented relative to the service area, while Black, Hispanic, and Asian respondents are under-represented.







Bloomfield Hills Schools

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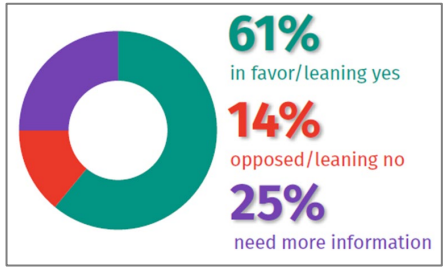
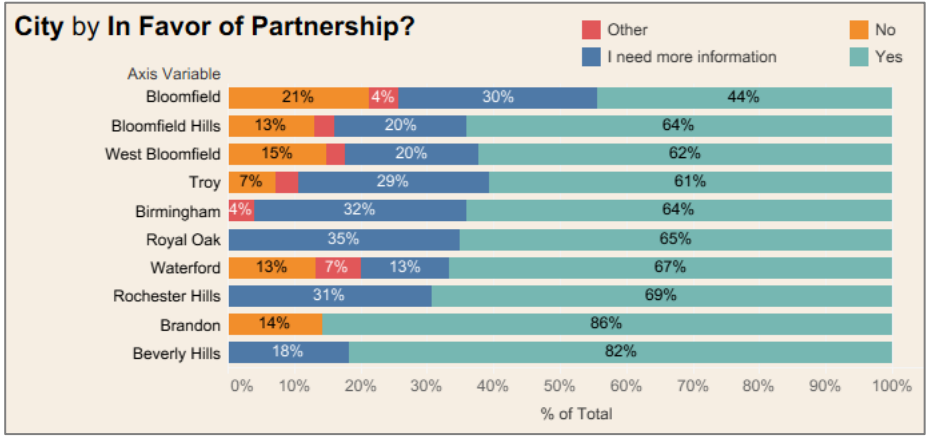
Opinions on Potential Partnership

- **61% in favor** (includes 59% “yes”, 1.5% “yes, with conditions”, and 0.5% “leaning yes”)
- 25% need more information to decide
- **14% opposed**
- These groups of respondents are most opposed:
  - Residents of zipcodes in Bloomfield Township (21%)
  - Respondents who have donated money to the Johnson Nature Center (21%)
  - Respondents who have never visited Bowers School Farm (23%)





Bloomfield Hills Schools

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BOWERS SCHOOL FARM
BLOOMFIELD HILLS SCHOOLS

Bowers School Farm

Survey Results





Bloomfield Hills Schools

Belong Here
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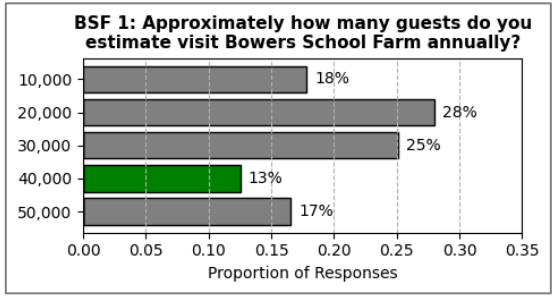
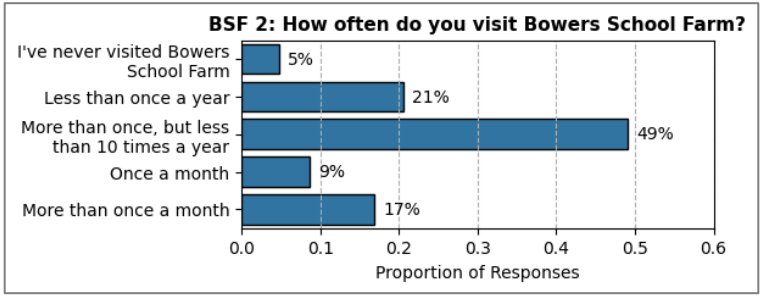
Q1. Approximately how many guests do you estimate visit Bowers School Farm annually?
Q2. How often do you visit Bowers School Farm?

- 13% of participants guessed correctly that Bowers School Farm sees 40,000 visitors annually

- 49% of participants visit Bowers School Farm more than once but less than 10 times per year
- 17% visit more than once per month
- 5% have never visited





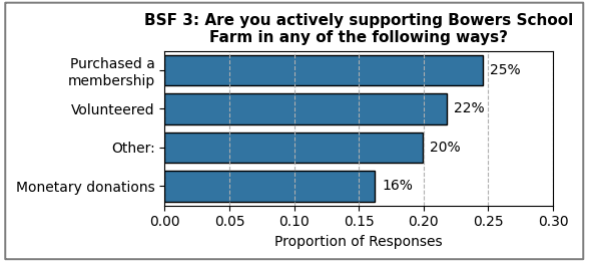
Bloomfield Hills Schools

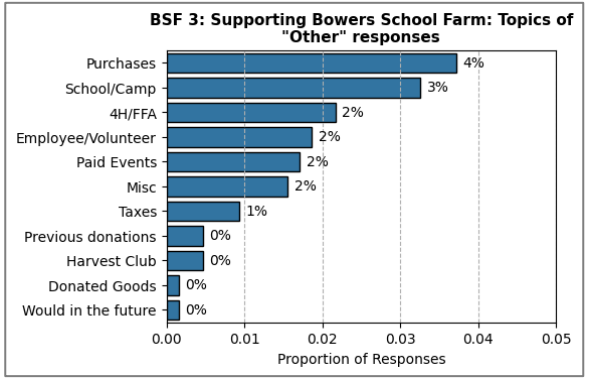
Belong Here
EXCEL ANYWHERE

Q3. Are you actively supporting Bowers School Farm in any of the following ways?

- 83% of participants say they actively support Bowers School Farm in some way

- 25% have purchased a membership
- 22% have volunteered
- 16% have made monetary donations
- 20% contribute in some other way:
  - Purchasing items from the farm
  - Attending school or camp
  - Various others





Bloomfield Hills Schools

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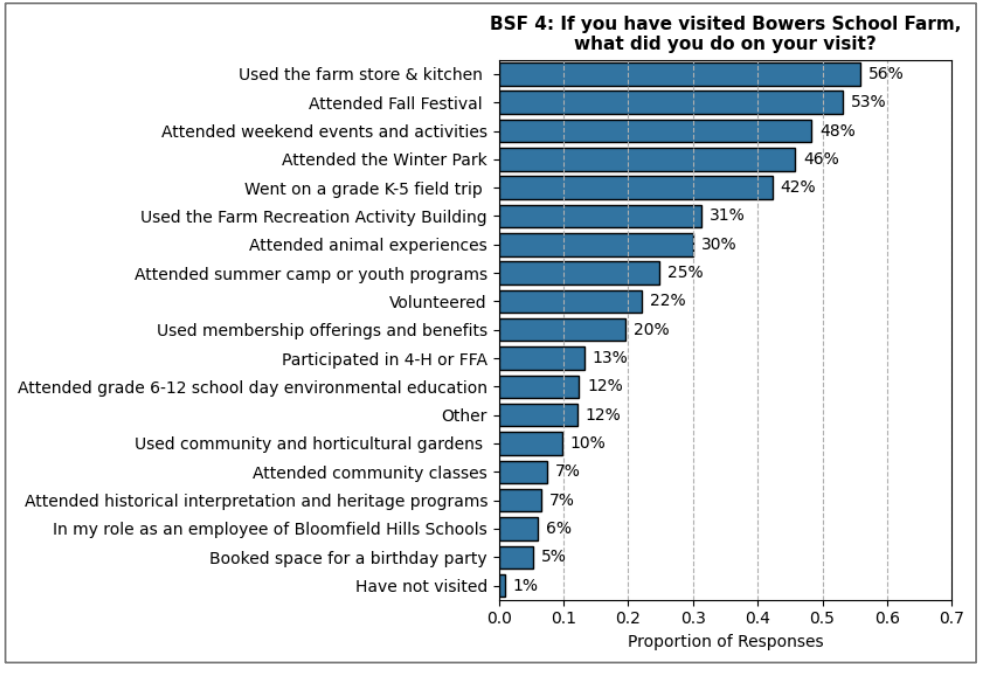
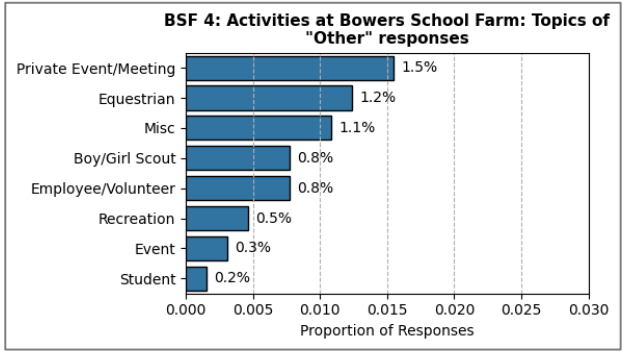
Q4. If you have visited Bowers School Farm, what did you do on your visit?



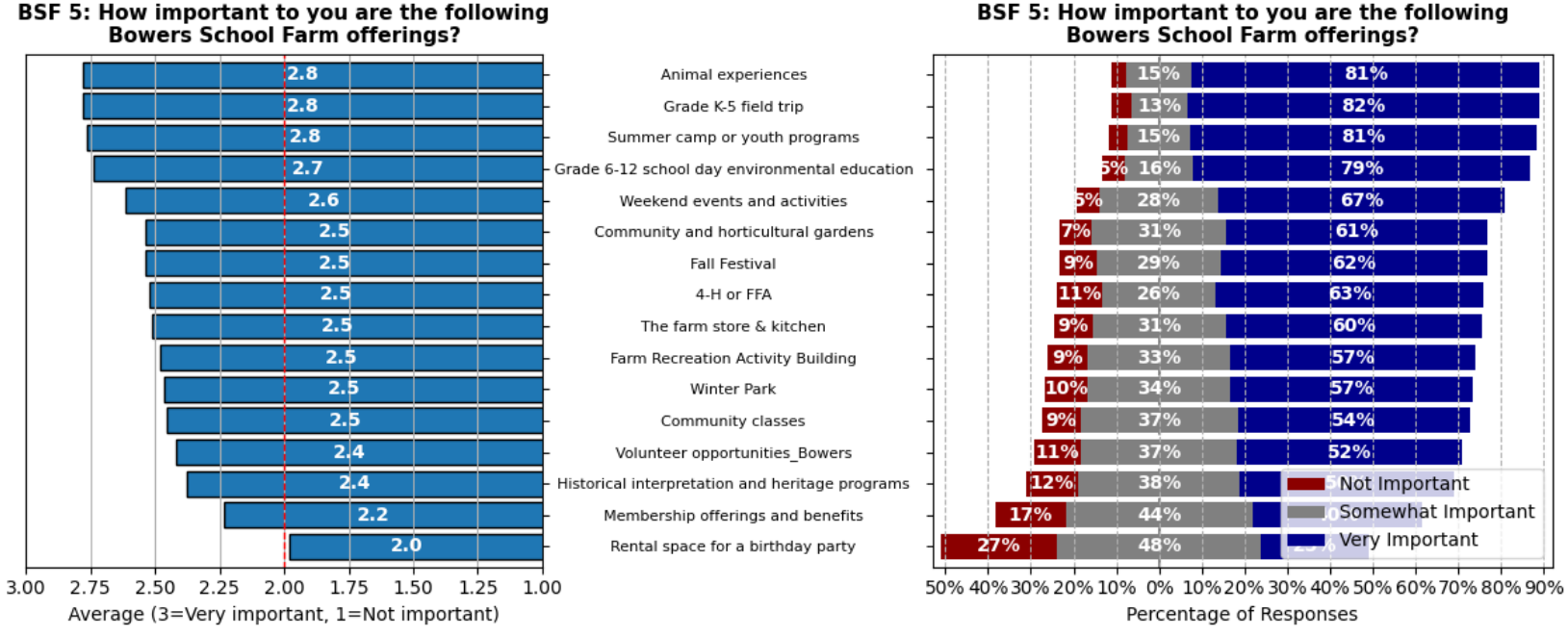
- 56% of participants have used the farm store and kitchen when visiting
- 53% have attended the Fall Festival and 46% have attended Winter Park



Bloomfield Hills Schools

Belong Here
EXCEL ANYWHERE

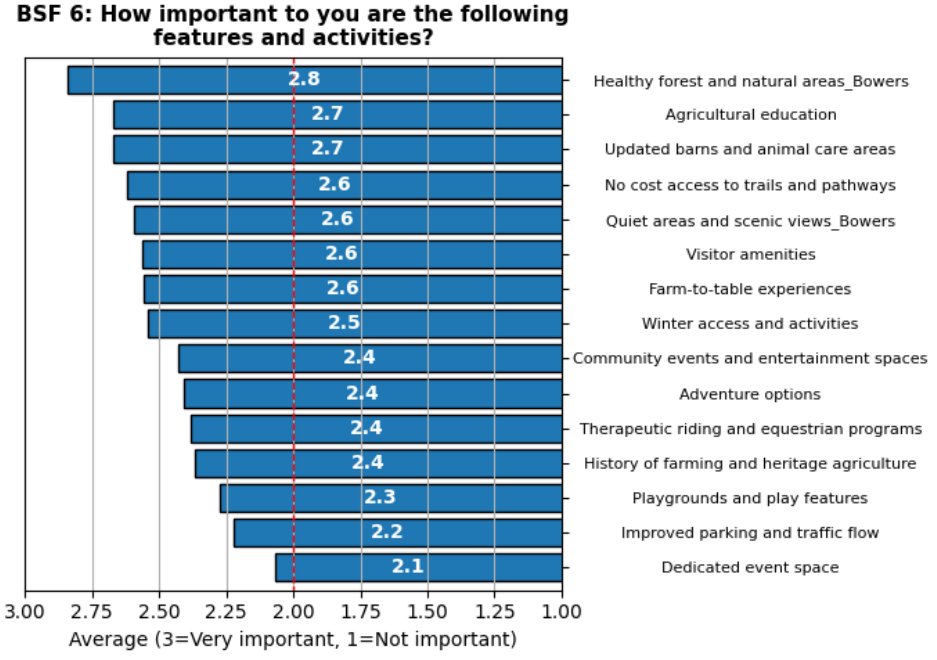
Q5. How important to you are the following Bowers School Farm offerings?

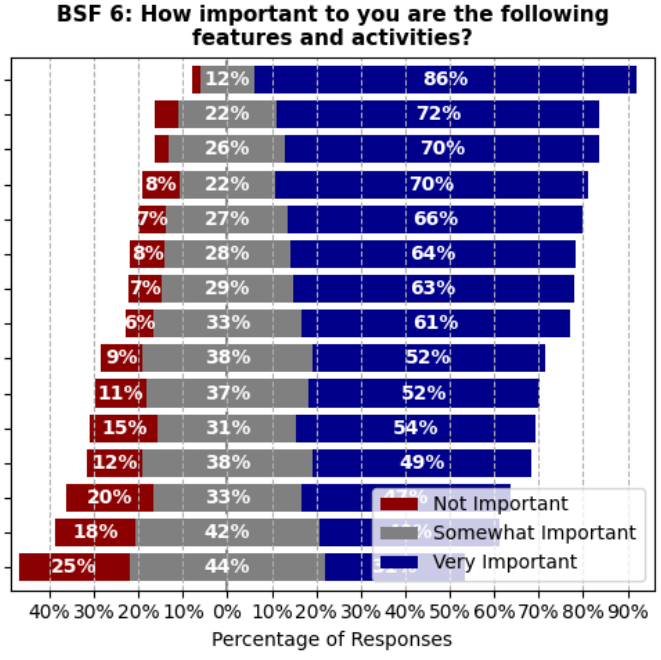


Bloomfield Hills Schools

Belong Here
EXCEL ANYWHERE

Q6. How important to you are the following features and activities?



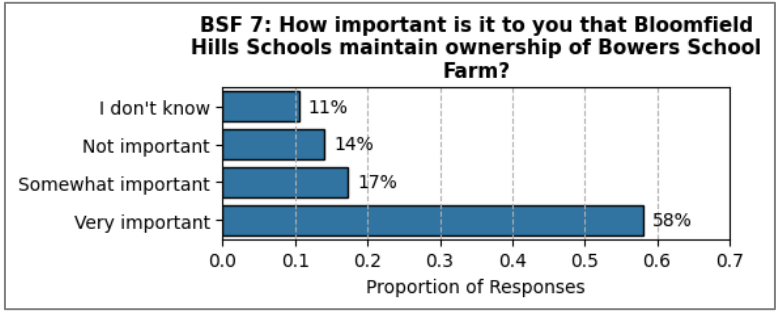


Bloomfield Hills Schools

Belong Here
EXCEL ANYWHERE

Q7. How important is it to you that Bloomfield Hills Schools maintain ownership of Bowers School Farm?

- 58% of respondents say that Bloomfield Hills Schools maintaining ownership of Bowers School Farm is very important
- 17% say it is somewhat important



Bloomfield Hills Schools

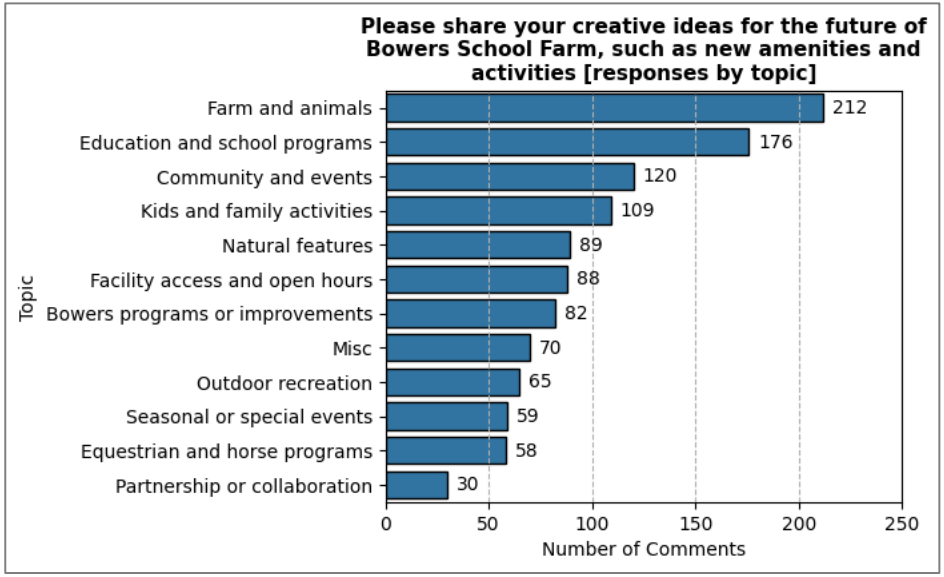
Belong Here
EXCEL ANYWHERE

Q8. Please share your creative ideas for the future of Bowers School Farm, such as new amenities and activities.

Partner with plain air painting groups and bring artists to the farm

Expanded STEM programs and integration of student research

Offer community garden plots with oversight on gardening



Play structures and playground for children

It would be great to have accessible trails for quiet walks

Open the ropes course for public use

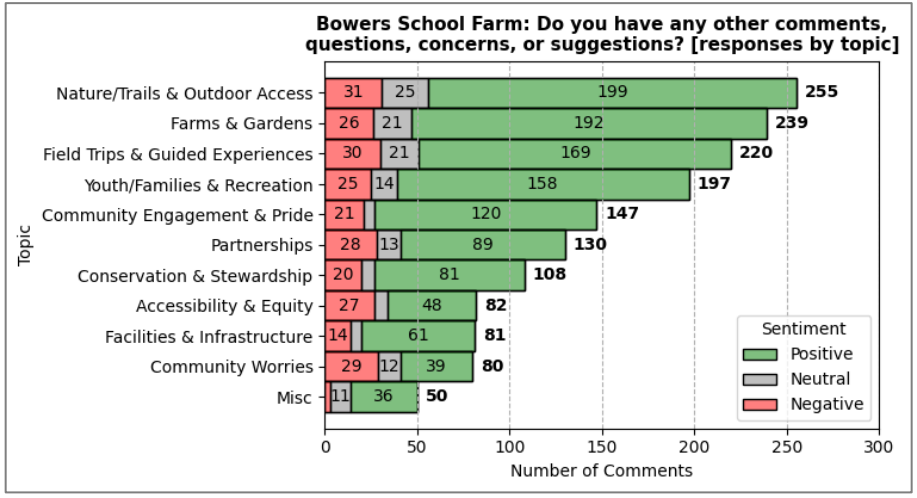
Bloomfield Hills Schools

Belong Here
EXCEL ANYWHERE

Q9. Do you have any other comments, questions, concerns, or suggestions?

Bowers Farm is an important part of the Bloomfield Schools community and it's important to keep the relationship there for our children

We love Bowers. Please do not move forward with this plan. Work with the community, the Bloomfield Foundation, grants, etc. to help with costs. Charge more for out of district field trips, perhaps?"



Expand curricular programs to grades 6-12. The programs seem mostly limited to grade schoolers

Camps are amazing but so difficult to get into. Perhaps a lottery selection would be better

Outdoor (green) spaces are more important than ever. We need to keep and maintain them for public use

Bloomfield Hills Schools

Belong Here
EXCEL ANYWHERE

JOHNSON NATURE CENTER
BLOOMFIELD HILLS SCHOOLS





Johnson Nature Center

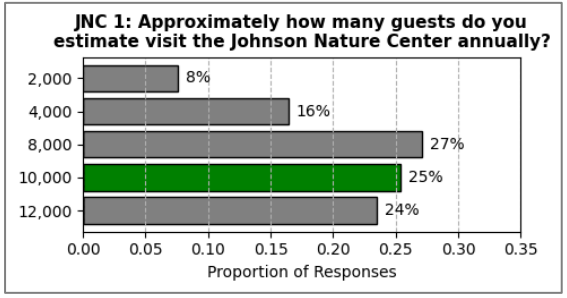
Survey Results

Bloomfield Hills Schools

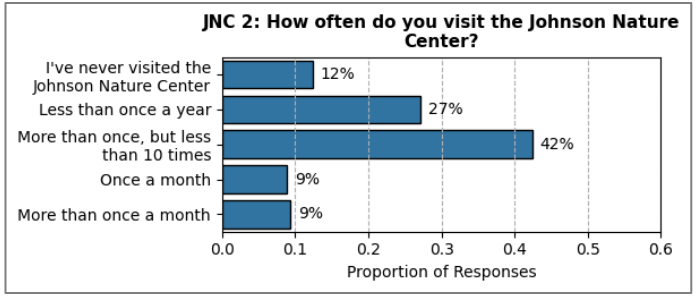
Belong Here
EXCEL ANYWHERE

Q1. Approximately how many guests do you estimate visit the Johnson Nature Center annually?
Q2. How often do you visit the Johnson Nature Center?

- 25% of participants guessed correctly that the Johnson Nature Center sees 10,000 visitors annually



- 42% of participants visit the Johnson Nature Center more than once but less than 10 times per year
- 9% visit more than once per month
- 12% have never visited



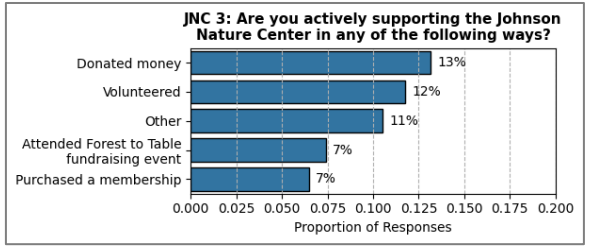
Bloomfield Hills Schools

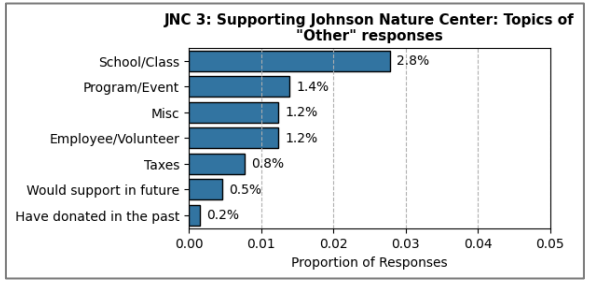
Belong Here
EXCEL ANYWHERE

Q3. Are you actively supporting the Johnson Nature Center in any of the following ways?

- 50% of participants say they actively support the Johnson Nature Center in some way

- 13% have donated money
- 12% have volunteered
- 7% have attended a Forest to Table fundraising event
- 7% have purchased a membership
- 11% contribute in some other way:
  - Attending school/class
  - Attending a program/event
  - Various others





Bloomfield Hills Schools

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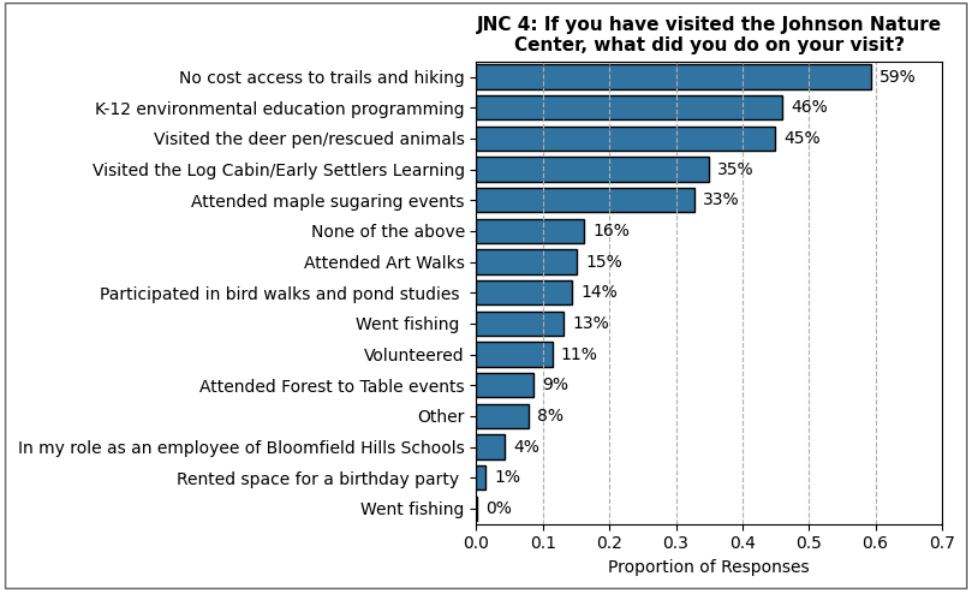
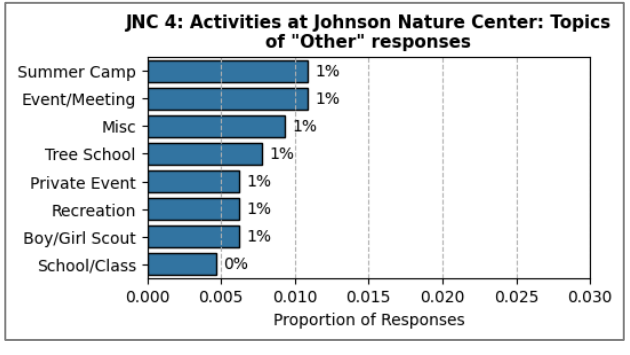
EXCEL ANYWHERE

Q4. If you have visited the Johnson Nature Center, what did you do on your visit?



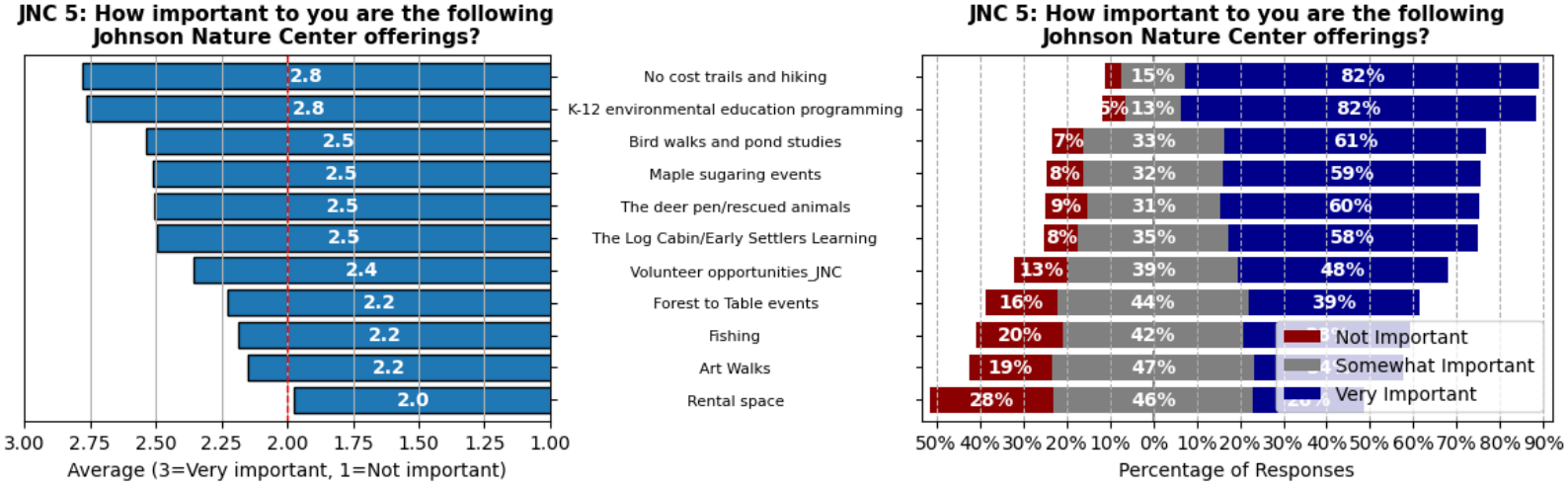
- 59% of participants have used the trails and hiking opportunities while visiting
- 46% have taken part in K-12 environmental education programming
- 45% have visited the deer pen/rescued animals



Bloomfield Hills Schools

Belong Here
EXCEL ANYWHERE

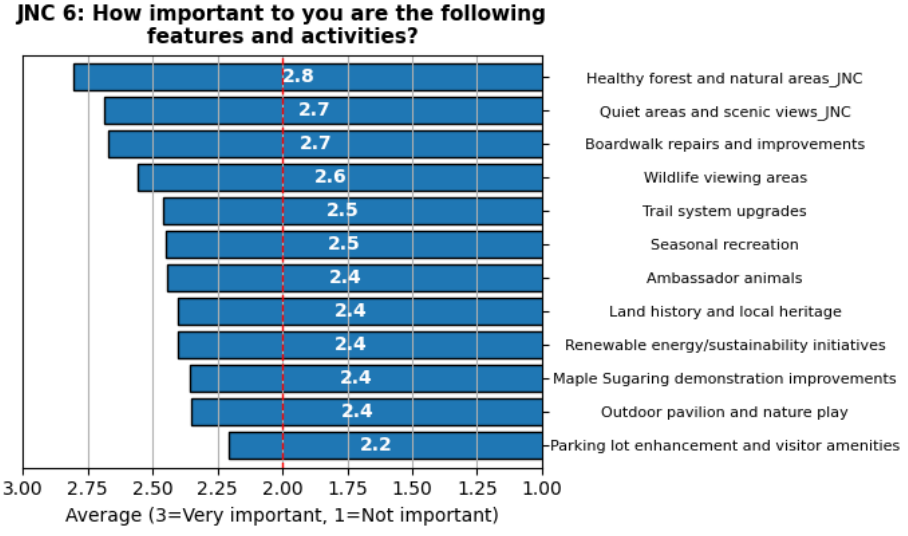
Q5. How important to you are the following Johnson Nature Center offerings?

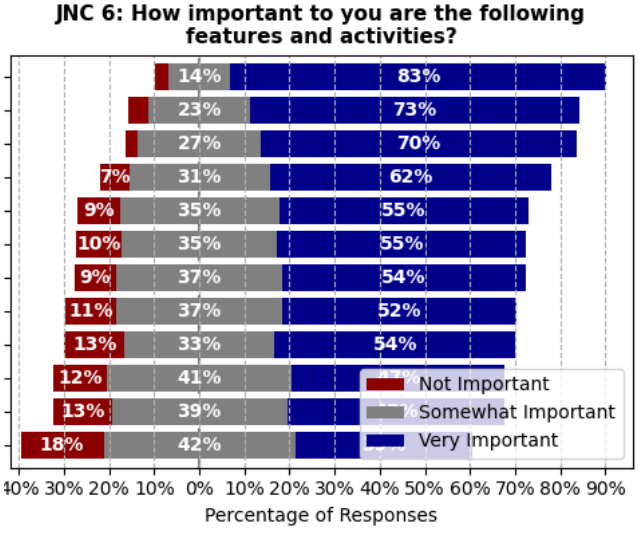


Bloomfield Hills Schools

Belong Here
EXCEL ANYWHERE

Q6. How important to you are the following features and activities?



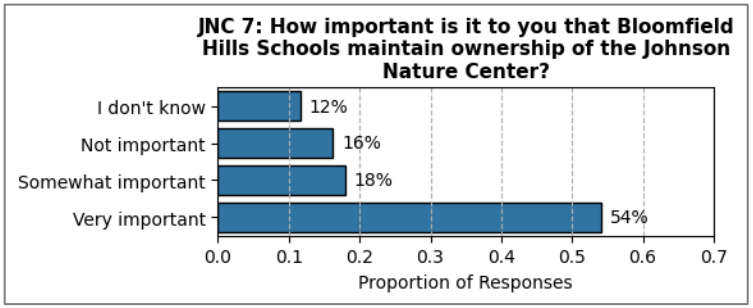


Bloomfield Hills Schools

Belong Here
EXCEL ANYWHERE

Q7. How important is it to you that Bloomfield Hills Schools maintain ownership of the Johnson Nature Center?

- 54% of participants say that Bloomfield Hills Schools maintaining ownership of the Johnson Nature Center is very important
- 18% say it is somewhat important



Bloomfield Hills Schools

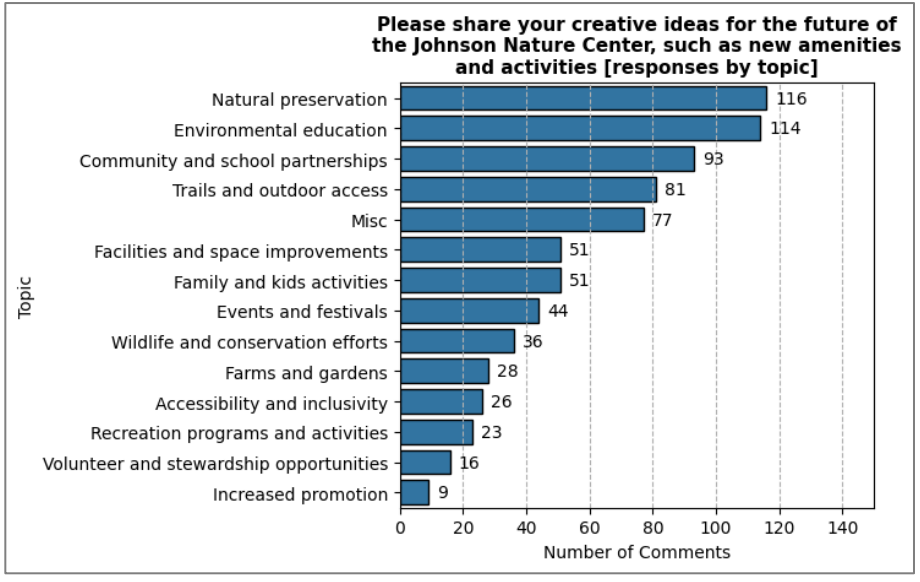
Belong Here
EXCEL ANYWHERE

Q8. Please share your creative ideas for the future of the Johnson Nature Center, such as new amenities and activities.

Wildlife signage related to potential species we might spot at the nature center

Cross overs with university programs, enhancing environment concerns with like minded companies

Open hours extended



Guided hikes with naturalist…. Snow shoe and smores, qr code interactive displays, stargazing activity, arts and crafts

We LOVED the fairy gardens last year: both on the nature trail and the homes from the middle school. Such a fun art installation

Bloomfield Hills Schools

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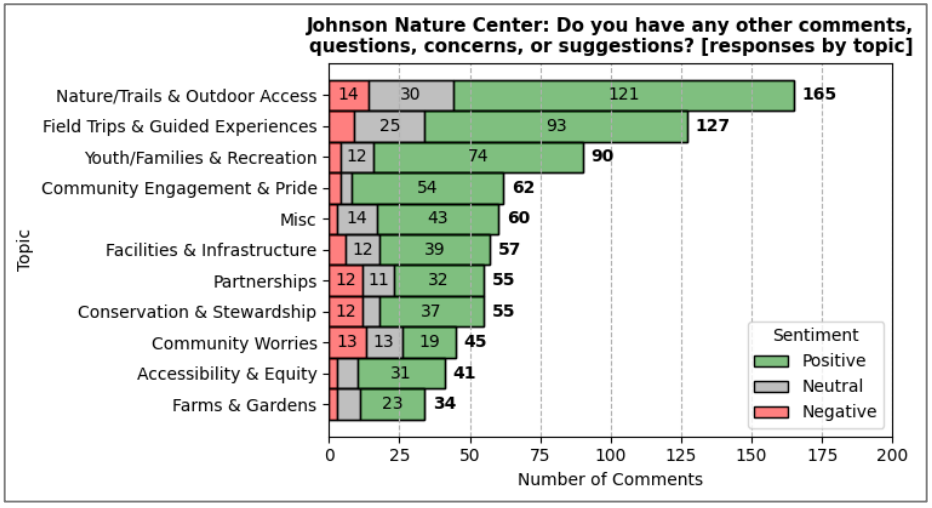
Q9. Do you have any other comments, questions, concerns, or suggestions?

We enjoy the trails to get some peace and quiet without having to travel farm from home!

This is such an important asset to protect. It is already well visited, so bringing in more visitors might make things worse for everyone



I feel like the community is not aware enough about the nature center. I think that if people knew about it more, it would be used way more

Bring program costs down

Sounds like you want to pave it over for yoga studios, corporate party rental pavilions, and cross country skiing – this was supposed to be a natural area, not a playground

Bloomfield Hills Schools

Belong Here
EXCEL ANYWHERE

Thank you!

Bloomfield Hills Schools

Belong Here
EXCEL ANYWHERE

BHS Survey Full Report

BO-D01

Source Record

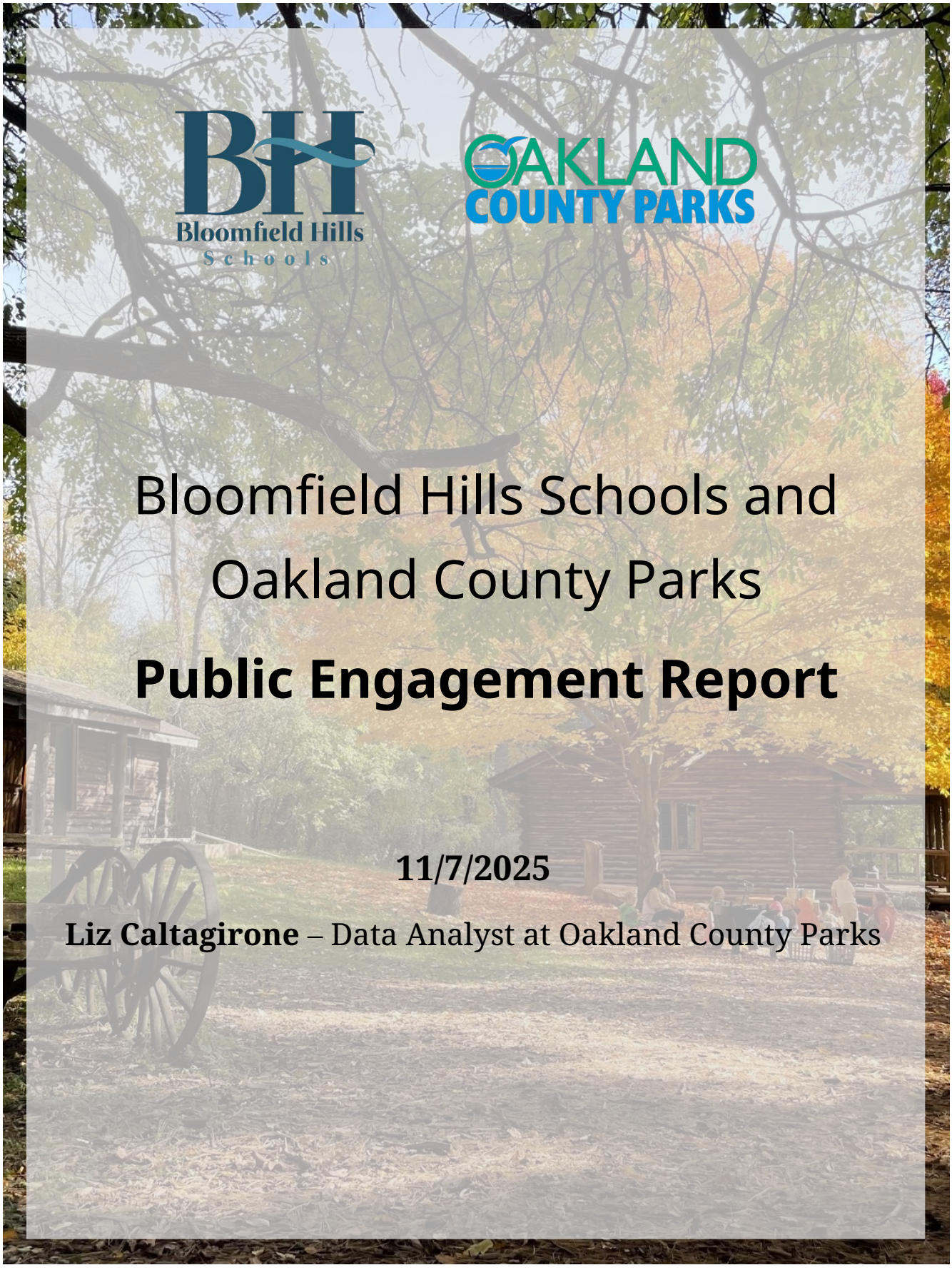
BHS Survey Full Report.docx

Review Context

Full 2025 engagement report covering both sites. Separate Johnson-specific results from combined findings. Voluntary responses are not a statistically representative visitor census.

Reproduced source pages: 63
Appendix source-page range: 812–874

Open Source Record in Google Drive



Bloomfield Hills Schools and Oakland County Parks

Public Engagement Report

11/7/2025

Liz Caltagirone – Data Analyst at Oakland County Parks

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Background

Oakland County Parks (OCP) and Bloomfield Hills Schools (BHS) are exploring a potential intergovernmental partnership to support and strengthen Bowers School Farm (BSF) and the Johnson Nature Center (JNC). While no agreements have been made, early discussions suggest a model where Bloomfield Hills Schools would continue to have priority access for educational programming, while Oakland County Parks would oversee operations and management with a focus on bolstering recreation activities.

In-person community engagement opportunities were held at both Bowers School Farm and the Johnson Nature Center, and an online survey was also available to provide feedback on this potential partnership. The purpose of the online survey was three-fold:

1. To measure the amount of public support for Bloomfield Hills Schools to continue dialogue with Oakland County parks about this potential partnership.
2. To determine community priorities related to offerings, features, and activities related to Bowers School Farm and the Johnson Nature Center
3. To analyze how often these facilities are visited and the different ways visitors use them.

Around 80 people engaged with the materials present at the in-person events and 646 individuals sent in complete responses to the online survey, for a total of 727 participants.

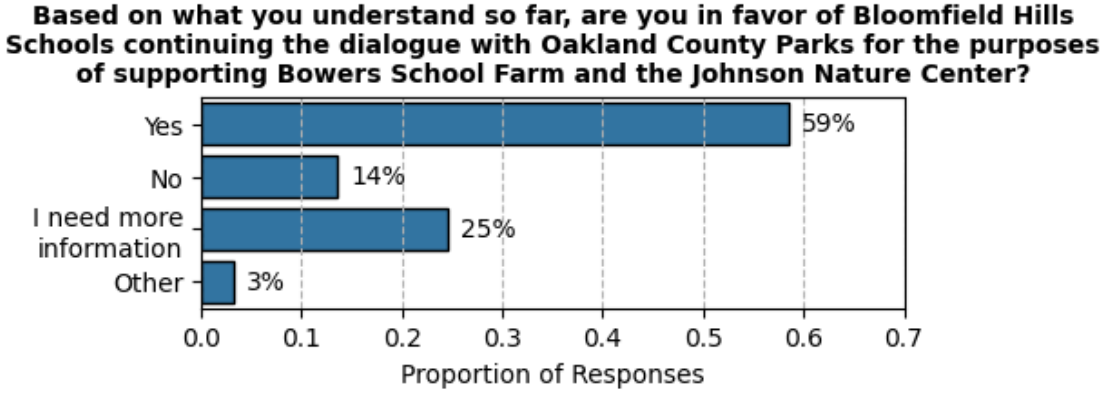
Community Feedback Summary

Support for the Potential Partnership

59% of respondents answered “Yes” to a question about whether they support the dialogue that may lead to a partnership. An additional 1.5% answered “Yes, with conditions” and an additional 0.5% are “leaning yes”, for a total of **61% in support**. 25% need more information and **14% are not in support** (*Figure 1*).

The more often a respondent visits either Bowers School Farm or the Johnson Nature Center, the more strongly they feel about the facility and its ownership. However, this does not mean loyal supporters are opposed to the idea of the partnership, as 47% of respondents who visit the Johnson Nature Center more than once a month say they need more information on the subject to decide (*Figure 45*). The percentage of respondents who explicitly do not support the partnership is roughly the same (14%) regardless of how often they visit the facilities (*Figure 44*).

Figure 1. Percent of respondents in support of partnership dialogue



Community Priorities

Visitors to Bowers School Farm who took this survey highly value agriculture education, weekend events, and natural areas (*Figure 20*). Popular features and activities at the Farm include farm store and kitchen (56%), Fall Festival (53% attended), Winter Park (46%), and grade K-5 field trips (42%) (*Figure 18*). Visitors to the Johnson nature Center who took this survey highly value natural areas/trails and youth education opportunities (*Figure 31*). Popular features and activities at the Nature Center include trails and hiking (59%), youth education (46%), visiting rescue animals (45%), and maple sugaring (33% attended) (*Figure 29*).

1. In-Person Events

Two in-person engagement opportunities were held:

- Saturday, October 18th, 2025 @ Bowers School Farm's Fall Festival event from 10AM-12PM (paid admission)
- Monday, October 20th, 2025 @ Johnson Nature Center from 4-6PM

Representatives from both Bloomfield Hills Schools and Oakland County Parks were present at both events and available to answer questions from visitors. Each person engaged at an in-person pop-up event (80 total) was given four stickers to "vote" for their priorities (*Figure 2*).

In-Person Feedback

Figure 2. In-Person priority boards with stickers

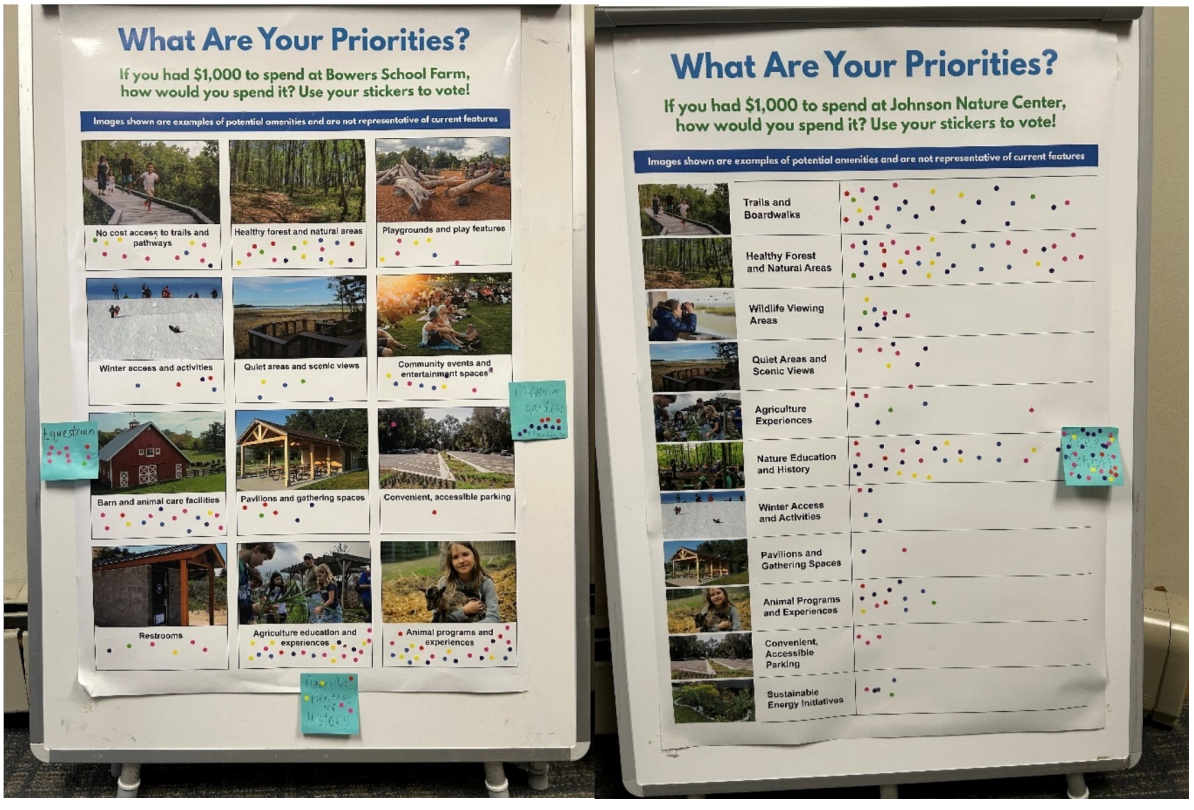


Figure 3. Priorities in financial expenditure at BSF with added assets highlighted

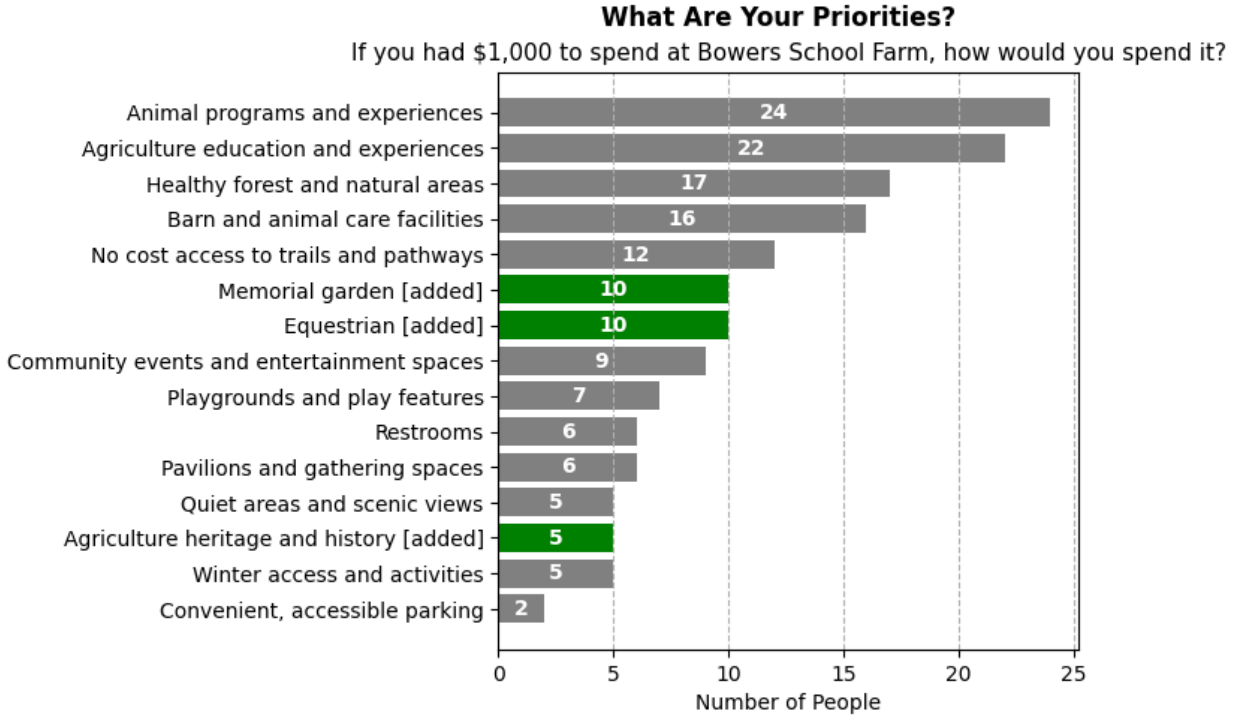
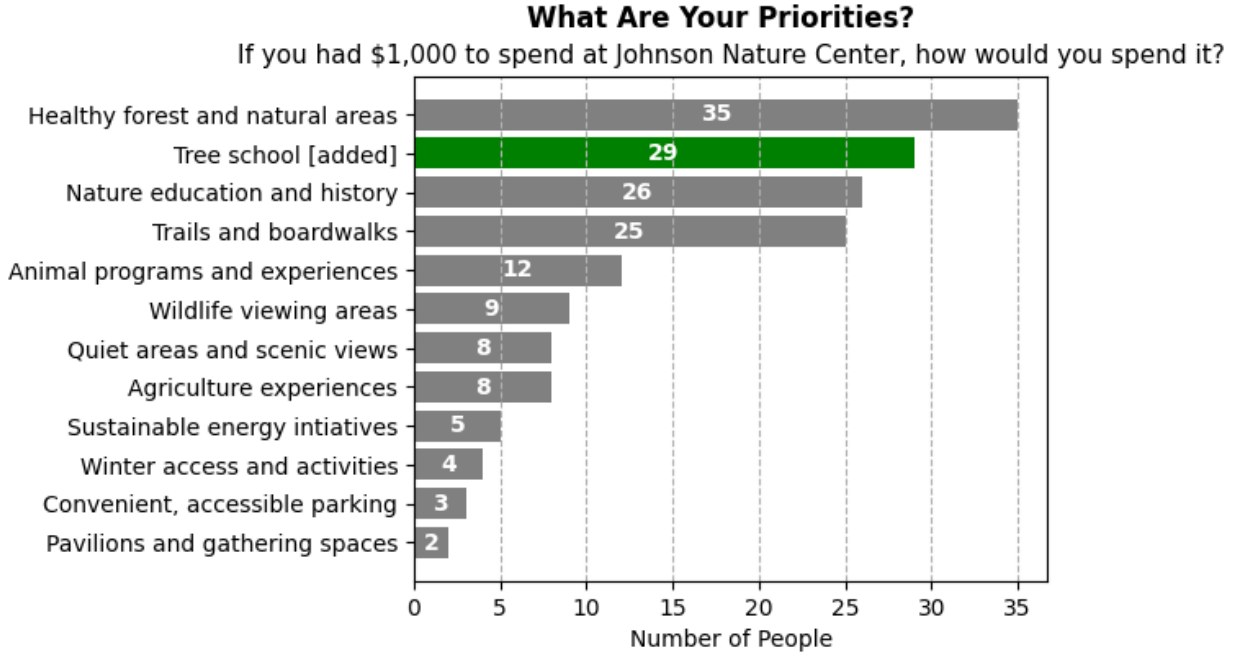


Figure 4.Priorities in financial expenditure at JNC with added assets highlighted



In-Person Priorities vs Online Priorities

The priorities expressed by participants at the in-person events and the priorities expressed by individuals taking the online survey are very similar. At Bowers School Farm in-person participants rated animal experiences and agriculture education more highly important than the online participants, who valued natural areas above education (*Figure 3*). At Johnson Nature Center, both in-person and online participants rated healthy forest and natural areas as the top priority. In-person participants were also very enthusiastic about Tree School specifically, adding that voting option to the board and gathering 29 votes (*Figure 4*).

2. Online Survey

Survey Methods

A total of 646 complete responses were collected between October 7th and October 31st, 2025. The survey was shared via social media and email newsletters and via postcards with a QR code link to residents in the Bloomfield Hills school district boundaries.

The full survey text is included in the appendix (*Full Survey Text*) and consists of 28 questions. Five of those questions were open-ended. Four of those questions were rating different features out a preset scale. Eight of those questions were related to demographics. The remaining questions were related to visitor experiences and participation at Bowers School Farm and the Johnson Nature Center.

Typical Demographics

97% of respondents live in Oakland County (*Figure 8*), with 32% living in Bloomfield Township followed by 27% in Bloomfield Hills (*Figure 9*). 68% of survey respondents live within BHS district boundaries (*Figure 5*), and 41% of them are a parent or guardian or a child currently enrolled in a BHS school (*Figure 6*). 56% of respondents have children under 19 years old in their household (*Error: Reference source not found*), and of those, the most common age range is 6-11 years (*Figure 7*).

The area within a 10-minute drive of either Bowers School Farm or the Johnson Nature Center contains 70,910 households (population of 173,233) and contains the entirety of the Bloomfield Hills Schools district boundaries. Where relevant, the charts below will indicate the demographics of that service area compared to the demographics of respondents. Additional horizontal or vertical lines on the chart represent the value of that demographic within the service area. The color of the line will indicate whether the survey under-represents (red), accurately represents (blue), or over-represents (green) that demographic.

The most common age range of respondents is 35-54 years old, which is greatly over-represented compared to BSF and JNC's 10-minute drive service areas (*Figure 11*). 69% of respondents identify as female (*Error: Reference source not found*), and 84% are White (*Figure 12*). Both the female gender and the White race are also greatly over-represented compared to the target service area. 93% speak English at home (*Figure 13*).

Figure 5. Proportion of respondents that live within BHS boundaries

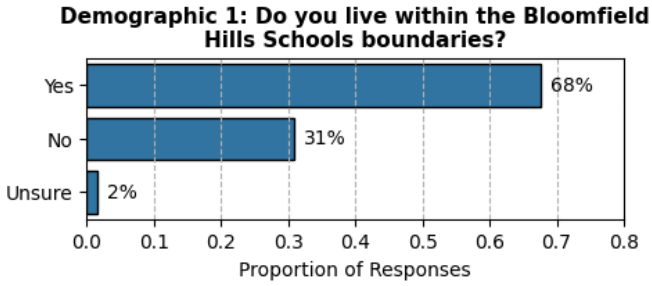


Figure 6. Proportion of respondents who have children in BHS

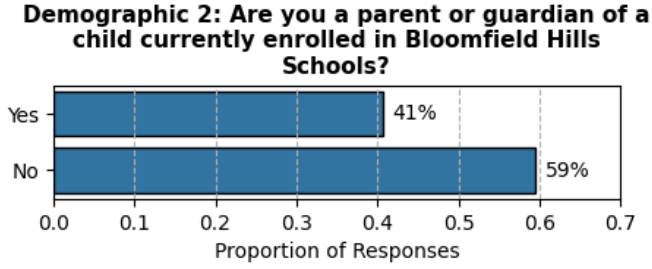
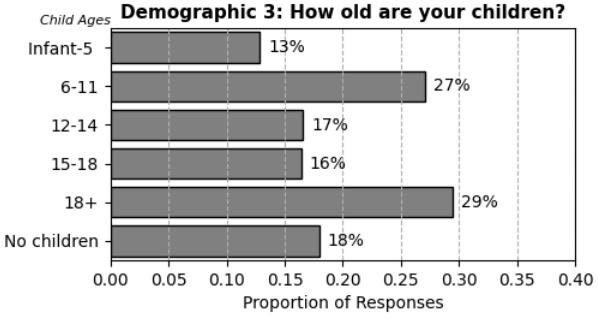


Figure 7. Age range for respondents' children



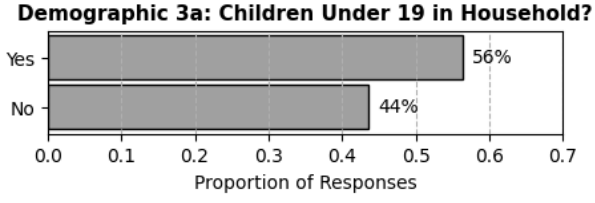


Figure 8. Respondent county of residence

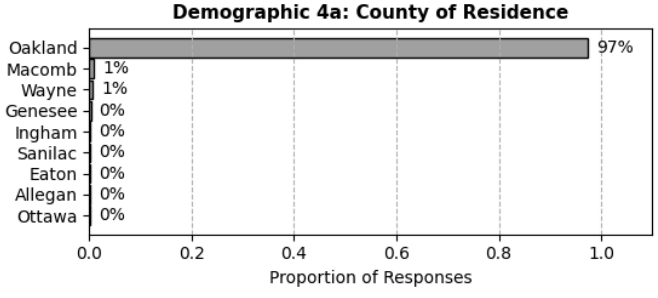


Figure 9. Respondent city of residence

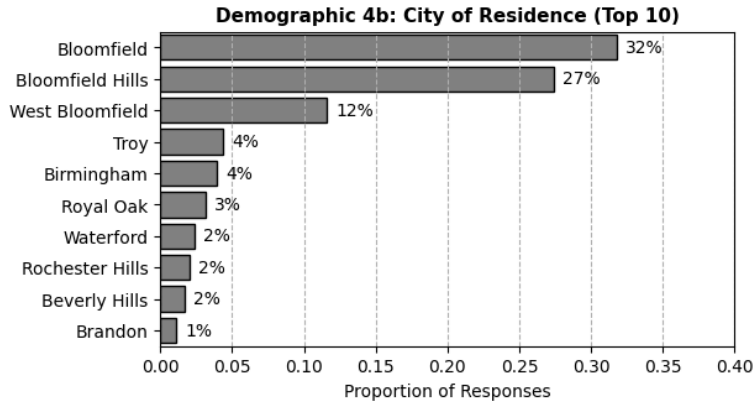


Figure 10. Map of respondent zipcode of residence

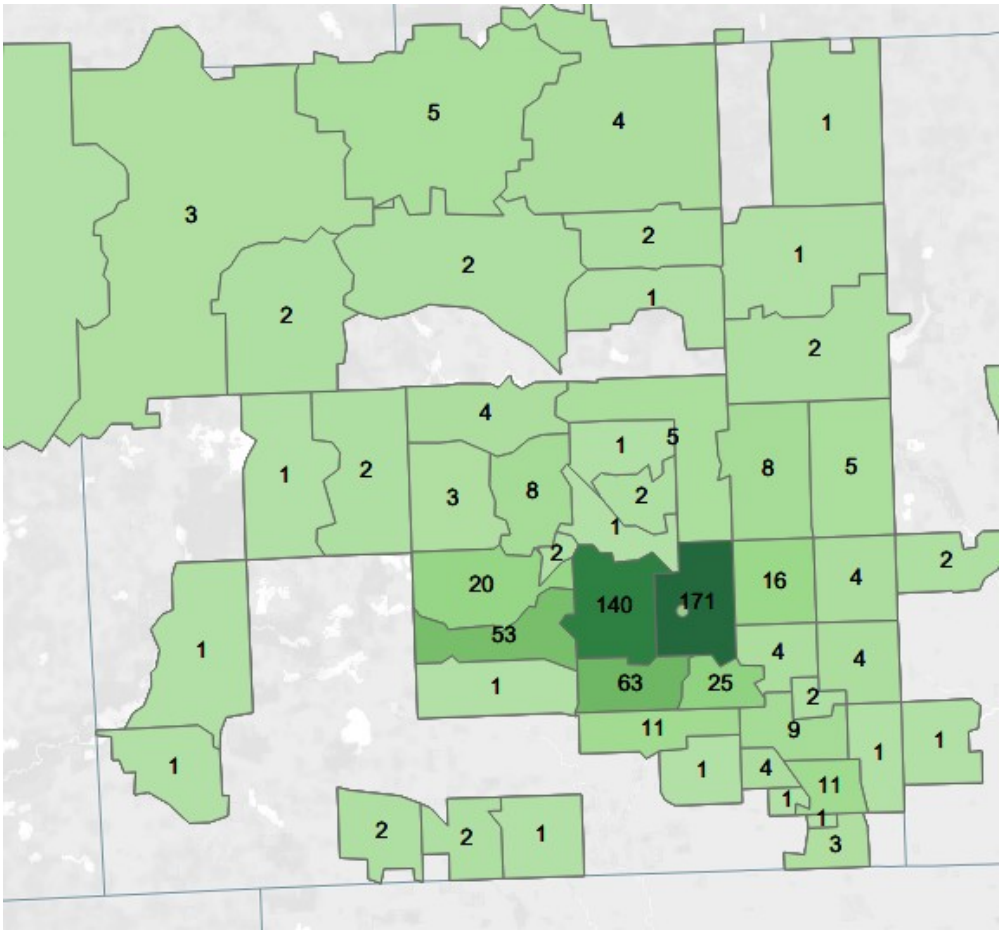


Figure 11. Age range and gender of respondents

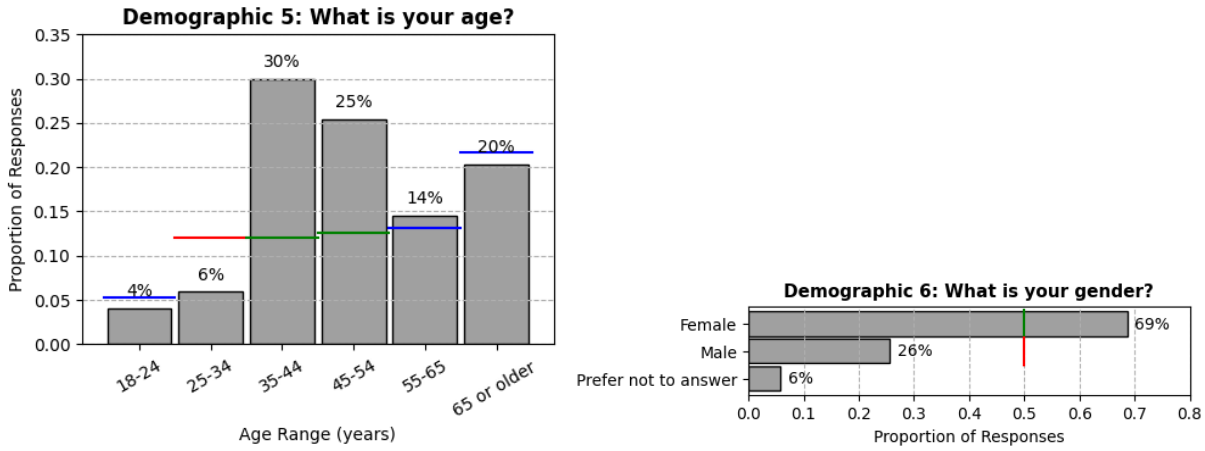


Figure 12. Race/Ethnicity distribution of respondents

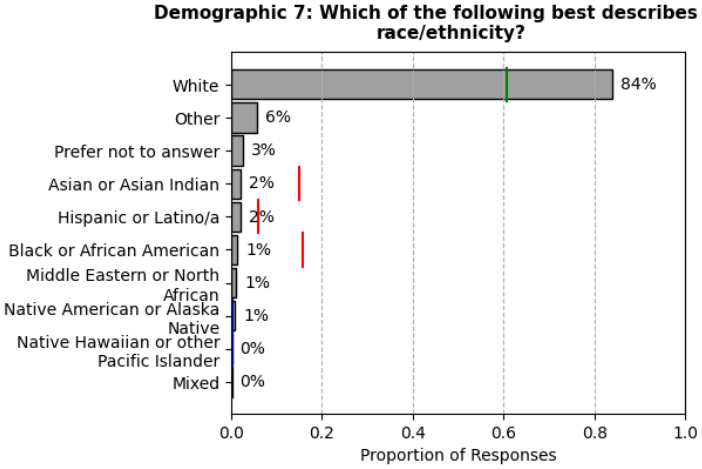
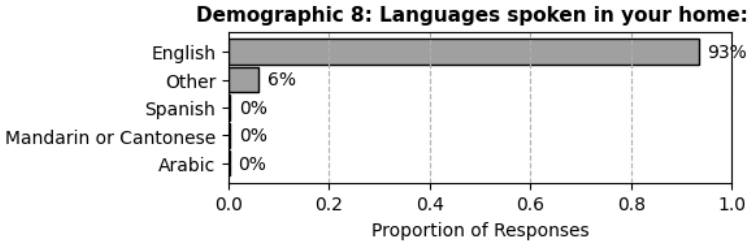


Figure 13. Language use at home of respondents

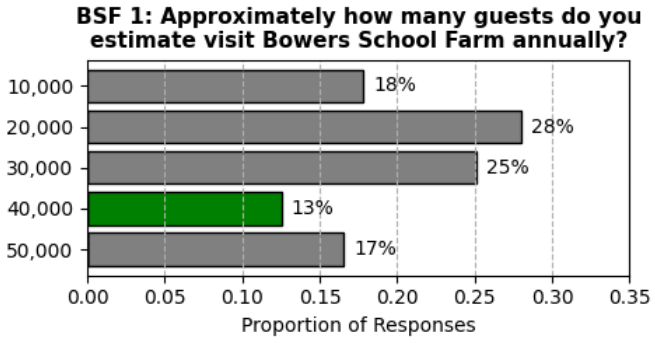


Survey Results

Bowers School Farm Questions

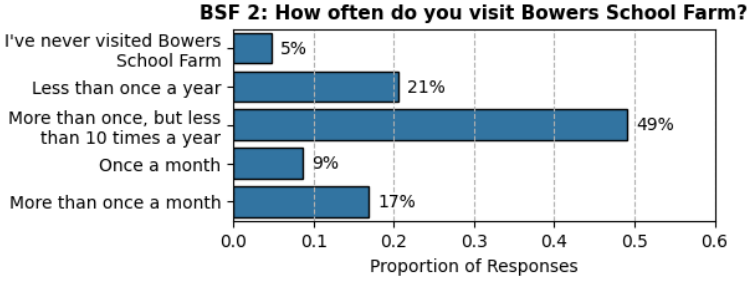
13% of respondents guessed correctly that Bowers School Farm sees 40,000 visitors annually.

Figure 14. Respondent guess on BSF visitation with correct highlighted



49% of respondents visit Bowers School Farm more than once, but less than 10 times per year. 17% visit more than once per month, and 5% have never visited.

Figure 15. Respondent BSF visitation frequency



83% of respondents say they actively support Bowers School Farm in some way. 25% have purchased a membership, 22% have volunteered, 16% have made monetary donations, and 20% contribute in some other way, including purchasing items from the farm, attending school or camp, or participating in other ways.

Figure 16. Respondent BSF support style

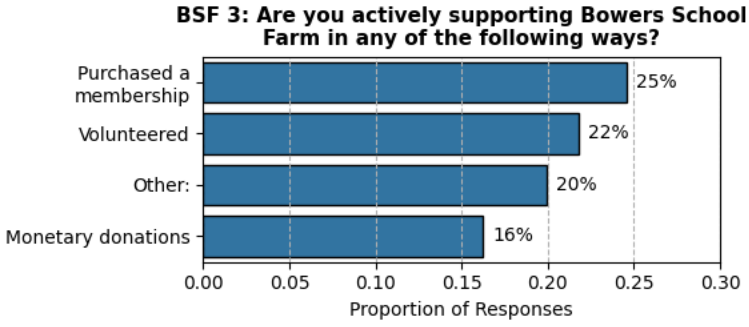
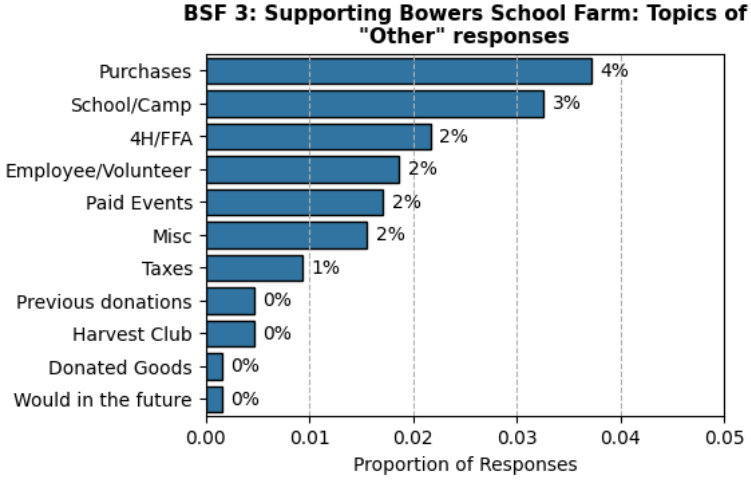


Figure 17. Respondent BSF support style "other" elaborated



56% of respondents have used the farm store and kitchen when visiting Bowers School Farm. 53% have attended the Fall Festival and 46% have attended the Winter Park event. There are many other popular activities listed in the two figures below.

Figure 18. Respondent activity upon visitation

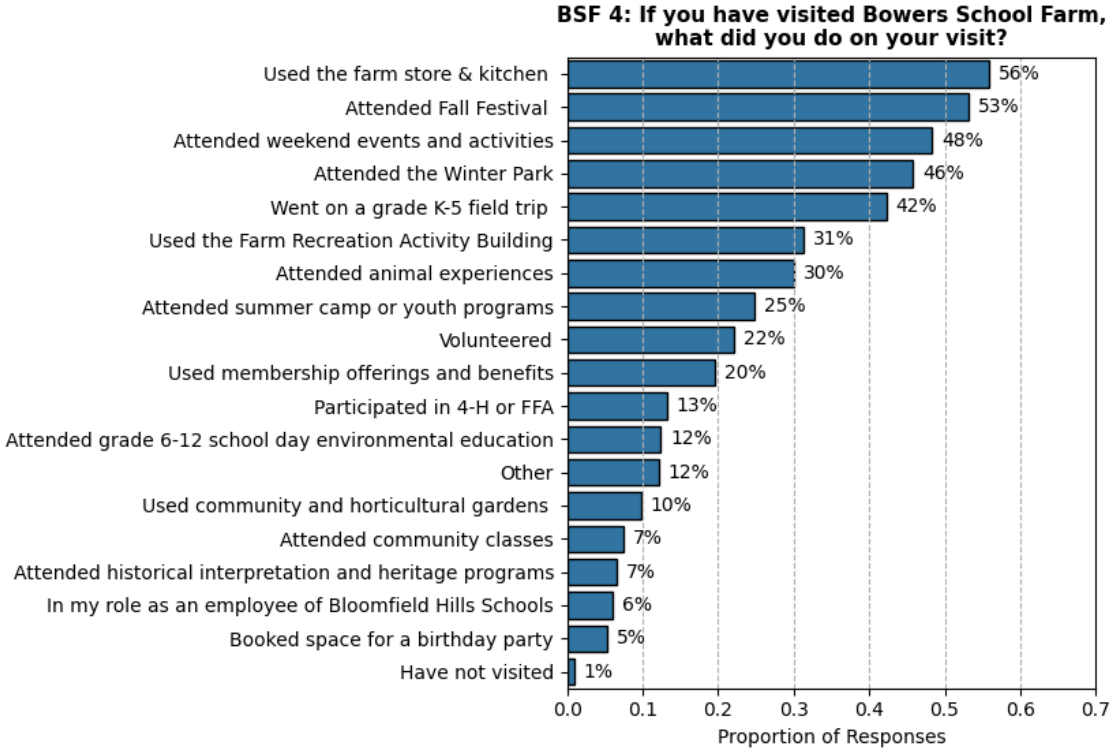
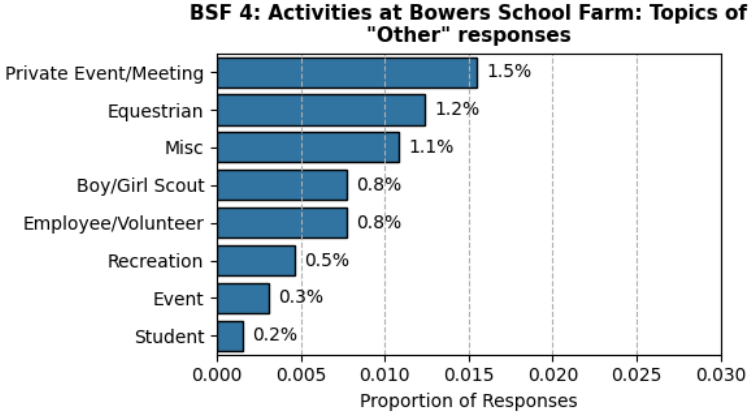


Figure 19. Respondent activity upon visitation "other" elaborated



When asked about the importance of various offerings at Bowers School Farm, at least 50% of respondents answered that every item was “Very Important”, except for the items “Membership offerings and benefits” and “Rental space for a birthday party”. The most important offerings by rating are “Animal experiences”, “Grade K-5 field trip”, and “Summer camp or youth programs”.

Figure 20. BSF offerings in order of importance – percentage split

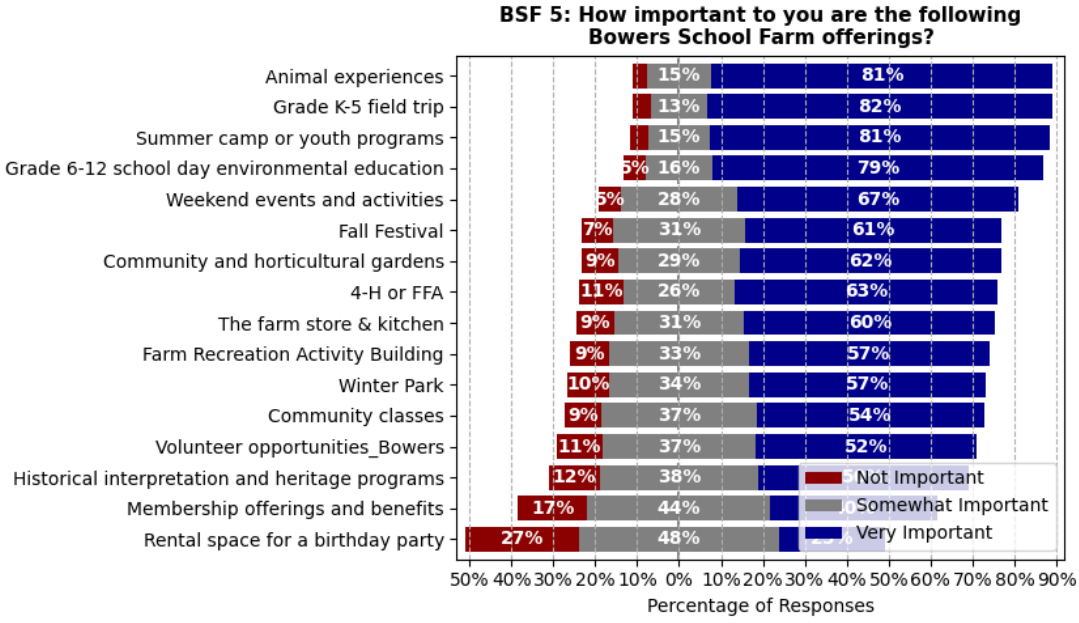
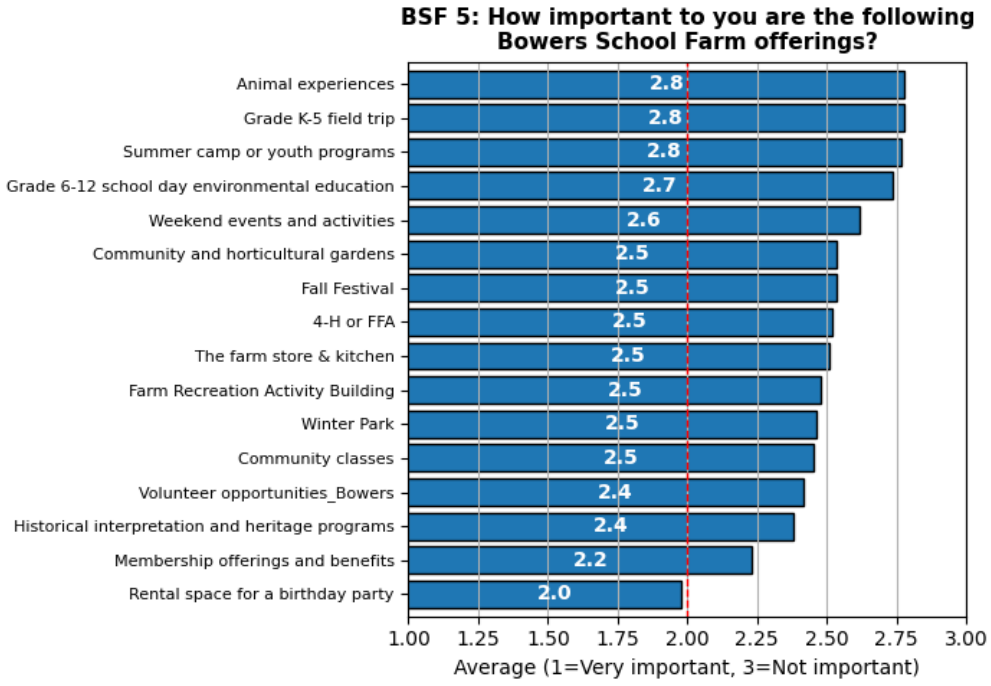


Figure 21. BSF offerings in order of importance – average score



When asked about the importance of various features and activities at Bowers School Farm, there starts to appear some variation in importance, although at least half of the items still have greater than 50% of respondents rated as “Very Important”. The most important features and activities by rating are “Healthy forest and natural areas”, “Agricultural education”, and “Updated barns and animal care areas”. Least important are “Improved parking and traffic flow” and “Dedicated event space”

Figure 22. BSF features/activities in order of importance – percentage split

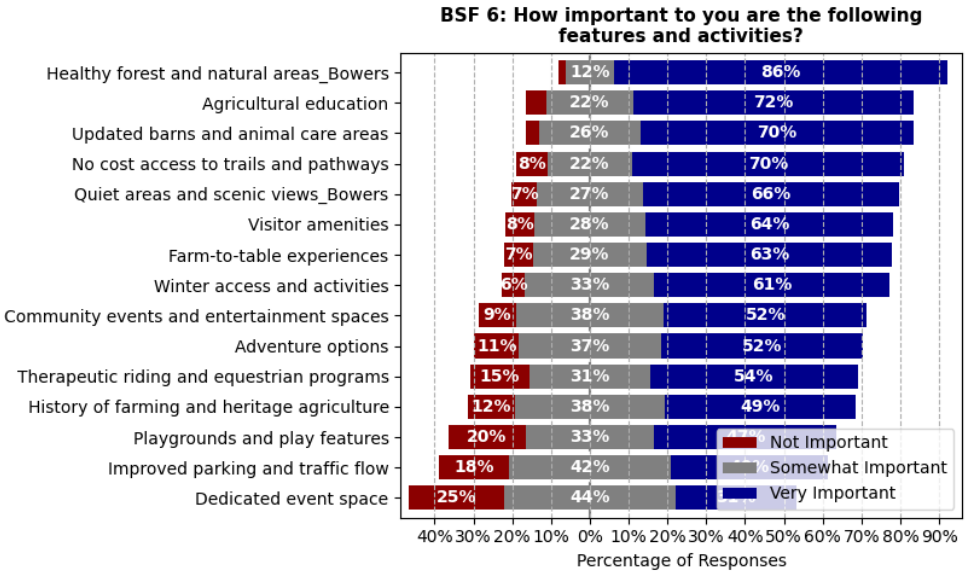
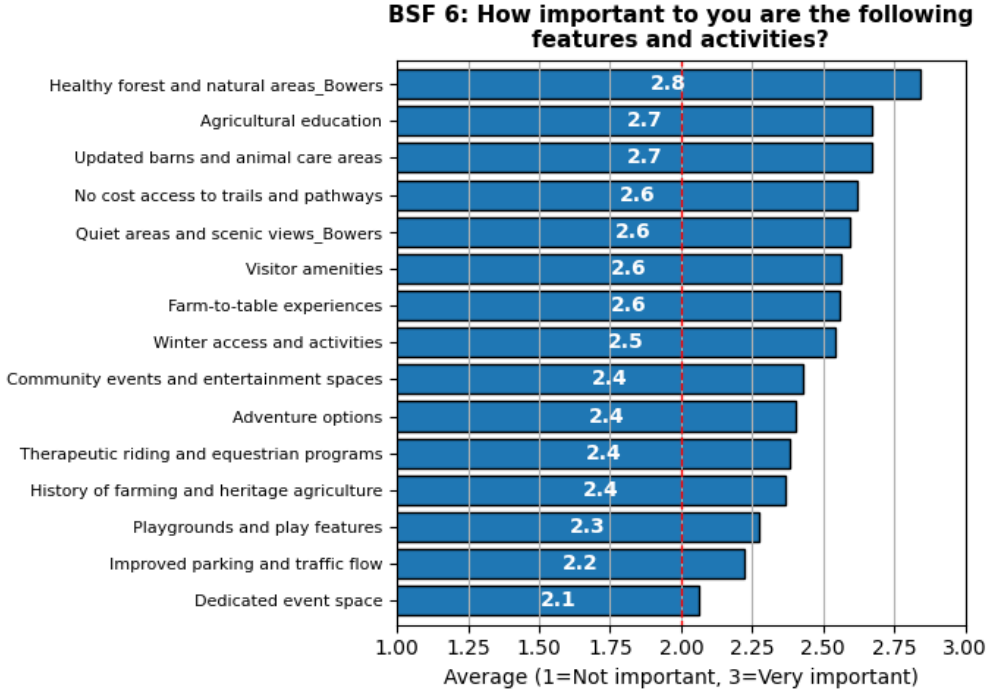
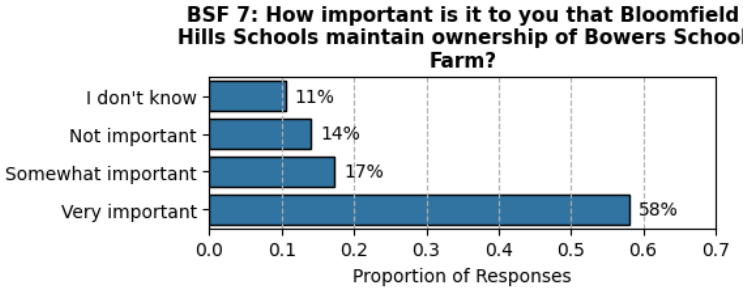


Figure 23. BSF features/activities in order of importance – average score



58% of respondents say that Bloomfield Hills Schools maintaining ownership of Bowers School Farm is Very Important.

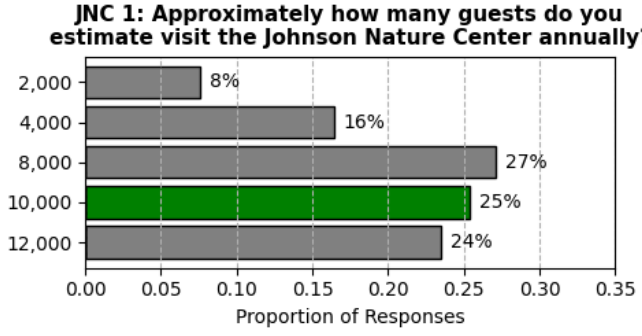
Figure 24. Importance of BHS ownership of BSF to respondents



Johnson Nature Center Questions

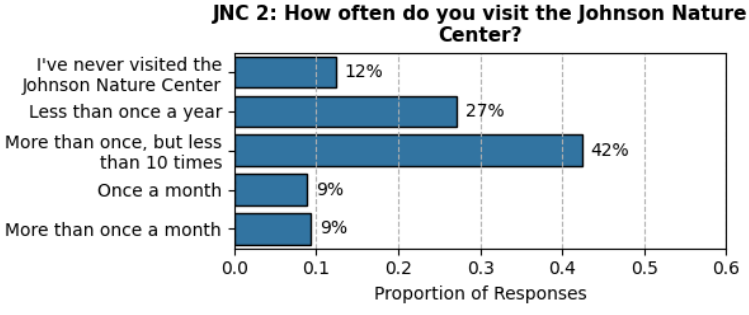
25% of respondents guessed correctly that the Johnson Nature Center sees 10,000 visitors annually.

Figure 25. Respondent guess on BSF visitation with correct highlighted



42% of respondents visit the Johnson Nature Center more than once, but less than 10 times per year. 9% visit more than once per month, and 12% have never visited.

Figure 26. Respondent JNC visitation frequency



50% of respondents say they actively support the Johnson Nature Center in some way. 13% have donated money, 12% have volunteered, 7% have attended a Forest to Table fundraising event, and 7% have purchased a membership. 11% support in other ways, including attending school/classes and events.

Figure 27. Respondent JNC support style

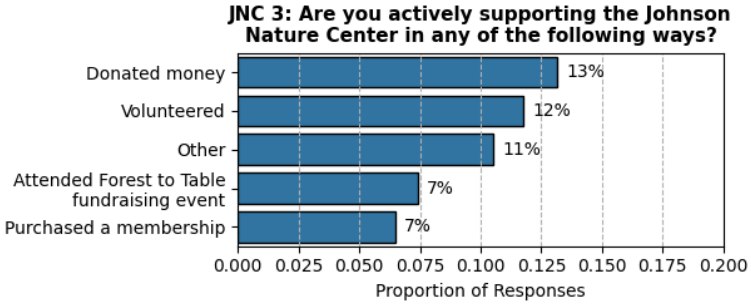
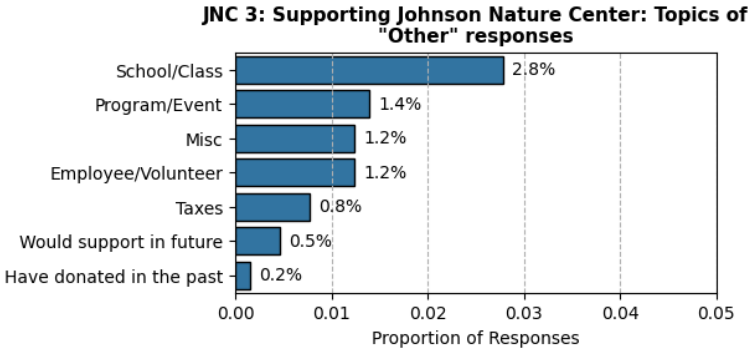


Figure 28. Respondent JNC support style "other" elaborated



59% of respondents have used the trails and hiking opportunities when visiting the Johnson nature Center. 46% have taken part in K-12 environmental education programming, and 45% have visited the deer pen/rescued animals. There are many other popular activities listed in the two figures below.

Figure 29. Respondent activity upon visitation

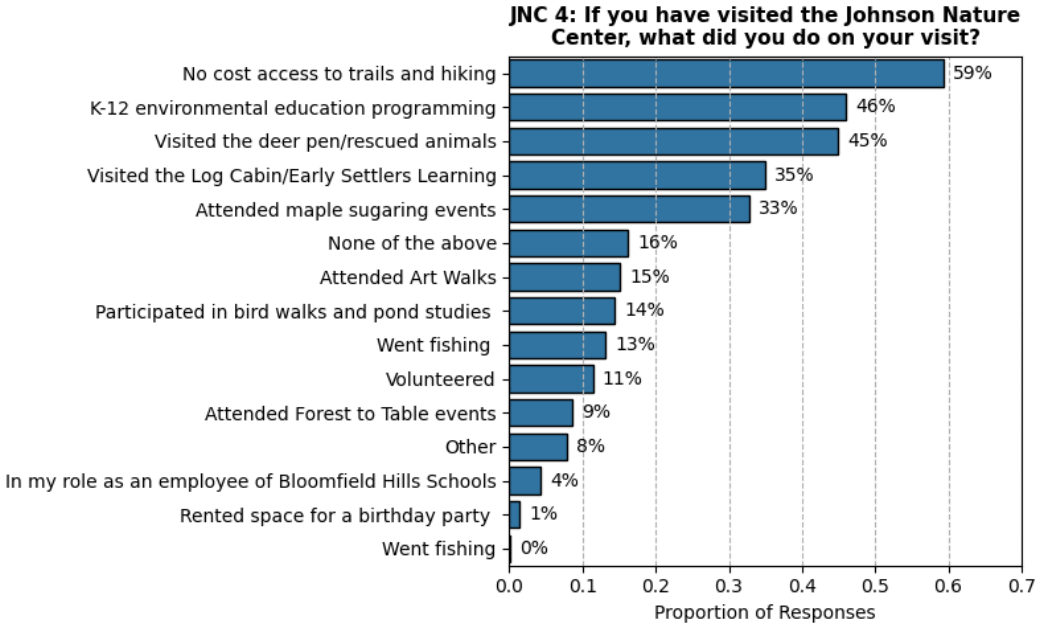
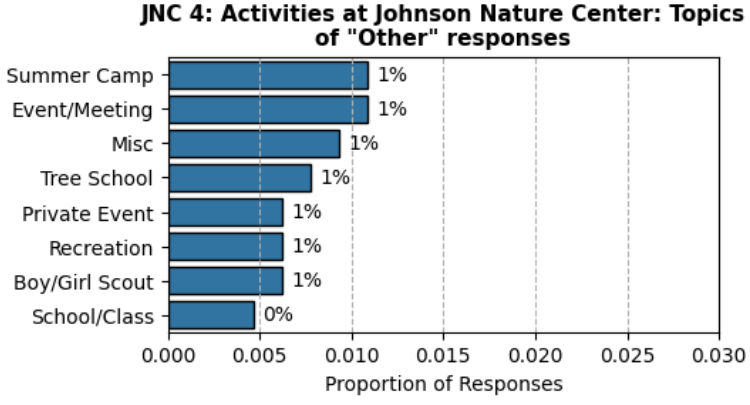


Figure 30. Respondent activity upon visitation "other" elaborated



When asked about the importance of various offerings at the Johnson Nature Center, “No cost trails and hiking” (82% say Very Important) and “K-12 environmental education programming” (82% say Very Important) are the most important to respondents, followed by offerings such as “Bird walks and pond studies” and “Maple sugaring events”. Rental space and art walks are the least important.

Figure 31. JNC offerings in order of importance – percentage split

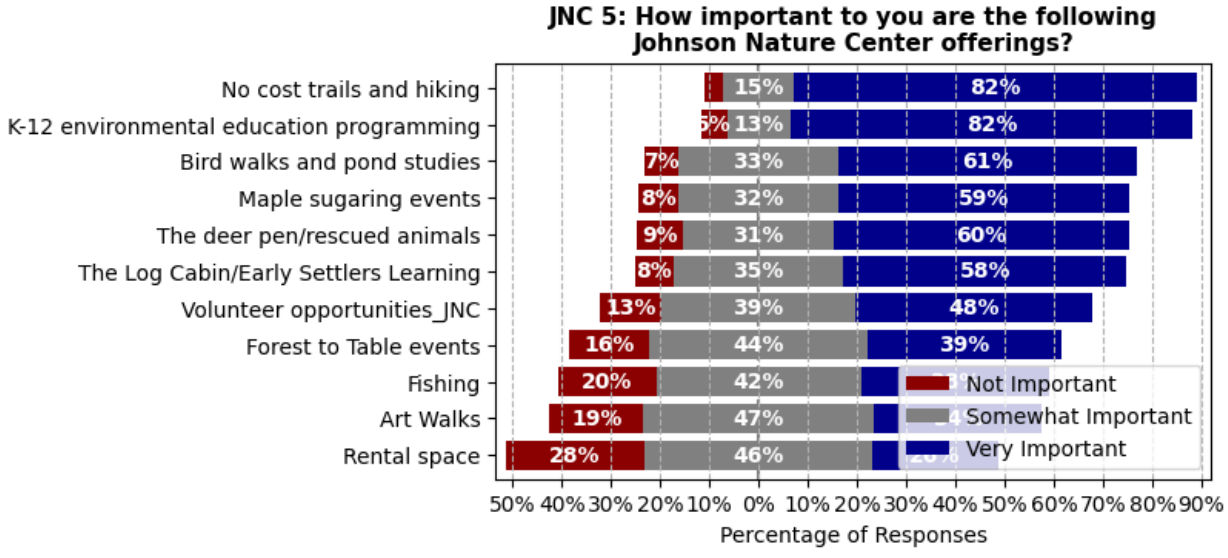
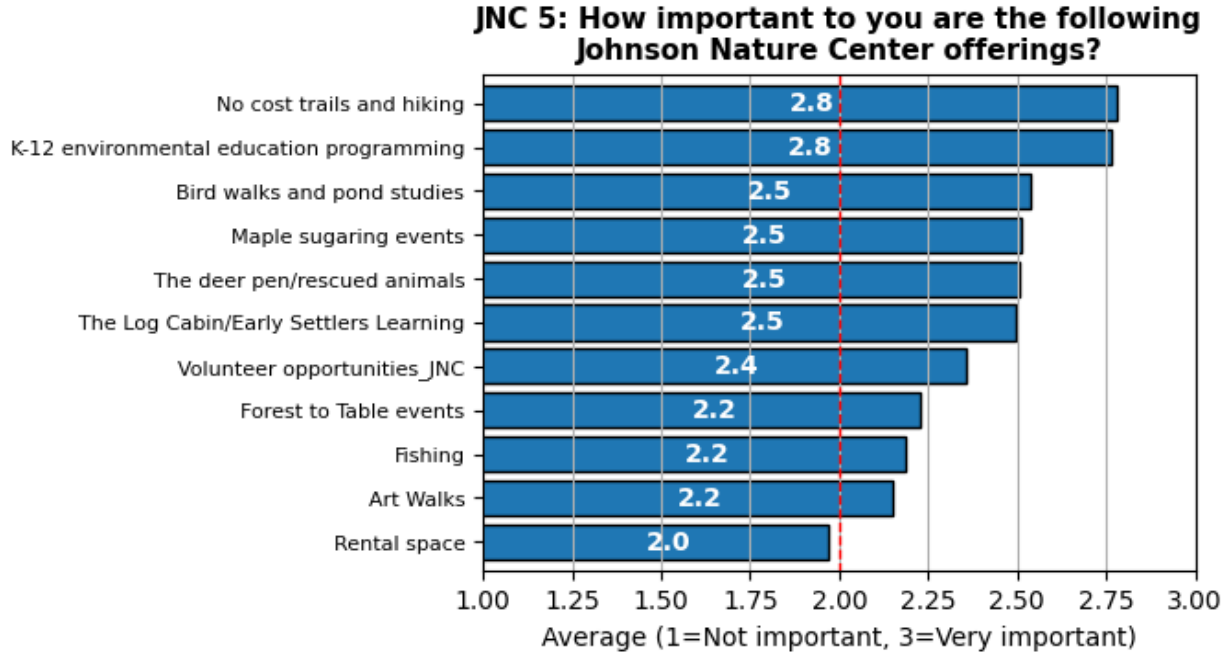


Figure 32. JNC offerings in order of importance – average score



When asked about the importance of various features and activities at the Johnson Nature Center, natural areas and trails are the most important. Enhancements to visitor amenities like parking lots are the least important (30% Very Important).

Figure 33. JNC features/activities in order of importance – percentage split

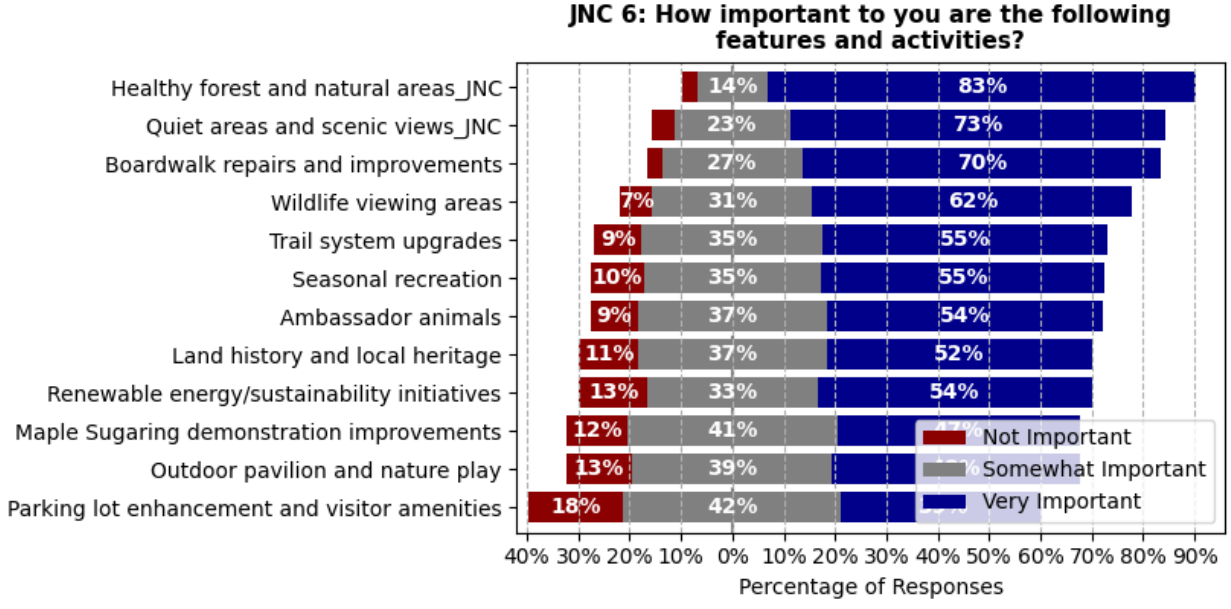
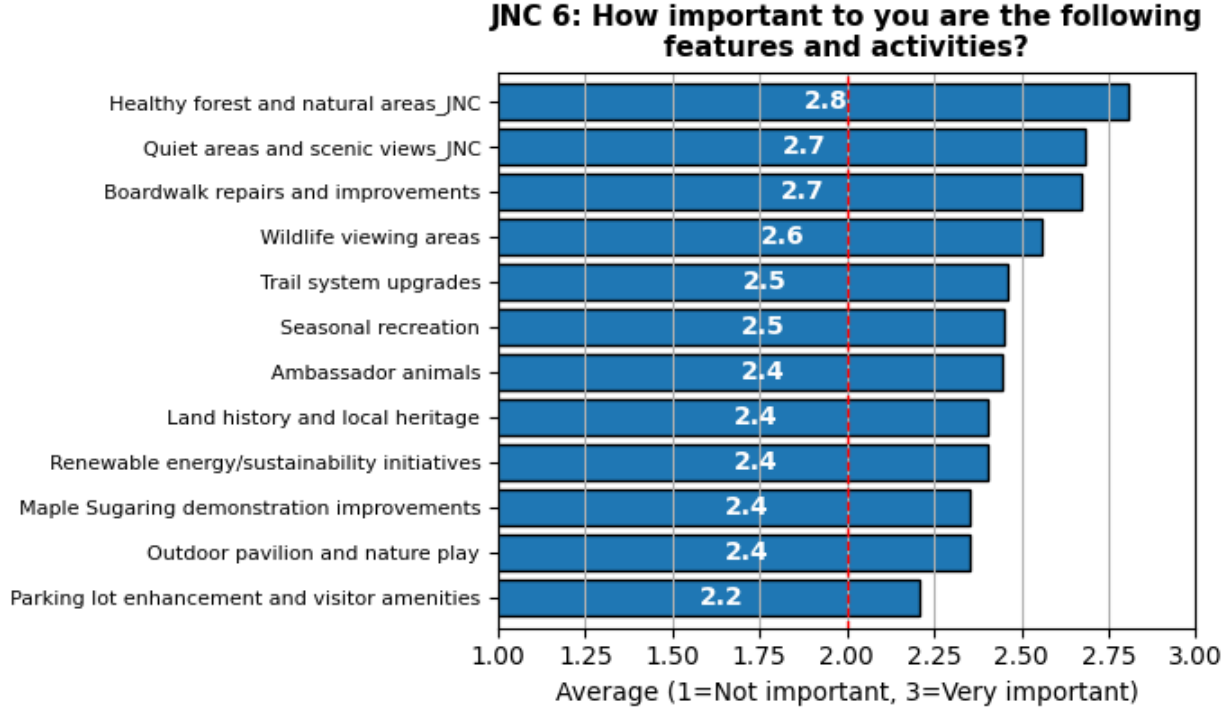
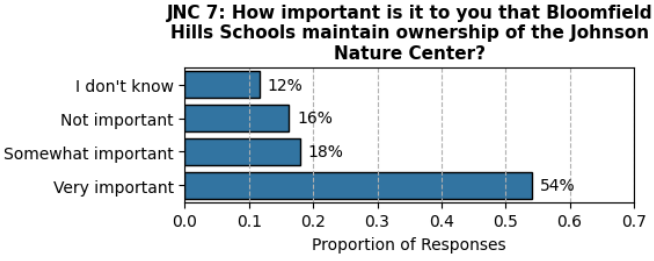


Figure 34. JNC features/activities in order of importance – average score



54% of respondents say that Bloomfield Hills Schools maintaining ownership of the Johnson Nature Center is Very Important.

Figure 35. Importance of BHS ownership of JNC to respondents



Other Questions

59% of respondents answered “Yes” to a question about whether they support the dialogue that may lead to a partnership. An additional 1.5% answered “Yes, with conditions” and an additional 0.5% are “leaning yes”, for a total of 61% in support. 25% need more information and 14% are not in support.

Figure 36. Proportion of respondents in favor of BHS partnering with OCP

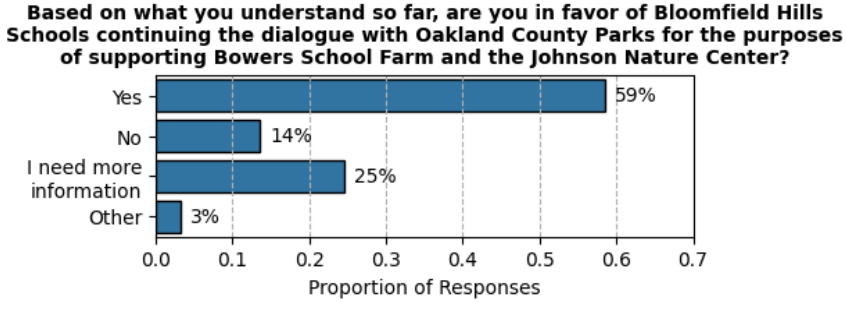
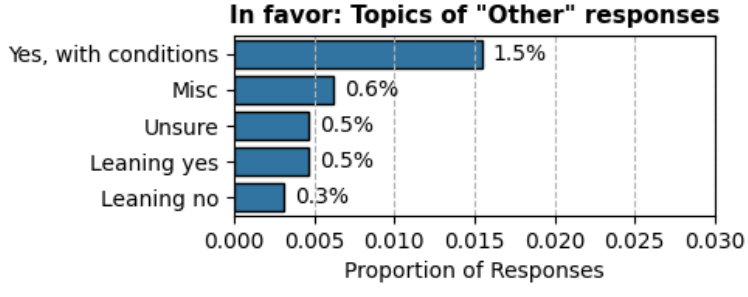


Figure 37. Proportion of respondents in favor of BHS partnering with OCP - "other" elaborated



Crosstab Survey Results

Responses to any of the above survey questions can be further broken down and separated by different demographic variables such as age or whether they have young children, or even their answers to a different question, such as whether they are in favor of the partnership or how often they visit the location in question. All the possible combinations of results are available in this interactive dashboard, but a subset will be presented here, along with any notable results from charts not included.

Factors Influencing Importance of Offerings, Features, and Activities

See *Figure 38*, *Figure 39*, *Figure 40*, and *Figure 41* for charts.

Effect of Age

- Respondents under age 35 generally think all offerings, features, and activities are more important than respondents over age 35.
    - In particular, younger respondents think volunteer opportunities are more important (true at Johnson Nature Center, more true at Bowers School Farm).

Effect of Having Young Children in the Household

- Respondents without children under 19 years old generally think all offerings, features, and activities are more important than respondents with young children.
    - In particular, respondents without young children think “History of farming and heritage agriculture” are more important at Bowers School Farm.

Effect of Visit Frequency

- Respondents who visit Bowers School Farm more often generally think all offerings, features, and activities are more important.
    - For an infrequent visitor (less than once per year), the most important features at Bowers School Farm are “Healthy forest and natural areas” and “No cost access to trails and pathways”.

Effect of Partnership Opinion

- Respondents who answered “Yes” to the question “…are you in favor of BHS continuing the dialogue with OCP…” generally think all offerings, features, and activities are slightly more important than respondents who answered “No”.

- Respondents who answered “No” still think natural areas are important at the Johnson Nature Center

Factors Influencing Answers to Other Questions

Effect of Partnership Opinion on Responses

- 54% of BHS residents support the partnership, while 68% of non-BHS residents support the partnership. (*Figure 42*)
- 48% of BHS parent/guardians support the partnership, while 65% of respondents who are not BHS parent/guardians support the partnership. (*Figure 43*)
- The percentage of respondents who do not support the partnership is roughly equal across Johnson Nature Center visit frequency (roughly 14%). The percentage of respondents who explicitly support the partnership is much lower for respondents who visit more than once a month (35% vs 62% for other frequencies). The most common answer for respondents who visit more than once a month is "I need more information", at 47%. (*Figure 45*)
    - Visit frequency does not have a notable effect on answers to the Bowers School Farm visit frequency question. (*Figure 44*)

Effect of BHS Ownership Importance on Responses

- As respondents' visit frequency to both Bowers School Farm and the Johnson Nature Center increases, so does respondents' level of importance placed on BHS ownership of those facilities. 68% of respondents who visit Bowers School Farm more than once a month think BHS ownership of the facility is "very important". (*Figure 46*) That number is 65% at the Johnson Nature Center. (*Figure 47*)

Effect of Support (Monetary or Otherwise) on Responses

- Respondents who have supported either Bowers School Farm or the Johnson Nature Center in some way (either through donations, volunteering, or other means) are much more likely to visit those locations more frequently.
    - 96% of respondents who visit Bowers School Farm once a month or more have supported the facility in the past. (*Figure 48*)
    - 70% of respondents who visit the Johnson Nature Center once a month or more have supported the facility in the past. (*Figure 49*)

Effect of Age on Responses

- At Bowers School Farm, visit frequency decreases as age increases. 58% of respondents who visit more than once per month are under the age of 35. (*Figure 50*)

- Age does not have as much correlation with visit frequency at the Johnson Nature Center. (*Figure 51*)

Numeric Crosstabs – Heatmaps

How to read a heatmap

The following four pages are heatmaps breaking the Importance questions down by additional variables. The numbers on the heatmaps are the same calculation shown earlier in the report (average rating), but grouped and averaged by different factors, such as age or gender. The color of each cell in the heatmap also corresponds to the average rating and provides a visual indicator of differences. Generally, you will be looking for especially light or dark areas that stand out (“hot spots”).

Figure 38. Average Importance of Bowers School Farms offerings, separated by group

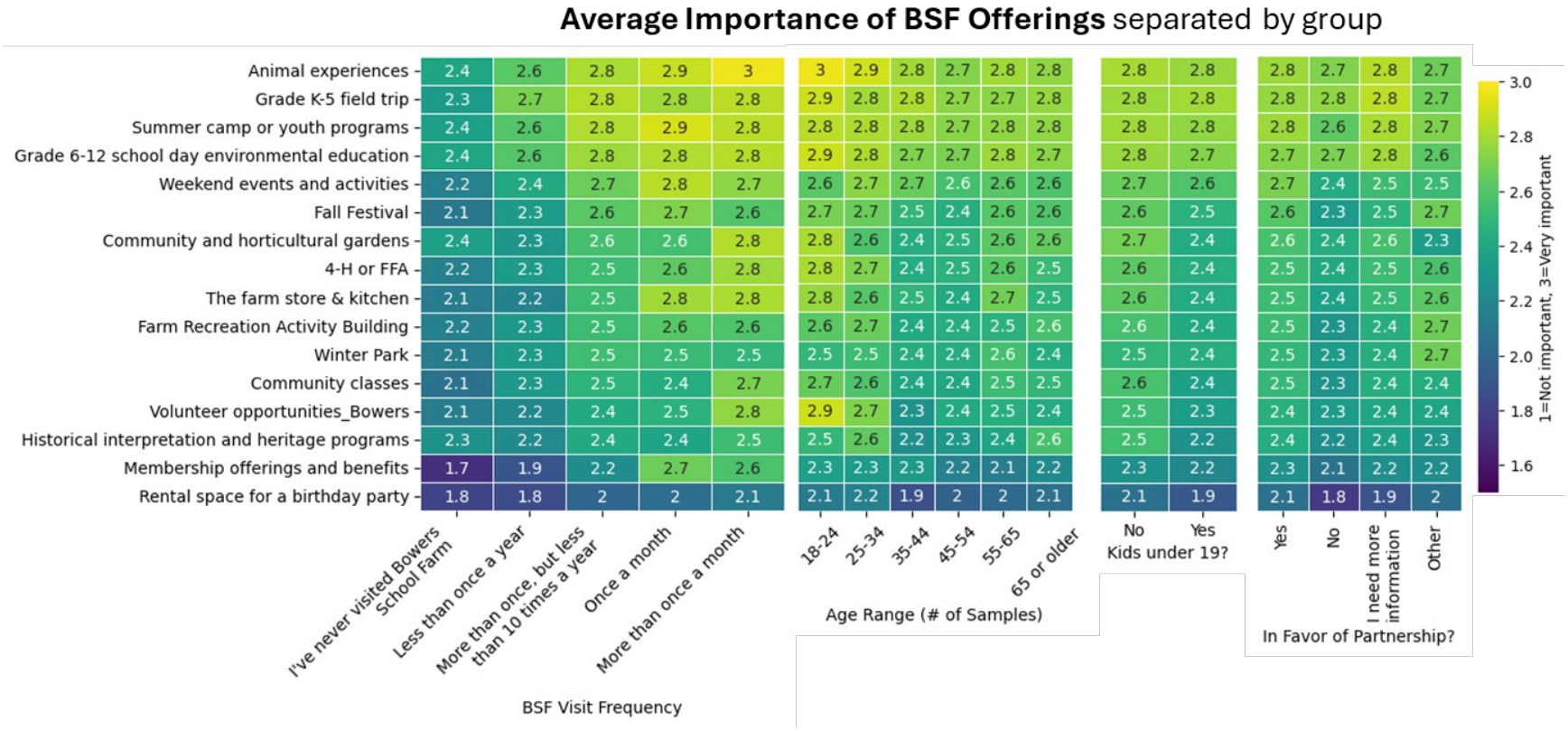


Figure 39. Average importance of features/activities, separated by group [Bowers School Farm]

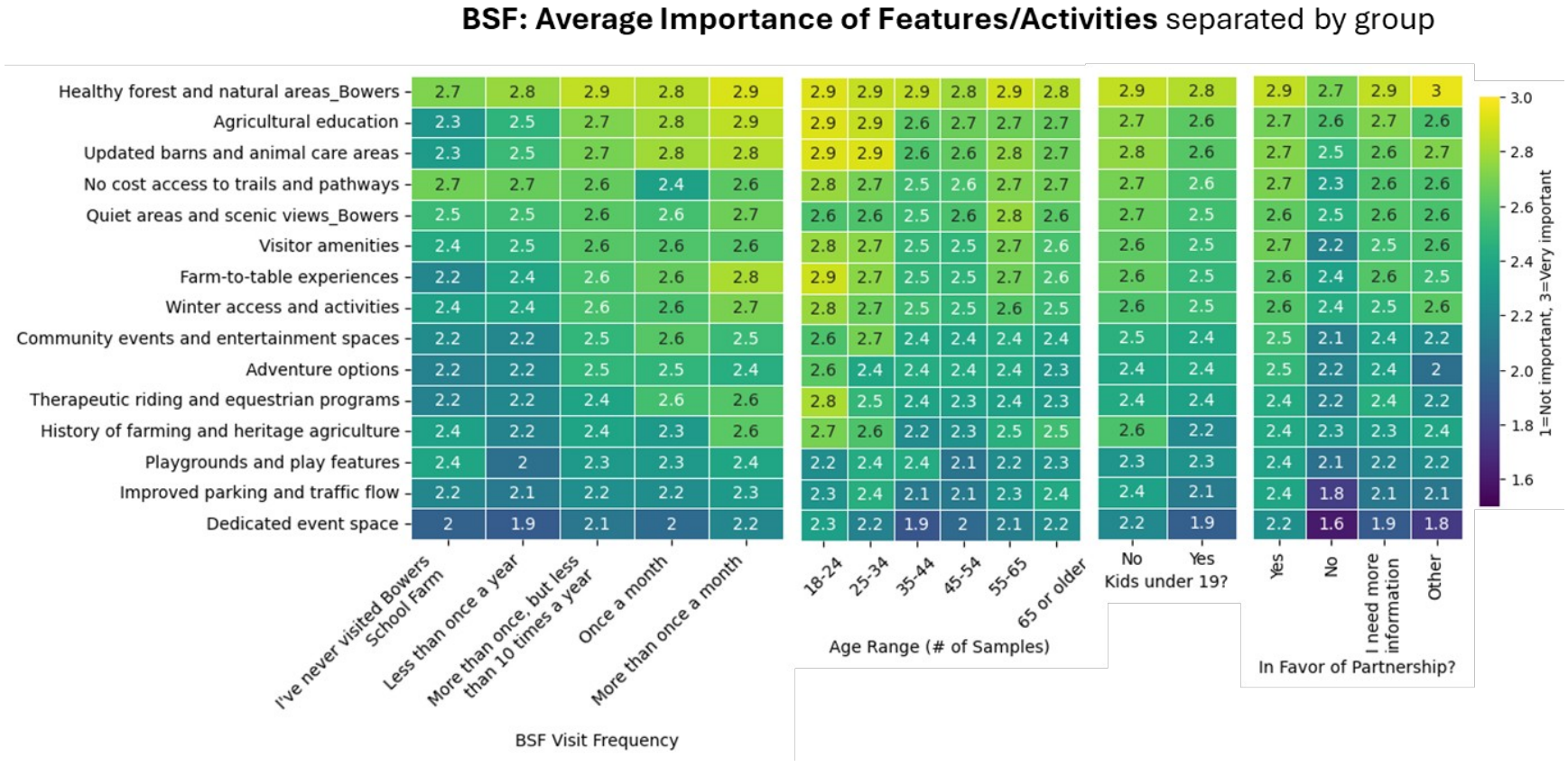


Figure 40. Average importance of Johnson Nature Center offerings, separated by group

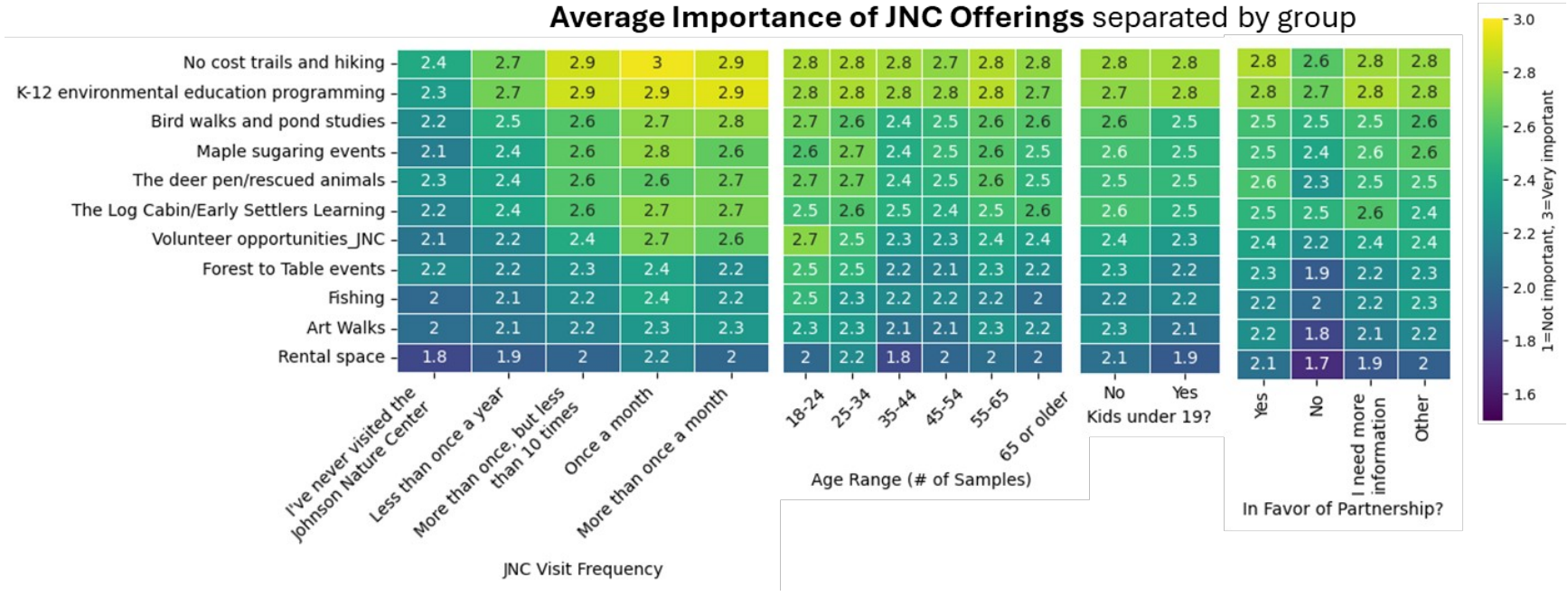
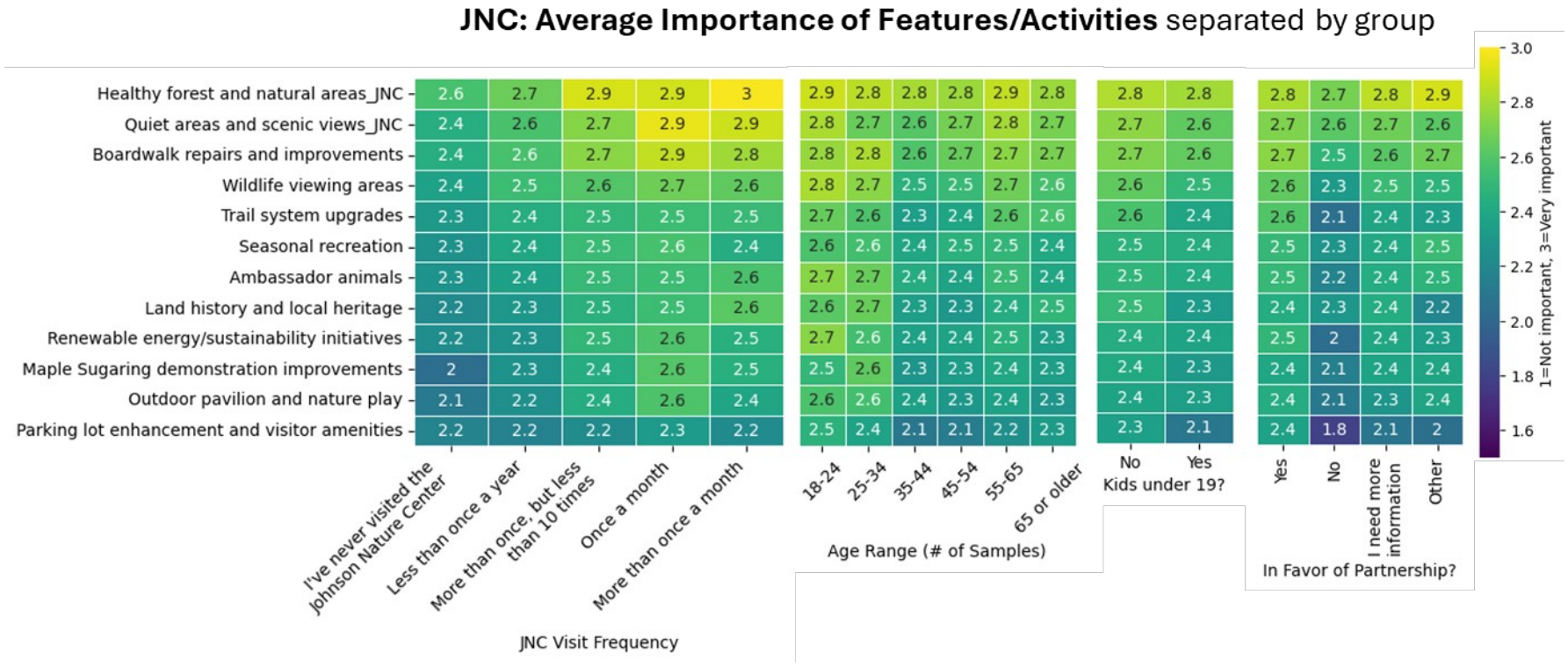


Figure 41. Importance of features/activities, separated by group [Johnson Nature Center]



Categorical Crosstabs

Figure 42. Answers to BHS Residency question separated by responses to Partnership Opinion question

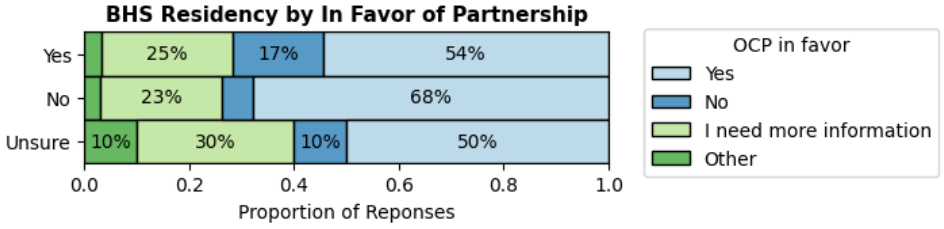


Figure 43. Answers to the BHS Parent/Guardian question separated by responses to Partnership Opinion question

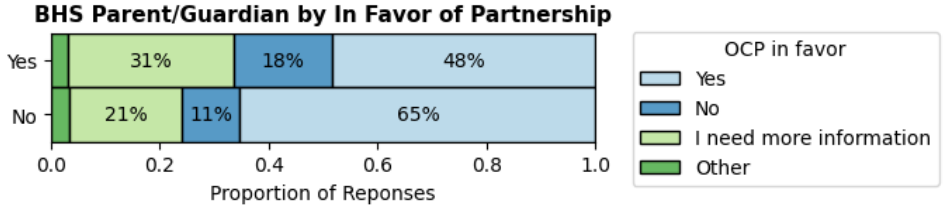


Figure 44. Answers to BSF Visit Frequency separated by responses to Partnership Opinion question

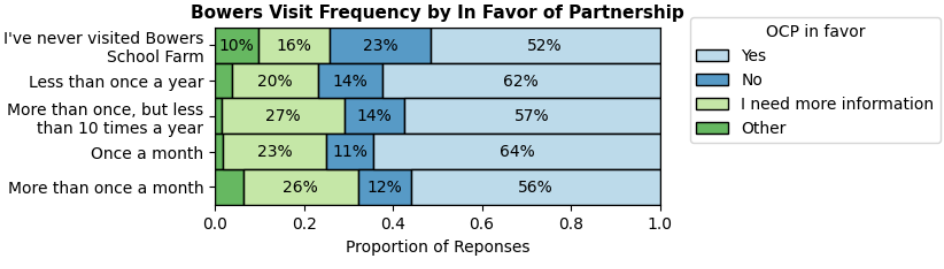


Figure 45. Answers to JNC Visit Frequency separated by responses to Partnership Opinion question

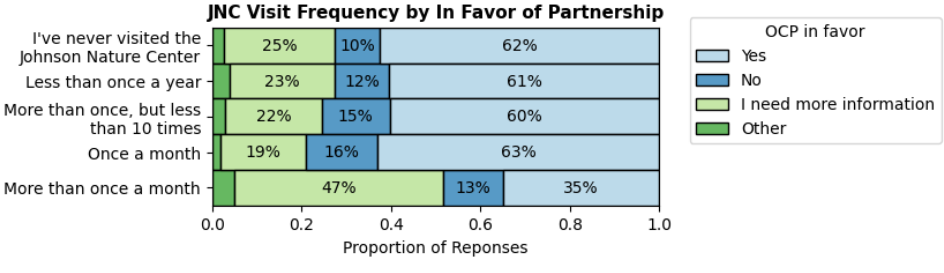


Figure 46. Answers to BSF Visit Frequency question separated by responses to BSF Ownership question

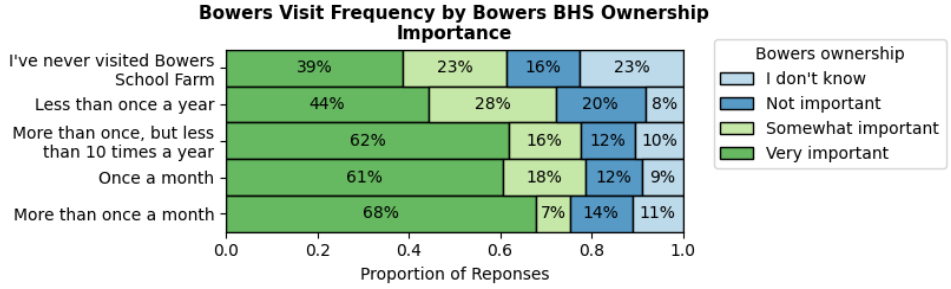


Figure 47. Answers to JNC Visit Frequency question separated by responses to JNC Ownership question

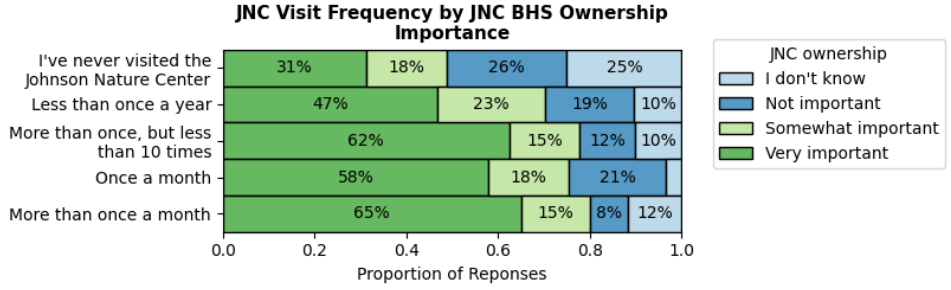


Figure 48. Answers to BSF Visit Frequency question separated by responses to Bowers Support question

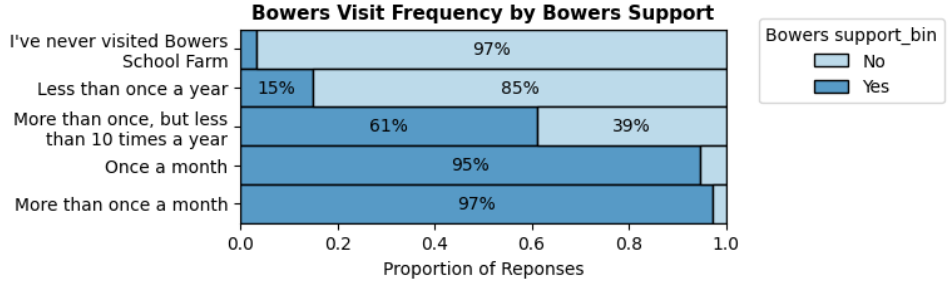


Figure 49. Answers to JNC Visit Frequency question separated by responses to JNC Support question

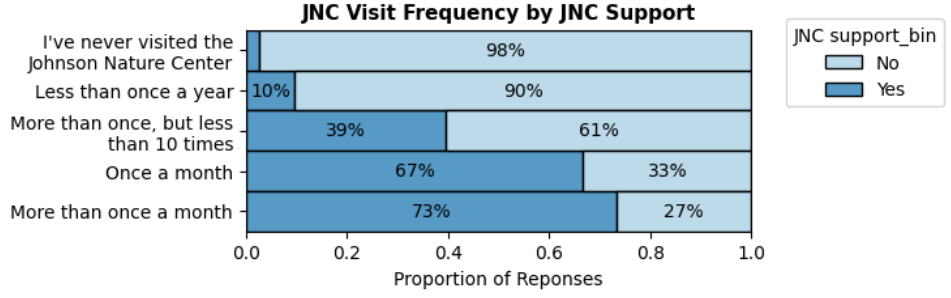


Figure 50. Answers to BSF Visit Frequency separated by age group

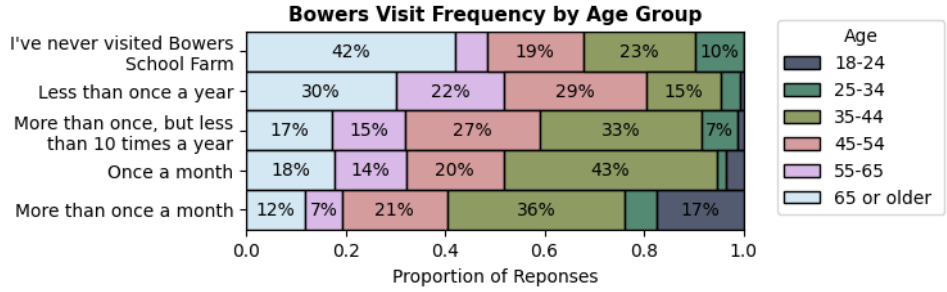
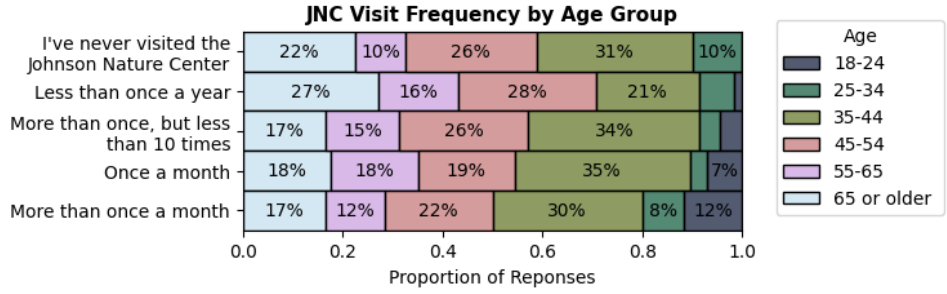


Figure 51. Answers to JNC Visit Frequency separated by age group



Comment Analysis

Almost 1,800 total comments were received between the four open-ended questions:

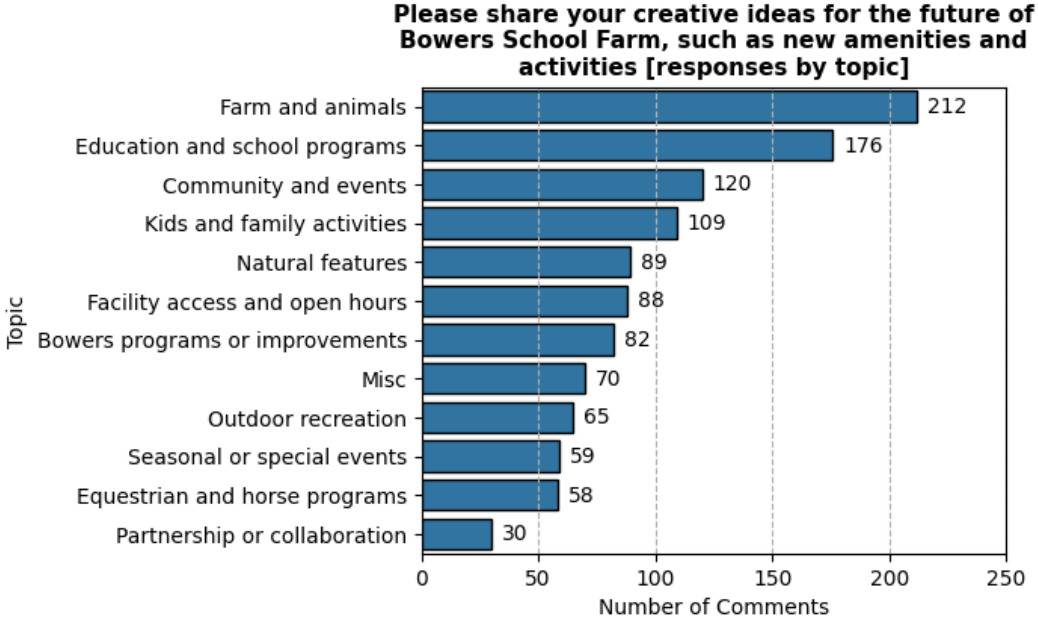
1. Please share your creative ideas for the future of Bowers School Farm, such as new amenities and activities.
2. Do you have any other comments, questions, concerns, or suggestions? (regarding Bowers School Farm)
3. Please share your creative ideas for the future of the Johnson Nature Center, such as new amenities and activities.
4. Do you have any other comments, questions, concerns, or suggestions? (regarding Johnson Nature Center)

All comments are available for viewing in this interactive dashboard.

Creative Ideas for Bowers School Farm

Most comments center on farm experiences, community events, and educational programs for students and families. Many recommend adding workshops, art activities, outdoor recreation, and equestrian opportunities. Several emphasize better access, extended hours, and revitalized Bowers-specific events and partnerships.

Figure 52. Ideas for BSF categorized by topic



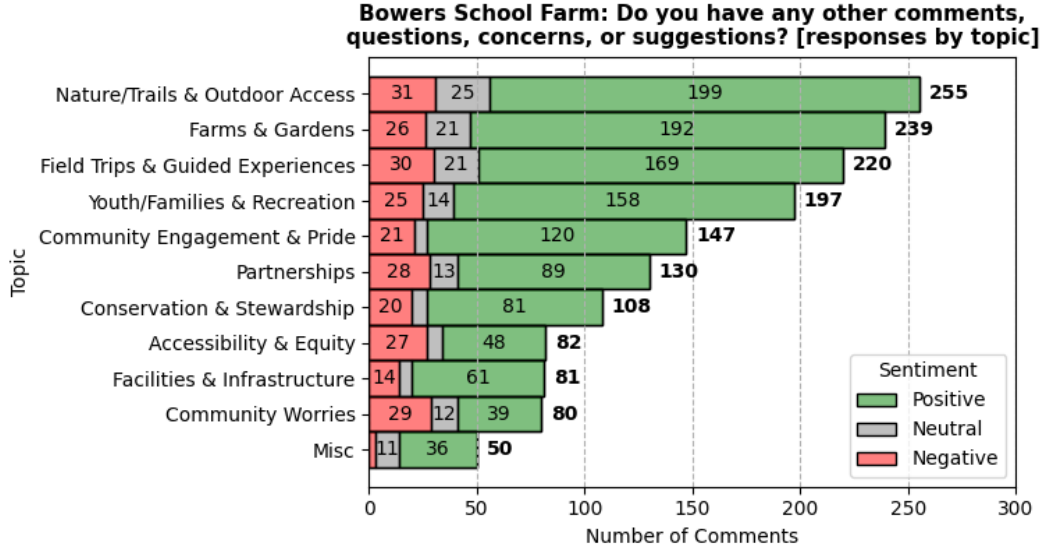
Comment Samples:

- “Partner with plain air painting groups and bring artists to the farm”
- “Expanded STEM programs and integration of student research”
- “Offer community garden plots with oversight on gardening”
- “Play structures and playground for children”
- “It would be great to have accessible trails for quiet walks”
- “Open the ropes course for public use”
- “More equestrian programs”

Comments on Bowers School Farm

The most common theme in responses to this question is strong community and educational value, with most commenters emphasizing Bowers School Farm's importance as an educational resource for students and a meaningful part of the Bloomfield Hills Schools experience. Also common are comments are diversity of experiences and programs, with many mentioning specific activities such as field trips, camps, animal care, agricultural learning, seasonal festival, and the tubing hill. Comments were also received regarding the respondents' desires for preservation and continued support of the facility. A significant portion express opposition to closure or redevelopment, urging continued funding, upkeep, and access for families and schools.

Figure 53. Additional comments about Bowers School Farm, categorized by topic and sentiment



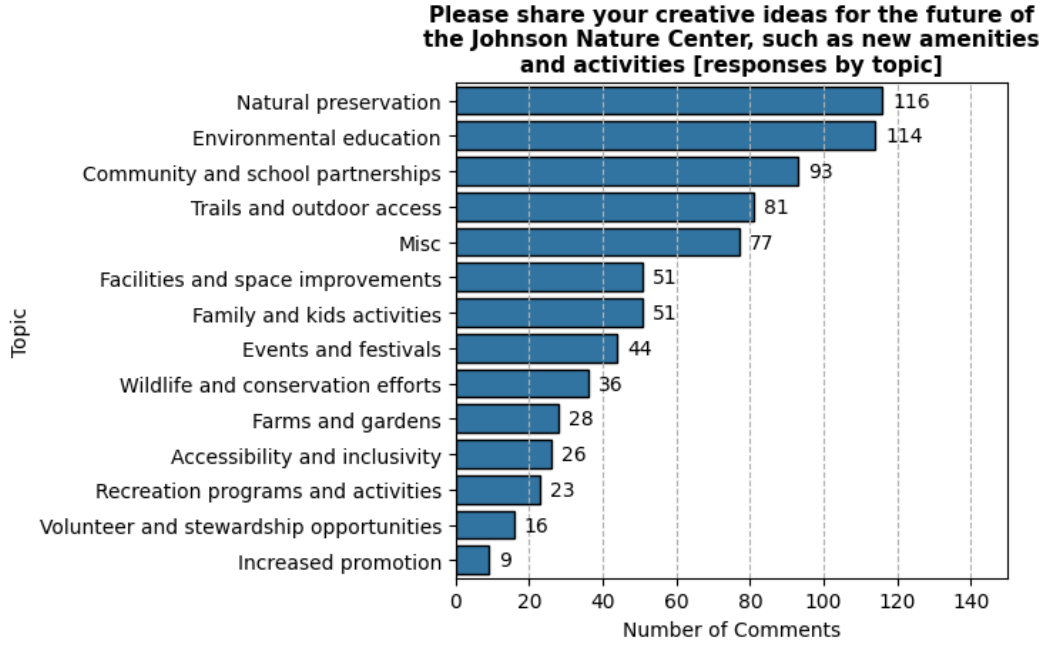
Comment Samples:

- "Bowers Farm is an important part of the Bloomfield Schools community and it's important to keep the relationship there for our children"
- "We love Bowers. Please do not move forward with this plan. Work with the community, the Bloomfield Foundation, grants, etc. to help with costs. Charge more for out of district field trips, perhaps?"
- "Expand curricular programs to grades 6-12. The programs seem mostly limited to grade schoolers."
- "Camps are amazing but so difficult to get into. Perhaps a lottery selection would be better"
- "Outdoor (green) spaces are more important than ever. We need to keep and maintain them for public use."

Creative Ideas for the Johnson Nature Center

Comments include strong interest in expanding outdoor and nature experiences, including more trails, hiking paths, and access to open spaces. There are frequent requests for education and community programs, particularly partnerships with schools, youth activities, and environmental learning. Also present are suggestions for facility improvements and inclusive events, such as better infrastructure, more family-friendly features, and accessible programming for all visitors.

Figure 54. Ideas for Johnson Nature Center, categorized into topics



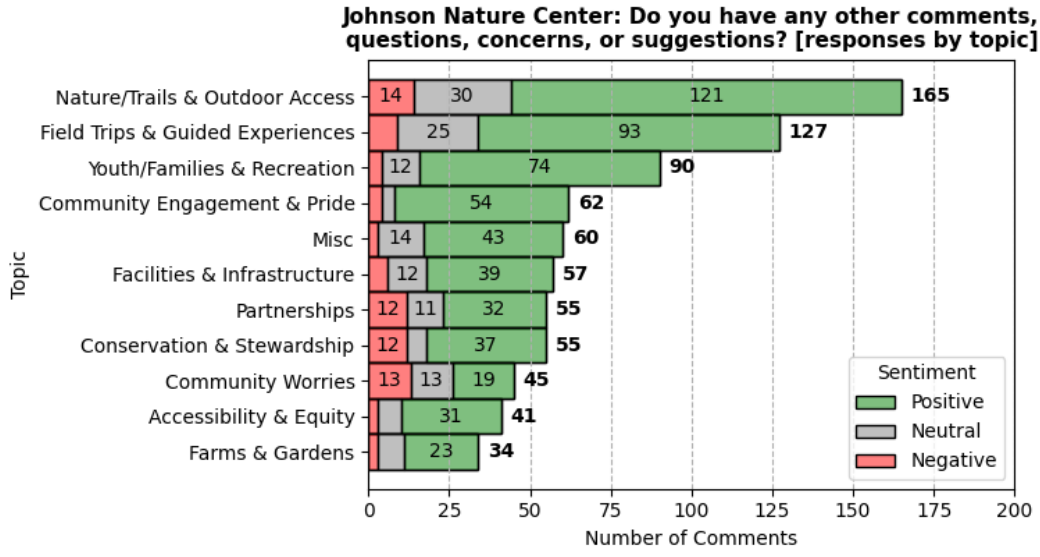
Comment Samples:

- “Wildlife signage related to potential species we might spot at the nature center”
- “Cross overs with university programs, enhancing environment concerns with like minded companies”
- “Open hours extended”
- “Guided hikes with naturalist…. Snow shoe and smores, qr code interactive displays, stargazing activity, arts and crafts”
- “We LOVED the fairy gardens last year: both on the nature trail and the homes from the middle school. Such a fun art installation.”

Comments on the Johnson Nature Center

The most common theme in responses to this question is education and learning, with a strong focus on student experiences, school district involvement, and learning opportunities through programs at the nature center. There is frequent praise for the nature center and trails as valuable community spaces that connect people to the environment. There are also repeated expressions of love, pride, and appreciation for the partnership between schools and the nature center as a community asset.

Figure 55. Additional Johnson Nature Center comments, categorized by topic and sentiment



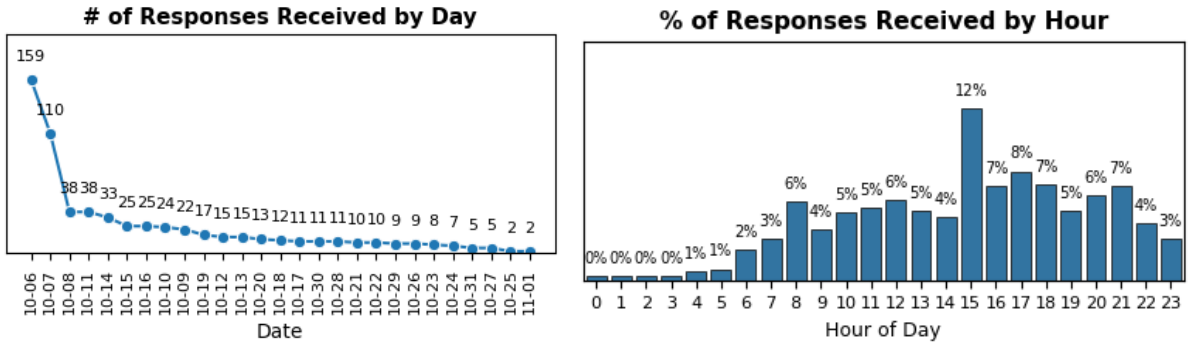
Comment Samples:

- “We enjoy the trails to get some peace and quiet without having to travel farm from home!”
- “Bring program costs down”
- “This is such an important asset to protect. It is already well visited, so bringing in more visitors might make things worse for everyone”
- “I feel like the community is not aware enough about the nature center. I think that if people knew about it more, it would be used way more.”
- “Sounds like you want to pave it over for yoga studios, corporate party rental pavilions, and cross country skiing – this was supposed to be a natural area, not a playground.”

Appendix A. Further Analysis

Survey Days and Times

Figure 56. Day and time that respondents completed the survey



Response Correlation

See this interactive dashboard for correlation between answers to each question.

Data Cleaning Notes

- Answers to open-ended questions that just said “no”, “N/A”, or similar were removed
- Comments were anonymized, then AI was used to find a list of common topics expressed in the responses to a single question
    - A list of keywords associated with each topic was generated manually, then each comment was tagged with the topics it contained
- Responses to the BSF open comment question and JNC open comment question were assigned a topic and a sentiment (positive/neutral/negative)
    - Two different sentiment models were used:
        - VADER (Valence Aware Dictionary and sEntiment Reasoner) – a lexicon and rule-based sentiment analysis tool developed by MIT specifically attuned to sentiments expressed in social media
        - roBERTa (robustly optimized BERT approach) – a transformer-based model developed by Facebook AI designed to improve on the BERT (Bidirectional Encoder Representations from Transformers) model, trained on a larger corpus with more data

    - If both models presented the same result then the sentiment was assigned. For comments where the models disagreed, a manual review was conducted and sentiment was assigned by the analyst.
- Answers to the “Likert” questions were duplicated and then coded as numbers:
    - 1=Not Important, 2=Somewhat Important, 3=Very Important
    - This allowed these questions to be analyzed in aggregate and represented as averages to better summarize responses.

Appendix B. Online Marketing Activity

Bitly Link Tracking

A shortened Bitly link was created to use when promoting the survey online, with an accompanying QR code for physical promotion. The Bitly link gathered 807 clicks and the QR code gathered 12 scans. 69% of this engagement came from the Facebook mobile app, 21% came from “direct” sources, 7% came from Facebook desktop, and the remaining 3% from other sources.

Oakland County Parks Facebook and Instagram

The Oakland County Parks Facebook page published a paid ad to share the survey, with the following results:

- Active: 10/7/2025 to 11/1/2025
- Views: 27,663
- Reach: 11,666
- Link Clicks: 580
- Click-through Ratio: 2.1%
- Engagement: 667 total

The Oakland County Parks Facebook page also shared post #6 from Friends of Bowers Farm on 10/23 (1,186 views, 702 reach, 10 interactions, 6 link clicks) and posted natively on 10/30 (1,980 views, 1,220 reach, interactions, 13 link clicks)

Friends of Bowers Farm Facebook

Post #	Date, Time	Content	Engagement
1	10/6/2025, 3:52PM	Initial announcement *“An Update! […]”*	7 reactions, 20 shares

2	10/9/2025, 9:35AM	Shared joint statement of support *“The Friends of Bowers Farm and […]”*	11 reactions, 7 shares, 10 comments
3	10/13/2025, 2:24PM	Re-shared survey info with pictures of vision boards *“Have your say! […]”*	None
4	10/15/2025, 4:16PM	Re-shared survey info with picture of vision board *“Oakland County parks and […]”*	4 reactions, 3 shares, 3 comments
5	10/20/2025, 9:47AM	Re-shared post #4 *“Don’t forget to join us […]”*	2 reactions
6	10/23/2025, 10:06AM	Recap of public forum *“Thank you to everyone […]”*	4 reactions, 4 shares
7	10/27/2025, 12:50PM	Re-shared survey with pictures *“By combining Bloomfield Hills Schools […]”*	4 reactions, 3 shares
8	10/28/2025, 2:17PM	Survey reminder *“Reminder!! This week […]”*	1 reaction, 1 share

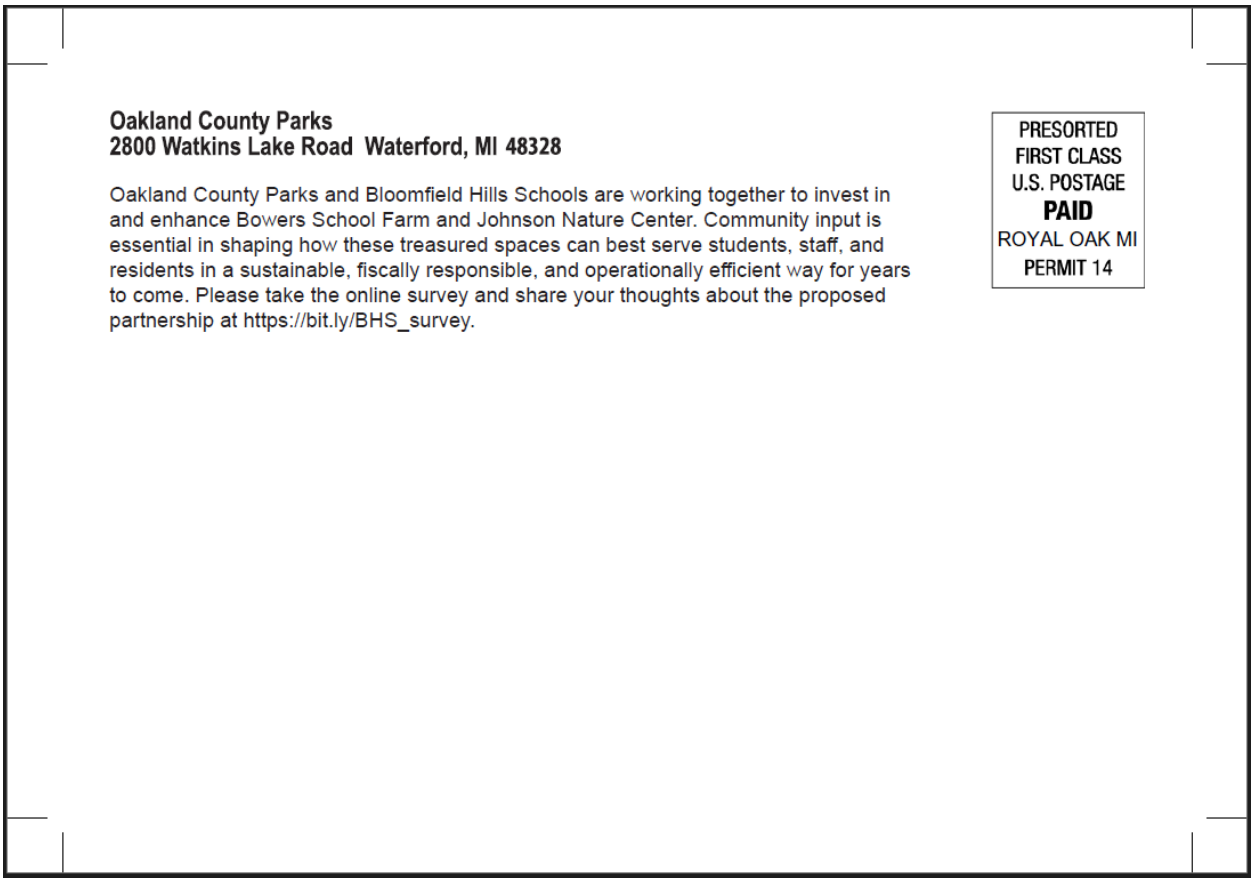
Friends of the Johnson Nature Center Facebook

The Friends of the Johnson Nature Center Facebook page shared post #2 from Friends of Bowers Farm on 10/10, gathering 1 share.

Marketing Materials

Figure 57. Postcard mailed to BHS residents


We Want to
HEAR from YOU
Take the
SURVEY ONLINE!
Scan the QR code or visit
bit.ly/BHS_survey
Oakland County Parks and Bloomfield Hills Schools are exploring a potential partnership to support and strengthen Bowers School Farm and Johnson Nature Center. Please join us at one of these Bloomfield Hills Schools events and let us know what is important to you.
Saturday, Oct. 18, 10 a.m.-Noon
At Fall Festival
Bowers School Farm (1219 E Square Lake Road)
Entry fee required for this event.
Tickets available for purchase online only
(www.schoolfarm.org/fall-fest-2025)
Monday, Oct. 20, 4-6 p.m.
At a Pop-Up Open House
Johnson Nature Center (3325 Franklin Road)
The open house is free and open to the public.
Bloomfield Hills Schools
BOWERS SCHOOL FARM
JOHNSON NATURE CENTER
OAKLAND COUNTY PARKS



Oakland County Parks
2800 Watkins Lake Road Waterford, MI 48328

Oakland County Parks and Bloomfield Hills Schools are working together to invest in and enhance Bowers School Farm and Johnson Nature Center. Community input is essential in shaping how these treasured spaces can best serve students, staff, and residents in a sustainable, fiscally responsible, and operationally efficient way for years to come. Please take the online survey and share your thoughts about the proposed partnership at https://bit.ly/BHS_survey.

PRESORTED
FIRST CLASS
U.S. POSTAGE
PAID
ROYAL OAK MI
PERMIT 14

Figure 58. Bowers School Farm Project Overview Document



Figure 59. Bowers School Farm Partnership Vision Document



Figure 60. Johnson Nature Center Project Overview Document



Figure 61. Johnson Nature Center Partnership Vision Document



OCP Partnership FAQ Document

What am I hearing about a possible partnership?

Oakland County Parks and Bloomfield Hills Schools are exploring a potential intergovernmental partnership to support and strengthen Bowers School Farm and the Johnson Nature Center. While no agreements have been made, early discussions suggest a model where Bloomfield Hills Schools would continue to have priority access for educational programming, while Oakland County Parks would oversee operations and management with a focus on bolstering recreation activities.

What is the status of the conversation?

This is still in the exploratory phase. No formal proposal or agreement has been drafted or reviewed.

What are the potential benefits of a partnership?

A partnership could:

Ensure long-term sustainability and environmental stewardship of both properties

Bring in new facility and infrastructure investments and improvements

Offer more programs and activities for families

Preserve first-in-line access for BHS students

Combine Oakland County Park's recreation expertise with BHS's commitment to education and community

Help win state and federal grants that require joint ownership

Will this increase my taxes?

No. This would not raise taxes.

How long would the partnership last?

The exact length has not yet been determined. In similar agreements, partnerships run 20–30 years. A long-term agreement would allow OCP and BHS to jointly apply for state and federal grants, bringing additional resources to enhance and sustain the Farm and Nature Center.

Why does this make sense for Oakland County Parks?

Oakland County Parks is committed to delivering increased value to residents by expanding access to recreation, education, and nature. Partnering with BHS on Bowers Farm and Johnson Nature Center would:

Strengthen OCP's mission to connect people with outdoor learning and recreation

Extend services into an area of the county that currently has limited OCP presence

Leverage county resources to invest in and sustain two well-loved community destinations

Ensure that more families and students benefit from high-quality programs and facilities

Why does this make sense for BHS?

This partnership could bring important resources to preserve and enhance these treasured spaces, while expanding recreational opportunities and addressing long-term facility needs.

Who would decide? Any agreement would need approval from:

The Bloomfield Hills Schools Board of Education

The Oakland County Parks Commission

The Oakland County Board of Commissioners

Will current programs change?

An intergovernmental partnership could strengthen long-term sustainability and expand offerings. It could help fund new programming, provide essential operational investments and maintenance, and improve accessibility.

Would the Farm and Nature Center be shared more widely with the public?

These spaces already serve the broader community through school field trips, camps, and public events. A partnership could maintain or expand these already established experiences.

Where do things stand now?

These are early talks only. No agreement has been written. Both Oakland County Parks and Bloomfield Hills Schools agree that nothing will move forward unless the community is on board.

What role do Friends of Bowers Farm and Friends of Johnson Nature Center play?

Both are independent 501(c)(3) nonprofit organizations that exist to advance the mission and reach of their respective sites through fundraising, volunteer efforts, and community events. Both organizations support any and all investments that strengthen and expand these facilities, including a partnership with Oakland County Parks.

When will a decision be made?

October will be dedicated to gathering community feedback, followed by a thorough analysis of the results in November. A summary of the feedback will be shared with both the Bloomfield Hills School Board of Education and the Oakland County Parks Commission at their November meetings. This website will continue to be updated as the timeline evolves.

How can I share my opinion?

Community input is essential in shaping how these treasured spaces can best serve students, staff, and residents in a sustainable, fiscally responsible, and operationally efficient way for

years to come. To gather feedback, Bloomfield Hills Schools is working with Oakland County Parks to offer public forums and a community survey.

Public Forums: Two sessions will be held for residents to learn more and share their views:

Saturday, October 18, 2025, at Bowers School Farm during the Fall Festival event from 10 a.m.–12 p.m.

Monday, October 20, 2025, at Johnson Nature Center from 4 p.m.–6 p.m.

Complete the short survey.

Full Survey Text

Bloomfield Hills Schools and Oakland County Parks Survey

An Intergovernmental Partnership to Support Bowers School Farm and Johnson Nature Center

Oakland County Parks and Bloomfield Hills Schools are exploring a potential intergovernmental partnership to support and strengthen Bowers School Farm and the Johnson Nature Center. While no agreements have been made, early discussions suggest a model where Bloomfield Hills Schools would continue to have priority access for educational programming, while Oakland County Parks would oversee recreation-related operations. This partnership could bring important resources to preserve and enhance these treasured spaces, while expanding recreational opportunities and addressing long-term facility needs. Here is a proposal that shares more details about a possible intergovernmental partnership.

Community input is essential in shaping how these treasured spaces can best serve students, staff, and residents in a sustainable, fiscally responsible, and operationally efficient way for years to come. To gather feedback, Bloomfield Hills Schools is working with Oakland County Parks to offer public forums and a community survey.

Public Forums: Two sessions will be held for residents to learn more and share their views:

- Saturday, October 18, 2025, at Bowers School Farm from 10 a.m.–12 p.m.
- Monday, October 20, 2025, at Johnson Nature Center from 4 p.m.–6 p.m.

Thank you for taking the time to complete the below survey. This survey should take you approximately ten minutes to complete.

Questions Specific to Bowers School Farm

1. Approximately how many guests do you estimate visit Bowers School Farm annually?
   - 10,000
   - 20,000
   - 30,000
   - 40,000
   - 50,000

Then branching/confirming the correct answer (Bowers School Farm has more than 40,000 annual visitors.)

2. How often do you visit Bowers School Farm?
   - I've never visited Bowers School Farm
   - Less than once a year
   - More than once, but less than 10 times a year
   - Once a month
   - More than once a month
3. Are you actively supporting Bowers School Farm in any of the following ways?
   - Monetary donations
   - Volunteered
   - Purchased a membership
   - None of the above
   - Other: (Open Ended)
4. If you have visited Bowers School Farm, what did you do on your visit? Please select all that apply.
   - Went on a grade K-5 field trip
   - Attended grade 6-12 school day environmental education
   - Used the Farm Recreation Activity Building (Barn used for Winter Park, rentals, etc.)
   - Attended Fall Festival
   - Attended the Winter Park (tubing hill)
   - Used the farm store & kitchen
   - Attended summer camp or youth programs

- Attended weekend events and activities
- Used membership offerings and benefits
- Booked space for a birthday party
- Attended community classes
- Participated in 4-H or FFA
- Volunteered
- Used community and horticultural gardens
- Attended historical interpretation and heritage programs
- Attended animal experiences

5. How important to you are the following Bowers School Farm offerings? [not important, somewhat important, very important]
   - Grade K-5 field trip
   - Grade 6-12 school day environmental education
   - Farm Recreation Activity Building (Barn used for Winter Park, rentals, etc.)
   - Fall Festival
   - Winter Park (tubing hill)
   - The farm store & kitchen
   - Summer camp or youth programs
   - Weekend events and activities
   - Membership offerings and benefits
   - Rental space for a birthday party
   - Community classes
   - 4-H or FFA
   - Volunteer opportunities
   - Community and horticultural gardens
   - Historical interpretation and heritage programs
   - Animal experiences
6. How important to you are the following features and activities? [not important, somewhat important, very important]
   - No cost access to trails and pathways
   - Healthy forest and natural areas
   - Winter access and activities
   - Playgrounds and play features
   - Quiet areas and scenic views
   - Community events and entertainment spaces
   - Updated barns and animal care areas
   - Visitor amenities (accessible restrooms, food/beverage, picnic shelters)

- Improved parking and traffic flow
- Dedicated event space (barn rentals, pavilion, amphitheater)
- Agricultural education (livestock, crops, equestrian)
- Farm-to-table experiences (gardening, cooking, maple sugaring)
- History of farming and heritage agriculture
- Therapeutic riding and equestrian programs
- Adventure options (farm mazes, ropes course, winter tubing)

7. How important is it to you that Bloomfield Hills Schools maintain ownership of Bowers School Farm?
   - Very important
   - Somewhat important
   - Not important
   - I don't know
8. Please share your creative ideas for the future of Bowers School Farm, such as new amenities and activities. [open-ended]
9. Is there anything else you'd like to share about Bowers School Farm? [open-ended]

Questions Specific to the Johnson Nature Center

1. Approximately how many guests do you estimate visit the Johnson Nature Center annually?
   - 2,000
   - 4,000
   - 8,000
   - 10,000
   - 12,000

Then branching/confirming the correct answer (The Johnson Nature Center has approximately 10,000 annual visitors.)

2. How often do you visit the Johnson Nature Center?
   - I've never visited the Johnson Nature Center
   - Less than once a year
   - More than once, but less than 10 times
   - Once a month
   - More than once a month
3. Are you actively supporting the Johnson Nature Center in any of the following ways?
   - Donated money
   - Volunteered

- Purchased a membership
- Attended Forest to Table fundraising event
- None of the above
- Other (open ended)

4. If you visited JNC, what did you do on your visit? Please select all that apply.
   - K-12 environmental education programming
   - No cost access to trails and hiking
   - Visited the Log Cabin/Early Settlers Learning
   - Visited the deer pen/rescued animals
   - Attended Art Walks (when visiting exhibits are on site)
   - Attended maple sugaring events
   - Participated in bird walks and pond studies
   - Attended Forest to Table events
   - Volunteered
   - Went fishing
   - Rented space for a birthday party
   - None of the above
   - Other (open-ended)
5. How important to you are the following Johnson Nature Center offerings? (all should be: not important, somewhat important, very important)
   - K-12 environmental education programming
   - No cost trails and hiking
   - The Log Cabin/Early Settlers Learning
   - The deer pen/rescued animals
   - Art Walks (when visiting exhibits are on site)
   - Maple sugaring events
   - Bird walks and pond studies
   - Forest to Table events
   - Volunteer opportunities
   - Fishing
   - Rental space
6. How important to you are the following features and activities? (all should be: not important, somewhat important, very important)
   - Trail system upgrades (ADA-accessible, wayfinding)
   - Healthy forest and natural areas
   - Boardwalk repairs and improvements
   - Wildlife viewing areas (bird blinds, observation decks)

- Quiet areas and scenic views
- Maple Sugaring demonstration improvements
- Land history and local heritage
- Seasonal recreation (snowshoeing, cross-country skiing, fishing)
- Outdoor pavilion and nature play
- Parking lot enhancement and visitor amenities (restrooms, water stations)
- Ambassador animals (rehabilitated, non-releasable)
- Renewable energy / sustainability initiatives (solar, rain gardens)

7. How important is it to you that Bloomfield Hills Schools maintain ownership of the Johnson Nature Center?
   - Very important
   - Somewhat important
   - Not important
   - I don't know
8. Please share your creative ideas for the future of the Johnson Nature Center, such as new amenities and activities. [open-ended]
9. Is there anything else you'd like to share about Johnson Nature Center? [open-ended]

Final Thoughts:

1. Based on what you understand so far, are you in favor of Bloomfield Hills Schools continuing the dialogue with Oakland County Parks for the purposes of supporting Bowers School Farm and the Johnson Nature Center?
   - Yes
   - No
   - I need more information
   - Other (open ended)
2. Do you have any other comments, questions, concerns, or suggestions? [open-ended]

About You

1. Do you live within the Bloomfield Hills Schools boundaries?
   - Yes
   - No
   - Unsure
2. Are you a parent or caretaker of a child currently enrolled in Bloomfield Hills Schools?
   - Yes

- No

3. How old are your children? Please select all that apply for multiple children.
   - 0-5
   - 6-11
   - 12-14
   - 15-18
   - 18+
   - No children
4. What is your home zip code?
5. What is your age?
   - 18-24
   - 25-34
   - 35-44
   - 45-54
   - 55-65
   - 65 or older
6. What is your gender?
   - Female
   - Male
   - Prefer not to answer
7. Which of the following best describes your race/ethnicity?
   - Asian or Asian Indian
   - Black or African American
   - Native American or Alaska Native
   - White
   - Native Hawaiian or other Pacific Islander
   - Hispanic or Latino/a
   - Middle Eastern or North African
   - Other ____
8. Languages spoken in your home:
   - English
   - Spanish
   - Arabic
   - Mandarin or Cantonese
   - Hindi
   - Other_____

After survey is completed:

Thank you for taking the time to complete the survey, your feedback is important to us.

This survey was created in partnership with the Friends of Bowers Farm, the Friends of the Johnson Nature Center, and Oakland County Parks.

For news and updates on the status of our discussions, please visit https://www.bloomfield.org/community/oakland-county-parks-partnership.

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NC Community Report 2025–26

BO-G01

Source Record

NC Community Report 2025-26.pdf

Review Context

Reported program counts; not total unique visitors

Reproduced source pages: 4
Appendix source-page range: 876–879

Open Source Record in Google Drive

JOHNSON
NATURE CENTER
BLOOMFIELD HILLS SCHOOLS

Rooted in Nature. Growing through Experience.





Community Report 2025 - 2026

Growing Wonder

Hands-on learning at our Nature Center sparks curiosity and fosters a sense of wonder in the natural world.



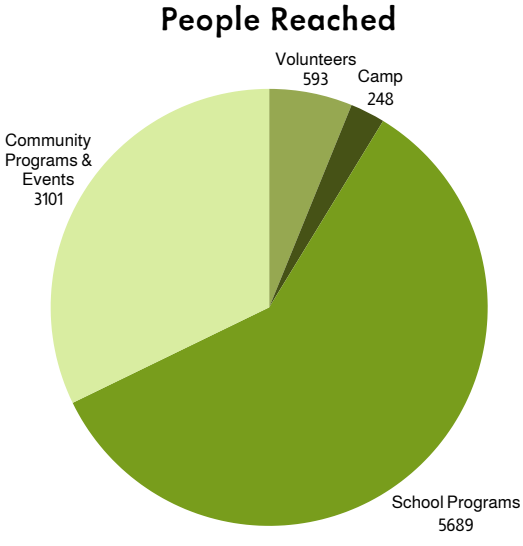
- 5,689 students participated in hands-on, interdisciplinary school programs.
- More than 3,000 community members enjoyed public programs and events.
- Spring & Summer camps provided enriching experiences for 248 children & youth.
- Through our new partnership with Brilliant Cities Pontiac, we explored their landscape, discovered the people and places that make Pontiac unique, and reflected on our experiences through journaling.

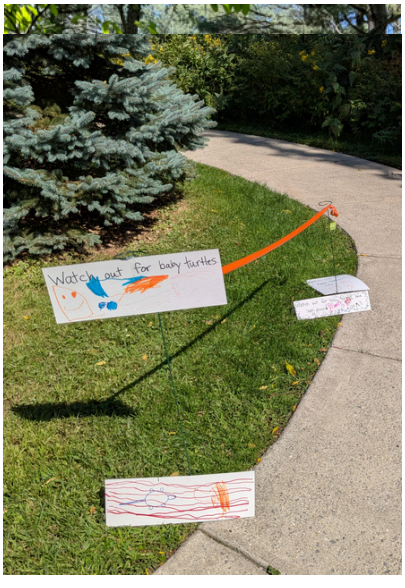


Sprouting in Creativity

At the nature center, we nurture curiosity and sprout creativity through engaging community programs that inspire all ages to connect with the natural world.

- In our second year, Girl Scouts Badge-A-Palooza reached 253 scouts in the fall and spring with learning activities such as fishing, bug studies, and nature art.
- The community joined themed hikes exploring bats, frogs, antler sheds, and owls—both by day and after dark.
- NEW Partnership with the BHHS Fishing Club, where 76 hours of fishing time were enjoyed in the fall and spring.
- Through our continued collaboration with BHS Middle School French classes, students created three different interpretive displays to enhance our center while continuing their project-based learning at school.





We were honored with the Environmental Stewardship award, by the Greater West Bloomfield's Michigan Week, in recognition of our community outdoor educational opportunities .



Blooming with Confidence

Growth happens here in every season. Through hands-on exploration, creative discovery, and meaningful connections with nature, our programs help children and adults alike build confidence from the ground up.





- The community engaged in maple sugaring by tapping maple trees, setting up the sap collection system, and helping to gather 1,048 gallons of sap for the sweetest season.
- Fishing activities were explored by 1,028 people: from the Pontiac's Police Athletic League (PAL), Girl Scouts of Southeast Michigan (GSSEM), TreeSchool, BHS students, camps, and visitors.
- DMF Bait Company supplied bait worms & donated 25 fishing poles for PAL youth and donated extra worms to the Nature Center for future fishing programs.



Bringing together Community

At the heart of our Nature Center lies a vibrant spirit of connection and celebration. Throughout the year, our community events create welcoming spaces where people of all ages and backgrounds come together to share in the beauty of nature and the joy of learning.

- Our Enchanted Craft & Hike series brought families together for four April craft sessions (Builds & Wands) and three themed May hikes — fairy, gnome, and dragon — creating joyful, imaginative entry points into nature.
- In partnership with the PAL, youth & families from Pontiac joined us for a maple sugaring experience — tapping trees, collecting sap, and learning about Michigan's maple traditions. This collaboration strengthened community connections and expanded access to seasonal outdoor learning.
- The Discovery Channel documented a day of fishing on the Big Pond for the fourth season of the three-time Emmy-nominated TV series, "Bassquatch Hunter: Fish Out of Water".

40%
increase in family craft workshops







Stewardship of the Environment

At the heart of our mission is a deep commitment to environmental stewardship, guiding our efforts to protect natural habitats, inspire sustainable practices, and foster a lasting connection between people and the Earth.





- Volunteer Stewardship: Our Monday Stewardship Group of 12 volunteers contributed 2,372 hours of dedicated care to the Land.
- Prescribed burns: Annual prescribed burns rotated across key areas helped control introduced species and support native plant regeneration.
- Native plantings: With support from North Oakland Wild Ones, the Outdoor Classroom now features a native flower and grass garden that enhances both ecological health and educational opportunities.
- Youth Stewardship: The DNR Summer Employment Program supported habitat restoration and youth stewardship, sparking early career pathways in Land care.





We celebrated the opening and first full school-year use of the **Outdoor Classroom**, a dynamic space that expands learning opportunities at the Nature Center. Sparked by the vision of TreeSchool and made possible through generous support from the Rotary Club of Bloomfield Hills, the Cohen Family Foundation, the Placemaking Realtor Grant, and other valued partners, this space is already transforming how students engage with the Land.



JOHNSON NATURE CENTER
BLOOMFIELD HILLS SCHOOLS

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248-341-6485
JohnsonNatureCenter@bloomfield.org

JohnsonNatureCenter.org

BH Bloomfield Hills Schools

Bloomfield Oaks Visitor Data Summary

SUP-V01

Source Record

Bloomfield Oaks Visitor Data summary, supplied October 28, 2026

Review Context

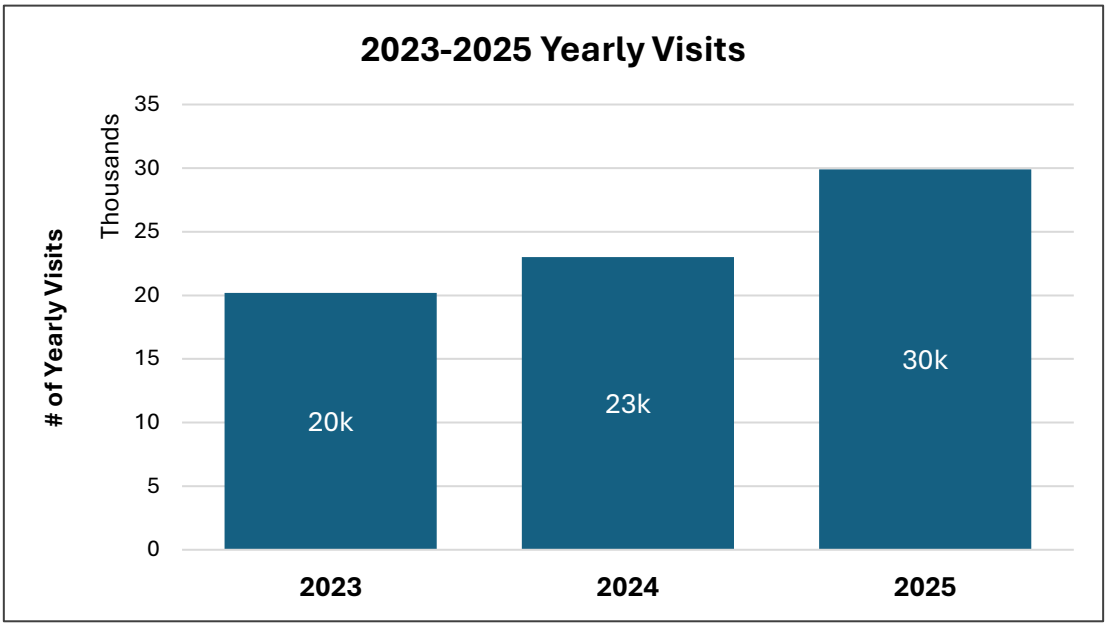
Anonymized, aggregated mobile location data; approximately 20,000 modeled visits in 2023, 23,000 in 2024 and 30,000 in 2025. Staff advise lower capture reliability at Bloomfield Oaks than Discovery Oaks. Use origins, demographic patterns and comparable year-to-year trends cautiously; this is not a verified attendance count.

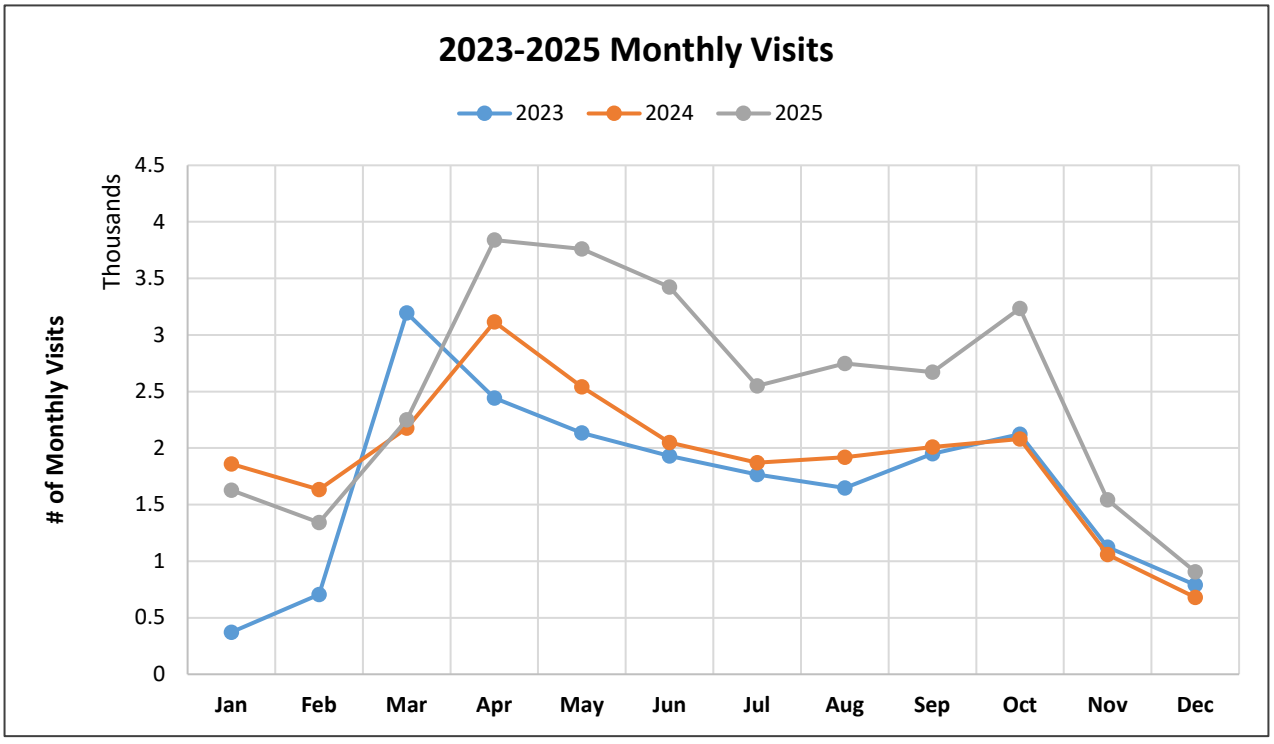
Reproduced source pages: 2
Appendix source-page range: 881–882

Bloomfield Oaks Visitor Data

Total Visits in 2025:
30,000 visits

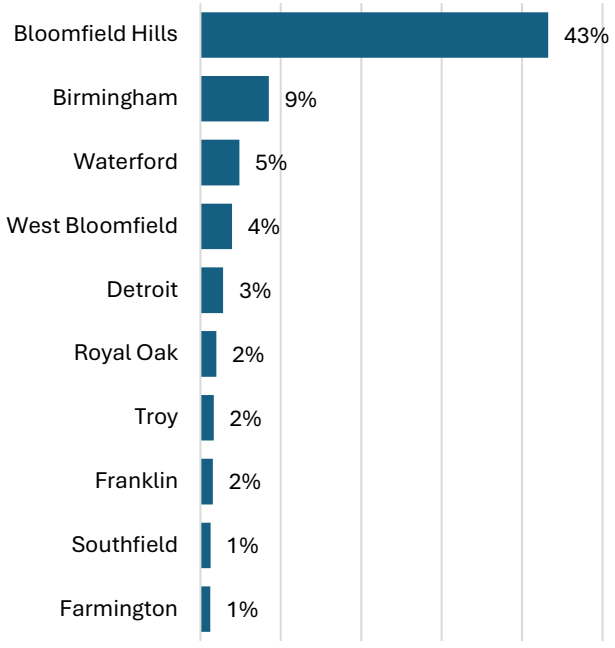
Avg Visit Frequency:
1.7 times



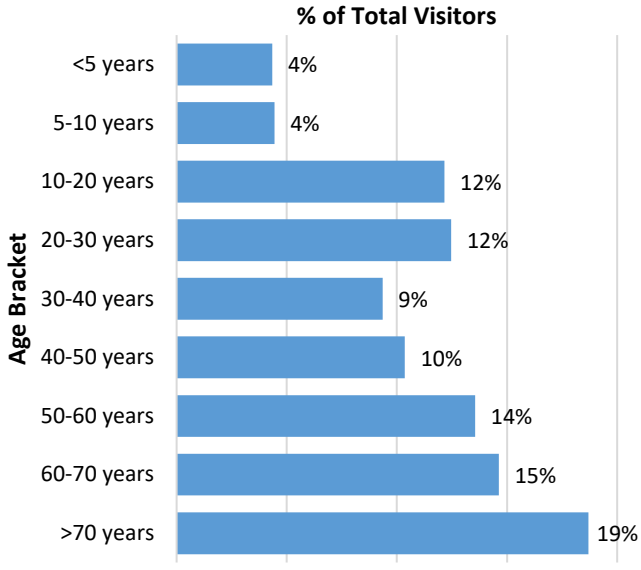


Bloomfield Oaks 2025 Visitor Demographics

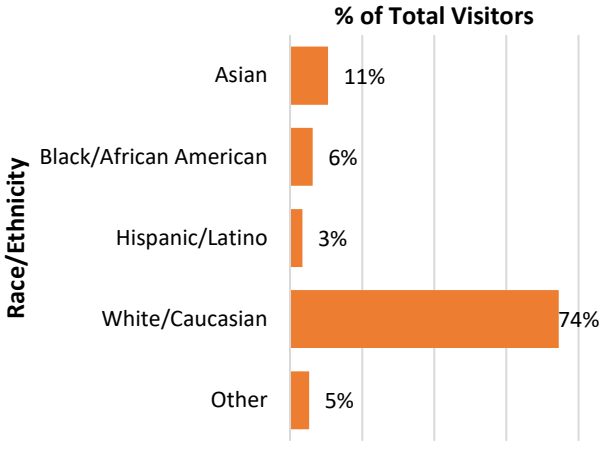
2025 Visits - Top 10 CVT Home Locations



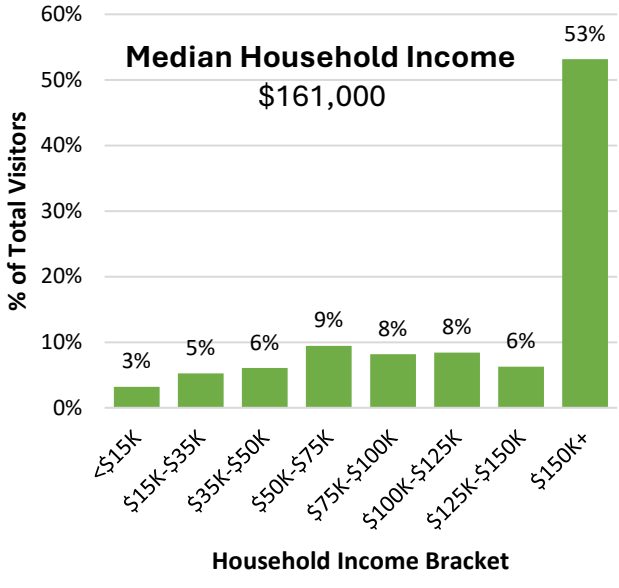
2025 Visitors - Age Distribution



2025 Visitors - Race/Ethnicity Distribution



2025 Visitors - HH Income Distribution



Outdoor Learning Program Inventory

SUP-G01

Source Record

Outdoor_Learning_Program_Inventory_DO-BO_Final.xlsx | Bloomfield Oaks Programs

Review Context

Complete Bloomfield Oaks Programs tab, 11 entries. Numbers are labeled FY 2025–26 in the source. Measures are not additive: TreeSchool includes an “overall impact” value and registration count; camps are 236 here versus 248 in the community report; Whimsical Woodlands is labeled “Planned” while reporting 1,150. Reconcile definitions and status before reporting totals. Natural Resources leads maple production; the listed Outdoor Learning role concerns programming.

Reproduced source pages: 11
Appendix source-page range: 884–894

School Field Trips

Bloomfield Oaks Program Inventory | Source row 4 | FY 2025–26 figures as reported

Purpose	Extends classroom learning into the natural environment through curriculum-connected, hands-on science.
Main Activities	Guided nature hikes, habitat exploration, wildlife observation, pond studies, plant and tree identification, and seasonal investigations, adapted to grade-level standards.
Audience	DK–12th grade
Season	School year, September–June
Delivery Lead	Outdoor Learning Team
Partners	Bloomfield Hills Schools; Birmingham Public Schools (long-standing agreement, Jr. K–5th)
Current Status	Running/Growth
Primary Facility	A combination of indoor nature center experiences and immersive outdoor learning opportunities.
Annual Participants	5689
Fee / Revenue	$12
Staffing	Outdoor learning Team
Opportunities & Notes	Not specified
Review Notes	Removed the Cranbrook, Detroit Country Day, and West Bloomfield arrangement, which is farm-only. Confirm the Birmingham agreement covers both sites.

Source wording and review notes are retained. Fees, status labels, staffing and participation measures are reported inventory entries, not newly approved operating commitments. Blank fields are labeled “Not specified.”

TreeSchool

Bloomfield Oaks Program Inventory | Source row 5 | FY 2025–26 figures as reported

Purpose	State-licensed, nature-based preschool focused on whole-child development and kindergarten readiness.
Main Activities	Daily outdoor exploration, forest play, nature hikes, gardening, wildlife observation, storytelling, nature art, and STEM, with early literacy and math built in.
Audience	Ages 3–5 in two groups: Acorns (3–4) and Oaks (4–5)
Season	School year, September–June; weekly sessions
Delivery Lead	Licensed early childhood educators and outdoor education staff
Partners	Families and community organizations
Current Status	Running
Primary Facility	Licensed outdoor classroom / Indoor Classroom space maintained for safety
Annual Participants	(1680 overall impact) 24 Students Registered
Fee / Revenue	$4667-$5459 annual tuition
Staffing	TreeSchool Team with outdoor learning. Meet licensing requirements.
Opportunities & Notes	Partnering with Help Me Grow Oakland / GSRP possibilities
Review Notes	Licensing pathway under OCP requires Corporation Counsel review (per the Integrated Park Plan).

Source wording and review notes are retained. Fees, status labels, staffing and participation measures are reported inventory entries, not newly approved operating commitments. Blank fields are labeled “Not specified.”

Grown-Up & Me

Bloomfield Oaks Program Inventory | Source row 6 | FY 2025–26 figures as reported

Purpose	Introduces children ages 2–6 and their caregivers to nature through play-based learning.
Main Activities	Nature walks, forest exploration, wildlife discovery, sensory play, crafts, and storytelling, with rotating seasonal themes.
Audience	Children ages 2–6 with a parent, guardian, or caregiver; sessions grouped by age
Season	Fall, winter, spring, and summer sessions; typically weekly with rotating themes
Delivery Lead	Outdoor Learning Team
Partners	Open to collaboration with community organizations and early childhood partners
Current Status	Running
Primary Facility	Nature Trails
Annual Participants	233
Fee / Revenue	$20
Staffing	Early Childhood Learning team
Opportunities & Notes	Partnering with Help Me Grow Oakland
Review Notes	Not specified

Source wording and review notes are retained. Fees, status labels, staffing and participation measures are reported inventory entries, not newly approved operating commitments. Blank fields are labeled “Not specified.”

Maple Sugaring

Bloomfield Oaks Program Inventory | Source row 7 | FY 2025–26 figures as reported

Purpose	Teaches the science and history of maple syrup production and Michigan's sugaring tradition.
Main Activities	Sugar bush tours, tree identification, tapping, sap collection, boiling demonstrations, and history of traditional and modern methods.
Audience	Pre-K–12 students, families, adults, scout groups, and community groups
Season	Late winter to early spring, primarily March
Delivery Lead	Outdoor Learning Team
Partners	Open to collaboration with school districts, historical organizations, and volunteers
Current Status	Seasonal
Primary Facility	On-site at the Sugar Bush and Sugar Shack
Annual Participants	266
Fee / Revenue	$12
Staffing	Outdoor learning Team
Opportunities & Notes	Long-term succession planting is needed to sustain the sugar bush (per the Integrated Park Plan).
Review Notes	The Integrated Park Plan calls the public event "Sap Happy." Confirm whether it is tracked here or as its own row.

Source wording and review notes are retained. Fees, status labels, staffing and participation measures are reported inventory entries, not newly approved operating commitments. Blank fields are labeled “Not specified.”

Scout Programs / Badge-a-Palooza

Bloomfield Oaks Program Inventory | Source row 8 | FY 2025–26 figures as reported

Purpose	Helps scouts earn badges through hands-on outdoor and environmental learning.
Main Activities	Badge stations, nature hikes, habitat investigations, survival skills, shelter building, conservation projects, and nature crafts.
Audience	Girl Scouts, Scouts BSA, Cub Scouts, and other youth groups, primarily ages 5–18
Season	Year-round troop visits; Badge-a-Palooza events in fall, winter, and spring
Delivery Lead	Outdoor Learning Team
Partners	Girl Scouts of Southeastern Michigan, local scouting councils, and troop leaders
Current Status	Running
Primary Facility	Nature Trails
Annual Participants	113 & 58 Badge-a-palooza
Fee / Revenue	$16
Staffing	Outdoor learning Team
Opportunities & Notes	Not specified
Review Notes	Not specified

Source wording and review notes are retained. Fees, status labels, staffing and participation measures are reported inventory entries, not newly approved operating commitments. Blank fields are labeled “Not specified.”

Community Fishing Days

Bloomfield Oaks Program Inventory | Source row 9 | FY 2025–26 figures as reported

Purpose	Introduces families and first-time anglers to fishing, aquatic ecosystems, and conservation.
Main Activities	Casting, baiting, equipment basics, fish identification, catch-and-release, fishing safety, and habitat exploration.
Audience	Children, youth, adults, families, and community groups, including first-time anglers
Season	Spring, summer, and fall
Delivery Lead	Outdoor recreation staff, with volunteers and conservation partners
Partners	Not specified
Current Status	Running
Primary Facility	Turtle Pond On-site
Annual Participants	201
Fee / Revenue	$10
Staffing	Trained Outdoor Learning Staff
Opportunities & Notes	Exploring partnership and collaboration opportunities with a local bait and tackle shop to enhance community fishing programs
Review Notes	Partners blank in original; add any conservation or fishing organizations that help.

Source wording and review notes are retained. Fees, status labels, staffing and participation measures are reported inventory entries, not newly approved operating commitments. Blank fields are labeled “Not specified.”

Camps

Bloomfield Oaks Program Inventory | Source row 10 | FY 2025–26 figures as reported

Purpose	Summer day camps connecting youth to the outdoors through nature study and adventure.
Main Activities	Nature hikes, wildlife encounters, pond dipping, survival skills, shelter building, nature STEM, fishing, canoeing, archery, and team-building.
Audience	Ages 3–5 (half-day); ages 6–13 (grouped by age); ages 14–17 (Volunteer Camp Stewards)
Season	Summer weekly sessions; additional camps during school breaks as demand and capacity allow
Delivery Lead	Camp counselors and seasonal recreation staff
Partners	Oakland Schools (McKinney-Vento)
Current Status	Seasonal
Primary Facility	Nature Trails
Annual Participants	236
Fee / Revenue	$165-$390
Staffing	Seasonal Camp Staff
Opportunities & Notes	Not specified
Review Notes	Removed farm wording carried over from the Discovery Oaks tab (agricultural educators, farm operations staff, MSU Extension staffing, Friends of Bowers Farm camperships). Confirm whether any of these apply at Johnson.

Source wording and review notes are retained. Fees, status labels, staffing and participation measures are reported inventory entries, not newly approved operating commitments. Blank fields are labeled “Not specified.”

Community Programs

Bloomfield Oaks Program Inventory | Source row 11 | FY 2025–26 figures as reported

Purpose	Public nature programs and seasonal events that broaden access to Bloomfield Oaks.
Main Activities	Nature hikes, wildlife encounters, seasonal investigations, crafts, conservation activities, family programs, and workshops.
Audience	Individuals and families of all ages, and community organizations
Season	Year-round
Delivery Lead	Outdoor Learning Team
Partners	Not specified
Current Status	Running
Primary Facility	A combination of indoor nature center experiences and immersive outdoor learning opportunities.
Annual Participants	864
Fee / Revenue	$0-$50
Staffing	Outdoor learning Team
Opportunities & Notes	Not specified
Review Notes	Delivery Lead and Partners originally held chick-hatching text and "BHS"; replaced. Add partners if any.

Source wording and review notes are retained. Fees, status labels, staffing and participation measures are reported inventory entries, not newly approved operating commitments. Blank fields are labeled “Not specified.”

Whimsical Woodlands

Bloomfield Oaks Program Inventory | Source row 12 | FY 2025–26 figures as reported

Purpose	Seasonal family event combining storytelling and imaginative play along woodland trails.
Main Activities	Self-guided trail with whimsical displays, storytelling stations, and creative activities.
Audience	Families with young children and community members of all ages
Season	Seasonal special event
Delivery Lead	Outdoor Learning Team and support staff
Partners	Seasonal staff, volunteers, local artists, and community organizations
Current Status	Planned
Primary Facility	Nature Trails
Annual Participants	1150
Fee / Revenue	Free Event
Staffing	FT/ PT and volunteer base
Opportunities & Notes	Not specified
Review Notes	Not specified

Source wording and review notes are retained. Fees, status labels, staffing and participation measures are reported inventory entries, not newly approved operating commitments. Blank fields are labeled “Not specified.”

BHS Fire Ecology

Bloomfield Oaks Program Inventory | Source row 13 | FY 2025–26 figures as reported

Purpose	Teaches high school students the role of fire in healthy ecosystems and land management.
Main Activities	Field study of fire-adapted ecosystems and plant adaptations, prescribed burning as a management tool, and habitat restoration.
Audience	Bloomfield Hills high school students
Season	Scheduled with BHS around curriculum and burn conditions
Delivery Lead	Johnson Nature Center Education Team
Partners	Bloomfield Hills Schools, local fire departments, and natural resource professionals
Current Status	Confirm
Primary Facility	Not specified
Annual Participants	Not specified
Fee / Revenue	Not specified
Staffing	Not specified
Opportunities & Notes	Not specified
Review Notes	Status was blank, and partners were in the Delivery Lead column; moved.

Source wording and review notes are retained. Fees, status labels, staffing and participation measures are reported inventory entries, not newly approved operating commitments. Blank fields are labeled “Not specified.”

Community Canoeing / Paddling

Bloomfield Oaks Program Inventory | Source row 14 | FY 2025–26 figures as reported

Purpose	Not specified
Main Activities	Not specified
Audience	Not specified
Season	Not specified
Delivery Lead	Not specified
Partners	Not specified
Current Status	Confirm
Primary Facility	Not specified
Annual Participants	Not specified
Fee / Revenue	Not specified
Staffing	Not specified
Opportunities & Notes	Not specified
Review Notes	Appears only inside Camps; the Integrated Park Plan lists canoeing under Water Exploration. Runs as a standalone program.

Source wording and review notes are retained. Fees, status labels, staffing and participation measures are reported inventory entries, not newly approved operating commitments. Blank fields are labeled “Not specified.”

TreeSchool Family Handbook 2026-27

BO-T02

Source Record

TreeSchool Handbook 26-27(1).pdf | Updated July 2026

Review Context

Current family handbook supplied for the 2026-27 school year, replacing the 2025-26 edition. Supports the educational approach, family practices and program administration. Staffing ratios conflict (p. 4 versus pp. 12 and 20); Oaks class days conflict (p. 8 versus pp. 9 and 12). Reconcile these descriptions with program staff. The handbook is not evidence of a new OCP license or a completed licensing transition; capacity and approved spaces require license verification.

Reproduced source pages: 30

Appendix source-page range: 896-925

OAKLAND COUNTY PARKS

TREESCHOOL

Family Handbook



NATURE. PLAY. LEARN. GROW.

ROOTED IN NATURE, GROWING TOGETHER.

JOHNSON NATURE CENTER

TreeSchool reserves the right to revise policies, procedures, tuition, schedules, and program details as needed. Families will be notified of any significant changes in writing. In this document, “Director” and “Site Supervisor” means the Program Director or the person in charge during the incident or disaster. “Parent” means the child’s parent or legal guardian. “OCP” refers to Oakland County Parks.

Updated July 2026

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What is TreeSchool?

Every child deserves a “happy place” to gain independence, make friends, and develop unique skills and interests while learning to become a contributing community member. TreeSchool, our early childhood enrichment program at Johnson Nature Center, provides young children with such a place. With 40 acres of forest, pond, and prairie to explore, children develop lifelong skills through meaningful play and learning experiences.

We highly value the importance of relationships to build a strong learning community and maintain a low teacher-to-student ratio (3 teachers for every 6 students) to provide deep connections and personalized learning. We follow an emergent, child-led curriculum focused on discovering the joys and curiosities of the ever-changing seasons. Children engage in investigations inspired by their interests and the natural phenomena surrounding them to build the foundation they need to thrive.

Forest School Philosophy

Our preschool embraces the Forest School philosophy, which recognizes nature as a rich and meaningful environment for learning. Through regular outdoor experiences, children are encouraged to explore, investigate, create, and take appropriate risks in a safe and supportive setting. Time spent outdoors fosters confidence, independence, resilience, problem-solving skills, and a deep appreciation for the natural world. Rather than focusing solely on structured activities, our teachers follow children's interests, allowing curiosity and hands-on discovery to guide learning. We believe that meaningful connections with nature support children's physical, social, emotional, and cognitive development while nurturing a lifelong love of learning and environmental stewardship.

Adventures. Friendships. The joy of learning. Discover your “happy place” at Johnson Nature Center.

Let’s Learn Outdoors

Our Statement of Purpose

Our early childhood enrichment programs at Johnson Nature Center provide young children with place-based learning opportunities to cultivate a love of nature and agriculture while creating a safe place to grow resilience and connections within their world.

Our Goals

To develop an inquiry-based mindset through seasonal investigations and projects.

To promote the joys of learning through play.

To build confidence through risk-taking and problem-solving.

To nourish a sense of connection and community.

To create meaningful impacts in the local community and natural environment.

Assessment of Learning

TreeSchool is committed to supporting each child's growth through ongoing observation and developmentally appropriate assessment. We use a research-based assessment process to help teachers identify children's strengths, celebrate progress, and guide individualized learning experiences.

While the specific assessment tool may vary from year to year as we evaluate the best fit for our program, families can expect to receive information about their child's development at the beginning of the school year and again in the spring. Teachers also complete assessments throughout the year to monitor growth and inform instruction, ensuring each child is supported in reaching their full potential.

Requirements

Ages

TreeSchool is uniquely designed to meet the needs of children ages 3 - 5. To enroll, your child must meet the following age requirements:

- To enroll, your child must be three years of age by the first day of class for the school year and under the age of 6 by September 1st.
- As child care licensing requires, we will verify your child's age by birth certificate during the summer enrollment process. Any child not meeting the age requirements must be removed from the roster, and the registration fee will not be refunded.

Outdoor Environment

Our licensed outdoor classroom supports playful learning in a natural environment. The licensed space is designated by fencing. Any play and exploration outside this designated area will be considered a field trip requiring parent/caregiver approval at the start of the school year. We will review our safety and risk management procedures with families during an orientation, which is required before a child can participate in the program.

Toileting

Because of our unique environment, we require that children are toilet-trained (no pull-up diapers) by the start of class. We recognize that potty training is a developmental process typically taking up to three months with consistent support and encouragement. Please bear this in mind when considering the start date of the school year and how it fits with your toilet-training timeline.

We also recognize that children of differing abilities may toilet at different times in their development. We are committed to working with families of children with special needs who are not yet potty-trained to be as inclusive as possible. Let us know right away via email if your child needs adjustments, additional support, or accommodations.

Gear

TreeSchool is an entirely outdoor program, and children need to stay warm, dry, and comfortable for a positive learning experience. Please consider the following:

- **Weather-appropriate, durable clothing**: Ensure children are dressed for the conditions and can fully participate.
- **Layering**: Clothing must keep them warm and dry, including layers for rain or snow.
- **Avoid cotton**: Cotton doesn't wick moisture or insulate well, increasing hypothermia risk. We discourage cotton layers (except underwear) for most of the year.
- **Footwear**: Send children in comfortable, closed-toe shoes that support outdoor activity and walking on uneven surfaces.
- **Winter gear:** Please see our suggested gear list for colder months.

Physical Evaluation

Participation in the program requires a physical evaluation that notes any restrictions. A physician or the physician's designee must sign the evaluation per childcare licensing requirements.

Immunizations

TreeSchool requires that students are fully vaccinated, be in the process of completing immunizations, or have a signed Certificate of Exemption (religious or medical exemption) to attend the program by making an appointment with the Oakland County Health Department Nurse-On-Call: 800-848-5533. For more information, see the MDHHS Immunization Waiver Information website.

Wait Lists

TreeSchool does not keep multi-year wait lists. We ask that families submit a new application for each school year.

Preparation

What to Bring

- **Dress:** Students should arrive dressed comfortably and ready to participate.
- **Sunscreen / Bug Spray:** We ask that sunscreen and bug spray be applied to your child before/upon arrival. We will not apply these products to your child during the program.

- **Extra Clothes:** At the start of each season, please bring a full change of clothes and extra mittens (in colder seasons) for your child labeled with their first and last name (in the event they get really muddy, wet, or otherwise uncomfortably messy) to remain in the classroom inside their cubby.
- **Snack & Water Bottle (Labeled with first & last name):** Please label your child's snack bag and water bottle. See the *Snacks and Lunch* section for more information about food.
- **Daily Backpack (recommended):** Children may bring a daily backpack to help organize daily items.

Tree School staff, its governing body and Johnson Nature Center are not responsible for lost or damaged items. We ask that stuffed animals and other toys be left at home as these tend to be distracting and at risk of being lost or dirtied. Students should NOT bring any valuable items with them to class.

2026-2027 School Year Schedule

Location: *Johnson Nature Center*

Acorns: *Tuesday/Thursdays*

Option 1 Am Class Times: *9:00 a.m. - 12:00 p.m*

Option 2 Pm Class Times: *1:00 p.m. - 4:00 p.m*

Oaks: Monday/Wednesday/Thursday



TreeSchool reserves the right to revise policies, procedures, tuition, schedules, and program details as needed.

Families will be notified of any significant changes in writing.

Holiday and School Closings

To support staff well-being and provide families with a predictable schedule, the program observes designated holidays and planned school closures throughout the year.

Scheduled Closures

The program will be closed on designated holidays, professional development days (if applicable), and other scheduled closure dates outlined in the annual calendar.

Inclement Weather and Emergency Closures

In the event of severe weather, power outages, or other emergencies that make it unsafe to operate, the program may close or delay opening. Families will be notified as soon as possible through our usual communication channels. Please ensure your contact information is kept up to date.

Unplanned Closures

Occasionally, unexpected circumstances beyond our control may require the program to close. Every effort will be made to notify families promptly and provide updates regarding reopening.

Tuition During Closures

Tuition remains the same during scheduled holidays, school breaks, and emergency closures. Fees are not prorated. Fees are based on your child's enrollment space rather than attendance and help cover the ongoing operating costs of maintaining the program.

We appreciate your understanding and cooperation when closures are necessary. Our priority is always the health, safety, and well-being of the children, families, and staff in our care.

Field Trips to Bowers School Farm

One class each fall and spring will be held at Bowers School Farm as a field trip. Additional information will be shared separately as this date approaches. Drop-off and pick-up will occur at Bowers School Farm (1219 Square Lake Rd.) instead of Johnson Nature Center.

Daily Routine

Each season lends itself to new faces and discoveries to guide our play-based learning experiences together. We maintain a flexible schedule to create space for the interests and needs of the children in our program, yet with predictable routines to develop a sense of safety and community.

The following is an example daily schedule (sample schedule subject to change).

Arrival	Guardians will drop off at our outdoor classroom on the northeast side of our Visitor Center building.
Invitations to Play	Children are invited to engage with loose parts, explore sensory bins, perform science experiments, write or draw in their journals, play with

	the mud kitchen, build forts, and more. These options change with the seasons, our investigations, and the children's interests.
Morning Gathering Circle	Each day, children will come together to greet each other for a short Morning Gathering Circle, which may include singing a morning song, wishing others well, and reviewing the plan and expectations for the day.
Morning Care	Each class will work together to care for their environment, the animals, and the community through various stewardship actions.
Snack (15min)	Nut-free snack (based on classroom allergies)
Small Groups	Children gather in small groups of approximately six students to revisit, discuss, and expand on their current investigations. This intimate setting encourages meaningful conversations, hands-on exploration, collaborative problem-solving, and deeper learning as teachers guide children in following their curiosity.
Outdoor Exploration	In addition to discovery and exploration in the outdoors, this time includes: • Large and small muscle activity • Sensory exploration • Social interaction and dramatic play • Early math and science experiences • Creative experiences through art, music, and literature • Nature Hike
Wish You Well	Class will end with a gathering where we will share anyone we want to wish well to as well as any closing thoughts for the day.
Departure	Guardians will pick up at our outdoor classroom located to the northeast side of our Visitor Center building.

Policies & Procedures

Tuition

TREESCHOOL

2026-27 Classes

Schedule Information	
School Year:	September 10, 2026 to June 11, 2027
Class Times:	9:00 a.m. to 12:00 p.m (2 Day AM Tu/Th) 1:00 p.m. to 4:00 p.m. (2 Day PM Tu/Th) 9:00 a.m. to 12:00 p.m. (3 Day MWF) 1:00 p.m. to 4:00 p.m. (3 Day MWF)
Class Day Options:	Tuesday / Thursday 2 Day Class Monday Wednesday Friday 3 Day

Ages

- To enroll, your child must be three years of age by the first day of class for the school year but under the age of 6 by September 1st.
- As child care licensing requires, we will verify your child's age by birth certificate during the summer enrollment process. Any child not meeting the age requirements must be removed from the roster, and the registration fee will not be refunded.
- A complete list of required paperwork and documentation will be sent to you and is required before each child's first day of attendance.

Tuition

Sliding Scale Level	Annual Tuition Amount	Quarterly Payment Option
Acorns Tuesday / Thursday AM 9:00am - 12:00pm or PM 1:00pm - 4:00pm	$3,420	$855.00
Oaks Monday / Wednesday / Friday AM 9:00am - 12:00pm or PM 1:00pm - 4:00pm	$5,130	$1,282.50

*3% fee added for electronic payments.

Program Registration and Enrollment

Children are admitted to TreeSchool by registering during our registration period. Spots will be filled on a first-come basis class sizes can vary from 12-18 students per day, in accordance with state licensing standards. We are committed to maintaining our low 1:6 teacher-to-child ratio to ensure a high-quality learning environment. In order to preserve

this ratio and meet licensing requirements, we are unable to make exceptions to class size limits.

If you cannot secure a spot, you may opt to be added to the waitlist. In the case of cancellations, you will be notified via phone and email that you have cleared the waitlist and will have two business days to complete your registration, including payment, to secure your child's spot in class.

Program Withdrawal

We also understand that family needs and circumstances can change over time, and there may come a time when your child transitions out of our program. To support a smooth transition for your family and to allow us to plan for staffing and enrollment, we ask that families follow the withdrawal policy outlined below.

1. **Withdrawal During the School Year**
    - Families must provide written notice of withdrawal at least 30 days in advance.
    - Tuition for the following month is required in full, regardless of the withdrawal date.
2. **Refund Policy**
    - Registration fees and deposits are non-refundable.
    - Tuition paid in advance (beyond the next month's requirement) will be refunded only if written notice adheres to the timelines outlined above.

We appreciate your understanding and cooperation with this policy, as it allows us to effectively plan for staffing, materials, and the needs of our enrolled students.

Confidentiality

To be confidential means to be entrusted with someone's personal information and not share it with others. Staff must respect families, children's, and colleagues' privacy. All information and documentation necessary for enrollment will only be shared with the Lead Teacher, Program Director, and enrollment office to verify eligibility and state reporting. Documentation is stored outside the classroom in a locked location. Confidentiality also includes sharing other information regarding a child, including but not limited to all child/family information and records, private conversations with a parent, or developmental information. The Early Childhood Team may discuss confidential information with other staff only if they need to know the information to complete their job

responsibilities (e.g. to support substitute staff members). Employees should never discuss confidential information with anyone other than employees. No employee should remove confidential information unless approved by the Program Director.

Grievance

Johnson Nature Center strives to provide a positive, nurturing environment for all; however, at times, concerns may arise. If you have any concerns, please bring them to the attention of the Lead Teacher. The Program Director may be contacted if you need help resolving your concerns with the Lead Teacher. Johnson Nature Center will work with our families to reach a suitable resolution for all parties.

If you feel Johnson Nature Center violates a licensing regulation, you may report it to MiLEAP Child Care Licensing.

Arrival & Pick-Up

Caregivers will drop off and pick up students at the outdoor classroom on the northeast side of the Visitor Center building. Each parent/guardian must sign their child in and out daily with staff. The indoor classroom is open for families to get gear on before drop-off.

We want your children to be able to take advantage of every minute of their class time. Adhering to drop-off and pickup times is very important. There will be a late fee of $1.00 per minute enforced for every minute your child is not picked up after the 5-minute grace period.

We require you to notify staff of late arrivals and early departures due to required appointments.

Attendance & Absences

Consistent attendance is essential for children to fully benefit from the learning experiences and social development opportunities provided throughout the preschool year. Regular participation helps build a routine, fosters strong connections with peers and teachers, and supports continuous growth and progress. Families are expected to prioritize attendance, as extended absences, such as for vacations or other non-emergency reasons, disrupt the child's experience and the classroom dynamic.

Please inform the Lead Teacher (via email) if your child will be absent due to illness, vacation, or other personal reasons. Unfortunately, tuition refunds cannot be given due to absences.

Absences exceeding two consecutive weeks without prior approval may result in forfeiture of the child's spot in the program, and tuition for the subsequent two months must be paid in accordance with our Withdrawal Policy.

Snack

Families will be expected to provide a healthy snack. Please label all snack pouches.

TreeSchool staff will not be responsible for providing food.

Child care licensing requires that families label all lunch items, including your child's lunch bag and water bottle, with the child's first and last name.

Birthdays

If your child has a birthday on the day of a class, we plan to sing and honor your child with a special craft and/or activity. Please inform staff if their birthday falls on a class date during a session. We also ask that you refrain from bringing in food and/or treat bags. If you wish to bring treats in you must contact the Lead Teacher in advance to coordinate food allergies and other considerations.

Conflict Resolution

Children will have conflicts as they learn to navigate sharing, impulse control, delayed gratification, and social interactions with others. We aim to support them in developing empathy, compromise, self-advocacy, and independence skills. If a child is doing physical harm to themself or another, staff will use a calm voice and create space for everyone to be safe. When students are experiencing conflict or emotional upset, our team will engage in the following ways:

1. Approach a conflict with calm:

a. Bring yourself to eye level beside both students.

b. Use a calm voice and gently create physical space if needed.

c. Carefully gain control of any object that is part of the dispute or potentially harmful (i.e. stick, rock, tool).

2. Identify what you see, and ask about the children's feelings:

a. 'I see you are crying. Can you tell me how you feel?'

b. 'I see you hit Susie. Can you tell me what happened?'

3. Help children identify their needs in this situation and be able to express them:

a. ‘What do you need to make this feel better and get back to what you were doing?’

b. ‘What can you do to fix this and return to what you were doing?’

c. ‘I like how you stated what you need/how you feel.’

4. Support appropriate repair between children:

a. ‘Can we agree to … play safe, respect personal space, use kind words, take a break when upset, etc.?’

b. Apologies, high five, and a hug if each feels safe

Discipline

Our staff will encourage and recognize prosocial behaviors. Patience and understanding are our primary goals with a student who may be struggling. Our TreeSchool program embraces the principles of *Conscious Discipline* throughout our daily routines and classroom structures, including:

- Supporting co-regulation skills for impulse control.
- Creating a community with a sense of belonging for all to foster cooperation and willingness.
- Modeling, teaching, and scaffolding for social skill building and executive function skills.

The following are guidelines our staff will follow to support a student who is making undesired choices and to help them make more positive choices:

1. Establish a relationship/connection with the child: notice, acknowledge, and name what you see, reflect with empathy, offer the option to have a calm break and then restart;

(‘You are upset. You wanted to sit there. Do you need a few minutes to feel better?’)

2. Approach the behavior with positive intent and without judgment;

('You wanted to sit there, so you pushed her out of the way.)

3. Identify the missing skill and set the limit;

('You wanted to sit there, so you pushed her out of the way. You

didn't use your words to ask her to move. You may not push others.

It is hurtful.)

4. Teach the new skill and offer encouragement;

('You wanted to sit there, so you pushed her out of the way. You

didn't use your words to ask her to move. You may not push others. It is hurtful. When you want to sit where someone else is, say, *Can I sit there or next to you*? Let's practice that. You did it!')

If a student has ongoing or increasing difficulties after several interventions and is not responding to positive behavior supports, the teacher will talk with the team and parents to problem-solve together. Parents will be notified of ongoing interventions and progress on reshaping the behavior.

Corporal punishment and exclusion shall not be used as a means of discipline.

Family Engagement & Communication

We have several ways of disseminating information to our families. We want families to take full advantage of our various forms of communication. Below you will find information on our many ways of keeping you informed.

Orientations

We will host an opportunity for families and their preschoolers to interact with our instructional team and get to know the site before the first day of class. There will be two separate orientation sessions:

- Family Orientation: A tour of the space with parents **and** children with opportunities to learn about program details such as daily routines, risk and safety, and learning experiences.
- Parent Orientation: Staff will help parents finalize their enrollment set-up and complete checks of all required documents.

Additional details about orientation will be shared during the summer.

Blog post

A weekly private class blog will be used to share weekly updates, essential documents, classroom pictures, and more. Each week, you will receive an update from your classroom teacher, where they will share classroom happenings, reminders, and information regarding upcoming classroom events.

Email List

Please ensure that your email address is current and kept up to date. Email is our primary form of formal communication and is used to share important information, including program updates, newsletters, invoices, policy changes, emergency notifications, and other time-sensitive announcements. It is the responsibility of families to regularly check their email and notify the office promptly of any changes to their contact information.

Remind

Remind is a communication tool that enables staff to connect with families in an automated and real-time manner. *Remind* uses email, text, push notifications, and telephone calls to communicate with families quickly and safely.

Teachers will use *Remind* for short school updates ("Indoor drop off today," "Closed due to snow"), including those related to emergencies.

Access to communication platforms will be shared via email following enrollment.

Conferences

We will provide optional or suggested 20-minute time slots for families to meet with the Lead Teacher in December and May to discuss their child's growth.

Celebration of Learning

At the end of the school year, families are invited to our **Celebration of Learning**. This special event provides an opportunity to celebrate each child's growth and accomplishments throughout the year. Families will be invited to explore our Wonder Wall,

participate in hands-on experiences within our learning spaces, and reflect on their child's learning journey. Children will also take home special keepsakes from the season, including their individual learning journal.

Other Opportunities

When coordinated with teachers, parents/guardians may accompany their child on a special activity, such as a classroom celebration or field trip. The Lead Teacher can also arrange opportunities for you to observe your child's learning.

Media Release Policy

Throughout the school year, we may take photographs and videos of children participating in classroom activities, special events, celebrations, and learning experiences. These images help document children's learning, celebrate their accomplishments, and showcase the meaningful experiences within our program.

At the time of enrollment, families will be asked to complete a Media Release Consent Form. Parents/guardians may choose to:

- Grant permission for their child's image or likeness to be used.
- Decline permission for their child's image or likeness to be used.

Your decision will be respected and documented in your child's file. Families may update or change their media consent at any time by providing written notice to the Director.

Children whose families have not provided media consent will not be identified in photographs or videos used for promotional or public purposes. Staff will make every reasonable effort to ensure these children are not included in published media.

Media may be used for purposes such as:

- Classroom documentation and displays
- Learning journals and portfolios
- Program newsletters
- The preschool website and social media pages
- Promotional and marketing materials
- Community presentations or publications

Protecting the privacy and dignity of every child is a priority. All photographs and videos are used responsibly and in accordance with the permissions provided by each family.

Health and Wellbeing

Consistent Caregivers

To the best of our ability, we will maintain the same Early Childhood Team Members throughout the school year. Consistency will help to build relationships and a strong learning community.

Group Size

We highly value the importance of relationships to build a strong learning community and maintain a low teacher-to-student ratio (1 teacher for every 6 children) to provide safety, deep connections, and personalized learning in an outdoor learning environment.

Restrooms

We will use the restrooms at the Visitor Center, which is approximately a 15-20 minute walk from the farthest points of the trails.

Scheduled restroom breaks will be weaved into the daily schedule. Students needing to use the restroom between breaks will promptly return to the Visitor Center with a licensed staff member.

Parents and caregivers are asked to take their child to the bathroom at the Nature Center upon arrival before dropping off their child for the day.

Handwashing

The Visitor Center restrooms and classroom sinks will be used for handwashing purposes. Additionally, staff will carry hand sanitizer and wipes for use on trails when full hand washing is unnecessary.

Staff and students will wash their hands every time they transition into the indoor classroom, before meals, after toileting, after handling bodily fluids, after handling garbage, after handling animals, and when soiled with a material that poses a health risk.

This procedure will be followed when a staff member or student washes their hands.

1. Use soap and running water.

2. Rub hands vigorously.

3. Wash all surfaces, including:

- back of hands

- wrists
- between fingers
- under fingernails

4. Rinse well.

5. Dry hands with a paper towel.

6. Turn off the water using a paper towel instead of bare hands.

Illness & Exclusion Policy

Many illnesses do not require exclusion, but if a person is uncomfortable in the learning environment and the site supervisor feels it is appropriate, the parent/guardian will be called. Children, volunteers, and staff who have been ill must be symptom-free from the below symptoms for at least one full school day before returning to school.

Anyone with the following symptoms or illnesses should be sent home or remain home in the following situations:

1. Severely ill: A person who is lethargic or less responsive, has difficulty breathing, or has a rapidly spreading rash.
2. Fever: A person with a temperature of 101°F or greater AND behavior changes or other signs or symptoms (e.g., sore throat, rash, vomiting, or diarrhea). The person should not return until 24 hours of no fever without the use of fever-reducing medications. Note: If there is influenza-like or COVID-19-like activity in the school or the community, criteria would also include a temperature over 100.4°F and respiratory symptoms (e.g., cough, sore throat).
3. Diarrhea: A person has two loose or watery stools. The person should have no loose stools for 24 hours before returning to school. Exception: A healthcare provider has determined it is not infectious. Antibiotics or new foods may cause diarrhea a person has eaten. Discuss with a parent/guardian to determine if this is the likely cause for students. Please refer to the chart below for exclusions and required clearance criteria for students with diarrhea caused by Campylobacter, E. coli, Salmonella, or Shigella.
4. Vomiting: A person who has vomited two or more times. The person should have no vomiting episodes for 24 hours before returning. Exception: A healthcare provider has determined it is not infectious.

5. Abdominal pain: A person with abdominal pain that continues for more than two hours or intermittent pain associated with fever or other symptoms.
6. Rash: A person with a rash AND has a fever or a change in behavior. Exclude until the rash subsides or until a healthcare provider has determined it is not infectious. Please refer to the chart below for exclusions and required clearance criteria for students with a diagnosed rash. Note: Rapidly spreading bruising or small blood spots under the skin need immediate medical attention.
7. Skin sores: A person with weeping sores on an exposed area that cannot be covered with a waterproof dressing.
8. Certain communicable diseases: children, staff, and volunteers diagnosed with certain communicable diseases, including COVID-19, may have to be excluded for a certain period of time. See the chart below for disease-specific exclusion periods.

Procedures for sending ill children home and for staff/volunteers:

1. Children who become ill while in our care will have their parents or emergency contact person notified for immediate pick-up.
2. The Site Supervisor must be notified when a parent is called due to an illness, whether the child is picked up from school or not.
3. Staff will isolate the sick child, particularly those with symptoms of respiratory illness or gastrointestinal distress, from well staff, volunteers, and other children. Isolation can occur in the adjacent classroom or other educational space away from those who are well.
4. Staff will not leave a child unsupervised and will use appropriate PPE to protect themselves from illness. If not already wearing a face mask, a surgical or cloth mask should be provided to anyone with respiratory symptoms and fever over 100.4^{0}F if available and tolerated by the person and developmentally appropriate.
5. Sick staff will leave as soon as possible with administrative support.

Areas used by the sick person need to be closed off. Open the windows to increase circulation and wait 24 hours OR as long as possible before cleaning and disinfecting the space. This includes informing Physical Plant Services so they can contact the cleaning service. Classroom equipment (including toys) will be cleaned and sanitized after illness occurs within the classroom.

If your child has a chronic health illness (i.e. food allergy, seizures, asthma, diabetes), families must complete an individual action plan. The child's physician and the family must sign this action plan. All staff will review these plans each year and keep them on file in their assigned classroom and main office. If medication is needed, additional documentation is required.

Visit the *American Academy of Pediatrics*

webpages for additional guidance.

Allergies

If your child has an allergy to food or another substance, please let us know so we can be aware and watchful. If your child's allergy requires emergency medication (e.g. EpiPen, Antihistamines) you must complete a *Medication Information and Instructions Form* to be provided in the registration packet, along with the *FARE Form*. For your child's safety, all forms and medication must be submitted before your child's start date.

Medications

Medication will be administered provided we have written authorization on file. The medication must be sent in its original container only, including the physician's name, child's name, instructions, name, and medication dosing.

To administer prescription medication, a form must be completed by the child's physician and the legal guardian. It may be helpful to bring medication forms with you when visiting your child's physician to avoid delays in administering medication.

Non-prescription medication must have a form completed by the child's legal guardian. Additionally, non-prescription medications must follow the age and dosage directions.

It is important to inform your child's teacher whenever they are on medication or under a doctor's care. Certain medication and medical issues can affect their mood and/or appetite.

Health Care Resources

RESOURCE	CONTACT INFORMATION	WEBSITE

Family Support Services		greatstartoakland.org
OC Health Division	248-858-1280 1200 N Telegraph Pontiac	www.oak.gov.com/health
National Poison Center	800-222-1222	www.poison.org
Violence & Bullying		www.stopbullying.gov
Health & Wellness	American Academy of Pediatrics	www.aap.org
	Healthy Children	www.healthychildren.org
	Bright Futures	www.brightfutures.org
Nutrition	My Plate (USDA)	www.choosemyplate.gov
	American Dietetic Association	www.stopbullying.org

Outdoor Preparedness

TreeSchool operates rain or shine! Please send students appropriately dressed for the weather, including additional layers, boots, hats, etc., for changing conditions. See the section on “Gear.” This includes applying sunscreen and bug spray as needed. Staff members are unable to apply sunscreen and bug spray to students. In the case of inclement weather, the class will be moved inside the Visitor Center.

Ticks

We ask that you do a tick check every day in the warmer seasons (bath time is the perfect time). Ticks like to hide near waistbands but could be found anywhere. We are a nature immersion program, so there is a chance of picking up a tick during exploration. If you find a tick on your child, remove it (head and all) using a tool such as the Tick Twister. Place the tick in a Ziploc bag, date it, and place it in your freezer. If you have any questions about a tick-borne illness, you can have the tick tested.

Emergency

Tornado

In case of a tornado, students will not be sent home. Children will be taken to the Visitor Center until we have been notified that the danger has passed. Tornado drills are practiced monthly during tornado season. Please see the posting in your child's class and note the nearest emergency station.

Fire

In case of fire, an alarm will sound. Children will exit the building with their teacher at the nearest safe, designated emergency exit. The Program Director will do a final search of the building before joining staff and children outside. We will utilize *Remind* to notify parents to pick up their children. Fire drills are practiced monthly. Please see the posting in your child's classroom and note the nearest emergency exit.

Severe Weather

In case of severe weather, the Program Director and/or Lead Teacher will announce severe weather conditions to the teachers. All staff/students who are outside will immediately return to their classrooms. Classroom activities shall continue as usual. Children will not be dismissed during a severe weather warming unless they are picked up by their parent/guardian by checking out through the school office before departure.

Emergency Closing

The decision to close school is typically made before 5:45 a.m.; however, in case of rapidly changing weather conditions, the decision could be made as late as 6:45 a.m. Families are notified via email and *Remind*. Please keep the phone number and email you wish to receive notifications up-to-date.

Extreme Conditions

In the case of extreme conditions, including high winds, heavy precipitation, or temperatures, the class will be moved indoors according to risk management protocols. Staff use a combination of the NOAA Wind Chill Chart, Beaufort Wind Scale, weather forecast apps, and the children's age, comfort level, and dress to determine whether to hold class indoors or outdoors. If the class is moved indoors, children continue with nature-based activities within the indoor spaces, including the licensed classroom, interpretive floor, and log cabin.

Injury

If the injury is minor, staff members will conduct the following steps:

- Attend to the injury with basic first aid as trained.
- Contact family to notify them of the incident and care taken.
- Complete an incident report by the end of the school day in concert with the Lead Teacher and/or Program Director for submission to the reporting agency.

In case of serious injury, staff members will take the following steps:

- Immediately call 911. The staff member will remain with the injured person while EMS takes over care.
- The parent(s)/guardian(s) will be contacted by phone as soon as it is safely possible.
- The Program Director or staff member will accompany the injured party to the hospital if parents are not on site.
- Staff will submit incident reports within 72 hours in concert with the Program Director to reporting agencies.

All staff members are certified in Adult & Pediatric CPR/AED/First Aid. Visit the BHS *Safety & Security* webpage for additional information.

Other Disasters/Emergencies

In case of a power outage/water main break or flood, the BHS Facilities will be contacted to assess the situation. Facilities will contact the appropriate services (DTE/Consumer Powers) to help make decisions to maintain safety. Should it become necessary for children to be released early or the program cancelled, parents will be contacted via *Remind*.

Evacuation

Should an evacuation of the building become necessary, we will evacuate to Bloomfield Hills High School. Children and staff will either be bused or walk and use wagons for children who need support to transport themselves to the site. Once we have arrived and the situation is under control, families will be contacted using email or *Remind*. Staff will

work with families to develop a plan of action for students with special needs and/or a chronic health condition before the child starts the program (e.g. buses equipped to support a child requiring mobility supports). The relocation address is as follows:

Bloomfield Hills High School

4200 Andover Road

Bloomfield Twp., MI 48302

Lockdown Procedures

The safety and well-being of our children and staff is our highest priority. In the event of a lockdown, all established emergency procedures will be followed immediately in accordance with our emergency preparedness plan.

During a lockdown:

- The preschool will be secured, and all children and staff will remain in designated safe locations until authorities determine it is safe to resume normal operations.
- **Children will not be released to parents, guardians, or other authorized individuals during an active lockdown**, regardless of the circumstances. This policy is in place to ensure the safety of everyone in the building and to avoid disrupting emergency response efforts.
- Families will be notified as soon as it is safe and appropriate to do so. Updates will be shared through our established communication channels whenever possible.
- Once the lockdown has been lifted by emergency officials, families will receive instructions regarding reunification and child pick-up procedures.

We appreciate your understanding and cooperation. Following these procedures helps ensure the safest possible outcome for all children, families, and staff during an emergency.

Staff and Center License Requirements

Licensing Notebook Policy

A notebook containing licensing and registration inspections, renewal inspections, special investigations, and corrective action plans for the last years is available in the main office.

Our office hours are Monday-Friday from 8 am-4 pm. Licensing inspections and special inspections not included in the binder are available on the MiLEAP Child Care Licensing website at: www.michigan.gov/michildcare

Staffing Requirements

TreeSchool staff requirements are as follows:

- Comprehensive Child Care Background Check
- PSOR Screening
- CPR/First Aid/AED Certified
- Michigan Health and Safety Training for Licensed Child Care Providers
- A signed *Abuse Neglect Statement* indicating the individual is
    - aware of the abuse and neglect of children is against the law
    - informed of the center's policies on child abuse and neglect
    - required by law to immediately report suspected abuse and neglect to children's protective services.
- Complete Forest School Training within the first 6months of hire date

Additionally, lead staff are ALICE-trained and receive risk management and safety training in an outdoor learning environment.

Additional Staff and Volunteer Policy

Staff and volunteers shall not be present in the center if they have been convicted of any of the following:

- Child abuse or child neglect.
- A felony involving harm or threatened harm to an individual within the 10 years immediately preceding the hire date.

All volunteers at TreeSchool will be supervised at all times and required to have completed the following:

- Public Sex Offender Registry (PSOR) completed check
- Abuse Neglect Statement indicating the individual is:
    - aware of the abuse and neglect of children are against the law.

- informed of the center's policies on child abuse and neglect.
- required by law to immediately report suspected abuse and neglect to Children's Protective Services

Documentation will be kept on file. Volunteers must also apply through the Johnson Nature Center website.

TreeSchool will not have volunteers who are unsupervised with children.

Child Protection Policy

Our staff is required by law to take the following steps if they suspect child abuse or child neglect.

- The Program Director must be notified of the suspicion, and an oral and written report MUST be filed within the required time.
- The immediate verbal report must be made to Centralized Intake by calling (855) 444-3911. The verbal report must be followed by a written report. The written report must be submitted within 72 hours. DHHS encourages the use of the Report of Suspected or Actual Child Abuse or Neglect (DHS-3200) form, which includes all the information required by the law. The written report may be faxed to (616) 977-1154 or (616) 977-1158 or emailed to DHS-CPS-CIGroup@michigan.gov.

Family Support Resources

Early Intervention

- Michigan Alliance for Families Early Intervention Services
    - Child Find: includes a link to locate your local Build Up Coordinator contact information

Equipment-Related

- Consumer Product Safety Commission Recall List: Be sure to check back to stay informed of recent recalls

Parenting Education

- MSU Extension Parenting Education Classes

Contact Information

Louise Kavanaugh *Recreation Program Supervisor* *(TreeSchool Director)*	lkavnaugh@bloomfield.org Office: 248-341-6476 Cell: 248-462-5404 (for emergencies)

Johnson Nature Center

3325 Franklin Road

Bloomfield Hills, Michigan 48302

248-341-6485

DNR TE 322 Peregrine Authorization April 30 2025

BO-P01

Source Record

2025-March2028_TE 322 - EdSci - Peregrine - Johnson Nature Center.docx.pdf

Review Context

Letter addressed to Cass Arsenault; one peregrine, education only; stated expiry March 31 2028, annual reports and facility/handling conditions. Does not establish current holder status after personnel changes, federal authority or other-species permits.

Reproduced source pages: 3
Appendix source-page range: 927–929

Open Source Record in Google Drive

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
LANSING

GRETCHEN WHITMER
GOVERNOR

M. SCOTT BOWEN
DIRECTOR

April 30, 2025

Carsenault@bloomfield.org

Dear Cass Arsenault,

This authorization letter is your official Threatened and Endangered Species Permit **(TE 322).** Your permit is issued in the *Education* category only. Your permit expires on **March 31, 2028**. If you decide to seek a renewal, we recommend you visit our website in December of 2027 and fill out the permit renewal application.

Authorization:
To conduct the activities listed under special conditions that may take the threatened/endangered species listed below. All activities are subject to the standard permit conditions within this letter unless noted elsewhere in the letter.

Special Conditions
In addition to the standard permit conditions listed below:

- This permit is issued under a ***Scientific, Zoological or Educational*** justification.
- This permit authorizes possession of one (1) **Peregrine Falcon** *(Falco peregrinus)* for the rest of its natural life for educational programming at **Johnson Nature Center in Bloomfield, Michigan**.
- All animals held under this permit must be acquired legally and kept under humane conditions.
- This permit does not allow release or translocation of state threatened or endangered species.
- This permit does not allow collection of state threatened or endangered species from the wild from anywhere in Michigan.
- This permit does not authorize breeding threatened or endangered species.
- Permittee must follow all conservation measures outlined in application materials, including the Threatened/Endangered Species Application and Permit, description of facilities and handling procedures for animal(s), and any other materials submitted for DNR review in support of this permit.
- The Permittee has provided the following description of facilities and handling procedures:
    - Facility is a 6x3.8x3 m enclosure with multiple feeding platforms, various stumps and boulders; additional details submitted with application.
    - Limited handling related to feeding and care.
- Permittee must apply for an amendment via our website in order to add additional threatened and endangered species to this permit.
- Additional permits may be required for eagles and other migratory bird species. Contact the U.S. Fish and Wildlife Service for more information.
- Authorized Sub-Permittees: none and those under the direction of the Permittee. To add additional Sub-Permittees, Permittee must 1) attach a signed letter to this permit detailing the names, relationship with Permittee, and duration of authorization for Sub-Permittees and 2) notify DNR-StateTEPermit@michigan.gov of additional Sub-Permittees. Applying for an amendment is not required to add Sub-Permittees and an updated letter will not be issued. All Sub-Permittees must follow the permit. To

qualify as Sub-Permittees, individuals must be in good standing with the Threatened and Endangered Species permit program and may not have a natural resource conviction in the past 5 years. Sub-Permittees may operate without direct supervision of the Permittee. However, Permittee is responsible for training Sub-Permittees, reporting, and compliance with the permit.

Standard Permit Conditions

- Permittee must maintain current contact information on record with the DNR Threatened and Endangered Species Program. At minimum, an email address and phone number must be provided. Changes to emails and phone numbers must be reported to the DNR within 30 days by requesting an amendment through our website. The DNR must be able to contact Permittee within 30 days regarding any policy changes or requests for information regarding the permit.
- Additional permits may be required for projects occurring on DNR-owned land. Please make sure to contact the local land manager before entering your proposed study area. You may apply for a land use permit here: Cultural/Scientific Research Permits (michigan.gov).
- All specimens authorized for collection under this permit shall be deposited in the collection of an approved public educational or research institution prior to permit expiration.
- None of the specimens collected shall become part of a private collection or a private property.
- This permit does not allow or grant the right of trespass. Projects shall not take place on any private or public lands without permission from the owner or administrator of such lands.
- This permit does not provide authorization to circumvent any federal, state, or local laws and ordinances.
- Additionally, federal permits may be required for activities affecting federally listed threatened or endangered species and/or migratory birds. Contact the U.S. Fish and Wildlife Service at 2651 Coolidge Road, East Lansing, MI 48823.
- The activities covered under this permit are not transferable to another person unless specifically authorized.
- Unless otherwise noted, within 10 days of the expiration of this permit, the holder is required to file a report detailing the locations of any threatened and endangered species encountered and the number and disposition of specimens handled. Annual reports for multi-year permits are due at the end of each calendar year.
- A person conducting any activities authorized by this permit shall carry a copy of this permit and shall produce a copy of this permit upon request of a Department of Natural Resources employee or law enforcement officer.

Reporting Requirements

An annual report is required each year for the life of the permit. Annual reports must include the numbered elements below and be submitted to DNR-StateTEPermit@michigan.gov.

Annually:

1. Any new acquisitions of threatened or endangered species already listed on the permit.
2. Observations of any threatened or endangered species observed at the Nature Center. These may be submitted as digital data (excel, shapefile, csv) that includes reporter, date, species, GPS location OR data entered into MNFI's Rare Species Form

Final report at end of permitting cycle:

1. A report summarizing the status of the animals is required

Occurrence data obtained through reports is shared with the Michigan Natural Features Inventory to add to the state's Natural Heritage Database to inform future conservation efforts. Please report any new occurrences of threatened and endangered species as soon as possible instead of waiting until the end of the year. This will allow new data to be incorporated into the state's Natural Heritage Database sooner, thus ensuring greater protection for these species and their habitats.

Thank you for helping protect our threatened and endangered species. Feel free to contact me with any questions or concerns.

Sincerely,



Amy Bleisch, Endangered Species Biologist
Michigan Department of Natural Resources
Wildlife Division
517-449-4630
DNR-StateTEPermit@michigan.gov
www.michigan.gov/wildlifepermits

Friends Restated Bylaws

BO-F01

Source Record

Friends of the Johnson Nature Center -- Restated Bylaws.pdf

Review Context

Text reviewed, especially purpose and board control of funds. Adoption date/current governing version not verified. No current balance established.

Reproduced source pages: 9
Appendix source-page range: 931–939

Open Source Record in Google Drive

RESTATED
BYLAWS
OF
FRIENDS OF THE JOHNSON NATURE CENTER

I
NAME, OFFICES, AND PURPOSES

1.1 NAME. The name of the corporation is Friends of the Johnson Nature Center ("Friends").

1.2 PLACES OF BUSINESS. The corporation shall have its principal place of business in Oakland County, Michigan, and may have such other places of business as the Board of Directors may from time to time determine.

1.3 PURPOSES. The purposes for which the corporation is organized are as follows:

1.3.1 To receive and administer funds and property and to operate exclusively for charitable, scientific, or educational purposes within the meaning of section 501(c)(3) of the Internal Revenue Code of 1986, as amended or the corresponding section of any future federal tax code (the "Code"), and in particular to provide educational programs for the members of the Friends and the community at large on land conservation and stewardship of the flora and fauna of the Nature Center and beyond, and the importance of the Rouge River drainage system of which the Nature Center is a part.

1.3.2 To acquire, own, dispose of and deal with real and personal property and to apply gifts, grants, and bequests and their proceeds to further such purposes.

1.3.3 To do all such things and to perform all such acts to accomplish its purposes as the Members and Board of Directors may determine to be appropriate and as are not forbidden by section 501(c)(3) of the Code, with all the power conferred on nonprofit corporations under the laws of the State of Michigan.

1.4 NONPROFIT OPERATION. The corporation shall be operated exclusively for charitable, scientific, or educational purposes within the meaning of section 501(c)(3) of the Code as a nonprofit corporation. No director of the corporation shall have any title to or interest in the corporate property or earnings in the director's individual or private capacity, and no part of the net earnings of the corporation shall inure to the benefit of any trustee, director, officer or private individual. No substantial part of the activities of the corporation shall consist of carrying on propaganda or otherwise attempting to influence legislation, and the corporation shall not participate in or intervene in any political campaign on behalf of (or in opposition to) any candidate for public office.

1.5 FISCAL YEAR. The fiscal year of the corporation shall begin July 1 and end June 30.

II
MEMBERS

2.1 MEMBERSHIP BASIS. The corporation is organized on a nonstock, membership basis under the Michigan Nonprofit Corporation Act of 1982, as amended (the "Act").

2.2 QUALIFICATIONS FOR MEMBERSHIP. Membership shall be open to all individuals who express sincere interest in the Friends and its objectives. Members join by payment of annual dues. The Board of Directors, by a majority vote, may revise annual dues and categories of membership as needed. All annual memberships shall be in effect for twelve months. Lifetime memberships shall be in effect for the duration of Friends. Honorary memberships may be granted by vote of the membership at a general meeting upon recommendation of the Board of Directors. Honorary members have all the privileges of general membership.

2.3 REMOVAL OF MEMBERS. Members may be removed by affirmative vote of a majority of the Members.

2.4 ANNUAL MEETING. Unless the Members shall otherwise determine, the annual meeting of the Members shall be held on a date to be determined by the Board of Directors each year. At the annual meeting, the Members shall elect directors and shall consider such other business as may properly be brought before the meeting. If less than a quorum of the Members appears for an annual meeting of the Members, the holding of such annual meeting shall not be required and matters which might have been taken up at the annual meeting may be taken up at any later regular, special, or annual meeting or by consent resolution.

2.5 REGULAR AND SPECIAL MEETINGS. Regular meetings of the Members may be held at such times and places as the Members may from time to time determine at a prior meeting or as shall be directed or approved by the vote or written consent of all the Members. Special meetings of the Members may be called by the President and shall be called by the Secretary upon the written request of a majority of the Members.

2.6 NOTICE OF MEETINGS OF THE MEMBERS. Notice of the time and place of all meetings of the Members shall be given to each Member at least ten days and not more than sixty days before the date of the meeting, either personally, by mailing such notice to each Member at the address designated by the Member for such purposes or, if none is designated, at the Member's last known address, or by electronic transmission. Notices of special meetings shall state the purpose or purposes of the meeting, and no business may be conducted at a special meeting except the business specified in the notice of the meeting.

2.7 WAIVER OF NOTICE. Whenever notice of any Members meeting is required, a written waiver of notice signed by a Member, whether before, at, or after the time of such meeting, shall be deemed equivalent to notice to such Member. Attendance of a Member at any

meeting shall constitute a waiver by the Member of notice of such meeting, except when the Member attends such meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because such meeting is not lawfully called or convened. Neither the business to be transacted at nor the purpose of any meeting need be specified in any written waiver of notice.

2.8 ORGANIZATION. The President shall act as chairman and preside at all Members meetings. In the absence of the President, the Members present may designate an alternate chairman for any Members meeting. The Secretary of the corporation shall act as secretary at all Members meetings, but in the Secretary's absence the chairman of the meeting may appoint any person present to act as secretary of the meeting.

2.9 ORDER OF BUSINESS. The order of business at all Members meetings shall be as determined by the chairman of the meeting or as is otherwise determined by the Members.

2.10 QUORUM AND VOTING REQUIREMENTS. Members present at a meeting for which notice was provided in accordance with Section 2.6 above constitutes a quorum for the transaction of business. The vote of a majority of the Members present at any meeting at which there is a quorum shall be the act of the Members, except as a larger vote may be required by the laws of the State of Michigan, these bylaws or the Articles of Incorporation.

2.11 ACTION BY WRITTEN CONSENT. Any action required or permitted to be taken pursuant to authorization voted at a Members meeting may be taken without a meeting if, before, at the time of, or after the action, the Members consent to the action in writing. The written consents shall be filed with the minutes of the proceedings and shall have the same effect as a vote for all purposes.

2.12 PARTICIPATION IN MEETING BY REMOTE COMMUNICATIONS EQUIPMENT. A Member may participate in a meeting by conference telephone or by other means of remote communication (including an Internet chat room or web conference) through which all persons participating in the meeting may communicate with the other participants. All participants shall be advised of the means of remote communication and the names of the participants in the meeting shall be divulged to all participants. Participation in a meeting in this manner constitutes presence in person at the meeting.

2.13 METHODS FOR GIVING NOTICES AND CONSENTS. Unless otherwise provided in these bylaws or the Act, any notice or consent required or permitted may be given in writing or by electronic transmission. An electronic transmission, as defined in the Act, includes without limitation an email, voicemail, or facsimile.

III
BOARD OF DIRECTORS

3.1 BOARD OF DIRECTORS. The Board of Directors is the governing body of the corporation.

3.2 POWERS OF THE BOARD OF DIRECTORS. The Board of Directors shall have charge, control and management of the business, property, personnel, affairs and funds of the corporation, including the adoption of an annual budget, and shall have the power and authority to do and perform all acts and functions permitted for an organization described in section 501(c)(3) of the Code not inconsistent with these bylaws, the Articles of Incorporation, or the laws of the State of Michigan. The Board of Directors shall meet as often as necessary to conduct the business of the corporation, but at least annually.

3.3 NUMBER OF DIRECTORS. The Board of Directors shall consist of not less than three and not more than fifteen persons, as determined from time to time by the Members.

3.4 TERM AND SELECTION OF DIRECTORS. The Board of Directors shall consist of the Officers of the Friends, the manager of the E.L. Johnson Nature Center and other individuals elected and qualified in accordance with these bylaws. Directors shall be elected to one-year terms by the affirmative vote of the Members at their Annual Meeting, and vacancies shall be filled in the manner specified in section 3.8 below. Directors' terms shall commence at the conclusion of the Annual Meeting at which they are elected and shall expire at the conclusion of the Annual Meeting at which their successors are elected. There is no limit on the number of consecutive terms that a Director may serve.

3.5 ELIGIBILITY OF DIRECTORS. No person shall be eligible to be a Director who has been convicted of a criminal offense incident to the application for, or performance of, a State, public or private contract or subcontract or grant; convicted of a criminal offense, including any of the following: embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, attempting to influence a public employee to breach ethical conduct standards; convicted under State or federal antitrust statutes; or convicted of any other criminal offense which reflects upon that Director's business integrity. The election of any such person as a Director shall be deemed to be void.

3.6 RESIGNATION. A Director may resign by giving notice to the Secretary of the corporation, which notice shall be immediately forwarded to the Members and to the Board of Directors. Unless otherwise specified in the resignation, the resignation shall take effect upon receipt by the Secretary, and the acceptance of the resignation shall not be necessary to make it effective.

3.7 REMOVAL. Any director may be removed from office with or without cause at any annual or special meeting of the Members by the affirmative vote of two-thirds of the Members.

3.8 VACANCIES. Vacancies occurring in the Board of Directors by reason of death, resignation, removal or other inability to serve shall be filled by the affirmative vote of the Members. A director elected to fill a vacancy shall serve for the unexpired portion of the term of the replaced director.

3.9 ANNUAL MEETING. The annual meeting of the Board of Directors shall be held on a date to be determined by the Board from time to time. At the annual meeting, the Board of Directors shall elect officers and consider such other business as may properly be

brought before the meeting. If less than a quorum of the directors appears for an annual meeting of the Board of Directors, the holding of such annual meeting shall not be required and matters which might have been taken up at the annual meeting may be taken up at any later regular, special, or annual meeting or by consent resolution. Notice shall be given to the directors at least ten (10) but not more than sixty (60) days prior to an annual meeting of the Board of Directors.

3.10 REGULAR MEETINGS. Regular meetings of the Board of Directors may be held at such times and places as the directors may from time to time determine at a prior meeting or as shall be directed or approved by the vote or consent of all the directors. No notice is required for a regular meeting of the Board of Directors.

3.11 SPECIAL MEETINGS. Special meetings of the Board shall be called by the Secretary upon the written request of the President or any two directors. Special meetings of the Board of Directors shall be held pursuant to notice of the time, place and purpose thereof either delivered personally or sent by telephone, telegraph, mail or electronic means (including by email, voice mail or facsimile) to each director not less than twenty-four (24) hours prior to the meeting and if by telephone, telegraph, or electronic means, confirmed in writing before or after the meeting.

3.12 ACTION WITHOUT A MEETING. Any action required or permitted to be taken at any meeting of the Board of Directors or a committee thereof may be taken without a meeting, without prior notice, and without a vote, if all of the directors or committee members entitled to vote thereon consent in writing or by electronic transmission. The consents shall be filed with the minutes of the proceedings and shall have the same effect as a vote for all purposes.

3.13 QUORUM AND VOTING REQUIREMENTS. One-third (1/3) of the directors then in office constitutes a quorum for the transaction of business. The vote of a majority of the directors present at any meeting at which there is a quorum shall be the act of the Board, except as a larger vote may be required by the laws of the State of Michigan, these bylaws, or the Articles of Incorporation.

3.14 PARTICIPATION IN MEETING BY REMOTE COMMUNICATIONS EQUIPMENT. A member of the Board or of a committee may participate in a meeting by conference telephone or by other means of remote communication (including an Internet chat room or web conference) through which all persons participating in the meeting may communicate with the other participants. All participants shall be advised of the means of remote communication and the names of the participants in the meeting shall be divulged to all participants. Participation in a meeting in this manner constitutes presence in person at the meeting.

3.15 METHODS FOR GIVING NOTICES AND CONSENTS. Unless otherwise provided in these bylaws or the Act, any notice or consent required or permitted may be given in writing or by electronic transmission. An electronic transmission, as defined in the Act, includes without limitation an email, voicemail, or facsimile. Notwithstanding the foregoing, no notice need be given to any person who submits a signed waiver of notice before or after a meeting, or who attends a meeting without objecting to any lack of notice at the beginning of the meeting.

3.16 COMPENSATION. Directors may receive reasonable compensation for their services on the Board of Directors. If the Board of Directors decides not to provide compensation to Directors, the corporation may still purchase insurance as provided in section 7.2, provide reasonable compensation to a director for services which are beyond the scope of the director's duties as a director, or reimburse any director for expenses actually and necessarily incurred in the performance of the director's duties as a director.

IV
OFFICERS

4.1 OFFICERS. The officers shall be a President, a Secretary, and a Treasurer, and if desired, a Vice President. There may also be such other officers as the Board of Directors deems appropriate.

4.2 ELECTION AND TERM OF OFFICE. All officers shall be elected for a term of one year (or until their successors have been elected) by the Board of Directors at its annual meeting. No person may execute, acknowledge or verify an instrument in more than one capacity if the instrument is required by law or by the Articles of Incorporation or these bylaws to be executed, acknowledged or verified by two or more officers. In case of the absence or disability of any officer of the corporation and of any person hereby authorized to act in his place during periods of absence or disability, the Board may, from time to time, delegate the powers and duties of such officer to any other officer, or any directors, or any other person whom it may elect or appoint.

4.3 ELIGIBILITY OF OFFICERS. No person shall be eligible to be an officer who has been convicted of a criminal offense incident to the application for, or performance of, a State, public or private contract or subcontract or grant; convicted of a criminal offense, including any of the following: embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, attempting to influence a public employee to breach ethical conduct standards; convicted under State or federal antitrust statutes; or convicted of any other criminal offense which reflects upon that Officer's business integrity. The election of any such person as an officer shall be deemed to be void.

4.4 RESIGNATION. An officer may resign by giving notice to the Board of Directors. Unless otherwise specified in the resignation, the resignation shall take effect upon receipt by the Board of Directors, and the acceptance of the resignation shall not be necessary to make it effective.

4.5 REMOVAL. Any officer may be removed with or without cause by the vote of a majority of the directors then in office at any regular or special meeting of the Board of Directors.

4.6 VACANCIES. In the event of the death, resignation, removal, or other inability to serve of any officer, the Board of Directors shall elect a successor who shall serve until the expiration of the normal term of such officer or until his or her successor shall be elected.

4.7 PRESIDENT. The President shall be the chief executive officer of the corporation, and, as such, under the direction of the Board of Directors shall have power, on behalf of the Board of Directors, to perform all acts, execute and deliver all documents, and take all steps that the President may deem necessary or desirable in order to effectuate the actions and policies of the Board.

4.8 VICE PRESIDENT. In the absence or disability of the President, the Vice President shall perform the duties and exercise the powers of the President and shall perform such other duties as the Board of Directors shall prescribe.

4.9 SECRETARY. The Secretary (or, in the Secretary's absence or incapacity, an Assistant Secretary) shall send or cause to be sent all required notices of meetings of the Board of Directors, shall receive and attend to all correspondence of the Board of Directors, shall have custody of all documents belonging to the corporation (except as otherwise provided in these bylaws) and of the corporate seal (if any), and shall perform such other duties as usually pertain to the office or as shall be determined from time to time by the Board of Directors.

4.10 TREASURER. The Treasurer (or, in the Treasurer's absence or incapacity, an Assistant Treasurer) shall have charge of the funds of the corporation, except for such funds as the Board of Directors may designate; shall see that an accounting system is maintained which will give a true and accurate accounting of the financial transactions of the corporation; and shall render reports from time to time as requested by the Board of Directors of his or her activities and the financial condition of the corporation. All funds received by the Treasurer shall immediately be deposited in a depository designated by the Board of Directors.

V
COMMITTEES

5.1 EXECUTIVE COMMITTEE. The Board may establish a standing Executive Committee of the Board of Directors. If established, the Executive Committee would have broad authority to direct day-to-day actions of the corporation, including the powers and subject to the limitations described below.

5.1.1 POWERS OF THE EXECUTIVE COMMITTEE. Between meetings of the Board of Directors, the Executive Committee may exercise all of the power and authority of the Board of Directors in the management of the business and affairs of the corporation. At each regular or special meeting of the Board of Directors, a member of the Executive Committee shall report on action, if any, taken by the Executive Committee between meetings of the Board of Directors.

5.1.2 DIRECTORS' LIMITATIONS ON THE EXECUTIVE COMMITTEE. Notwithstanding the provisions of section 5.1.1, the Executive Committee shall not:

a) amend the Articles of Incorporation;

b) agree to merge with another organization;

c) authorize the sale, lease, exchange, or donation of all or substantially all of the corporation's property and assets;

d) authorize a dissolution of the corporation or a revocation of a dissolution;

e) amend the bylaws of the corporation;

f) fill vacancies on the Board of Directors;

g) remove any person from the Board of Directors;

h) adopt, delete, change or make an exception to policies, including but not limited to investment policies;

i) approve the payment of compensation for any director serving on the Board of Directors or any committee; or

j) establish or abolish any standing Board committee;

k) reverse actions previously taken by the Board of Directors; or

l) approve the payment of compensation for any director serving on the Board of Directors or any committee.

5.1.3 COMPOSITION. The Executive Committee shall be composed of the Officers of the Friends.

5.2 OTHER COMMITTEES. The Board of Directors may establish such other standing or special committees from time to time as it shall deem appropriate and shall define the powers and responsibilities of such committees.

VI
CORPORATE DOCUMENT PROCEDURE

6.1 EXECUTION OF CORPORATE DOCUMENTS. A corporate document shall not be signed by any officer, designated agent, or attorney-in-fact unless authorized by the Board of Directors or these bylaws.

6.2 AUTHORITY TO EXECUTE DOCUMENTS. The Board of Directors may in any instance designate one or more officers, agents or employees to execute any contract, conveyance, mortgage or other instrument on behalf of the corporation, and such authority may be general or confined to specific transactions. The Board of Directors may also ratify any execution. When the execution of any instrument has been authorized without specifying the executing officers or agents, any of the President, the Secretary, or the Treasurer may execute such instrument on behalf of the corporation.

VII
INDEMNIFICATION

7.1 INDEMNIFICATION. Each person who is, was, or is threatened to be made a party to any threatened, pending, or completed action, suit, or proceeding of any sort, whether civil, criminal, administrative, or investigative, and whether formal or informal, by reason of the fact such person is or was a director, officer, or member of a committee of the corporation or that such person serves or has served at the request of the corporation as a director, officer, partner, employee or agent of any other corporation, partnership, joint venture, trust or other enterprise shall be indemnified by the corporation to the fullest extent permitted by the laws of the State of Michigan as they may be in effect from time to time. The corporation may, to the extent authorized from time to time by the Board, grant such rights to indemnification to any employee, non-director volunteer, or agent of the corporation to the fullest extent provided under the laws of the State of Michigan as they may be in effect from time to time.

7.2 INSURANCE. The corporation may purchase and maintain insurance on behalf of any person described in section 7.1 above against any liability asserted against and incurred by such person in any such capacity or arising out of his status as such, whether or not the corporation would have power to indemnify such person against such liability under the preceding section 7.1.

VIII
AMENDMENTS

8.1 AMENDMENTS. These bylaws may be amended at any meeting of the Members by the affirmative vote of a majority of the Members present at the meeting. No amendment inconsistent with the Articles of Incorporation shall be effective prior to amendment of the Articles of Incorporation.

Friends Board Descriptions

BO-F02

Source Record

Friends of Johnson Nature Center Board Descriptions to share.pdf

Review Context

Mission and volunteer/fundraising roles reviewed; not a current OCP service or funding commitment.

Reproduced source pages: 5
Appendix source-page range: 941–945

Open Source Record in Google Drive

3325 Franklin Rd
Bloomfield Twp, MI 48302
johnsonnaturecenter.org/friends

Our Vision: We envision a place where all people experience a connectedness with nature in a healthy Michigan ecosystem, and are inspired to respectfully care for our planet.

Our Mission: Friends of the Johnson Nature Center supports the mission of Johnson Nature Center through ecological conservation, community outreach, volunteerism, and fundraising.

About Us: Friends of the Johnson Nature Center is a registered 501(c)(3) nonprofit organization. We are a volunteer-run working board. Directors are approved by our membership. As volunteers, we share the supportive efforts at the Johnson Nature Center and work together as a team to ensure we are aligned with our mission and goals. Our Board of Directors meet once a month, both in person and virtual.

Background Checks
All volunteers for Friends of the Johnson Nature Center must have a background check completed by the Johnson Nature Center. Background checks are annual and require a renewal by July 1st.
Please go to johnsonnaturecenter.org/volunteer for more info and to access the application.

Friends of the Johnson Nature Center (FOJNC) Board Requirements and Expectations

- Retain membership of the organization.
- Actively support and implement the vision and mission of the organization.
- Serve for a minimum of one year, up to the next annual meeting, or until a successor is elected.
- Chair or serve on a committee.
- Submit committee board reports for monthly board meetings.
- Attend 75% of board meetings.
- Recruit new board members, committee members, and help increase membership.
- Support and attend program initiatives.
- Exiting board members are responsible for finding their replacement on the Board.

Interested applicants can submit their bio to admin@friendsofjnc.org

Board of Directors

[Our bylaws]

President

The President serves as the chair of FOJNC, manages board meetings, keeps meeting agendas, and focuses on the overall well-being and sustainability of the board.

Responsibilities:

- Preside over board and executive meetings.
- Work with the Secretary to prepare the final agenda for board meetings.
- Prioritize issues for the board to address.
- Create policy, strategic plan and operational procedures with the board
- Ensure bylaws are kept up to date.
- Ensure job descriptions are updated as appropriate.
- Contribute to the newsletter as appropriate.
- Execute/approve any contracts authorized by the board
- Preside over the annual meeting and participate in the planning of the annual meeting, as needed.
- Provide orientation to new board members.
- Solicit annual committee meeting budgets for board review.

Vice President

The Vice President performs the function of the President when the President is unable to serve. In addition the Vice President is assigned to ad-hoc committees and oversees important functions.

Responsibilities:

- Participate in executive meetings when they are scheduled.
- Help to facilitate agenda in board meetings.
- Oversee yearly adjustments to goals and plans.
- Coordinate strategies for strengthening the FOJNC.
- Assist with committees and the work of the board
- Communicate with the President regularly for updates and insights in preparation for the upcoming term as President.

Secretary

The Secretary keeps full and accurate records of Board meetings, assists with correspondence within the board, and manages outgoing communications.

Responsibilities:

- Email board members meeting dates, times and locations of each meeting, updating with changes as necessary.
- Maintain contact information for board members.
- Draft and e-mail board minutes so that they can be read by everyone prior to the next meeting.
- Notify board members of committee reports and agenda requests for upcoming board meetings.
- Assemble committee reports for distribution to board members.
- Participate in executive meetings when they are scheduled.
- Maintain all board records in an accessible, electronic format.
- Prepare board-meeting agendas and distribute to board members in advance of meetings.

Treasurer

The Treasurer reviews and approves significant transactions authorized by the executive committee and board, confirms executive committee approval on all disbursements in excess of $500, and provides budget and financial reports for board review and approval as needed.

Responsibilities:

- Prepare and present monthly financial reporting at board meetings.
- Balance and reconcile membership dollars received.
- Provide financials for the annual report.
- Prepare and revise an annual budget with input from the board.
- Participate in executive meetings when scheduled.
- Deposit checks and reconcile bank deposit information.
- Ensure annual filing of federal 990 form. Ensure annual filing of State of MI forms.
- Send regular reports for board-packet mailing.
- Ensure verification of IRS 501(c)(3) status and use of the FOJNC name.
- Ensure preparation of annual income statement and balance sheet process.

Assistant Treasurer

The Assistant Treasurer will work with the Treasurer to ensure adequate oversight and reporting of financials of the organization.

Responsibilities:

- Manage FOJNC mailbox and ensure mail delivery to specific board members in a timely manner.
- Ensure in-kind and financial donations are documented.
- Ensure tax donation acknowledgement letters are sent to members and other contributors.
- Provide regular updates to the board as needed.

Events Director

The Event Director works closely with the executive board and stakeholders to help strengthen the FOJNC’s mission through community outreach and fundraising events.

Responsibilities:

- Recruit committee members.
- Develop an overall calendar for all events and communications pertaining to those events throughout the year.
- Work closely with the Fundraising Director and Recruitment Director.
- Make sure the President or Vice President, or other board representative, is available to speak at each event.
- Arrange for all necessary tools and props at functions; easels, PA system, posters, sign in sheets, board members to attend and greet.
- Work with fundraising committees to plan and execute fundraising events.
- Send updates to Communications Director for inclusion in the newsletter regarding important upcoming events.
- Send a regular report to the board for the board-packet mailing.

Membership Director

The Membership Director helps strengthen the visibility and build membership of the organization.

Responsibilities:

- Recruit committee members.
- Develop an annual recruitment strategy and implementation plan.
- Manage the recruitment process including developing recruiting strategy that includes increasing membership, outreach, and communication with membership.
- Develop an annual member-engagement plan.
- Develop a membership-feedback survey and present results with the board.
- Maintain membership distribution lists.
- Update the membership database of confirmed members past and present.
- Attend FOJNC events to recruit new members.
- Send regular reports for the board packet mailing.

Fundraising Director

The Fundraising Director will seek event sponsors, in-kind donations, and other donations for events, scholarships, and program needs.

Responsibilities:

- Recruit committee members.
- Develop an annual fundraising plan.
- Develop a sponsorship packet for events.
- Seek out and fill sponsorships.
- Recruit businesses to donate toward events, in-kind services, or program costs.
- Work with the Events Director, Treasurer, and executive board to identify and secure sponsorships.
- Send regular reports for the board packet mailing.

- Engage in prospective donor outreach and donor development.

Communications Director

The Communications Director develops and implements strategies to build FOJNC visibility and reputation as an environmental-charitable organization, among potential members and the community at large. Utilize common and efficient communication methods designed to reach targeted constituencies, including newsletters, the Johnson Nature Center website, press releases, and social media posts. Provide support, when needed, to Events Director, Fundraising Director, and Membership Director.

Responsibilities:

- Manage FOJNC social media posts and assist with advance publicity for events.
- Attend events to record or receive and post photos and videos from event attendees to social media
- Ensure consistent look and feel of documents including FOJNC logo for all communications.
- Build and manage a media contact list on the FOJNC spreadsheet.
- Develop and maintain key messages, talking points, and publicity strategies.
- Recommend/write news releases and other materials and distribute to the media as appropriate.
- Submit regular reports for board-meeting packets.

Director

Directors may sit on the FOJNC board without a specific title, however all are asked to actively participate in duties around the organization's mission and activities as needed. Some of these duties may involve, but are not limited to:

- Conservation leadership
- Volunteer coordination
- Special projects
- Participation on existing committees

OCP Sugarbush Preservation Recommendations June 2023

BO-E03

Source Record

Johnson Nature Center Sugar Bush Recommendations_.docx

Review Context

Historical ~1.8-acre assessment, inventory/expansion/planting proposals and $40500 estimate. Specific tree removals not adopted automatically.

Reproduced source pages: 4
Appendix source-page range: 947–950

Open Source Record in Google Drive

Johnson Nature Center Sugar Bush Preservation Plan

Overview

Oakland County Parks staff performed a site visit at the Johnson Nature Center Sugar Shack in June of 2023 at the request of Johnson Nature Center Staff. The goal was to identify any degradation of the sugar bush as well as to offer insight for preserving the site for future use.

Current Site Condition

The sugar bush is roughly 1.8 acres of mature sugar maple. Overall condition of the trees is good, observed tap holes from prior sugar seasons have all compartmentalized well and majority a majority of the tree canopy appears healthy.

- Issues that could potentially lead to decline in available trees to tap:
    - Lack of breaks between tapping seasons
    - No plan for expansion of the site
    - Very few saplings to replace the mature trees



Current sugar bush area

Recommendations

1. **Inventory:** Perform an inventory of the trees in the Sugar Bush and develop a system to

monitor forest health and production over time. Recommended systems could be online in ArcGIS (free to CVTs through Oakland County) or manually with an excel spreadsheet and tree tags. Aluminum tree tags should be placed into the trees at shoulder height, a spreadsheet can keep data on tree tag # and any info that is specific to that tag (DBH, tap count, years tapped, sap yield, etc..) or ArcGIS can track the same data. This data will make it easy to plan yearly tap rotations. This will also help to give accurate data on total sap collected per tree throughout the sugaring season.

2. **Expand:** There is a small stand of tulip poplar that were planted in the 1980's just north of the sugar shack. Removing these trees would open an area nearby for planting sugar maple saplings for future use. Also, along Telegraph Road is a stand of invasive black locust trees. Mixed in this stand are multiple sugar maple saplings ranging in size from 1" diameter to 4". Removing the tulip poplar and locust, along with planting new sugar maple saplings would nearly double the size of the sugar bush. A follow up treatment (or treatments) with herbicide will be required after removing the black locust.

3. **Plant:** Sugar maples are very shade tolerant and planting now with the goal of expanding into the areas north of the sugar bush will give the saplings time to establish before the canopy is open. A cost-effective solution would be hand digging sugar maples from other areas of the property. Small trees can also be purchased from a landscape company but should be straight species (not cultivars) and watered after planting.

Cost Estimates

Task	Cost	Notes
Tree inventory	$500	Tree tags
Tulip poplar removal	$10,000	Removal
Black locust removal	$25,000	Removal and follow up herbicide treatments
Sugar maple planting	$5,000	Trees 200-300 each plus labor to install

Total	**$40,500**	

Tulip poplar location



Black locust location



Sugarbush Restoration Project Report 2024

BO-E04

Source Record

Sugarbush Maintanence and Restoration Project Report_Johnson Nature Center2024.docx

Review Context

Planning narrative ~160 maples/195 taps and $31000 projection; not current inventory, completed treatment or balance.

Reproduced source pages: 2
Appendix source-page range: 952·953

Open Source Record in Google Drive

Sugarbush Maintenance and Restoration Project
2024

Overview of Project

Sugar maples have been an important part of Michigan's history for millenia, as native people recognized the sweet sap and cherished the late winter harvest season. From this knowledge came generations of sugar makers that still today harvest and process maple sap, a tradition that can only be done in a small corner of the world.

Much of the southern lower peninsula of Michigan was once populated by beech and sugar maple trees that extended for miles. Nearly all of these forests are no more, having been removed for lumber, development or agriculture. To practice sugar making today in SE Michigan forests must be actively restored or grown from scratch as invasive species, soil degradation and loss of established trees have disrupted the natural cycle of forest regeneration.

At Johnson Nature Center, we are fortunate that those who came before us had the foresight to establish and maintain a sugarbush to share this important aspect of Michigan's heritage with our students and community. To continue this work in the future, we must continue battling invasive species, planting and protecting trees, and maintaining the sugar bush so that future generations will learn about this important aspect of Michigan's past and present.

Current Conditions
~1.8 acre of sugar bush
~160 sugar maples, 195 total taps

Oakland County Parks forester performed a site visit at the Johnson Nature Center Sugar Shack in June of 2023 at the request of Johnson Nature Center Staff.

Issues to address:

1. The current stand is 'single aged' meaning they were planted at the same time and will all die in a condensed time period, leaving few tappable maples (40+ years to establish).
2. High deer pressure prevents maples from reestablishing, as deer consume sugar maple seedlings.
3. Invasive species, primarily buckthorn and black locust, are encroaching on sugarbush, limiting natural sugarbush regeneration.

Action Needed

1. **Inventory:** Perform an inventory of the trees in the Sugar Bush and develop a system to monitor forest health and production over time. Recommended systems could be online in ArcGIS (free to CVTs through Oakland County) or manually with an Excel spreadsheet and tree tags. Aluminum tree tags should be placed into the trees at shoulder height, a spreadsheet can keep data on tree tag # and any info that is specific to that tag (DBH, tap count, years tapped, sap yield, etc..) or ArcGIS can track the same data. This data will make it easy to plan yearly tap rotations. This will also help to give accurate data on the total sap collected per tree throughout the sugaring season.

2. **Expand:** There is a small stand of tulip poplar that were planted in the 1980s just north of the sugar shack. Removing these trees would open an area nearby for planting sugar maple saplings for future use. Also, along Telegraph Road is a stand of invasive black locust trees. Mixed in this stand are multiple sugar maple saplings ranging in size from 1" diameter to 4". Removing the tulip poplar and locust, along with planting new sugar maple saplings would nearly double the size of the sugar bush. A follow-up treatment (or treatments) with herbicide will be required after removing the black locust.

3. **Plant:** Sugar maples are very shade tolerant, and planting now with the goal of expanding into the areas north of the sugar bush will give the saplings time to establish before the canopy is open. A cost-effective solution would be hand digging sugar maples from other areas of the property. Small trees can also be purchased from a landscape company but should be straight species (not cultivars) and watered after planting.

The goal was to identify any degradation of the sugar bush as well as to offer insight into preserving the site for future use. The total project is a four-year restoration project, allowing new trees to be established while maintaining the integrity of an old-growth stand. JNC 2024-2028 master plan roll-out schedules completion of this project in 2028. Total cost of $31,000

For more information on the action plan and budget expectations, visit theSugarbush Restoration Action Plan

Sugarbush Restoration Action Plan

BO-E05

Source Record

Sugarbush Restoration Action Plan_.docx

Review Context

Proposed tapping changes, grants, planting and cumulative 2024–27 budget read. Contains pending/conditional items and dates differing from report; no completion inferred.

Reproduced source pages: 4
Appendix source-page range: 955·958

Open Source Record in Google Drive

Action Points

- Review current practices
    - Frequency of sugar maple tapping
        - Yearly tapping to be maintained
        - Size of tree diameter to be tapped: 12”
            - Currently tapping 10” trees or more for one tap & 20” trees for two taps,
            - Changing to 12” & 24” trees with a spiral tapping placement pattern
    - Number of tappable trees: ~160

- Expansion of Sugabush for succession Planting
    - Step :1 Remove Invasive plant tree species north and east of current suagrbush: opens canopy.
        - Michigan Property Network Bid: $6,400
        - Remove Black Locust & Tulip Poplar
            - Contacted Patrick Caniff at CISMA and applied for CISMA grant 12/2023 Waiting on approval of grant
    - Transplant sugar maple saplings from the property
        - Student involvement:
            - Agricultural, Food and Natural Resources high school science class and Environmental Field Research Course
                - Contact Jessica Lynn and Levi Ryfiak to gauge interest in the program
            - Bloomfield Hills High School Environmental Club
                - Contact Current student vice president Fiona Rudy or staff sponsor Angela Bitterman-Wenson to gauge interest
        - Operations Team
            - Including high school intern(s) on a conservation careers pathway
    - Purchase sugar maple saplings
        - Quantity: 10 per year for the next 5 years (TBD based on funds) = 50 additional trees
        - 6-7’ balled trees
            - Cold Stream Farm = $21.65 / tree ⇒ $1,082.50
            - Porcupine Hollow Farm = $17.50 / tree ⇒ $875.00
            - Michigan Timber Shack (2”) = $299.00 / tree ⇒ $15,000
    - Planting of trees
        - Location: Northeast corner of sugarbush expansion site
        - Time of year: Spring & Fall 2024-2029
        - Who:
            - Bloomfield Hills High School Environmental Club
                - Contact Current vice president Fiona Rudy or sponsor Angela Bitterman-Wenson to gauge interest
            - Operations Team

- Agricultural, Food and Natural Resources (Time-dependent)
- Friends of the Nature Center
- High School National Honor Society?
    - Sponsor is Krista Laliberte

Project Funding and Cost

- Donations
    - Private Donors: RC Laugal/ Olsen Family
        - Total of $3,200 in funding
    - Friends of Johnson Nature Center
        - Adopt a tree program
    - Municipality: Bloomfield Township Tree Planting Program
        - No funding available
- Grants
    - Arbor Day Foundation
        - Bloomfield Township is not a part of the Tree City USA (Birmingham has been for the last 45 years)
        - No grant opportunities
    - DNR Community Forest grants
        - Missed opportunity - deadline Oct 2023 -- can apply Summer 2024
    - DTE Grant
        - Missed opportunity - deadline August 2023 -- can apply, starting in June 2024
    - Oakland County CISMA
        - Grant submitted (online)
    - ReLEAF Michigan (phone call 3/28/2024)
        - First time doing sugar maples; they are really excited about doing this
        - Melinda Jones, 734.718.2702
        - 3 year maintenance agreement
        - DTE Foundation will be the funder
        - Zoom Call to go over details and proposed planting date; Event ReLEAF flyer, 30-min duration
            - Will assign a project forester
            - Go out to see quotes on 20 trees
            - Details to go over: delivery date, planting date
        - Could over the cost of 20 trees
        - Nature center provide in-kind services:
            - Dig holes in advance → auger for 36” (18-24” deep)
            - They could talk about it with us to discuss
        - Trees:
            - 1.5-2” diameter, container
            - If burlap-wrapped, would be MUCH heavier
        - Planting Day:

            - Have an agenda: DTE and Staff demonstration
            - Oversee entire planting
            - Make sure everything is clean up properly
            - 12 months later: return to walk with us and assess the area
            - April 2, between 12-3p
            - May 11 Volunteer Day suggested; second Saturday each month
    - Sav-a-Tree
        - Mark Brooke- suggested by Sandy

- Take out of our NC budget
- Sell timber
    - Waiting for responses, not looking favorable (next ops meeting will be discussing)
    - The value of the product does not offset the cost of production.
    - Black locust will be repurposed as trail boardwalk timber for the Easement Trail on the north side of the stream.

Resources:

- Oakland County Sugarbush Restoration Report

Budget

2024	Description	Cost
Removal of Invasive Trees	Full Day of Michigan Property Network Crew, Chipper, Dump Truck, 2 Climbers, 3 groundsmen, 2 DIngo machines, Chip brush and leave piles	$5,800
Transplanting	1” tree(s), Five Total	$0
Replanting	7’ Balled Tree, Quantity Five	$1,500
	PROJECT TOTAL	$7,300

2025	Description	Cost (Approx. 4% Increase)
Removal of Invasive Trees	Full Day of Michigan Property Network Crew, Chipper, Dump Truck, 2 Climbers, 3 groundsmen, 2 DIngo machines, Chip brush and leave piles	$6,032

Transplanting	1” tree(s), Five Total	$0
Replanting	7’ Balled Tree, Quantity Five	$1,560
	PROJECT TOTAL	$14,892

2026	Description	Cost (Approx. 4% Increase)
Removal of Invasive Trees	Full Day of Michigan Property Network Crew, Chipper, Dump Truck, 2 Climbers, 3 groundsmen, 2 DIngo machines, Chip brush and leave piles	$6,275
Transplanting	1” tree(s), Five Total	$0
Replanting	7’ Balled Tree, Quantity Five	$1,622
	Project Total	$22,789

2027	Description	Cost (Approx. 4% Increase)
Removal of Invasive Trees	Full Day of Michigan Property Network Crew, Chipper, Dump Truck, 2 Climbers, 3 groundsmen, 2 DIngo machines, Chip brush and leave piles	$6,526
Transplanting	1” tree(s), Five Total	$0
Replanting	7’ Balled Tree, Quantity Five	$1,686
	Project Total	$31,000

ReLeaf Three Year Maintenance Form

BO-E07

Source Record

3 year Tree Maintenance Agreement2023.pdf

Review Context

Watering, mulch, health checks, one-year visit described; extracted signature fields blank. Executed obligation and applicability remain unverified.

Reproduced source pages: 2
Appendix source-page range: 960·961

Open Source Record in Google Drive

ReLeaf Michigan

Planting Trees, Growing Communities

Three-Year Tree Maintenance Agreement

This agreement addresses watering, pruning, monitoring of health, and other routine and corrective actions related to the trees being planted. While the trees planted are guaranteed to be disease/virus free and in good condition when planted, ***there is no tree replacement guarantee***. The survival rate is a critical metric to this grant and the awarding of others. Therefore, as part of this agreement, an onsite meeting with a ReLeaf Michigan representative and the individual directly responsible for the maintenance of the trees planted as part of this opportunity will be arranged one year after the planting to walk the site and discuss maintenance-related issues, remedial action and to answer questions.

Name of Municipality/School _____

Signature of city/village/town/county/township -manager/mayor/administrator/supervisor/school official to signify agreement and commitment to maintaining trees planted as a part of this project:

_____

(Print Name) (Date)

_____

(Signature/Title)

Signature of the municipality, requesting organization, or school individual (city/village forester, DPW Director/Supervisor, Park Supervisor, head of school maintenance, etc.) who is directly responsible for the trees planted to signify agreement and commitment to maintaining trees planted as a part of this project. Also, to agree to meet with a ReLeaf Michigan representative one year after planting to walk the site and discuss maintenance-related issues.

_____

(Print Name) (Date)

_____

(Signature/Title)

Received by:

_____

(Name of ReLeaf Michigan Representative) (Date)

1100 N. Main Suite 105, Ann Arbor, MI 48104 (p) 1-800-642-7353 (F) 734-998-0163
info@releafmichigan.org ReLeafMichigan.org

Yearly Maintenance Schedule:

Year 1:

- Watering schedule – Water twice a week by hand for a total of 15 gallons per week **OR** provide gator bags for each tree and fill once a week
- Mulching – replenish yearly
- Weeding around trees will be based on a watering schedule
- Tree health inspection – Monitor trees for health and arrange for appropriate treatment if insect, disease, or improper cultural practices are present
- Prune only if necessary
- Stake only if necessary
- Check for mower/weed whip damage, vandal damage, and animal damage
- Do not fertilize. Fertilizer applied to newly transplanted trees can excessively dry roots (burning)
- Remove all tags from the tree

Year 2:

- Continue watering schedule
- Mulching – replenish yearly
- Weed around trees
- Pruning as necessary
- Remove any stakes and ties
- Check for any insect or disease problems on the new trees and surrounding trees

Year 3: Same as year 2

Releaf Michigan
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info@releafmichigan.org ReLeafMichigan.org

Equipment Transfer Inventory

SUP-Q01

Source Record

Farm NC Equipment Inventory updated May 2026 – th.xlsx | Current Inventory NC

Review Context

All 30 Current Inventory NC entries are included in the transfer to OCP, confirmed by Alan on October 30, 2026. Original workbook transfer cells were blank; the reproduced plan schedule records that later direction. Conditions remain source-reported. Reconcile identifiers and final schedule versions with PAP approval.

Reproduced source pages: 3
Appendix source-page range: 963·965

Equipment Transfer Inventory

Source: Farm NC Equipment Inventory updated May 2026 – th, “Current Inventory NC” tab, rows 4–33. This schedule retains all 30 source entries; listed conditions are those reported in the workbook.

Transfer to OCP: Yes for all 30 entries, confirmed by Alan on October 30, 2026. Original workbook transfer cells were blank; this plan records the subsequent transfer direction. Verify identifying numbers and current condition and retain the tractor and separately listed bucket as separate entries. Final schedule approval will be documented with the PAP.

Row Y/N	Equipment and Model	Uses and Notes	Condition
4 Yes	Tractor with Bucket John Deere 855 Type: Tractor	Uses: This is the main tractor that we use for NC operations.	Good
5 Yes	Small Manure Spreader- UTV Fimco Industries- 1/2 yard Type: Grounds Equipment	Uses: Moving small manure loads and spreading in fields Notes: New in 2017; moved from Farm to NC in 2021	Good
6 Yes	Bucket for Tractor John Deere 70A Type: Grounds Equipment	Uses: Loader	Good
7 Yes	Brush Hog John Deere 513 Type: Grounds Equipment	—	Good
8 Yes	Utility Trailer Snow Bear 8' long / single axle Type: Trailer	Uses: Utility hauling on site; not for road Notes: Not for road	Good
9 Yes	Gator John Deere 4 X 2 with dump box Type: Utility Vehicle	Uses: General hauling and towing of trailer Notes: Electric dump	Good
10 Yes	Electric Golf Car Club Car DS Golf Car 2002 Type: Utility Vehicle	Uses: General hauling and towing of trailer Notes: Manual Dump,	Good
11 Yes	Lawn Mower Toro SR4 Push Mower 20" Type: Mower	Uses: Cut Grass	Fair
12 Yes	Chain Saw Stihl MS180 Type: Power Tool	—	Good
13 Yes	Chain Saw Stihl MS251C Type: Power Tool	—	Good

Blank uses or notes are shown as an em dash. Source row numbers preserve the connection to the workbook.

Equipment Transfer Inventory Continued

Source: May 2026 equipment workbook, “Current Inventory NC” tab. Transfer to OCP: Yes for every entry, confirmed October 30, 2026. Conditions are source-reported.

Row Y/N	Equipment and Model	Uses and Notes	Condition
14 Yes	Snow Blower Toro Power Clear 21" Type: Grounds Equipment	Notes: Electric Start	Good
15 Yes	Long Handle Hedge Trimmer Stihl Type: Power Tool	—	Fair
16 Yes	Hedge Trimmer Stihl H576 Type: Power Tool	—	Fair
17 Yes	Hedge Trimmer Toro Electric Type: Power Tool	—	Fair
18 Yes	Weed Wacker Stihl Type: Power Tool	—	Poor
19 Yes	Weed Wacker Shindaiwa T230X Type: Power Tool	—	Fair
20 Yes	Leaf Blower Echo PB 250LN Type: Power Tool	—	Good
21 Yes	Leaf Blower Dewalt 20V DCBL772 Type: Power Tool	Notes: Battery	Good
22 Yes	Hedge Trimmer Dewalt 20V DCHT 820 Type: Power Tool	Notes: Battery	Good
23 Yes	Circular Saw Makita 7 1/4" Type: Power Tool	—	Good

Blank uses or notes are shown as an em dash. Source row numbers preserve the connection to the workbook.

Equipment Transfer Inventory Continued

Source: May 2026 equipment workbook, “Current Inventory NC” tab. Transfer to OCP: Yes for every entry, confirmed October 30, 2026. Conditions are source-reported.

Row Y/N	Equipment and Model	Uses and Notes	Condition
24 Yes	Sawz All Dewalt Type: Power Tool	—	Good
25 Yes	Screw Gun Dewalt 20V DCD791 Type: Power Tool	—	Good
26 Yes	Screw Gun Dewalt 20V DCF 887 Type: Power Tool	—	Good
27 Yes	Screw Gun Dewalt 20V DCD778 Type: Power Tool	—	Good
28 Yes	Screw Gun Milwaukee 18V Fuel Type: Power Tool	—	Good
29 Yes	Table Saw Craftsman 10" 2.5 HP Type: Power Tool	—	Fair
30 Yes	Scroll Saw Craftsman 16" Type: Power Tool	—	Fair
31 Yes	Chop Saw Delta Shop Master 10" Type: Power Tool	—	Fair
32 Yes	Air Compresser Porta Cable 1.6 HP / 20 Gal Type: Power Tool	—	Good
33 Yes	Pressure Washer Simpson 3000PSI MS61043 Type: Power Tool	—	Fair

Blank uses or notes are shown as an em dash. Source row numbers preserve the connection to the workbook.

Companion Records and Remaining Verification

SUP-R01

Source Record

Appendix assembly note | October 29, 2026

Review Context

Record of source scope, materials retained separately and verification items that the assembled appendix does not close.

Reproduced source pages: 1
Appendix source-page range: 967·967

Records Retained Separately

Staff and Financial Records

Licensing correspondence, staff handbooks, emergency procedures, donor-account reconciliation and the original email archive remain in staff records and are not reproduced here.

Source and Review Controls

The source register and consolidated October 30 review tracker remain companion files. The tracker identifies responsible roles, evidence or decisions needed, and timing gates. The mobility summary, program inventory and equipment schedule are included in this binder.

Supplementary Project Archive

The project-slide archive, interpretive animal artwork and raw survey workbook remain separate. BO-O01, BO-O02, BO-O03, BO-O07, BO-E06, BO-E08, BO-E09 and BO-E10 remain excluded from this appendix only. Their original records remain available separately.

Transfer and Permit Completion

All equipment, personal property and animals are included in the confirmed transfer direction. The master and appendix now contain the 30-entry equipment schedule and confirmed five-animal schedule. Final approved schedule versions, preserved-specimen records, TreeSchool license/application records and applicable animal permits remain separate administrative records. The latest supplied family handbook is reproduced at pages 896?925.

Excluded Acquisition Proposal

The unsuccessful 3115 Franklin Road preservation proposal remains excluded. References in historical source documents do not reactivate it.

Source Identifiers

BO identifiers follow the source register. SUP-V01, SUP-G01 and SUP-Q01 identify the supplementary visitor, program and equipment records.

Conceptual Site Layout

BO-V03

Review Context

Original concept map reproduced without alteration. Its project types are incorporated into Attachment A of the IPP. Locations, boundaries, grades and footprints remain conceptual and require verification. The governing IPP retains caretaker-house renovation, reuse and replacement as alternatives and establishes project-specific implementation requirements.

Supplement contents

BO-V03 Conceptual Site Layout 968
BO-B03 Conceptual Site Layout Description 970

The map retains its original full-size page with no added footer.

The Johnson Nature Center
at
Bloomfield Oaks County Park

Trail and Maintenance Easement
Cross River Adventure
The Rambles
Observation Platform
Forest Garden
Botanical Collection
Upper Parking Lot
Lower Parking Lot
Mossy Hill
Botanical Collection
Nature Center
Tree School
Nature School
Overlook
Supplementary Wellhead
Recirculating Stream
Explorer Woods
Outdoor Activity Area
Fishing Hut
Canoe Launch
Fishing Pier
Johnson's Pond
Shoreline Boardwalk
Stormwater Detention
Overlook
Pond Overlook
Maintenance Yard
Tinker's Ridge
Sawmill
Johnson's Landing
Smokey's Sugar Bush
Fishing Dock
Swim Area
Beach
Sugar Shack
Chain Barge
Barge Dock
Swim Area

Concept Map - Key

- Park Boundary
- Waterbodies
- Special Program Areas
- Existing Structures
- New Structures
- Hard Surface (Concrete/Asphalt)
- Main Trails (Stabile Surface <5%)
- Foot Paths (Variable Surfaces)

0 100 N

Conceptual Site Layout Description

BO-B03

Review Context

Original source description reproduced for reference. The governing IPP reconciles this concept with the agreed capital scope, property rights, licensing continuity and operating responsibilities. Naming errors, assumptions about partner support and statements implying settled replacement, grade or licensing decisions in this source do not supersede the IPP.

Source pages: 3
Appendix source-page range: 971-973

The Johnson Nature Center at Bloomfield Oaks County Park

Conceptual Site Layout Description

Park Vision

The Johnson Nature Center at Bloomfield Oaks County Park plays a beloved role in the local community and can serve as unique countywide resource. Despite having a relatively small footprint, the park is a diverse island of natural habitat located in on a section of the Rouge River in close proximity to several school systems. The park is particularly suited for nature programs, living history, and self-guided nature exploration.

Nature Center and Nature School

The school programs, community programs, and self-guided exhibits facilitated by the nature center will continue to play a major role in the services provided by Bloomfield Hills County Park. The Pre-K program will continue to play a pivotal role in our community outreach and will be a model for other similar efforts across the County Park system. To better support the Pre-K program and Summer Camps at Bloomfield Oaks County Park, we are proposing to replace the existing caretaker cottage with an indoor Nature School building adjacent to a new parking area.

Community Access and Trail Connectivity

To support trail access goals of the County Parks and support local trail connectivity, we are proposing to enhance the current park trails by adjusting the layout to facilitate accessible walking loops while still allowing for a variety of trail experiences including seasonal trails and rustic footpaths. The layout of the main trail loops have been adjusted, when necessary, to minimize potential grading while still allowing for slopes less than 5%.

A maintenance/trail easement has been secured for adjoining landowners to allow additional trail connections in support of local trail access.

Expanded parking is critical to maintaining and community access particularly during school programs and special events at the park.

Special Program Areas

To enhance the guest experience of Bloomfield Oaks County Park and maximize the educational opportunities that the park provides, we propose shaping the design and management of several areas of the park to promote specific activities and opportunities for exploration. These “Special Program Areas” are based on the natural landscape and local history of the area and can facilitate both guided programs and self-directed experiences.

Tree School

To meet licensing requirements, this fenced outdoor classroom area contains a number of uniques educational spaces set in natural habitat or filled with natural materials collected by the students themselves.

Explorer Woods

Building on the concept of a Nature Discovery Trail, this area is designed with exploratory play in mind. Wayfinding elements will be added to help define the space and young visitors will be encouraged to dig, climb, crawl, and create the spaces where their imaginations can wander.

Johnson's Landing

Rather than trying to restore or recreate period architecture, Johnson's Landing is intended to help create settings where kids of all ages can experience historically significant ways that our community has benefited from the unique landscapes and environments of Oakland County. Successful programs in woodworking, pioneer life, and maple sugaring could be expanded with the addition of a sawmill, woodfire bakery, smoke house, and even a chain-barge that could allow visitors to pull themselves across Johnson's Pond to view the wildlife and experience early means of moving freight.

Smokey's Sugar Bush

Maple sugaring has been a success program at the Johnson Nature Center for years. As part of Bloomfield Oaks County Park, we have a unique opportunity to involve researchers from Michigan State University Forestry Department and MSU Extension educators to introduce and interpret sustainable forestry practices into the long-term management of the Sugar Bush.

Tinker's Ridge

A variation on the discovery experience, *Tinker's Ridge* is designed to foster creative building skills with natural materials. With slightly older visitors in mind, this area will be filled with rocks, boulders, logs, stumps, dirt mounds, sand pits, cut branches, and natural fiber ropes that kids can use to create their own play elements. (The proximity to the proposed maintenance yard and maintenance building will help facilitate the placement/replacement, care, and management of the discovery building area.)

The Rambles

This natural area is proposed to be designed and managed to create a range of experiences that bring young people up close and personal with natural things. We will explore the creation of forest openings, brush piles, dense shrub plantings, rockpiles, tree-falls and rootwads, prescribed burns, and borrow-pits to create opportunities for a diversity of natural process to take place and be explored.

Cross River Adventure

There is something about crossing a river that makes us feel like we are on our way to an adventure, and in this special program area adventure will take the form of a low ropes course that will allow visitors to climb, balance, tip-toe, hop, and jump their way across the landscape.

Forest Garden

The Johnson Nature Center has been fortunate to have considerable local volunteer support including the MSU Master Gardeners Program. In the proposed *Forest Garden* we hope to utilize their continued support to help us create a botanical collection that highlights native Michigan

flora in its natural habitat. Wildlife management and decorative deer exclosures will be developed to support the long-term viability of this display which will serve as a community gateway for the trail experience at Bloomfield Hills County Park.

Mossy Hill

Similar to the Forest Garden, this botanical display will include unique Michigan forest plants but with the added opportunity to display mosses, lichen, fungi, and ferns that require the additional moisture, rocky surfaces, and canopy cover.

Park Maintenance and Educational Pods

A maintenance yard and maintenance building is proposed to help manage the unique combination of natural resources management and recreational services management that is required for Bloomfield Oaks County Park if we are to maximize is community and educational value. This investment will also allow us to continue to explore new means of creating sustainable, adaptable public engagement across the park system. One opportunity that we intend to explore at Bloomfield Oaks is the construction and use of “Educational Pods”. These custom built, movable structures will be designed to be transported to remote locations of our parks to help facilitate educational experience in ways that would otherwise not be possible or practical.

Animal Transfer Inventory

SUP-A01

Source: Current animal list and quantities confirmed by Alan Jaros.

Five animals are included in the transfer: one peregrine falcon, one white-tailed deer, one great horned owl, one red-eared slider turtle and one red-bellied cooter turtle.

This closes the missing-current-animal-list item. Final PAP approval and applicable permit administration remain separate. The following schedule is reproduced from the current master.

Reproduced schedule: appendix page 975

Animal Transfer Inventory

Source: Current animal list and quantities confirmed by Alan Jaros on October 30, 2026. All five animals are included in the transfer to OCP under the Final PAP. This schedule records the confirmed inventory and transfer direction; it does not represent that PAP approval or ownership transfer has already occurred.

Animal	Quantity	Transfer to OCP
Peregrine falcon	1	Yes
White-tailed deer	1	Yes
Great horned owl	1	Yes
Red-eared slider turtle	1	Yes
Red-bellied cooter turtle	1	Yes

Total: 5 animals. Ownership transfer does not itself transfer permit authority. Applicable permits and individual care records will remain with the operating records. The approved PAP record will identify the final version of this schedule.

RETURN TO AGENDA

Oakland County Parks and Recreation Commission
Agenda Item Brief

Meeting date	November 4, 2026
Agenda item	17 - Discovery Oaks–Bowers Farm Integrated Park Plan
Item type	Action
Lead staff	Alan Jaros, Deputy Director

ACTION REQUESTED

Recommended motion: Move to:

- Approve submission of the Discovery Oaks–Bowers Farm Integrated Park Plan, encompassing the Park Action Plan, Capital Improvement Plan and Park Operations and Management Plan, to Bloomfield Hills Schools for review under the interlocal agreement; and
- Authorize the Director to make revisions needed to complete the review and approval process, including updates to supporting information, schedules and operating arrangements and changes responding to BHS comments, consistent with the plan's purpose and the interlocal agreement.

This authorization does not amend the interlocal agreement or authorize expenditures beyond approved budgets. Existing BHS, County and Commission approval requirements remain in effect.

AT A GLANCE

The IPP establishes the capital, operating and stewardship framework for Discovery Oaks–Bowers Farm as a working agricultural learning campus and regional public destination. It supports broader public access, facility renewal and expanded learning while preserving the farm's identity. Staff recommends submission to BHS and authority for the Director to make necessary revisions through the review and approval process.

BACKGROUND AND CONTEXT

- The executed interlocal agreement establishes a 30-year partnership in which BHS retains property ownership and specified school-use rights, while OCP operates, manages, maintains and plans for the park. The IPP brings these responsibilities together through the required Park Action Plan (PAP), Capital Improvement Plan (CIP), and Park Operations and Management Plan (POMP).
- The PAP draws on the property's history, community engagement, visitor information and technical assessments. The CIP describes anticipated improvement types, general locations and intended uses. The POMP establishes the management framework for staffing, farm care, public programs, maintenance, partnerships and financial administration.
- The initial PAP requires BHS review before OCP final approval and implementation. Section 4.7.6 provides 30 calendar days from receipt for BHS response and establishes the applicable written-approval and deemed-approval provisions. The proposed November 4 action advances the draft for that review; it does not represent completion of the approval process.

PUBLIC VALUE AND STRATEGIC ALIGNMENT

Discovery Oaks advances Mission 26 by connecting countywide access with an experience rooted in agriculture, food and the care of working landscapes. The plan preserves the farm's distinctive educational role while broadening the ways residents can participate:

- Proposed free walking trails, dedicated trail-access parking at the western Squirrel Road entrance and connections to Township safety paths would create everyday access alongside the farm's established

programs. Defined routes and interior fencing would support public access while protecting agricultural work and animal care.

- School field trips, summer camps, family and adult learning, food experiences and volunteer stewardship support repeat participation. The Farm, Food, and Working Landscapes initiative connects this work with health and wellness, local food awareness and opportunities to reach schools and communities facing participation barriers.

Public subsidy, earned revenue, grants and partner support will serve different purposes. Resource-intensive programs and seasonal attractions can contribute revenue while accessible park experiences and educational opportunities deliver broader public benefit. Capital decisions will account for continuing staffing, maintenance and utility needs.

IMPACTS AND COMMITMENTS

Area	Key information
Financial	The agreement establishes separate commitments of at least $1.5 million from OCP and $1.5 million from BHS. The draft proposes October 1, 2028 for OCP's investment. Requested BHS work includes learning building and visitor center renewal, greenhouse repairs, and perimeter fencing and gates. BHS scope acceptance and the meaning of its reported July 1, 2027 milestone remain unconfirmed. Historical 2023 estimates are planning allowances, not current bids. This action creates no additional appropriation.
Operating	OCP leads public programming and farm operations through program, farm-management, park-operations and County support functions. The POMP coordinates authentic agricultural work with learning, animal welfare, visitor services and routine maintenance. BHS's specifically retained school-use rights remain protected.
Long-term	The CIP establishes a broad framework for buildings, utilities, circulation, accessibility, agricultural facilities, heritage, adventure learning, natural resources and seasonal recreation. Inclusion does not guarantee funding or completion. Once approved through the agreement's process, the CIP provides BHS preapproval for included project types to the extent authorized by Section 4.7.4. County authorizations, permitting and reserved BHS rights still apply.
Partners and public	The plan supports public and school participation while preserving the working farm's identity. Friends of Bowers Farm, MSU Extension, Preservation Bloomfield and other partners can contribute within their respective roles and applicable agreements. Preservation Bloomfield's separately owned historic buildings remain distinct from the transferred farm assets.
Risks and dependencies	Timely Commission action is needed to advance the IPP to BHS within the agreed submission schedule. Delay would reduce the time available for BHS review, resolution of comments and completion of the approval process. Staff will document delivery and manage the remaining review items through that process. The December 15 deadline applies to delivery, not completion of all approvals.

ALTERNATIVES CONSIDERED

- The interlocal agreement requires delivery of the IPP, so taking no action does not fulfill OCP's obligation. The Commission may advance the draft as presented or direct revisions.

NEXT STEPS

Following Commission action, the Director will target delivery to the BHS Representative on November 5, 2026. Confirmed receipt that day would make December 5 the end of the 30-calendar-day response period. The Director will coordinate responses, incorporate revisions within the authority granted by the Commission, and advance the plan through the agreement's final approval process. Detailed design, procurement and construction scheduling will proceed through applicable subsequent processes as projects are authorized.

Attachment: Discovery Oaks–Bowers Farm Integrated Park Plan
Sources: IPP §§1.1, 1.5–1.10 and Attachments A–B; executed Bowers Farm interlocal agreement §§4.7.4–4.7.6, 4.10–4.11, 4.18 and 5.1.

OAKLAND COUNTY PARKS

Discovery Oaks

Bowers Farm

Integrated Park Plan



PARK ACTION PLAN

CAPITAL IMPROVEMENT PLAN

PARK OPERATIONS AND MANAGEMENT PLAN

Prepared for

Oakland County Parks and Recreation Commission
Bloomfield Hills Schools

OCTOBER 30, 2026

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Supporting documents are maintained in the separate appendix binder. Source references in the report retain their appendix document identifiers.

This copy includes the Park Action Plan, Capital Improvement Plan, Park Operations and Management Plan, transfer schedules and approval record.

Executive Summary

Discovery Oaks–Bowers Farm brings working agriculture, outdoor learning and public recreation together on approximately 87 acres in Bloomfield Township. Established by Bloomfield Hills Schools in 1967, the farm has connected generations of students and visitors with livestock, growing food and the daily work of caring for land. The partnership between Oakland County Parks and Bloomfield Hills Schools builds on that history, preserving the farm's distinct character while extending its educational and recreational opportunities to residents across Oakland County.

This Integrated Park Plan establishes the direction for that next chapter. Its three components—the Park Action Plan, Capital Improvement Plan and Park Operations and Management Plan—connect the park's public purpose with the facilities, investments and operating responsibilities needed to sustain it. BHS retains ownership and its specifically reserved rights under the interlocal agreement. OCP leads park management, operations, maintenance, programming and planning. [Sections 1.1–1.3; A-01]

A working farm with a broader public purpose

The long-term vision is a working agricultural learning campus and regional destination that welcomes everyday visits and deeper participation. Livestock, fields, gardens, pastures and food production remain central to the experience. School field trips, summer camps, family activities, adult learning and volunteer stewardship provide opportunities to return, develop skills and build lasting connections with the farm.

Discovery Oaks also offers a distinctive setting for OCP's Farm, Food, and Working Landscapes initiative within Health and Wellness Activation. Connections with the Oakland County Farmers Market, agricultural producers and community partners can help people understand where food comes from, how it is grown and how their choices connect to land and local livelihoods. The visitor center, Farm Store and Kitchen bring these experiences together through learning, food and farm products. The plan seeks to broaden participation, including opportunities for schools and communities that face barriers to agricultural and outdoor learning. [Sections 1.5–1.6]

This direction advances Mission 26 through greater access, active public spaces, outdoor learning and responsible stewardship. Proposed free walking trails, a dedicated trail-access parking area at the western Squirrel Road entrance and connections to Bloomfield Township's safety paths would create additional ways to experience the property. Designated routes and interior fencing would support visitor access alongside productive agricultural uses. Resource-intensive programs and attractions would continue to operate as paid experiences, consistent with the agreement's resident-entry provisions. [Section 1.5; Attachment A.4; Section B.3]

Heritage interpretation, adventure learning and seasonal recreation add to the farm's appeal. Potential improvements would strengthen these experiences while maintaining the agricultural setting and coordinating four-season activation with other OCP destinations. The plan provides flexibility to adapt programs and partnerships as community needs and operating conditions change. [Sections 1.6–1.7; Attachment A.6–A.9]

Renewing the campus and guiding investment

The farm's continued success depends on reliable buildings, utilities, accessible routes and functional agricultural facilities. The JFR building assessment, GMB infrastructure evaluation and accessibility assessment identify needs that inform renewal priorities. Their findings provide a basis for evaluating work, while individual projects will account for current conditions, intended uses and available resources. [Section 1.3; C-02–C-04]

The Capital Improvement Plan establishes a broad framework for building renewal and adaptation; livestock and agricultural facilities; utilities, drainage and circulation; parking, trails and accessibility; outdoor and adventure learning; heritage interpretation; natural-resource stewardship; seasonal recreation; and operational support. It identifies the types of improvements, locations and intended uses OCP may pursue while allowing detailed design, sequencing and delivery decisions to develop through established County processes.

The agreement establishes separate investment commitments of at least $1.5 million from OCP and $1.5 million from BHS. The requested BHS package focuses on renewal of the learning building and visitor center, greenhouse repairs, and perimeter fencing and gates. Historical 2023 estimates provide a planning basis for discussing that scope; they are not current bids or guaranteed quantities. This review draft proposes October 1, 2028 for fulfillment of OCP's investment commitment. Acceptance of proposed investment terms and clarification of BHS's reported July 1, 2027 milestone remain to be documented. [Section 1.8; A-01 §5.1]

CIP inclusion does not guarantee funding or implementation. Approval provides BHS preapproval for included project types when funding becomes available, to the extent authorized by the interlocal agreement. County funding authorizations, permitting requirements and expressly reserved BHS rights continue to apply. The separate investment commitments do not require completion of the entire CIP within the planning period. [Attachment A.1; A-01 §4.7.4]

Operating an authentic and sustainable learning campus

The Park Operations and Management Plan connects site operations with OCP's program leadership, technical teams and shared services. Program staff lead the design of learning experiences, while farm personnel establish meaningful agricultural outcomes and maintain responsible animal and land care. This coordination allows visitors and novice learners to participate in authentic work while recognizing that teaching requires time, supervision and approaches that differ from production alone. OCP's countywide learning programs and BHS's retained instructional uses have distinct responsibilities within this framework. [Sections B.1–B.5]

MSU Extension, Friends of Bowers Farm, Preservation Bloomfield and other community organizations contribute expertise, participation and support. Proposed operating agreements will define partner services, facility use and financial arrangements where needed. Preservation Bloomfield's historic buildings remain separately owned; their interpretation and potential use can enrich the park experience within the applicable lease and partnership arrangements. [Sections B.6–B.8]

Financial sustainability requires an intentional balance of public funding, earned revenue and external support. Public investment sustains access, learning, stewardship and the year-round responsibilities of a working farm. Fees, rentals, food and retail sales, sponsorships, grants and gifts can contribute to the cost and quality of services. OCP will evaluate offerings through their public purpose, full operating needs and results rather than applying a single cost-recovery target. Measures will consider participation, repeat engagement, accessibility, learning, volunteer stewardship, asset condition and responsible use of resources. [Sections 1.8–1.9; B.11]

Approval and implementation

Approval of the IPP establishes a coordinated planning and management framework within the interlocal agreement. OCP will advance work through its budgeting, capital-development and operating processes, applying the agreement's review and update requirements. Routine changes within approved authority do not automatically require a plan amendment.

Before adoption, the final package must accurately record agreed investment terms, equipment and animal transfers, and any unresolved allocation of responsibilities requiring written confirmation or Corporation Counsel review. Staff assignments and supporting-record updates are tracked separately. Detailed designs, procurement decisions, construction schedules and routine operating procedures will generally follow as implementation advances.

The plan's enduring purpose is to sustain a working farm where agricultural production, learning, recreation and community participation reinforce one another—and where public investment creates lasting value for Oakland County residents.

Park Action Plan

The Park Action Plan establishes the direction for managing, maintaining and improving Discovery Oaks–Bowers Farm as a working agricultural learning campus and public park. It brings together the park's public purpose, existing conditions, priorities and partnership responsibilities to guide OCP's decisions about programs, stewardship, operations and investment.

1.1 Purpose and Controlling Framework

This Integrated Park Plan provides a coordinated framework for Oakland County Parks and Bloomfield Hills Schools to sustain Discovery Oaks' agricultural and educational purposes, serve the wider community and responsibly manage the property. It guides OCP's management of the park while preserving BHS ownership, school use and other rights established in the interlocal agreement. [A-01 §§2.3–2.6, 4.3, 4.18]

The plan follows the structure required by the agreement:

- **Park Action Plan (PAP):** Establishes the park's purpose, conditions, strategic direction and management priorities.
- **Attachment A — Capital Improvement Plan (CIP):** Identifies anticipated improvement types, locations and intended uses, providing a framework for evaluating and advancing investments.
- **Attachment B — Park Operations and Management Plan (POMP):** Establishes the framework for daily operations, maintenance, staffing, programming and coordination.

These components work together. The PAP establishes direction; the CIP describes the improvements OCP may pursue within the approved scope; and the POMP explains how the park will be managed. The equipment and animal transfer schedules form part of the PAP and identify the property covered by the agreement's transfer provisions. [A-01 §§4.7, 4.10–4.11]

The interlocal agreement requires the final PAP to be based on Exhibit B and developed through OCP's policies and procedures. The agreement and its executed amendments govern the parties' responsibilities and the plan's approval and update requirements. Approval of this plan provides the planning authority described in those documents, including BHS preapproval of included capital project types to the extent provided in §4.7.4. Applicable County authorizations, permits and expressly reserved BHS rights continue to apply. [A-01 §§4.4, 4.7.2–4.7.6, 6.12]

The plan addresses near-term needs within the longer perspective of the 30-year partnership. The CIP establishes a five-year capital planning framework, and each plan component follows the update requirements in the agreement. Some needs will be addressed through routine maintenance and operations. Others may advance as funded improvements or remain longer-term concepts for further evaluation. Inclusion in the CIP does not guarantee funding or implementation, and the plan does not require every potential improvement to be completed within the planning period. [A-01 §§2.1, 4.7.4–4.7.6]

Supporting assessments, maps, historical plans and other records explain the evidence behind the plan's direction. Their findings retain the dates, scope and limitations of the original documents. A condition assessment can identify an important need without committing OCP to every recommended repair. A concept drawing can illustrate an opportunity without establishing an approved design or funded project. Proposed partner terms remain identified as proposals until accepted through the appropriate process.

The appendix binder preserves these supporting records for reference. Including a document in the binder does not adopt all of its recommendations, estimates, schedules or proposed terms. References in the report identify the relevant source so readers can examine the supporting evidence.

If this plan conflicts with the signed interlocal agreement or an executed amendment, the agreement or amendment takes precedence. OCP and BHS representatives will clarify how it applies, seeking legal or technical advice when needed. The approval record will identify the version of the plan and the equipment and animal transfer schedules that were approved.

1.2 Property History and Public Purpose

Discovery Oaks–Bowers Farm developed through Bloomfield Hills Schools' investment in agricultural land, outdoor education and community recreation. Its significance rests on the relationship among those purposes: a working farm where students and the public can learn, participate in agricultural activities, enjoy outdoor recreation and connect with the history of their community.

Development of the educational farm

BHS acquired the principal farm property from Pulte Land Company in January 1967. Subsequent acquisitions expanded the campus, including an addition along Square Lake Road in 1975 and an eastern acquisition begun under a 1981 land contract and completed by deed in 1992. An additional MDOT conveyance, signed in December 2020 and recorded in March 2021, added a parcel near Square Lake Road and the I-75 entrance ramp. Together, these acquisitions shaped the farm campus that supports agricultural learning, school programs and community recreation today. [F-01; Pulte deeds, January 3, 1967, Liber 4981, pp. 104–106; MDOT quitclaim deed, recorded March 9, 2021, Liber 55844, p. 781.]

The district's outdoor education efforts established the farm as an extension of the classroom. The farm's institutional history identifies John Bartley as its first farm manager in 1967 and describes students learning through contact with livestock, gardens and the daily work of maintaining a farm. The property was named for Charles L. Bowers in 1985, recognizing his service to the district and support for outdoor education. Over time, agricultural facilities and instructional spaces supported a broader range of school and community learning experiences. [Bowers Farm, *History of Bowers Farm*, "A learning farm" and "Bowers naming."]

The campus also became a setting for preserving and interpreting local heritage. The Benjamin-Barton Farmhouse and Craig Cabin were relocated to the property, connecting visitors with earlier patterns of settlement, domestic life and agriculture in the Bloomfield area. Preservation Bloomfield, a nonprofit preservation organization, brings together the school district, local governments, the Bloomfield Historical Society and community supporters in support of these historic resources. Their preservation complements the working farm by making local history tangible and providing opportunities to explore how agriculture and community life have changed over time. [F-02–F-03; Barton Farmhouse resolution, December 10, 2007; Bloomfield Historical Society, *Craig Log Cabin*.]

Community recreation and the changing funding model

Community recreation has long been part of the farm's role. Historical accounts describe public programs, gardening, seasonal activities and gatherings alongside school instruction. An internal account of farm and nature center operations records an increased emphasis on public use during the 1990s and the development of enrichment programs in coordination with the district's Recreation Department. The farm's institutional mission statement likewise identifies recreation, family activities and special events as central to its community purpose. [*Farm/NC recreation history*, account through 2009; *Bowers School Farm—Summary of Mission, Goals and History*.]

Community recreation was supported in part by the district's Recreation and Community Services Fund. The BHS Recreation Master Plan records that voters authorized a quarter-mill levy in June 1993 to purchase and maintain recreation facilities and operate recreation programs. The millage was discontinued following Proposal A in 1994. Without new revenue from that levy, the district took a more cautious approach to expanding recreation facilities and programs beyond those supporting student learning. [*Bloomfield Hills Schools Recreation Master Plan*, p. 22.]

The Recreation Master Plan distinguishes the district's core educational funding from the resources supporting recreation. It describes the General Fund's role in teaching, learning, facilities maintenance and district operations, while identifying user fees, grants, memberships and donations as expected sources for offsetting recreation operating costs. This funding history helps explain the importance of earned revenue, community support and partnerships in sustaining the farm's broader public role. It also provides context for the OCP–BHS partnership and the opportunity to support educational and recreational purposes through a durable public management framework. [*Bloomfield Hills Schools Recreation Master Plan*, pp. 21–22.]

Public purpose under the County partnership

The partnership with Oakland County Parks continues the property's educational and community purposes while BHS retains ownership of the premises. County operation creates an opportunity to broaden participation across Oakland County while continuing the farm's school use and building on its established community relationships. [A-01 §§2.1, 3.2.]

Discovery Oaks' public purpose is to provide agricultural and environmental learning, outdoor recreation, community connection and stewardship within an active farm campus. School programs, informal visits, seasonal attractions, food experiences and community gatherings can each contribute to that purpose. Their public value includes opportunities to learn, spend time outdoors, build relationships and experience a place that connects agriculture with everyday life. Recreation and social experiences are part of this public purpose alongside structured instruction.

Maintaining the working farm is fundamental to the property. Livestock require daily care; gardens and fields change with the seasons; and food production depends on soil, water, labor, equipment and responsible resource management. These activities provide authentic learning opportunities and require investment even when they generate little direct revenue. Reliable animal care, productive land, functioning buildings and utilities, and capable staff support both the educational mission and the visitor experience.

Future decisions should sustain this combination of learning, recreation and stewardship. Investments in facilities, accessibility, circulation, heritage resources and visitor amenities can strengthen the campus and make it welcoming to a broader public. Programs and services may evolve as community needs, resources and opportunities change, while remaining compatible with farm operations and school use. The enduring direction is to maintain a viable working farm and agricultural learning hub that also serves as a valued public place for recreation and community life.

1.3 Location and Existing Conditions

Location and property character

Discovery Oaks–Bowers Farm encompasses approximately 87 acres in Bloomfield Township, located on E. Square Lake Road between Squirrel Road and Adams Road. An ordered survey will confirm the property's acreage and boundaries. The property combines a working agricultural landscape with classrooms, visitor facilities, historic buildings, gardens and outdoor recreation areas. Together, these spaces support agricultural

production, school instruction and public experiences connecting people with farming, food and the natural environment. [A-01, premises description; Appendix B, site maps.]

The farm's physical character comes from the relationship between its buildings and productive landscape. Barns and animal facilities adjoin grazing pastures, while other areas support vegetable production, pumpkins and corn. Greenhouses, growing structures, production gardens and the Community Garden provide additional space for cultivation and learning. Fields change with the growing season and agricultural needs, making the landscape itself part of the visitor experience. Historic structures, including the Benjamin-Barton Farmhouse, connect the working campus with the area's agricultural history. [Bowers School Farm Master Plan 2027, published July 2023, Phase 1: Site Analysis and facility assessment.]

Arrival and principal facilities

Separate entrances serve visitors, farm operations and the Community Garden. Gate B provides service access to the main barn, animal facilities and historic structures. Gate C is the main visitor entrance near the center of the property's E. Square Lake Road frontage. From this entrance, visitors traveling west reach paved parking, including accessible parking, near the Visitor Center and learning building. Traveling east leads toward gravel parking and the Farm Activity Building.

The Visitor Center and adjoining learning spaces connect arrival, education, food and retail. The farm kitchen and farm store provide opportunities to enjoy food and purchase farm products, while classrooms accommodate school visits and community learning. As an arrival and departure point, this part of the campus helps visitors connect their experiences in the fields and animal areas with the food and products those agricultural activities produce.

The Farm Activity Building and surrounding outdoor areas support seasonal recreation and gatherings, including Winter Park. Their relationship to parking and outdoor activity spaces makes this area a distinct destination within the larger campus.

The working farm includes barns, livestock and equine facilities, animal shelters, pasture, crop-production areas, greenhouses, equipment and feed storage, and supporting service spaces. The Underground Storage/Root Cellar is part of this agricultural infrastructure. Outdoor learning and adventure-learning areas extend educational experiences beyond the buildings.

The existing-facility maps in Appendix B show the arrangement of these spaces. The July 2023 master plan's site analysis and facility evaluation provide an earlier inventory of buildings, agricultural areas and supporting facilities, supplemented by the more recent technical assessments discussed below.

Campus aerial overview



Figure 1.3a. Farm campus and surrounding roads. Source: Bloomfield Hills Bowers Farm Aerial, slide 1 [B-07]. Parcel lines and shading are reproduced from the source for orientation.

Property functions and relationships

The property operates as an interconnected place. Visitor routes, farm equipment movements, animal care, food production, school instruction and public activities occupy adjoining and sometimes shared spaces. Parking, service access, utilities and storage support multiple activities. Understanding these relationships is important to maintaining the working farm and providing a welcoming visitor experience.

Campus system	Role in the park	Planning implication
Instructional and visitor buildings	Visitor arrival and departure, school and community learning, farm kitchen and farm store.	Create a cohesive visitor experience connecting learning, food and farm products, with flexible spaces supporting school visits and public programs.
Barns, livestock and equine areas	Animal care, agricultural production, observation and hands-on learning.	Consider animal housing, handling, water, feed, manure management and visitor access together.
Fields, pasture, gardens and greenhouses	Crop production, grazing, community gardening and seasonal learning.	Coordinate soil health, water, equipment access, growing capacity and animal use.
Heritage resources	Connections to local history and opportunities for interpretation.	Integrate preservation, maintenance and visitor understanding of the historic buildings and their setting.

Campus system	Role in the park	Planning implication
Adventure and outdoor learning areas	Group learning, exploration and supervised challenge activities.	Consider facility condition, accessibility, inspections and operating capacity.
Seasonal recreation and gathering areas	Year-round participation, events and earned revenue.	Evaluate utilities, access, staffing and full operating demand.
Service and infrastructure systems	Daily care, maintenance, storage and continuity of operations.	Consider the capacity and condition of supporting systems alongside the facilities they serve.

Sources: Appendix B site documentation; C-02–C-05 technical assessments; Bowers School Farm Master Plan 2027, Phase 1.

Earlier property assessment

The Bowers School Farm Master Plan 2027, published in July 2023, assessed the campus's layout, facilities and visitor experience. It identified separation between the main farm and visitor hub and the southeastern event area, along with needs for clearer wayfinding, more accessible routes, better water management and more effective organization of visitor and working spaces. Its facility evaluation considered condition, operational usefulness and visitor experience. [Bowers School Farm Master Plan 2027, Phase 1 executive summary, printed pp. 4–5; Site Analysis and facility evaluation.]

This earlier assessment provides context for the later building and infrastructure studies. Its findings help explain how individual facility needs relate to the functioning of the whole farm, while reflecting conditions and operations during the 2022–2023 planning process.

Buildings and deferred maintenance

Oakland County Parks commissioned JFR's August 2026 assessment to document existing conditions in five structures supporting the farm's agricultural operations and related activities: the Horse Stable Barn, Bank Barn and Underground Animal Shelter, Toilet Rooms Barn, Cottage Building, and Underground Storage/Root Cellar.

The assessment establishes a baseline of deferred maintenance and building deficiencies in these structures. Findings include structural deterioration, water intrusion, exterior maintenance needs, electrical and mechanical deficiencies, accessibility barriers and life-safety concerns. This baseline provides a foundation for prioritizing repairs, evaluating rehabilitation needs and planning investment. Completed work and subsequent evaluations can be documented against it to maintain an accurate understanding of remaining needs. [C-02, executive summary and individual building assessments.]

Assessed facility	Principal conditions documented by JFR
Horse Stable Barn	Unsecured heater wiring; missing workshop exit and emergency lighting; a roof opening; broken glazing; hazardous-material storage concerns; and barriers to public access. [C-02, source PDF p. 10.]
Bank Barn and Underground Animal Shelter	Foundation settlement and cracking; upper-floor loading and balcony conditions requiring verification; deteriorated windows; and siding and roof concerns. [C-02, source PDF p. 30.]

Assessed facility	Principal conditions documented by JFR
Toilet Rooms Barn	Exterior decay and erosion at the foundation; inaccessible approaches and restroom fixtures or layouts; missing exit and emergency lighting; and water damage. [C-02, source PDF p. 55.]
Cottage Building	Water damage and failed wall areas; foundation deterioration; possible roof and deck movement; inaccessible entrances; and exposed cut utility services. [C-02, source PDF p. 77.]
Underground Storage/Root Cellar	Deteriorated doors and roof vents; water entry and floor cracking; damaged entrance wing walls; and hazardous-material storage concerns. [C-02, source PDF p. 104.]

JFR's findings describe the five assessed structures as of August 2026. They do not constitute a condition assessment of every building on the campus. Changes in occupancy or use may require electrical, mechanical, structural, accessibility or life-safety improvements beyond routine maintenance. The assessment informs investment decisions without committing OCP to complete every identified improvement. Available capital estimates and their qualifications are addressed in Attachment A: Capital Improvement Plan. [C-02, executive summary, assessment legend and budget qualifications.]

Utilities, sanitary systems and drainage

Bloomfield Hills Schools commissioned GMB's August 2024 infrastructure evaluation to inform investment at Bowers Farm associated with the district's 2020 bond program. The evaluation examined utility and drainage systems supporting existing facilities and potential campus improvements. It provides a baseline for understanding infrastructure needs across the property. [C-03, project background and infrastructure evaluation.]

Sanitary systems. The report identifies two campus sanitary lift stations. It describes frequent maintenance and pump replacement at the station serving the Academy and Visitor Center and identifies concerns about its ability to accommodate peak demand. GMB also records information supplied by BHS that the Township had identified a downstream public sanitary capacity constraint. Other onsite wastewater systems were not fully documented. These findings make sanitary capacity and system condition consequential considerations for facility use and investment. [C-03, sanitary sewer evaluation.]

Stormwater and drainage. GMB describes stormwater surcharging in the original farm area, with flooding affecting pavement and animal areas and, at times, barn floors. It also identifies deteriorated drainage infrastructure near the Farm Activity Building and standing water in the ropes-course area. These conditions affect access, animal care, maintenance and the usability of outdoor spaces. [C-03, stormwater evaluation.]

Water and other utilities. GMB reported that municipal water service was adequate for the uses considered and did not identify comparable concerns with incoming gas and electrical service. Incomplete records of buried utilities and other infrastructure, however, complicate maintenance and project planning. [C-03, water, gas, electrical and other utility evaluations.]

These findings reflect the August 2024 evaluation. Verified repairs and subsequent investigations provide the basis for updating that assessment and determining which needs remain.

Accessibility and the connected visitor experience

Bloomfield Hills Schools commissioned an accessibility assessment in 2022 as part of the master-planning process completed in 2023. The assessment provides a detailed inventory of barriers rather than a single

campus-wide verdict. It addresses parking, routes, entrances, facilities and opportunities to participate in activities. [C-04, introductory statement and site and building assessment schedules; Bowers School Farm Master Plan 2027, published July 2023, planning-process overview.]

Discovery Oaks should be understood as a sequence of experiences: arrival, orientation, movement, entry, participation, restrooms, food and departure. A barrier at any point can prevent participation in the whole experience. The planning objective is to improve those connections while using current information about routes and facilities; a capital project should avoid producing an accessible building that remains isolated by an inaccessible approach.

The assessment provides a baseline for identifying barriers and evaluating priorities. Subsequent improvements need to be reflected in the current understanding of site accessibility, including the status of the steep route behind the Visitor Center. Route information, appropriate program locations and accommodations also affect whether visitors can participate while physical improvements are being considered or completed. [C-04, route and facility assessment schedules.]

1.4 Community Engagement and Visitors

Community setting and regional role

Discovery Oaks–Bowers Farm is located in Bloomfield Township, within Oakland County's central suburban corridor. Its working agricultural landscape provides a distinctive setting for learning, recreation and community life. School visits, summer camps, public programs, volunteer participation and seasonal events connect people with the farm in different ways. Its regional appeal extends beyond the surrounding neighborhoods and the Bloomfield Hills Schools community. Oakland County Parks identifies the farm's seasonal attractions and signature events as serving a regional audience. [Oakland County Parks, Bowers Farm–Discovery Oaks webpage, accessed October 26, 2026.]

The farm also contributes to a local recreation landscape supported by schools, county facilities and community organizations. Bloomfield Township directs residents to Oakland County Parks and school-based recreation providers and has documented residents' interest in additional community recreation opportunities. Discovery Oaks builds on this established educational and community role while broadening opportunities for countywide participation. [Bloomfield Township, Living in Bloomfield webpage, accessed October 26, 2026.]

Connections to the surrounding community are an important part of that role. Bloomfield Township's safety-path network links neighborhoods with schools, shopping areas and other community destinations, supporting walking, jogging and bicycling. The proposed connections between that network and Discovery Oaks' entrances and internal trails would provide additional ways to reach and experience the park. The vision and Capital Improvement Plan describe those proposed improvements. [J-05; B-06; Attachment A.4]

Understanding the park's community requires several distinct perspectives: the characteristics of nearby residents, the people who currently visit, and the wider county population the park intends to serve. The demographic graphics and visitor evidence accompanying this section provide context for those perspectives. Community demographics, survey responses, recorded attendance and modeled visitation should be read according to their respective sources and methods.

Figure A. Discovery Oaks 10-minute walk and 10-minute drive area

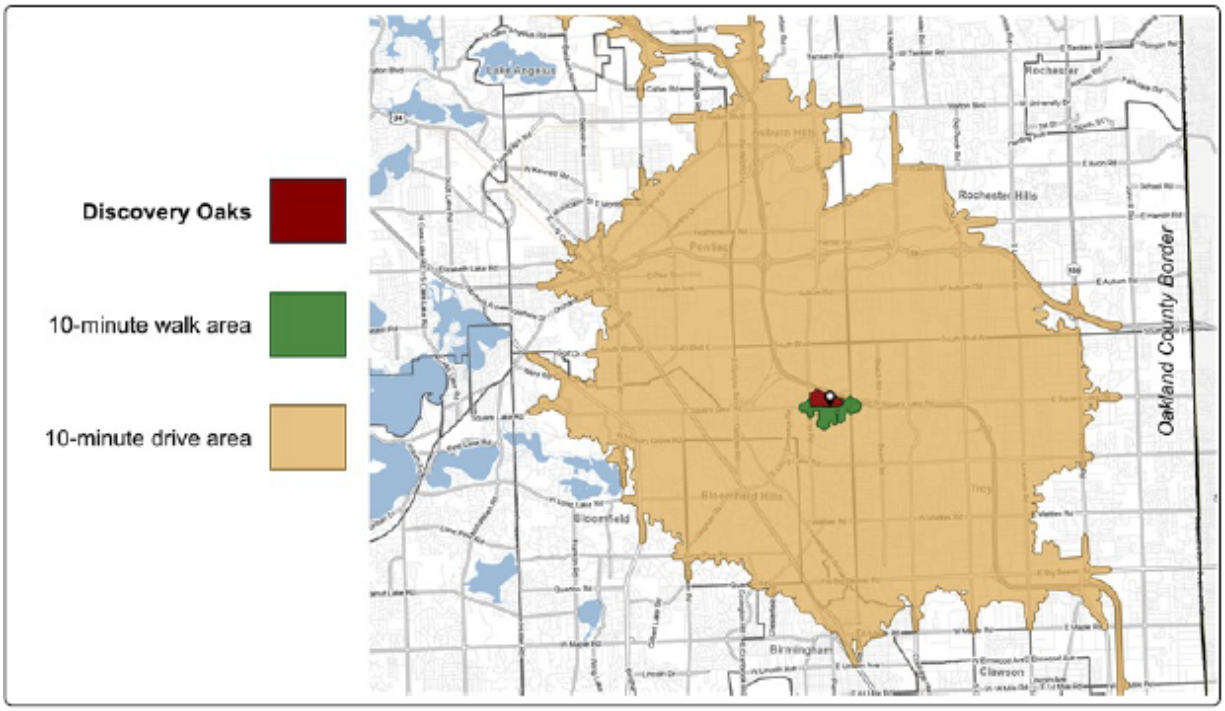


Table 1. Population, Household Income, and Diversity Index

Source: 2026 Esri

Geography	Total Population	Total Households	Median Household Income	Diversity Index
Oakland County, MI	1,275,400	545,282	$105,660	55
Discovery Oaks (10m drive)	122,293	50,597	$108,798	67
Discovery Oaks (10m walk)	254	65	$188,499	45

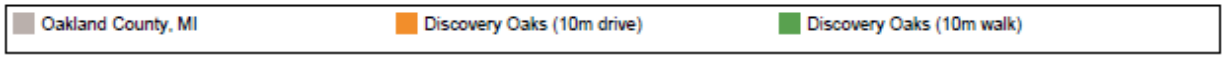
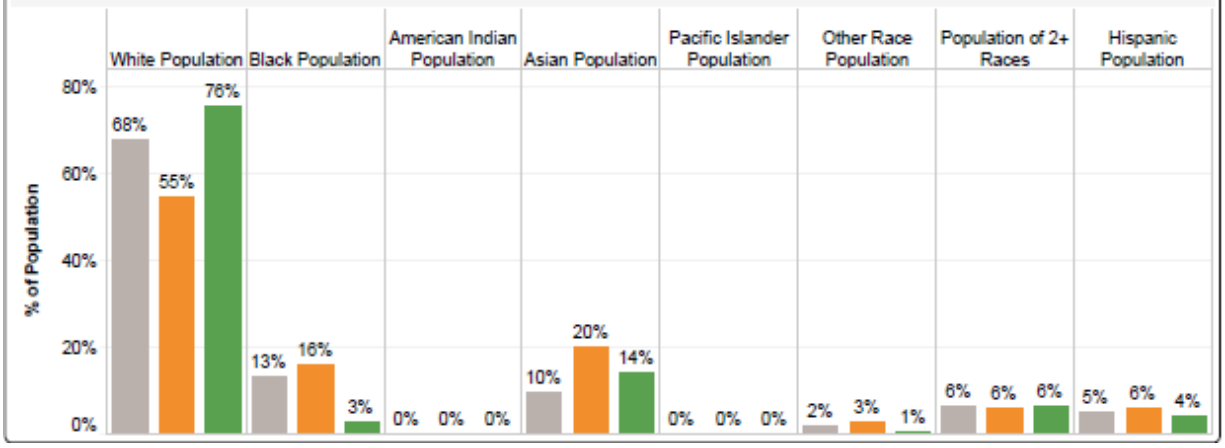
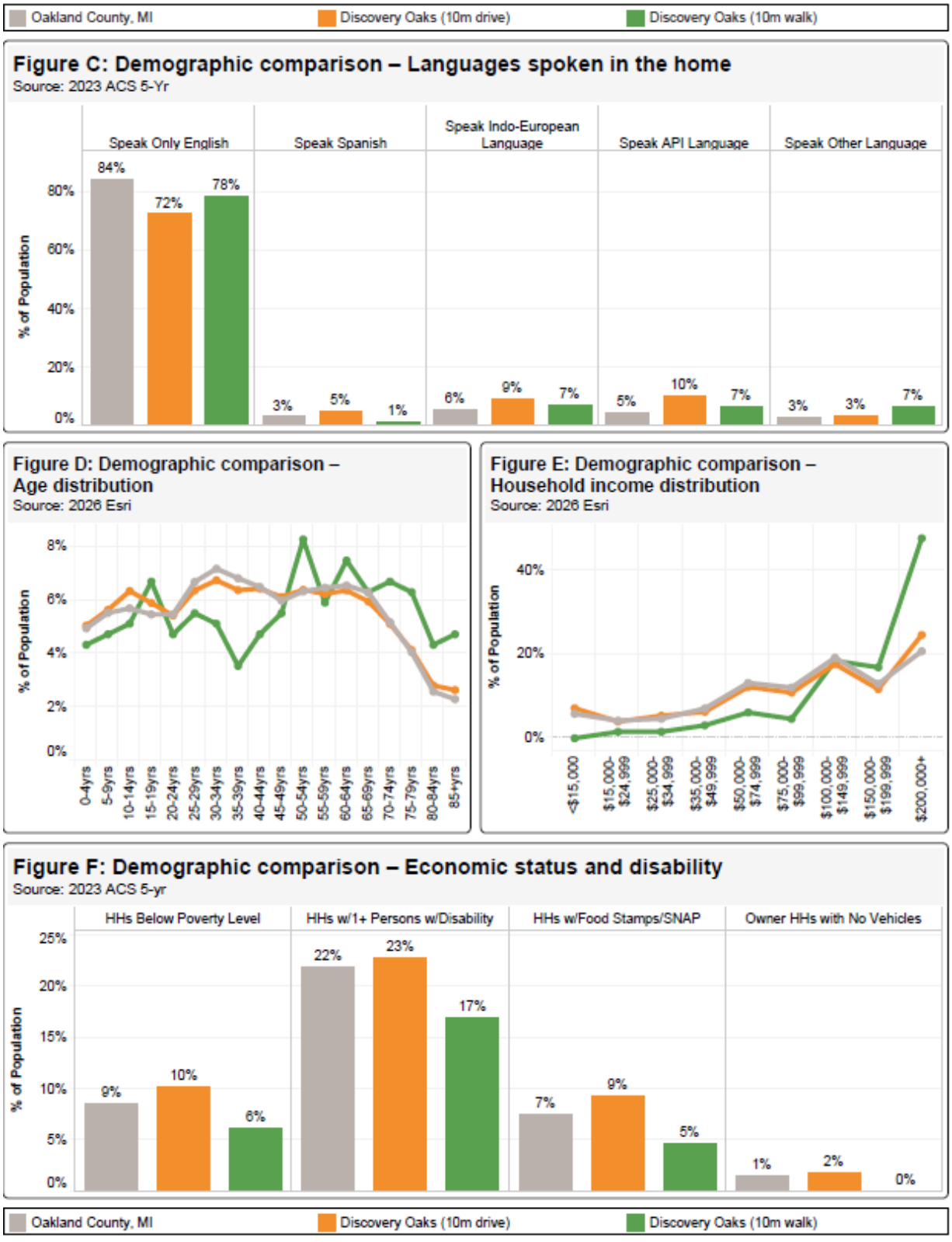


Figure B: Demographic comparison – Race and ethnicity

Source: 2026 Esri




Oakland County, MI
Discovery Oaks (10m drive)
Discovery Oaks (10m walk)
Figure C: Demographic comparison – Languages spoken in the home
Source: 2023 ACS 5-Yr
Speak Only English
Speak Spanish
Speak Indo-European Language
Speak API Language
Speak Other Language
% of Population
84%
72%
78%
3%
5%
1%
6%
9%
7%
5%
10%
7%
3%
3%
7%
Figure D: Demographic comparison – Age distribution
Source: 2026 Esri
% of Population
0-4yrs
5-9yrs
10-14yrs
15-19yrs
20-24yrs
25-29yrs
30-34yrs
35-39yrs
40-44yrs
45-49yrs
50-54yrs
55-59yrs
60-64yrs
65-69yrs
70-74yrs
75-79yrs
80-84yrs
85+yrs
Figure E: Demographic comparison – Household income distribution
Source: 2026 Esri
% of Population
<$15,000
$15,000-$24,999
$25,000-$34,999
$35,000-$49,999
$50,000-$74,999
$75,000-$99,999
$100,000-$149,999
$150,000-$199,999
$200,000+
Figure F: Demographic comparison – Economic status and disability
Source: 2023 ACS 5-yr
HHs Below Poverty Level
HHs w/1+ Persons w/Disability
HHs w/Food Stamps/SNAP
Owner HHs with No Vehicles
% of Population
9%
10%
6%
22%
23%
17%
7%
9%
5%
1%
2%
0%
Oakland County, MI
Discovery Oaks (10m drive)
Discovery Oaks (10m walk)

Community engagement and visitation records provide different perspectives on Discovery Oaks. Surveys and workshops document participants' experiences, preferences and concerns. Attendance records and modeled visitation estimates describe use of the property. This section presents that evidence, distinguishing the sources, reporting periods and groups represented.

The principal sources are the engagement conducted during the 2022–2023 master-planning process, the October 2025 BHS–OCP engagement, and modeled visitation estimates from anonymized, aggregated mobile location data for calendar years 2023–2025.

What have people said about Bowers Farm?

Engagement during the 2022–2023 master-planning process

The Bowers School Farm Master Plan 2027, published in July 2023, documents workshops involving farm volunteers, students and community organizations, together with a digital survey. The survey included 553 respondents, of whom 514 were identified as previous Bowers Farm visitors. The report separately examined people who knew about the farm but had not visited and people who were previously unaware of it. [B-04, Phase 1, printed pp. 62–80.]

Workshop participants identified animal experiences, events, the farm store, educational activities, staff and teachers, gardens and recreation among the things they valued. Students frequently mentioned animals, ice cream, pizza and Winter Park. Other participants described the farm's appearance and its role in educating students and community residents. [B-04, Phase 1, printed pp. 65–66.]

Participants also raised concerns about facility condition, equipment and supplies, maintenance, safety, accessibility, gates and operating hours. Volunteer groups identified communication among organizations and with farm staff, promotion of activities, and recognition of volunteer efforts as areas needing attention. Comments about inclusion included program costs and relationships with neighboring schools and communities. These were participants' reported experiences and perceptions during the planning process. [B-04, Phase 1, printed pp. 67–69.]

The digital survey recorded interest in additional programs, events, interpretation, food options and equestrian experiences. It also recorded concerns about commercialization and perceptions that admission did not always correspond to the experience or length of a visit. Among nonvisitors, the report identified a perception that the farm primarily served BHS students and families, along with requests for clearer information about activities, audiences and hours. [B-04, Phase 1, printed pp. 71, 75–79.]

October 2025 engagement

The 2025 online survey collected responses between October 7 and October 31. The underlying workbook identifies 646 responses for inclusion. Of these, 615 respondents reported having visited Bowers Farm and 31 reported never visiting. The following results describe the 615 Bowers visitor respondents, rather than the combined survey population. [D-01, printed p. 7; BHS Survey Data.xlsx, "all data" worksheet, inclusion and Bowers visit-frequency fields.]

Respondents rated the importance of farm offerings and physical features. Selected results are shown below, including both highly rated items and items receiving lower proportions of "Very Important" responses.

Offering or feature	Bowers visitor respondents selecting "Very Important"	Share of 615
Healthy forest and natural areas	529	86.0%

Offering or feature	Bowers visitor respondents selecting “Very Important”	Share of 615
Grade K–5 field trips	516	83.9%
Animal experiences	507	82.4%
Summer camp or youth programs	504	82.0%
Grade 6–12 school-day environmental education	492	80.0%
Agricultural education	453	73.7%
Updated barns and animal-care areas	440	71.5%
Improved parking and traffic flow	250	40.7%
Dedicated event space	193	31.4%

Source: Recalculated from BHS Survey Data.xlsx, “all data” worksheet. All 615 visitor respondents answered these rating items. Other response options were “Somewhat Important” and “Not Important.” The table presents selected items, not the complete rating inventory.

The published report’s analysis of Bowers-specific written comments describes interest in agricultural and educational experiences, community events, workshops, art activities, equestrian opportunities, accessible trails and broader access to existing facilities. Comments also expressed attachment to the farm’s role in the school community, concern about closure or redevelopment, and a desire to preserve its educational character. Some respondents opposed the proposed partnership. [D-01, printed pp. 33–34.]

The in-person engagement included an event at Bowers Farm’s Fall Festival on October 18, 2025. Participants received four stickers to indicate priorities. The workbook’s Bowers entries record 24 selections for animal programs and experiences, 22 for agricultural education and experiences, 17 for healthy forest and natural areas, and 16 for barns and animal-care facilities. These are sticker selections, not counts of individual participants. [D-01, printed pp. 4–6; BHS Survey Data.xlsx, “In-Person” worksheet.]

The survey also asked about continuing discussions concerning the BHS–OCP partnership. Among the 615 Bowers visitor respondents, 362 selected “Yes,” 154 selected “I need more information,” 81 selected “No,” and 18 selected “Other.” These responses describe views during the October 2025 partnership discussion. [BHS Survey Data.xlsx, “all data” worksheet, “OCP in favor” field.]

Who participated, and how did they use the farm?

Visitors represented in the earlier master plan

The earlier master plan’s 514-person farm visitor segment included families and adults without children at home. The report states that 30% were adults without children at home. Its reported visit-frequency distribution was 40% visiting two or three times annually, 22% annually, 21% monthly, 14% weekly and 3% daily. These figures describe that survey’s visitor respondents during the earlier planning process. [B-04, Phase 1, printed p. 80.]

The report identifies animals, children’s programs, fresh produce and family events among favored experiences. Its audience analysis also records different interests among adults without children, older adults, younger participants and visitors traveling from farther away. [B-04, Phase 1, printed pp. 85–89.]

Visitors represented in the 2025 survey

Of the 615 Bowers visitor respondents, 416 reported living within BHS district boundaries, 191 reported living outside them and eight were unsure. A total of 255 identified themselves as a parent or guardian of a child currently enrolled in BHS. Respondents included 423 women and 156 men; 34 preferred not to answer and two left the gender question unanswered. The largest age groups were 35–44 and 45–54, together accounting for 342 respondents. [BHS Survey Data.xlsx, "all data" worksheet, Bowers visitor subset.]

Respondents reported a range of visit frequencies:

Reported frequency	Respondents	Share of 615
Less than once a year	133	21.6%
More than once, but fewer than 10 times a year	317	51.5%
Once a month	56	9.1%
More than once a month	109	17.7%

Source: BHS Survey Data.xlsx, "Bowers visits" field. Percentages may not total 100% because of rounding.

Visitors also identified activities they had experienced at the farm. The selections show participation across food and retail, seasonal events, school learning and other public programs.

Reported activity	Respondents selecting the activity	Share of 615
Used the farm store and kitchen	361	58.7%
Attended Fall Festival	342	55.6%
Attended weekend events and activities	312	50.7%
Attended Winter Park	294	47.8%
Participated in a Grade K–5 field trip	272	44.2%
Attended animal experiences	194	31.5%
Attended summer camp or youth programs	160	26.0%
Volunteered	143	23.3%
Used membership offerings and benefits	126	20.5%
Participated in 4-H or FFA	85	13.8%
Attended community classes	48	7.8%

Source: BHS Survey Data.xlsx, "Bowers activities" field, Bowers visitor subset. Respondents could select multiple activities. These are reported experiences, not annual attendance totals or counts of program enrollments.

Both engagement efforts describe the people who participated in them. Their demographic profiles should not be treated as a census of everyone who visits the farm.

What do the visitation records show?

The 2023 master plan reports 44,660 attendance occurrences for FY2022, described as programs and gate attendance. Its analysis separately examines programs and groups, general admissions and events. This is a historical figure reported in the master plan. [B-04, Phase 1, printed pp. 35–36.]

An anonymized, aggregated mobility data source provides a separate series of estimated visits:

Calendar year	Estimated visits
2023	52,000
2024	57,000
2025	59,000

Source: D-02, p. 1. Figures are presented at the rounded precision used in the source.

The mobility data summary reports an average visit frequency of 1.8 in 2025. Its leading home-location labels are Bloomfield Hills, accounting for 35% of modeled visits; Troy, 10%; and Rochester, 8%. Other listed locations include West Bloomfield, Auburn Hills, Royal Oak, Detroit, Waterford, Clawson and Leonard. These geographic names are reproduced as labeled in the source. [D-02, pp. 1–2.]

The modeled 2025 visitor profile reports a median household income of $125,000. Its race and ethnicity distribution is reported as 71% White/Caucasian, 11% Asian, 9% Black/African American, 4% Hispanic/Latino and 5% Other. These are modeled demographic estimates, separate from the self-reported characteristics of survey participants. [D-02, p. 2.]

Historical attendance, modeled visits and survey participation measure different things. They are presented separately here: the FY2022 attendance figure is not combined with the mobility source's calendar-year estimates to calculate a growth rate, and neither series is presented as a count of unique individuals.

Mobility-based estimates vary in how well they represent visitation at individual properties. They provide useful context for visitor home locations, demographic patterns and relative changes over time, but should be considered alongside recorded attendance and program participation. Year-to-year comparisons are most useful when the source and methodology remain consistent; changes in providers or methods may affect comparability. [D-02; OCP staff guidance on mobility data.]

1.5 Strategic Direction and Mission 26

A public mandate for access and investment

Oakland County residents' approval of the 2024 parks millage provided a public mandate to expand access, improve parks and recreational facilities, support outdoor learning and health, and conserve natural resources. Free general admission for county residents was an express purpose of the proposal. Discovery Oaks provides an opportunity to translate that mandate into a distinctive public benefit: access to a working agricultural landscape, outdoor recreation and learning experiences that connect people with food, farming and the natural world. [A-05, parks millage proposal; I-05.]

The long-term vision is for Discovery Oaks–Bowers Farm to serve as a working agricultural learning campus and regional destination, welcoming both everyday visits and deeper participation. Fields, gardens, pastures, livestock, historic buildings and food production give the park its character and educational purpose. School visits, family activities, adult learning, seasonal recreation and community involvement offer different ways to

experience that setting. The park's development should strengthen the connections among these uses while preserving the daily work that makes the farm authentic. [H-04, park purpose and vision.]

Discovery Oaks also provides a foundation for OCP's Farm, Food, and Working Landscapes initiative, within Health and Wellness Activation. The initiative connects agricultural experiences with a broader purpose: helping people understand where food comes from, develop practical skills, build relationships with producers and participate in a more accessible local food system. Discovery begins with direct experience—growing and harvesting vegetables, observing animal care, preparing a meal or talking with a farmer—and can develop into greater confidence, curiosity and involvement. The park's name expresses this opportunity to discover the relationships among land, food and everyday life.

OCP's operation of the County-owned Oakland County Farmers Market creates an opportunity to connect learning at the farm with relationships and choices beyond it. Discovery Oaks can help people understand the work and resources behind food production; the market provides a place to meet growers, ask questions, purchase seasonal food and support agricultural enterprises. Together, these settings can connect growing, preparing, sharing and purchasing food as parts of a continuing experience. The strategic opportunity is to make these connections intentional through complementary programming, producer participation and community partnerships. [G-R01, §1, p.1.]

The intended public benefit is practical. Growing and cooking experiences can help people become more comfortable using fresh ingredients. Affordable purchasing opportunities can help families put that knowledge into practice. Direct relationships can give consumers a clearer understanding of how their food is produced and give producers opportunities to explain their practices, understand customer needs and develop repeat business. These connections can support livelihoods, strengthen community relationships and make the agricultural landscapes that sustain food production more visible and valued.

Research confirms that combining hands-on learning with active participation delivers real-world impact. For instance, randomized studies show that integrating school-based gardening and cooking education directly leads to increased vegetable consumption and healthier habits. Michigan research also found that longer participation in Double Up Food Bucks was associated with greater fruit and vegetable consumption and improved food security. These findings support a direction that connects experiential learning with affordability and repeated engagement. Discovery Oaks should build opportunities for sustained participation through school and after-school programs, family experiences and seasonal activities that invite people to return, deepen their skills and apply what they learn in everyday life. [G-R02, results and conclusions; G-R03, abstract.]

Equitable participation should shape how this vision develops. Discovery Oaks should seek meaningful relationships with Black, Latino, Indigenous and other communities of color, alongside residents facing economic, transportation, disability or other barriers to participation. This work should recognize the agricultural knowledge, food traditions and community leadership residents already bring. Opportunities should be developed with communities and local producers, with attention to culturally relevant foods, welcoming instruction, affordable participation and connections to places where residents already live, learn and obtain food. Residents should have opportunities to participate as learners, growers, educators, vendors and partners.

Localizing parts of the food system is valuable when it improves people's actual choices and opportunities: access to affordable fresh food, skills to grow and prepare it, relationships with trusted producers and opportunities to earn income through food and agriculture. Shorter supply chains may also reduce transportation distances and help people understand seasonal production. Environmental stewardship, however, requires attention to how food is grown, stored, transported and used, including soil and water

management and food waste. Distance alone is not a reliable measure of environmental benefit. [G-R04, overview.]

Through this approach, Discovery Oaks can connect the experience of a working farm with healthier daily routines, stronger producer–consumer relationships and broader participation in the local food economy. Its contribution is to make those opportunities tangible and accessible while sustaining the land, facilities and agricultural work on which they depend.

Free access alongside supported experiences

A central direction of this plan is to establish a separate, clearly identified access point for residents to enjoy walking trails and the park landscape without purchasing a program or attraction ticket. This would create an opportunity to visit Discovery Oaks for a walk, time outdoors or informal discovery, including when visitors are not participating in a scheduled farm activity. The entrance and trail arrangement should make that opportunity easy to understand and use, with welcoming orientation and accessible connections to the areas intended for general public enjoyment.

Free access and paid experiences serve complementary purposes. General park access extends the benefits of public investment to residents, while fees for particular programs, attractions and services help support activities that require instructors, specialized facilities, equipment, materials or substantial operating support. Camps, guided agricultural experiences and seasonal attractions can offer more intensive participation while contributing revenue toward their delivery. Public funding, earned revenue, partnerships and external support together provide a framework for sustaining the farm's educational and recreational role. This approach does not establish a requirement that every activity recover its full cost. [H-04, public-value functions; I-04, access and sustainability; A-01, §§1.13 and 5.2.]

The interlocal agreement protects free entry and parking for BHS and Oakland County residents. The proposed separate trail entrance is a practical way to expand access while managing the different activities on the property; it does not narrow that protection to the trail area. Fees for specific experiences will be established through OCP's applicable policies and procedures, consistent with the agreement. Trails, gates, fencing and visitor circulation should support public enjoyment while maintaining appropriate boundaries around livestock, agricultural work, equipment and supervised activities. [A-01, §5.2; H-04, site access and management.]

Existing seasonal offerings and designated admission-free days provide opportunities for public access while the broader trail and circulation improvements are developed, as described in Section B.5.

Connections beyond the park boundary

Discovery Oaks should function as part of the surrounding pedestrian and recreation network. Bloomfield Township's safety-path system provides connections among neighborhoods, schools, shopping areas and community destinations. Planning for the park's entrances and internal routes should consider how people arriving from that network can enter the property, orient themselves and reach its public spaces. This makes the relationship between Township sidewalks and park trails an important part of the overall access framework. [J-05, Safety Paths; B-06, February 10, 2026 map.]

Potential improvements include accessible transitions between public paths and park entrances, clear wayfinding, bicycle parking and connections that reduce conflicts among pedestrians, farm vehicles and visitor traffic. The location and design of these improvements should respond to verified existing paths, road crossings, property boundaries and farm operations. The CIP provides the place to identify the appropriate scope of park connections, while detailed routes and designs can be developed through subsequent planning.

Learning that grows with participation

Discovery Oaks will offer three complementary ways to engage with agriculture, food systems and stewardship: inspirational, educational and aspirational. These approaches accommodate different interests and levels of participation, from an informal visit to sustained learning and involvement. Visitors may participate in any combination; each offers value in its own right. [H-04, public-value functions.]

Inspirational experiences invite curiosity and enjoyment. Seeing animals, exploring gardens and historic places, tasting farm-produced food or joining a seasonal activity can make agriculture approachable and memorable. These experiences welcome people with different backgrounds and interests and provide reasons to return.

Educational experiences develop understanding and practical skills through instruction and participation. School and after-school programs, camps, adult classes and demonstrations can connect growing, animal care, food preparation and environmental stewardship. The working campus allows participants to explore these subjects where the work takes place, with opportunities to build on their learning over repeated visits.

Aspirational experiences help participants pursue an interest further and contribute to the farm and their communities. Volunteer service, sustained projects, mentorship and educational partnerships can create opportunities to develop skills, take on responsibility and explore agricultural or environmental interests and careers. These opportunities can evolve with participant interests, partnerships and operating capacity. [H-04, inspirational, educational and aspirational functions.]

Mission 26 alignment

Mission 26 places Discovery Oaks within a broader effort to connect parks, communities and learning opportunities across Oakland County. Its current public framework emphasizes improving existing parks, bringing recreation closer to people, expanding partnerships, supporting health and year-round learning, strengthening stewardship and using public resources responsibly. Discovery Oaks contributes to that direction through the combination of free outdoor access, agricultural education, community participation and the continued care of an established public asset. [J-01, current public framework.]

For Discovery Oaks, these directions have practical implications. Accessible entrances and connected routes can broaden participation. Farm and environmental learning can make the relationships among food, land and everyday life more understandable. The Farm, Food, and Working Landscapes initiative connects agricultural learning at Discovery Oaks with the Farmers Market and community partnerships, supporting practical food skills, producer–consumer relationships and opportunities for healthier living. Walking, recreation and shared activities can support physical activity and community connections. Care for soils, pastures, water and natural areas can sustain both agricultural productivity and ecological health. Investment in buildings, utilities and visitor facilities can improve the experience while supporting reliable operations.

Renewal and development can proceed together. Maintaining essential facilities, making better use of existing spaces, strengthening programs and partnerships, and pursuing strategic capital improvements are related strands of work. Their sequence should respond to safety, condition, operational dependencies, funding and public value. This allows useful improvements and new opportunities to advance without making completion of every identified maintenance need a prerequisite for progress. [H-04, investment and implementation approach.]

Public value and sustainable operations

Discovery Oaks' success should be understood through the range and quality of benefits it provides. Attendance is one indicator, alongside opportunities for learning, accessible participation, community involvement, stewardship and responsible use of public resources. A school visit, an adult learning program, a

walk on a public trail and a seasonal attraction provide different benefits and require different levels of support. Their value should be considered in relation to their purpose and the resources needed to deliver them.

The evidence presented in this plan provides a basis for those decisions without predetermining every investment. Visitor information, community engagement, facility assessments and operating experience can inform choices about programs, access and capital improvements. The intended result is a park that remains recognizably a working farm while becoming more accessible, connected and useful to Oakland County residents.

1.6 Agricultural Learning and Public Services

Discovery Oaks brings school learning, public programs and daily farm work together in a setting where people can see, understand and participate in agriculture. Caring for animals, growing crops, tending gardens and preparing food provide experiences through which learners can explore the relationships among food, land and community. The working farm supplies the setting and substance for these experiences; educators, farm staff and volunteers help participants understand what they encounter and connect it to their own lives.

School instruction and public learning serve complementary purposes. School programs can connect classroom subjects with observation, investigation and practical work, while camps, family experiences and adult programs make those opportunities available across ages and stages of life. Repeated participation allows learners to follow seasonal changes, build skills and develop familiarity with the people, animals and landscapes of the farm. The planning direction is to strengthen these connections while sustaining the agricultural work that makes them possible. [B-04, Phase 1, pp. 25–30; G-03, “About Summer Camps.”]

The program framework encompasses school and after-school learning; camps and family experiences; adult classes and workshops; livestock and equine learning; gardening and food production; heritage interpretation; adventure learning; and seasonal recreation. The July 2023 master plan documents an established foundation that included school field experiences and agricultural education, summer camps, Open Barn, community gardens, 4-H, workshops, the farm store, Fall Festival and Winter Park. These offerings provide a starting point for a program portfolio that can evolve with community interests, partnerships and operating capacity. [B-04, Phase 1, pp. 25–33.]

Outdoor learning and participation

Discovery Oaks offers a range of experiences connecting people with agriculture, animals, food production and stewardship. School field trips bring classroom topics into the working farm through animal encounters, agricultural activities, barn and garden exploration, and farm history. Summer camps provide sustained opportunities for livestock care, gardening, food production, nature investigations and collaborative activities. Volunteer Camp Stewards offer older youth a pathway into service and practical leadership.

Early childhood offerings, including Grown-Up & Me, introduce young children and their caregivers to farm life through seasonal activities, sensory exploration, stories and play. Equine programs connect riding and horsemanship with grooming, animal care, barn safety and responsibility. Community programs and workshops provide additional opportunities for families and adults to participate throughout the year.

Learning also extends beyond the property. Traveling Farms brings animal encounters and agricultural experiences to schools and community settings, reaching people who may face transportation or other participation barriers. The program inventory also identifies classroom-based chick hatching and vermicomposting as opportunities to connect life cycles, decomposition and soil health with continued learning.

The supporting Outdoor Learning Program Inventory describes program purposes, audiences, activities, seasons, delivery responsibilities and facilities. It distinguishes operating programs from seasonal offerings, paused activities and entries requiring confirmation. The inventory provides a reference for managing an evolving program portfolio; it does not require OCP to retain every named offering, schedule, fee or delivery arrangement. [Appendix G, Outdoor Learning Program Inventory, “Discovery Oaks Programs” worksheet.]

Learning through daily farm work

Daily farm work gives agricultural learning its substance. Participants can investigate how soil, water and weather influence crops; how animals depend on appropriate feed, housing and care; and how production connects to food preparation, consumption and waste. Planting, harvesting, tending gardens and participating in suitable animal-care tasks allow learners to contribute to the farm while understanding the purpose behind the work.

Experiences can range from an introductory visit to repeated participation across a growing season. School programs, camps, community learning and volunteer service offer different opportunities to observe change, practice skills and assume appropriate responsibility. Staff guidance connects these activities to learning while maintaining responsibility for daily operations and animal welfare. Programs such as Farmer for a Day, Animal Investigations and The Science of Agriculture illustrate this approach. [Appendix G: Programs and Services.]

Stewardship learning through volunteering

Volunteering is an important form of participation and learning at Discovery Oaks. Through purposeful work, participants can develop an understanding of what it takes to care for a working agricultural landscape and welcome people into it. Opportunities may include tending gardens, supporting planting and harvest activities, assisting educational programs, interpreting the farm for visitors and contributing to community events. Connecting each task to its purpose helps volunteers understand how their efforts support the farm, its visitors and the wider community.

The farm’s volunteer tradition provides a foundation for this approach. The 2023 master plan identifies engaged volunteer groups and the relationship with Master Gardeners, and recommends expanding volunteer opportunities. The 2025 Stewards Leadership Program handbook describes a more structured model in which young people support camp activities while developing communication, teamwork, leadership and job-readiness skills. Together, these records demonstrate how service can contribute to the operation while offering meaningful benefits to the participant. [B-04, Phase 1, pp. 6 and 22; Phase 2, pp. 15–17; G-03, “About the Stewards Leadership Program.”]

The plan supports volunteer experiences with clear purposes, appropriate preparation and opportunities to learn from staff and one another. Participation can range from an introductory service activity to a recurring role or sustained project. Responsibilities should match the volunteer’s preparation and the needs of the activity, with qualified staff retaining responsibility for farm operations, animal care and program delivery. The POMP addresses volunteer administration and supervision.

Livestock and animal care

Livestock are central to Discovery Oaks’ identity as a working agricultural learning campus and to the familiar character of Bowers Farm. Animals draw people into the farm experience, spark curiosity and create opportunities for meaningful engagement. Seeing animals grazing, observing their behavior and participating in guided care activities help visitors connect agriculture with their own lives. These encounters also open conversations about food production, the responsibilities of raising animals and the relationships among livestock, land and people.

Animal welfare is fundamental to that purpose. The farm's published care framework recognizes animals' physical and behavioral needs, including appropriate nutrition, water, shelter, health care, opportunities for normal behavior and protection from fear and distress. Caring for livestock is a year-round responsibility that continues when programs end and visitors leave. Knowledgeable staff, veterinary guidance, daily observation and reliable care arrangements support both animal well-being and a meaningful learning environment. [Bowers Farm, "Animal Welfare & Care," public website.]

The livestock program should remain responsive to agricultural and educational purposes, animal welfare, available facilities and staff capacity. Decisions about species, numbers, breeding and participation in public activities should reflect those considerations together. Pastures, fencing, shelters, water supplies, feed storage and handling areas are essential parts of the working farm. The CIP addresses potential improvements to these facilities, while the POMP addresses responsibility for animal care and management. [Bowers Farm Standard Operating Procedure, "General," "Animal Environment, Housing, and Management," and "Behavioral Management"; The 5 Freedoms.]

Horticulture and food production

Fields, gardens and growing spaces are central to the working landscape of Discovery Oaks. Vegetable production, pumpkins, corn, sunflowers and grazing pastures give the campus its agricultural character and make seasonal change visible. Horticultural production—including bedding plants and petunia hanging baskets—also connects the farm with familiar home and community gardening experiences. Greenhouse activities link plant propagation and early growth with the work of tending crops outdoors. Together, these spaces reveal the care, labor and resources involved in producing food and ornamental plants.

Demonstrating different production methods is an important part of the farm's educational purpose. Conventional practices can help participants understand the equipment, growing technologies and management decisions used in contemporary agriculture. Sustainable and organic practices, along with permaculture approaches, offer opportunities to explore soil quality, composting, crop rotation, biodiversity, water conservation and the relationships among plants, animals and the landscape. Teaching across these approaches can help learners examine why growers choose particular methods and how those choices respond to different conditions and purposes.

The educational value lies in making those choices understandable through observation and practical experience. Participants can investigate how growers manage fertility, weeds and pests; how soil cover and organic matter influence growing conditions; and how different approaches affect labor, resource use and production. Demonstrations should encourage informed comparison, recognizing that practices can overlap and that their suitability depends on the crop, site and intended outcome. This approach supports curiosity and agricultural literacy while giving participants ideas they can apply in gardens, workplaces and everyday decisions about food.

Growing and harvesting also create opportunities to explore pollination, plant life cycles and the relationship between weather and production. School groups, campers and other participants can connect those lessons with food preparation and tasting, while produce offered through the farm kitchen and store brings the growing landscape into the visitor experience. These connections support the broader Farm, Food, and Working Landscapes initiative by helping people understand where food comes from and the work of those who produce it.

The Community Garden provides another way to participate in the agricultural life of the property. Alongside volunteer-supported gardens, it creates opportunities to grow food, share knowledge and contribute to the care of the campus. These activities complement staff-managed production and connect individual participation with stewardship of the wider landscape.

The plan supports a flexible combination of production, demonstration and learning spaces. Crop selections, growing methods and the scale of production can evolve with educational interests, seasonal conditions, soil and water resources, staffing and operating needs. The CIP addresses potential improvements to growing facilities and supporting infrastructure; the POMP addresses their management and the handling and use of farm products.

Connecting the farm experience through food

The visitor center, farm kitchen and store connect agricultural production with the everyday experience of food. They provide places where visitors can orient themselves, gather, learn, taste and purchase products associated with the farm. A visit can begin with an introduction to what is growing or being raised and conclude with a meal, fresh produce, farm-raised meat or another product that carries the experience home. These spaces also support classroom learning, community programs and adult discovery opportunities.

Food service and retail therefore have both an educational and an operating role. They can make the relationships among production, preparation and consumption tangible while generating revenue that contributes to the farm's sustainability. The master plan recognized this connection through its description of the farm store and its direction to strengthen food offerings, showcase farm-grown products and develop complementary local partnerships. This plan carries forward that purpose while leaving menus, product selections, hours and service arrangements to subsequent operating decisions. [B-04, Phase 1, p. 28; Phase 2, p. 15.]

OCP's public programming and farm operations will work alongside BHS's instructional responsibilities under the interlocal agreement and signed collaboration guidelines. The POMP describes those responsibilities, shared-space arrangements and operating practices. Within that framework, programs can adapt without making annual calendars, individual offerings or routine delivery decisions permanent requirements of the IPP. [A-01, §§4.3, 4.18 and 5.2; A-04.]

Heritage learning and traditional skills

Heritage learning may include hands-on experiences in traditional skills such as candlemaking, blacksmithing, beekeeping, timber framing, breadmaking and textile arts. Offerings can connect historic practices with contemporary interests in food, craft, self-reliance and stewardship, drawing on the farm's buildings, agricultural activities and partnerships with skilled practitioners. The mix of programs may evolve with instructor availability, suitable facilities, public interest and operating capacity.

Adventure learning

Adventure learning adds challenge, exploration and shared accomplishment to the Discovery Oaks experience. Through facilitated activities, participants can practice communication, cooperation and problem-solving, build confidence and discover strengths in themselves and others. The farm's outdoor setting gives these experiences a sense of place, connecting group learning with the landscape and the wider life of the campus.

The plan supports a flexible range of adventure-learning opportunities for school groups, camps, families and community organizations. Activities may evolve as interests, facilities and resources change, with qualified leadership and suitable equipment supporting their delivery. Existing course conditions and professional assessments will inform decisions about use, rehabilitation or replacement; specific improvements are addressed through the CIP and operating practices through the POMP. [B-04, Phase 1, p. 26; C-05.]

Seasonal attractions and community experiences

Seasonal attractions are part of the farm's character and an inviting way for people to discover it. Fall Festival brings the harvest season into public life through pumpkins, wagon rides, animal encounters, food and shared activities. Winter Park offers a different experience of the same landscape, bringing people outdoors during the colder months for recreation and gathering. Their appeal comes from the combination of seasonal traditions, a working farm and the pleasure of spending time together in a distinctive place. [B-04, Phase 1, pp. 32–33.]

These experiences can introduce new visitors to Discovery Oaks, give families reasons to return and connect people with its broader educational and agricultural offerings. A visit for a seasonal attraction may become an introduction to a camp, a class, volunteering or food produced at the farm. Food, hospitality and opportunities to gather help make these visits memorable, while earned revenue can contribute to sustaining the wider operation.

The planning direction is to preserve that character while allowing attractions and events to evolve. Individual activities, formats and schedules can respond to visitor interests, available resources and operating experience. Decisions about scale and delivery should consider accessibility, staffing, circulation, utilities, animal care and financial performance together. The plan establishes a continuing role for seasonal recreation and community experiences without committing OCP to a fixed event calendar or particular attraction.

1.7 Environment and Heritage Stewardship

Stewardship at Discovery Oaks brings the care of a working agricultural landscape together with the protection of natural and historic resources. Fields, pastures, gardens, ponds, wooded areas and heritage buildings contribute to the park's character and educational value. Their management should support productive agriculture, healthy soils and water, wildlife habitat and opportunities for people to understand the relationships among land, food and community.

These responsibilities are connected. Pasture management influences animal health, soil condition and runoff. Trees and vegetation provide habitat, shade and shelter while requiring ongoing care. Historic buildings help explain how people have lived and worked within this landscape over time. The planning direction is to sustain these resources through practical maintenance, informed management and improvements suited to the conditions and uses of the property.

Working landscape and water stewardship

The farm's fields, pastures, gardens and natural areas require coordinated care. Maintaining soil cover, managing grazing, replenishing soil nutrients and handling manure appropriately support agricultural production while protecting surrounding land and water. These practices also provide opportunities to demonstrate stewardship through daily farm work and public learning.

Water connects the developed campus with the wider landscape. Runoff from roofs, roads, parking areas and animal facilities moves through drainage systems, ponds and low-lying areas. GMB's 2024 infrastructure evaluation documented drainage problems, including flooding and surcharging, deteriorated storm piping near the Farm Activity Building and uncertainty about some system connections. These findings support evaluating drainage as a connected system so that improvements address the causes of problems without transferring them elsewhere. [C-03, printed pp. 11–12.]

Wooded areas, trees, ponds and other habitat features contribute to the farm's ecological and educational value. Management can include invasive-species control, care of established trees, appropriate planting and protection of sensitive areas. Priorities should reflect documented conditions, agricultural uses, visitor access

and opportunities to improve habitat and water quality. Work affecting wetlands or other regulated resources remains subject to applicable review and permitting.

The CIP provides a framework for potential drainage, landscape and ecological improvements. The POMP addresses routine stewardship and maintenance responsibilities. Together, they support an approach that can respond to changing conditions while sustaining the property's agricultural purpose.

Environmental assessment and follow-up

ASTI's October 28, 2026 Limited Phase II Environmental Site Assessment confirmed petroleum-related soil contamination beneath the cottage's former heating-oil tank enclosure. The investigation indicates that the removed tank was most likely an aboveground tank within the basement enclosure, rather than the underground tank described in earlier records. One soil sample exceeded state environmental criteria and residential vapor-intrusion screening levels. ASTI identifies parcel 19-01-376-006 as a "facility" under Michigan's Part 201 environmental framework. These findings concern the investigated cottage area and do not establish contamination throughout the park. [E-05 §§2, 7–8, printed pp. 2, 5–6; Figure 2.]

Further evaluation will address the cottage's intended use and appropriate management of affected soil. ASTI identifies potential additional soil-gas sampling to assess vapor-intrusion risk before preparation of a Due Care Plan. OCP will coordinate the necessary response with qualified environmental professionals and Corporation Counsel. [E-05 §8, printed p. 6.]

OCP will coordinate environmental follow-up with BHS, qualified environmental professionals and Corporation Counsel, consistent with the interlocal agreement's allocation of responsibilities. Before changes in use or work that could disturb affected soil at the cottage and former tank area, the applicable findings and any necessary protective measures will be confirmed. These findings do not, by themselves, establish restrictions on unrelated park activities or improvements elsewhere on the property. [A-01 §§3.5, 6.4.]

Heritage interpretation and visitor experience

The Benjamin-Barton Farmhouse and other heritage resources connect the working farm with the lives and landscapes of earlier generations. Their value extends beyond preserving buildings: they offer places to explore how people grew and prepared food, managed households, used tools and adapted to changing circumstances. Set within an active agricultural campus, these experiences can help visitors compare past and present practices and consider how decisions about land, technology and food continue to shape community life.

The 2011 assessment commissioned by Preservation Bloomfield identified experiential learning and community use as central purposes for the farmhouse. That direction remains useful to this plan. Heritage interpretation can complement school visits, family experiences, demonstrations and community gatherings, with activities suited to the character and condition of each resource. Preservation and appropriate use should reinforce one another, protecting significant features while keeping local history accessible and relevant. [Benjamin-Barton House Existing Conditions Assessment and Master Plan, June 2011, printed pp. 1-3–1-5 and 4-1–4-2.]

Heritage ownership and the park experience

The land lease identifies Preservation Bloomfield as the owner of the Benjamin-Barton Farmhouse and Craig Log Cabin and assigns it responsibility for maintaining and repairing the buildings at its expense. These buildings contribute to the Discovery Oaks experience while remaining under separate ownership and lease arrangements. Their inclusion in this plan does not transfer ownership or create additional preservation responsibilities for OCP. [Land Lease, §§1.01 and 5.01.]

These buildings are nevertheless important parts of the property's story and can enrich the overall park experience. OCP can explore coordinated interpretation, school and public learning, demonstrations and other suitable activities with Preservation Bloomfield, connecting historic domestic and agricultural life with the working farm today. Any use would respect the applicable agreements and the suitability of the buildings for the intended activity.

The 2011 Benjamin-Barton House assessment provides historical information and ideas for preservation and use. It can inform these discussions without committing OCP to its restoration program, proposed alterations or associated costs.

A potential operating agreement with Preservation Bloomfield could clarify arrangements for coordinated programming and use of the historic buildings. The POMP addresses this opportunity within the existing ownership and lease arrangements.

1.8 Financial Sustainability and Investment

Public purpose and financial approach

Discovery Oaks' financial approach supports OCP's systemwide purpose: accessible recreation and learning, healthier and more connected communities, and responsible stewardship of public places and natural resources. As a working agricultural learning campus, the park advances these benefits through everyday visits, repeated participation and deeper engagement with farming, food and the landscape.

Public funding, earned revenue, grants, gifts, sponsorships and partnerships each contribute to sustaining that purpose. The appropriate balance reflects who benefits, participation barriers and the full cost of delivery. Public subsidy supports broadly shared benefits and access to learning and recreation. Participant fees can help cover the added costs of specialized experiences, while exclusive uses, premium offerings, food and retail services provide opportunities for greater earned revenue. High operating cost alone does not determine the appropriate fee or level of public support.

Discovery Oaks will apply OCP's applicable financial policies, approved fee schedules and budget processes, consistent with the interlocal agreement. Free public access and paid programs and services should be clearly distinguished. Each offering should have a clear purpose, a realistic budget, an intentional funding approach and evidence of the public benefit it provides.

Sustaining a working farm

Discovery Oaks has operating needs that continue throughout the year. Livestock require daily care, crops and gardens require seasonal attention, and buildings, utilities and equipment require maintenance whether or not a public program is underway. Staff preparation, cleanup, administration and visitor support also contribute to the cost of delivering programs and events.

Financial evaluation should account for these shared responsibilities alongside direct program expenses. Ticket receipts alone do not establish an activity's financial contribution. An offering may help support the wider operation after its direct costs are covered, while another may appropriately receive public support because of its educational value or its role in removing participation barriers.

OCP will use its annual budgeting and accounting processes to manage these resources. Available financial information should distinguish program receipts and direct expenses, site operating costs, shared services, restricted support and capital expenditures. These distinctions support informed decisions about programming, staffing, fees and investment without establishing an additional contractual reporting cycle.

Capital decisions also affect operating sustainability. A grant or one-time contribution may fund a facility improvement while future budgets must support its utilities, staffing, maintenance, inspections and eventual replacement. The evaluation of proposed improvements should consider these continuing needs, including opportunities to reduce operating burdens or sequence investments to match available capacity.

Historical financial baseline

Historical BHS financial records document the farm's reliance on both public funding and revenue from programs, events, food, retail and other activities. Appendix I preserves the supporting records, including separate historical farm information and later financial summaries covering both the farm and nature center. [I-01; BHS MP_Program and Budgets, "Revenues" worksheet.]

These records provide context for the transition to OCP management. Their different reporting periods, fund classifications and treatment of shared expenses must be reconciled before using them to calculate a Discovery Oaks operating subsidy or compare financial performance over time. Budgeted amounts must also remain distinguishable from actual results.

OCP's authorized budgets and subsequent operating results will provide the basis for evaluating the park under County management, including its operating needs, earned revenue and public investment.

Revenue administration and accountability

The interlocal agreement directs park revenue to OCP, subject to its specified transition exception. No alternative revenue-retention arrangement is proposed in this plan. Payments to service providers and partners will follow their authorized agreements, with OCP revenue, restricted contributions and funds belonging to partner organizations accounted for according to their applicable terms. [A-01 §§5.3–5.4]

BHS may request an annual revenue accounting and exercise the audit rights provided in the interlocal agreement. Fee and assistance decisions must also respect the agreement's resident entry provisions. [A-01 §§5.2–5.4]

Capital investment commitments

OCP's minimum $1.5 million investment and BHS's separate $1.5 million investment provide a defined foundation for improving Discovery Oaks. Each contribution has its own scope and requirements. Together, they sit within the broader Capital Improvement Plan, which identifies the types of improvements the park may pursue as funding and opportunities become available. Neither contribution commits the parties to completing every improvement identified in the CIP. [A-01 §5.1; Attachment A]

OCP proposes October 1, 2028 as the deadline for fulfilling its $1.5 million investment commitment. This deadline is submitted for BHS approval as part of this IPP. It applies to the investment commitment, not completion of the broader Capital Improvement Plan. OCP's contribution may be allocated among approved improvement categories and supporting work, subject to applicable funding and authorization requirements. Attachment A describes those categories, their locations and intended uses. [A-01 §§5.1, 4.7.4; H-01]

The requested BHS investment prioritizes renewal of the learning building and visitor center, including roofs and flashing, windows, siding and trim, selected doors, flooring and moisture-related restoration. The requested package also includes greenhouse repairs and perimeter fencing and gates. The October 8 investment brief provides the supporting scope; quantities and technical solutions remain subject to assessment, pricing and design. [I-02]

OCP's Parks Development and Engineering staff have provided preliminary material and performance guidance to support BHS's estimating of the Learning Building/Visitor Center renewal. The guidance addresses roofing,

siding, windows, doors and flooring, with final selections and replacement limits to reflect building conditions, architectural character, maintenance needs and compatibility with OCP systems. This information supports scope development and updated estimates; it does not establish final specifications, quantities or project costs. [I-06, Darryn Horvath correspondence, received October 29, 2026.]

This package is submitted for BHS approval through the IPP. BHS identified July 1, 2027 as its anticipated investment milestone. Whether that date refers to funds committed, expenditures incurred or construction completed remains to be confirmed with BHS. [I-02; H-01]

Investment matter	Planning direction	Approval or confirmation status
OCP minimum $1.5 million	Allocate among approved improvement categories and supporting work; proposed investment deadline of October 1, 2028.	Amount established by A-01 §5.1.1. Proposed date requires acceptance through the applicable approval process.
BHS $1.5 million	Prioritize building renewal, greenhouse repairs, and perimeter fencing and gates, using historical estimates as a planning basis.	Amount established by A-01 §5.1.2. Acceptance of the requested scope remains to be documented.
Reported BHS July 1, 2027 date	Establish the intended milestone.	Remains Unresolved
Broader CIP	Provide a framework for additional improvements as resources become available.	Inclusion does not guarantee funding or implementation.

Planning estimates for the BHS investment

The requested BHS investment package comprises renewal of the Learning Building/Visitor Center, greenhouse repairs, and perimeter fencing and gates. The illustrative $1,460,300 allocation draws on historical planning estimates and does not establish current project prices. The earlier building allowance covers a different scope, and greenhouse repairs do not have a separately verified allowance. Updated estimates will inform the final scope and delivery arrangements within BHS's $1.5 million commitment. Applying the historical building allowance together with three perimeter-fencing phases leaves $39,700 within the commitment.

Component	Planning allowance based on 2023 estimates
Building renewal, using the historical Education / Administration Building allowance	$1,004,300
Perimeter fencing—Phase 1	$152,000
Perimeter fencing—Phase 2	$152,000
Perimeter fencing—Phase 3	$152,000
Illustrative project total	$1,460,300
Remaining unallocated allowance	$39,700

Component	Planning allowance based on 2023 estimates
Total BHS investment framework	$1,500,000

Source: BHS MP_Program and Budgets, “BSF Project Budgets_Ph 1,” rows 10–13 and 32; “BSF Estimate_Detail_Ph 1,” rows 104–111.

These figures include the original estimating allowances. The building estimate incorporates a 25 percent construction contingency, a 10 percent owner contingency and a 10 percent architectural and engineering fee allowance, applied sequentially as calculated in the workbook. Each fencing phase includes a 10 percent construction contingency and a 10 percent owner contingency, with rounding; no separate design fee is included.

Costs may have changed since these estimates were prepared. The original contingencies address estimating uncertainty and should not be assumed to fully cover subsequent changes in prices or scope. The historical building allowance also includes mezzanine and outdoor-space improvements that differ from the currently requested renewal package. Its use here provides a planning allowance rather than an itemized estimate of the requested repairs.

The workbook divides the perimeter-fencing estimate into four equal phases. The illustrative allocation accommodates three at the historical estimated cost; their geographic limits and achievable extent remain to be established. Greenhouse repairs remain part of the requested scope but do not have a separate verified allowance in this allocation.

Accordingly, these amounts are planning estimates for establishing a mutually acceptable scope, rather than final project budgets or guaranteed quantities. BHS and OCP will determine the final figures for their respective investments through applicable assessment, estimating, procurement and authorization processes. The estimates support agreement on projects that address each organization’s needs, with the extent and sequencing of work determined by verified conditions, current pricing and available funding.

The CIP provides the detailed capital framework. Appendix I preserves the financial baseline and investment documentation. Together, these records support responsible investment while allowing design, sequencing and funding decisions to respond to verified needs and available resources.

1.9 Implementation Priorities and Measures

Setting priorities

Implementation will strengthen Discovery Oaks as a working agricultural learning campus and public park. Priorities should reflect the consequences of delay, the public benefit of the work, its contribution to school and outdoor learning programs, and OCP’s capacity to deliver and sustain it.

Daily animal care, life safety, essential utilities and continuity of established operations form the foundation. Building renewal, reliable infrastructure and accessible circulation support the farm’s educational and public uses. Program and facility improvements should build on that foundation, responding to documented needs and opportunities to improve the visitor experience. [C-02–C-04; Attachment A]

School field trips and outdoor learning are central OCP services at Discovery Oaks. Implementation should account for their instructional spaces, seasonal schedules, staffing, animal and landscape resources, and supporting facilities alongside public programs and daily farm operations. BHS’s retained school-use rights will be accommodated in accordance with the interlocal agreement. Where major renovations or other necessary

work require temporary relocation or changes to instructional space, the responsible OCP and BHS administrators will coordinate arrangements to maintain instructional continuity and obtain any approvals required by the agreement. [A-01; Section 1.6]

Priorities may advance together where practical. A building repair may also improve accessibility, strengthen an instructional setting or reduce maintenance demands. A partnership or funding opportunity may allow an improvement to proceed sooner when its operating needs and dependencies can be addressed. The plan establishes direction while allowing OCP to adjust sequencing within its authority and available resources.

Advancing work through OCP processes

OCP will advance implementation through its established budgeting, work planning, capital delivery and operating processes. Program leadership defines the intended experience and service needs; site and operations staff identify practical requirements and ongoing care; planning staff connect proposals to park and systemwide objectives; and the responsible technical staff guide assessment, design and delivery. Finance and other County functions support projects within their established responsibilities.

Project decisions should address the conditions relevant to the proposed work. Utility capacity matters when an improvement adds demand. Environmental findings inform work and use in affected areas. Inspection findings and professional acceptance inform the availability of adventure-learning elements. Accessibility should be considered across the complete experience, including arrival, routes, facilities and participation. [C-03–C-05; Appendix E]

Detailed design, procurement and construction scheduling will develop as individual projects advance. Approval requirements remain those established by the interlocal agreement and applicable County processes. The CIP identifies anticipated improvements, while the POMP describes the operating framework that supports their use and care.

Planning priority	Intended result	Principal delivery considerations
Sustain safe, reliable farm operations	Consistent animal care, essential services and a dependable setting for visitors and learning	Animal welfare, staffing, utilities, inspections, maintenance and current operating conditions
Support school and outdoor learning programs	Effective spaces and resources for OCP field trips, instruction and public learning, while accommodating BHS's retained rights	Program schedules, instructional needs, staff capacity, animal and landscape resources, and facility availability
Renew buildings and infrastructure	Protect existing assets, address deferred maintenance and improve operating reliability	JFR and GMB findings, current conditions, BHS investment scope, funding and continuing maintenance needs
Improve accessible and connected experiences	Make arrival, movement and participation easier across the campus	Routes, entrances, parking, visitor amenities, accessibility findings and connections to surrounding paths
Develop recreation and seasonal experiences	Sustain distinctive offerings that complement the working farm and support participation across seasons	Public demand, technical requirements, utilities, staffing, accessibility and operating costs

Planning priority	Intended result	Principal delivery considerations
Strengthen agricultural, food and heritage learning	Connect production, livestock, food, history and visitor participation	Program purpose, farm operations, partner capabilities, building ownership and applicable agreements
Care for land, water and habitat	Sustain productive soils, healthy landscapes and ecological function	Drainage, soil management, grazing, habitat conditions, environmental findings and stewardship participation

These priorities guide choices across the park. Individual scopes, costs and schedules will be established as work is evaluated and authorized.

Evaluating results and public value

Discovery Oaks should be evaluated through the experiences it makes possible, the people it reaches and the condition of the farm and landscape that sustain those benefits. Attendance and revenue are useful measures, but they provide only part of the picture. Repeat participation, learning, volunteer stewardship, accessible experiences and responsible use of resources also inform management decisions.

OCP will use its existing data and management systems to evaluate results, developing reliable baselines as records become available. Measures may be refined as the park's operations and information improve. The following questions provide a framework for evaluation without establishing unsupported numerical targets or additional partner reporting requirements.

Management question	Useful evidence	How the evidence informs decisions
Who is participating, and whom are we reaching?	School groups and students served, registrations, ticket use, geographic reach and participation across seasons	Identify patterns in use and opportunities to reach more Oakland County residents
Are people returning and deepening their involvement?	Repeat registrations or visits where measurable, participation across offerings, and movement into volunteering or further learning	Assess whether the park supports continuing relationships as well as individual visits
Can people access and enjoy the experience?	Visitor feedback, accommodation requests, assistance use, route conditions and information about participation barriers	Identify practical improvements to arrival, communication, affordability and participation
Are school and outdoor learning programs fulfilling their purpose?	Participant, teacher and instructor feedback; enrollment; camp fill; unmet demand; and learning evidence appropriate to the program	Improve content, scheduling, delivery and capacity while distinguishing participation from demonstrated learning
Is the working farm supporting agricultural and food learning?	Program records, participant feedback and documented use of livestock, gardens, production areas and food experiences	Assess how effectively daily farm activities support understanding and engagement

Management question	Useful evidence	How the evidence informs decisions
Are people contributing to stewardship?	Volunteer participation, repeat involvement, hours and completed work where recorded	Understand the contribution of volunteers and the quality and continuity of stewardship opportunities
Are animals, landscapes and facilities being sustained?	Animal-care records, inspections, asset condition, maintenance work, and soil, water and habitat observations	Set care and renewal priorities and assess the results of completed work
How are resources supporting public benefit?	Actual revenue and expenses, public subsidy, shared costs, restricted support and capital investment	Evaluate affordability, operating sustainability and the resources required to deliver each service

Each measure should retain a clear definition, reporting period and scope. Registrations, admissions, visits and unique visitors describe different things and should remain distinguishable. Mobility-based visitation estimates provide a separate source of context rather than a substitute for recorded participation. Financial comparisons should identify shared expenses and distinguish operating costs from capital investment. [D-01–D-02; Appendix I]

Management decisions should draw on several forms of evidence. Low enrollment may reflect scheduling, price, communication or the specialized purpose of an offering. High attendance may increase demands on staff, infrastructure or animal care. Preventive maintenance may improve reliability even when visitation remains unchanged. Taken together, these findings can guide decisions to continue, improve, expand or discontinue activities and investments.

The purpose of evaluation is to help OCP direct limited resources toward reliable operations, meaningful experiences and lasting public benefit while preserving the working farm's distinct character.

1.10 Plan Administration and Approval

Administrative responsibility

OCP will administer and implement the Integrated Park Plan through its established management, budgeting, planning and operating processes. The OCP Director and BHS Superintendent, or their respective written designees, serve as the agreement administrators. Each party will notify the other of changes to its designated representative. [A-01 §4.1]

OCP manages daily park operations, including programming, staffing, maintenance, scheduling, fees and authorized third-party use, consistent with the interlocal agreement, approved plans and applicable County policies. This authority allows the park to respond to changing needs and opportunities while maintaining its public purpose and BHS's expressly retained rights. [A-01 §§4.3, 4.16–4.18, 5.2]

Implementing the approved plan

The PAP and its CIP and POMP attachments establish the framework for park stewardship, operations and investment. Within that framework, OCP will manage implementation details through its normal processes. These include program offerings, staff assignments, maintenance methods, operating schedules, equipment specifications, project sequencing and design development within the approved scope.

Under §4.7.4, inclusion of a project type in the CIP provides BHS preapproval for that project type to proceed when funding becomes available, without additional BHS approval. CIP inclusion does not guarantee funding or

implementation and does not replace required County authorizations, permits or other applicable approvals. Capital Improvement Projects outside the PAP require prior written approval from the BHS Representative under §4.4. [A-01 §§4.4, 4.7.4]

Implementation remains subject to the agreement's provisions concerning school use, ownership, property restrictions and other retained rights. OCP may refine how an approved activity or improvement is delivered without amending the plan when the adjustment remains within the approved scope and existing authority.

Submission, review and periodic updates

On September 30, 2026, the parties executed a joint extension establishing December 15, 2026 as the deadline for delivery of the final Park Action Plans for Discovery Oaks and Bloomfield Oaks. All other agreement requirements, including the applicable review and approval procedures, remain unchanged. [A-03]

The agreement establishes distinct procedures for the PAP and its attachments:

Plan component	Submission or update requirement	BHS review and approval
Initial PAP, including its CIP and POMP attachments	Submit the completed plan to the BHS Representative.	BHS has 30 calendar days after receipt to provide comments and recommendations. OCP must consider them and endeavor to address them. Prior written BHS approval is required before OCP approves or implements the PAP, except that BHS is deemed to have approved it if its Representative does not respond within the 30-day period.
Updated PAP	Prepare an updated PAP every five years.	Provide the BHS Representative at least 60 days to review and comment, as specified in §4.7.6.
Updated CIP — Attachment A	Prepare an updated CIP at least every four years.	Provide the BHS Representative at least 60 days to review and approve. If approval is withheld, the improvement may not be made unless the parties otherwise agree. The approved update replaces the existing CIP.
Updated POMP — Attachment B	Prepare an updated POMP at least every five years.	Provide the BHS Representative at least 60 days to review and approve. If approval is withheld, the change may not be made unless the parties otherwise agree. The approved update replaces the existing POMP.

Source: A-01 §§1.8, 4.7.3–4.7.6; A-03.

The initial PAP's 30-day deemed-approval provision is distinct from the review periods specified for subsequent updates. The approval record will identify the version of the IPP and transfer schedules acted upon, the date BHS received the submission, and the evidence of approval under the interlocal agreement. Supporting records will distinguish dated assessments from subsequently verified conditions.

Changes to the plan or agreement

Routine adjustments within the approved framework will be administered by OCP. Changes to the CIP or POMP framework will follow the applicable review and approval provisions in §§4.7.4–4.7.5.

A proposed use of the premises for a purpose outside those described in the agreement requires BHS's prior written consent under §2.4. That section allows such consent without requiring an amendment to the agreement. Changes to the agreement itself must be in writing, approved by both parties, recorded in their governing bodies' official minutes and filed as required by §§2.1–2.2. [A-01 §§2.1–2.4]

Coordination and resolution of issues

OCP and BHS administrators will address matters involving their respective responsibilities through the agreement's established channels. Practical coordination may include scheduling retained school uses, communicating construction disruptions, arranging temporary instructional accommodations and resolving access or service needs. This coordination supports delivery within existing authority; approval is required where the agreement specifies it.

Disputes concerning the agreement will first be referred to the designated OCP and BHS representatives. If they cannot resolve the matter, the agreement provides for nonbinding mediation with costs shared equally, followed by available legal remedies if mediation does not resolve the dispute. [A-01 §4.2]

1.11 Continuing responsibilities and property rights

The interlocal agreement provides OCP with authority to operate, maintain and improve Discovery Oaks while BHS retains ownership of the premises. OCP's use does not create a title interest or easement. Capital improvements constructed under the agreement remain with the premises and become BHS property, subject to the agreement's provisions concerning depreciation and reimbursement upon termination or expiration. [A-01 §§4.4, 7.1, 2.7]

Ownership and responsibilities differ for certain assets. Preservation Bloomfield owns the Benjamin-Barton Farmhouse and Craig Log Cabin, with building care and preservation responsibilities established by its land lease. Equipment and other personal property are addressed through the applicable ownership and transfer schedules. The plan recognizes these distinctions; including an asset in the park's visitor experience does not itself transfer ownership or responsibility for its preservation. Section 1.7 and the POMP address coordination with Preservation Bloomfield and the applicable landlord responsibilities. [Land Lease, §§1.01, 5.01; PAP ownership schedules]

OCP will carry out the plan in accordance with applicable property restrictions, grant conditions and other agreements governing the premises, as required by the interlocal agreement. Any delegation or assignment of rights or obligations will follow the agreement's written-consent requirements. These continuing requirements apply alongside the administrative procedures described in Section 1.10. [A-01 §§6.12.2, 7.2]

Renewal, termination and the return of the premises will follow the interlocal agreement, including its provisions for personal property and any reimbursement owed for capital improvements. The plan does not change those terms or create an additional reimbursement commitment. [A-01 §§2.1, 2.7]

Attachment A — Capital Improvement Plan

The July 27, 2026 concept drawing illustrates the relationship of farm, learning, recreation and support areas. It includes proposed features and is not an as-built map, a survey, a funding commitment or a construction approval. The category descriptions that follow establish the scope presented for plan review. [B-01]



Planning context: Discovery Oaks concept plan, July 27, 2026 [B-01]. The original drawing uses earlier names: "The Great Hall" identifies the proposed Agricultural & Equestrian Pavilion; "Apple Barn" identifies the potential reconstructed Pickering Barn. These are conceptual locations; exact siting and footprints will be developed through project design. The capital categories define the scope proposed for approval.

A.1 Capital Authority and Investment Boundaries

The Capital Improvement Plan establishes a five-year framework for investments that sustain Discovery Oaks as a working agricultural learning campus and welcoming public park. It supports renewal of buildings and infrastructure, reliable farm operations, universal accessibility, stewardship, and opportunities for agricultural learning and public recreation. The improvement categories that follow identify the project types, general locations and intended uses proposed for BHS approval.

Section 4.7.4 of the interlocal agreement establishes the capital planning framework:

“The CIP shall establish a five (5) year framework to identify, evaluate, and prioritize potential capital investments at the Park. The CIP serves as a planning and evaluation tool, not a guarantee of implementation. Inclusion of an item in the CIP does not constitute project approval, funding authorization, or a commitment to proceed. The CIP will set forth a process for approvals, authorizations, and commitments to proceed. Inclusion of an item in the CIP constitutes BHS pre-approval for the project type to proceed when funding is available, without requiring additional BHS approval. The CIP may be amended as set forth in the Park Action Plan, but at least every four (4) years OCPRC shall create an updated CIP, which the BHS Representative shall have at least sixty (60) days to review and approve. If the BHS Representative does not approve the CIP, the improvement may not be made, unless otherwise agreed to by the Parties. The updated CIP, approved by the BHS Representative, shall replace the existing CIP and be incorporated into the Park Action Plan as Attachment A.” [A-01 §4.7.4.]

Individual projects will advance through applicable OCP and County planning, budgeting, procurement and project-authorization processes. Project recommendations will address the intended public benefit, proposed scope, estimated capital and continuing operating costs, funding and relevant site constraints at a level appropriate to the decision being requested. The Director will administer implementation within delegated authority; matters reserved to the Commission or other County authorities will be submitted for approval. Projects outside the approved capital scope and amendments will follow the governing agreement. Detailed design, procurement and construction scheduling will develop as projects advance.

Within the approved project types, locations and intended uses, OCP will develop designs, select delivery methods, establish project sequences and allocate available funding through its established processes. This flexibility allows related improvements—such as building renewal, utility upgrades, drainage and accessible routes—to advance together. Inclusion does not require every anticipated improvement to be funded or completed within the five-year planning period.

For purposes of the agreement, a Capital Improvement Project costs $30,000 or more and extends an existing facility’s or asset’s life, replaces, renovates or remodels it, or adds a new facility or asset. Routine maintenance and personal-property purchases remain subject to their applicable requirements and OCP processes. Capital improvements constructed under the agreement become part of the premises and are owned by BHS as provided in §4.4. Applicable construction requirements and retained school-use rights continue to apply, and OCP may not authorize easements or other encumbrances on the premises. [A-01 §§1.4, 4.4, 4.6, 4.18, 6.12]

OCP’s minimum $1.5 million investment and BHS’s separate $1.5 million investment sit within this broader capital framework. Their scope and status are described in Section 1.8. The proposed October 1, 2028 deadline applies to OCP’s investment commitment, subject to acceptance through the applicable process; it is not a deadline for completing the entire CIP. BHS’s requested building renewal, greenhouse repairs, and perimeter fencing and gates remain separately identified so that each organization’s contribution can be clearly understood and administered. [A-01 §5.1; Section 1.8]

Planning scope and supporting work

The project types described in Sections A.2–A.10 are included for BHS preapproval under Section 4.7.4, subject to their stated locations, intended uses and qualifications. Further evaluation of an included project does not, by itself, exclude its project type from that approval scope.

Each improvement category includes the evaluation, investigation, design and supporting work reasonably associated with its described project types, locations and intended uses. Building improvements may require related utility, drainage, accessibility and service-area work. OCP will develop these components together where appropriate, with dimensions, materials, technical systems, procurement methods and phase boundaries determined through subsequent project development.

Condition assessments and concept plans inform this work without committing OCP to every recommendation or illustrated feature. The category descriptions establish the scope proposed for approval; individual projects advance through applicable funding and authorization processes. A concept already covered by the approved project types, locations and intended uses may be developed within that framework. Capital Improvement Projects outside the approved scope require the BHS approval specified in the interlocal agreement. A feature shown only on a concept map does not, by itself, establish its inclusion in the approved capital scope. [A-01 §§4.4, 4.7.4; B-01; B-04; C-02–C-05]

Capital framework at a glance

Category	General location	Principal purpose
Buildings and agricultural facilities	Instructional, visitor, farm and service areas of the developed campus	Renew, adapt, replace or develop facilities supporting agricultural learning, public programs, visitor services and farm operations.
Utilities and supporting infrastructure	Campus utility networks, drainage systems and connecting service corridors	Improve reliability and capacity, address drainage needs and provide infrastructure supporting park uses.
Circulation and universal accessibility	Entrances, roads, parking areas, paths and connections among facilities and experiences	Improve arrival, movement, safety and participation, including connections to surrounding public paths.
Farm operations and food production	Barns, pastures, fields, gardens, greenhouse and associated service areas	Support animal welfare, agricultural production, demonstrations, learning and food-related activities.
Outdoor and adventure learning	Existing adventure-learning area and outdoor teaching areas identified in the detailed scope	Support supervised challenge, outdoor instruction and the facilities and systems needed for participation.
Heritage interpretation and coordinated improvements	Heritage building settings, visitor approaches and associated interpretive areas	Connect heritage resources to the park experience through interpretation, access and coordinated improvements consistent with ownership and lease responsibilities.

Category	General location	Principal purpose
Natural resources and landscape resilience	Woodlands, fields, pastures, habitat areas, ponds and drainage areas	Improve soil, water and habitat conditions while sustaining the working agricultural landscape.
Recreation and seasonal gathering spaces	Seasonal recreation, event and gathering areas identified in the detailed scope	Support year-round recreation and flexible gatherings with appropriate visitor amenities and operating infrastructure.
Operations and supporting assets	Maintenance, storage, staff and service areas, and associated operating systems	Support reliable daily operations, staff effectiveness, security and care of park assets.

The following sections describe the anticipated improvements, locations and intended uses within each category. Categories may be combined in a project where their scopes overlap. Work involving Preservation Bloomfield's buildings remains subject to the ownership and lease arrangements described in Section 1.7; this CIP does not assign their preservation responsibilities to OCP.

A.2 Buildings and Agricultural Facilities

Building improvements will sustain Discovery Oaks' working agricultural enterprise and expand its capacity for learning, public participation and visitor services. This category addresses the learning building and visitor center, Farm Activity Building, barns, equine and livestock facilities, greenhouses, maintenance and storage facilities, and potential new structures supporting these uses within the developed farm campus. [B-01–B-03; C-02–C-04]

Anticipated work includes stabilization, repair, renovation, adaptation, replacement, expansion and new construction. Projects may address roofs and building envelopes, foundations and structural systems, doors and windows, interiors, restrooms, ventilation, mechanical and electrical systems, fire protection and accessibility. Utility connections, drainage, service access and accessible approaches may be incorporated into the same project.

Existing buildings and deferred maintenance

OCP commissioned JFR's August 2026 assessment to examine existing conditions in five selected structures. It provides a baseline for identifying deferred-maintenance needs in those buildings and evaluating improvements supporting the farm's agricultural activities and public use. Priorities include protecting buildings from deterioration, correcting service deficiencies, improving access and supporting suitable occupancy. Individual projects may combine several building systems where coordinated renewal provides a more effective result. [C-02, executive summary and individual building assessments]

Evaluation may determine that repair, adaptation, replacement or removal best serves a building's intended use and long-term operating needs. Proposed changes in occupancy will be assessed against applicable structural, mechanical, electrical, accessibility, fire-safety and exiting requirements. Assessment recommendations inform these decisions without committing OCP to every proposed repair.

Agricultural and animal facilities

Potential investments include new or replacement animal housing, improvements to existing barns and shelters, and facilities combining livestock care with agricultural instruction. Earlier master planning identified a

livestock learning lab, renovation of ruminant housing, and improvements to equestrian facilities. These concepts provide a basis for considering buildings that support animal welfare, practical husbandry, staff access and meaningful visitor learning. [Bowers School Farm Full Master Plan 2027, “Phasing & Roll-Out,” p. 25.]

An Agricultural & Equestrian Pavilion could provide covered space for instruction, demonstrations, equestrian activities and compatible gatherings. Its general planning location is beside the visitor and learning campus, west of the central parking area, shown as “The Great Hall” on the July 27, 2026 concept plan. Building projects may connect with pasture, fencing, watering, handling and service-area improvements described in A.5. Exact siting, footprints and capacities will be developed during design within the approved capital framework. [B-01]

Learning, food and visitor facilities

The learning building and visitor center may be renewed or adapted to strengthen arrival, orientation, classrooms, public learning, the farm store and kitchen. Potential work includes improvements to instructional spaces, food preparation and teaching areas, retail displays, storage, restrooms and visitor gathering spaces. Earlier master planning identified expansion of the farm store and kitchen as opportunities to connect agricultural production with the visitor experience. [Bowers School Farm Full Master Plan 2027, “Strategies & Timeline,” Goal 2, p. 15.]

The Farm Activity Building, Bowers Cottage and Underground Storage/Root cellar may also be evaluated for renewal or adaptation supporting their appropriate park uses. Greenhouse and associated production facilities may be repaired, expanded or replaced to support growing, demonstration and learning. Maintenance, equipment storage and service facilities may be improved alongside public-facing buildings so that expanded use remains practical to operate and maintain.

Pickering Barn reconstruction

Potential reconstruction of the Pickering Barn would bring a historic agricultural structure to Discovery Oaks, strengthening the connection between local farming history and the working farm experience. Anticipated work may include reassembly of stored barn components, restoration, foundations, building systems and site improvements supporting agricultural learning, interpretation and compatible public use. Its general planning location is north of the main pond, shown as “Apple Barn” on the July 27, 2026 concept plan. Exact siting, footprint and program configuration will be developed through project design within the approved capital framework. [B-01]

Work affecting BHS’s retained instructional spaces will follow the agreement and the coordination provisions in Sections 1.9–1.10. Work involving Preservation Bloomfield’s existing buildings remains subject to their ownership and lease arrangements and is addressed under the heritage category.

A.3 Utilities and Supporting Infrastructure

Reliable infrastructure supports daily farm operations, animal care, agricultural production, learning and visitor services. Improvements will address existing service needs and provide capacity for appropriate building renewal and future park uses. This category covers utility networks, drainage systems, buildings and connecting service corridors within the park premises. Anticipated work includes assessment, rehabilitation, replacement, relocation, extension and new construction. [C-03; B-03]

Water and wastewater

Potential improvements include water distribution, sanitary sewers, lift stations, onsite wastewater systems and associated connections, controls and equipment. Work may improve reliability, address deteriorated or insufficient infrastructure, and support restrooms, food service, animal care and other park activities.

BHS commissioned GMB's 2024 evaluation to assess facility investment associated with its 2020 Bond program. The study identified sanitary capacity constraints, two campus lift stations and incompletely documented wastewater arrangements serving portions of the property. These findings provide a basis for evaluating improvements and determining where infrastructure work may need to precede building reuse or increased visitor demand. [C-03, printed pp. 3–10]

Potential solutions include rehabilitation or replacement of existing systems, changes to connections and other technically appropriate improvements. The approach for individual projects will reflect verified conditions, intended use and available service capacity.

Stormwater and drainage

Potential improvements include storm pipes and structures, surface drainage, grading, erosion protection, and stormwater detention and treatment facilities. Work may address drainage around buildings, roads, parking, pedestrian routes, pastures and animal facilities, with related landscape restoration.

GMB's evaluation documented stormwater surcharging affecting pavement and animal areas and identified gaps in information about portions of the drainage network. These findings support investigation and coordinated improvements that protect facilities, sustain farm activities and improve visitor circulation. Drainage projects may be combined with parking, pathway, building and landscape work where a coordinated approach is practical. [C-03, printed pp. 4, 11–12]

Energy, communications and operating systems

Potential improvements include electrical and gas service, geothermal and other heating and cooling infrastructure, lighting, communications and data networks, security systems, access controls and associated equipment. Work may renew aging systems, improve operating reliability and efficiency, and extend service to facilities and activity areas covered by the CIP.

Utility improvements may be delivered independently or incorporated into building and site projects. Assessment and design will establish the location and condition of buried infrastructure, service requirements and necessary connections before construction. Infrastructure sequencing will account for daily farm operations, animal care, school and outdoor learning programs, and public use.

A.4 Circulation and Universal Accessibility

Circulation improvements will make Discovery Oaks easier to reach, navigate and enjoy while supporting the daily work of the farm. This category includes entrances, internal roads, parking and drop-off areas, service and emergency access, and connections among visitor facilities, agricultural areas, heritage resources, gardens, trails and program settings. Anticipated work includes construction, expansion, reconstruction and improvement of routes, crossings, gates, surfacing, drainage, lighting, wayfinding and accessible visitor amenities. [B-01–B-03; C-04]

Arrival and parking

Potential improvements include expansion and reconfiguration of visitor, program and event parking, with associated accessible spaces, pedestrian connections, drop-off areas, service access, drainage, lighting and landscaping. Improvements would support everyday operations and seasonal demand while providing clear connections to park entrances and principal facilities.

Entrance improvements may clarify the different functions of public arrival, trail access, deliveries and farm service traffic. Parking and pedestrian routes will be considered together so that visitors can move from their arrival point to their intended experience safely and conveniently.

Trails and community connections

The proposed trail-access improvements include expansion of the westernmost entrance off Squirrel Road to establish a day-use parking area reserved for visitors accessing the trails. This entrance would support free access to designated walking routes while allowing staffed farm experiences and seasonal attractions to operate through their appropriate admission arrangements.

Dedicated, maintained trails would provide opportunities for hiking, casual walks and enjoyment of the working agricultural landscape. Routes may pass alongside or through portions of land used for agriculture. Interior fencing, defined crossings and clear route boundaries would separate visitors from livestock, equipment and active production areas while preserving views and opportunities to experience the farm.

The proposed trail network would connect with Bloomfield Township safety paths to improve access from surrounding neighborhoods and the broader community. Potential work includes connecting paths, entrance treatments, crossings, wayfinding and bicycle amenities. Exact alignments and connection details will be developed through site planning, with applicable rights and approvals obtained for work outside the park premises.

Movement through a working farm

The circulation network must accommodate visitors, school and outdoor learning groups, staff, deliveries, farm machinery and emergency responders. Improvements may separate routes, establish controlled crossings, adjust gates and service access, and provide clear connections between public destinations.

Public routes will be arranged to support agricultural operations and animal care. Access to fields, pastures, production areas and service spaces may be managed according to seasonal work and operating conditions. Connections to gardens and other program areas can adapt as uses evolve.

Universal accessibility

Accessibility improvements will address the complete visitor experience: arrival, orientation, movement, building entry, participation and access to supporting amenities. Potential work includes accessible parking and drop-off areas, improved surfaces and grades, ramps, boardwalks, crossings, seating, shade, restrooms, viewing areas and accessible program settings.

The 2022 accessibility assessment provides a baseline for identifying barriers and coordinating improvements across facilities and routes. Project development will consider how individual improvements connect, so that an accessible destination can also be reached and used. Adaptive equipment and accessible information may complement physical improvements and broaden participation. [C-04]

Orientation and signage

Potential improvements include entrance identification, campus maps, directional signs, trail markers and information distinguishing public routes from restricted operational areas. Signage will help visitors understand available experiences and navigate between them.

A potential park identification sign oriented toward I-75 could improve awareness and recognition of Discovery Oaks–Bowers Farm. Its location, size, design and installation would be subject to applicable laws, ordinances, permitting requirements and any necessary property or right-of-way authorizations.

A.5 Farm operations and food production

Capital improvements will sustain Discovery Oaks as an authentic working farm where agricultural production, animal care and learning reinforce one another. Facilities should support practical farm work while welcoming visitors into settings where they can observe, understand and, when appropriate, participate. The intent is to make agriculture accessible without losing the character, function and daily activity that give the farm its educational value.

This category includes barns, animal-care and handling spaces, paddocks, pastures, equine facilities, crop fields, gardens, greenhouses and associated production and service areas. Anticipated work includes repair, replacement, reconfiguration, expansion and new construction, coordinated with the building, utility and circulation improvements described in A.2–A.4. [A-04; B-01; C-01–C-03]

Animal care and pasture systems

Potential improvements include livestock shelters, feeding and watering systems, handling areas, fencing and gates, pasture divisions, equestrian arenas, feed and bedding storage, and manure-management facilities. These investments will support animal welfare, dependable daily care and efficient use of staff time while providing suitable settings for agricultural instruction.

Facilities may incorporate viewing areas, demonstration spaces and supervised opportunities to participate in husbandry. Their arrangement should allow visitors to understand how animals are housed, fed and cared for while providing appropriate separation, animal retreat areas and staff access. Public participation will be accommodated within the needs of a functioning livestock operation.

The scale and arrangement of facilities will reflect animal-care requirements, available land, staffing, educational purpose and continuing operating costs. Herd composition and production levels may evolve within the farm's operating framework.

Crop and horticultural production

Potential improvements include irrigation, growing structures, propagation areas, production beds, field access, fencing, equipment storage and other infrastructure supporting crops and horticulture. These facilities may serve vegetable, pumpkin, corn, sunflower and bedding-plant production, alongside other crops suited to the farm's educational and operating needs.

Production areas can demonstrate different approaches to agriculture, including conventional growing methods, organic practices, permaculture and techniques that support soil health and responsible water use. Infrastructure should allow practices and crop selections to evolve as staff evaluate their suitability, productivity and educational value.

The arrangement of fields, gardens and growing facilities should accommodate both practical production and learning. Accessible work areas, observation points and defined routes can bring visitors close to cultivation and harvesting while maintaining space for equipment, seasonal tasks and crop protection. Garden improvements may support production, demonstration or community participation, with flexibility to adapt their location and use as programs evolve.

Harvest, storage and food connections

Potential investments include produce washing and packing areas, covered workspaces, dry and refrigerated storage, food-handling equipment and connections to the farm kitchen and store. These improvements would support the movement of farm products from growing and harvesting through storage, preparation, sale and educational use.

The relationship among production areas, service access, storage, the kitchen and visitor facilities should make daily work efficient and help visitors understand the connection between agriculture and food. Demonstrations and supervised activities may make appropriate parts of that process visible and participatory.

Facilities and equipment will be matched to their intended use, with utility capacity, sanitation, food safety and applicable licensing requirements addressed as projects develop. Building improvements supporting the kitchen and store are included in A.2; this category addresses the production systems and supporting equipment that connect them to the working farm. [A-04; C-03; G-01]

Agricultural learning and stewardship

Potential improvements include demonstration areas, accessible growing and work spaces, instructional gathering areas, tool storage, handwashing facilities and supporting amenities for supervised participation. These spaces may serve school and outdoor learning programs, families, adult learners and volunteers.

Learning should remain connected to meaningful farm activity: caring for animals, preparing soil, growing and harvesting crops, managing nutrients and maintaining the landscape. Facilities can support these experiences through clear sightlines, appropriate work surfaces and safe access while allowing staff to manage participation around the needs of animals, crops and daily operations.

Investment decisions will consider durability, ease of maintenance, staff workload and the quality of the learning experience. The objective is a farm that works well and invites people to discover how agriculture works.

A.6 Outdoor and adventure learning

Capital improvements will support outdoor experiences that invite discovery, build confidence and create opportunities for cooperation and learning. Discovery Oaks' farm, woodlands and ponds provide varied settings for these experiences, complementing agricultural education and expanding how visitors engage with the property.

This category includes the existing challenge-course and Adventure Woods area, compatible adjoining learning spaces, and outdoor teaching and observation areas within the farm and natural landscape. Anticipated work includes rehabilitation, replacement, reconfiguration, expansion and new construction of learning facilities and their supporting infrastructure. [B-01; C-05]

Adventure, challenge and forest exploration

Potential improvements include high and low ropes elements, climbing features, ziplines, team-building activities, platforms and associated access and support spaces. Existing elements may be repaired, replaced, relocated or removed as part of a coordinated renewal. Pole-supported structures and other suitable systems may provide alternatives to tree-supported facilities.

Forest exploration would complement these challenge experiences, inviting visitors to discover the wooded ravine, changing terrain and views through the trees. Potential improvements include woodland paths, observation platforms and a rope or suspension-style pedestrian bridge that could provide a distinctive way to experience the ravine and surrounding forest. Design would respond to the terrain, tree health, accessibility and protection of the woodland setting.

These spaces could support learning about forest ecology, landforms and the processes that shaped the landscape. Interpretation may explore the area's glacial history, informed by verification of the site's geological

features. Archaeological learning could also introduce how evidence helps explain past human relationships with the land, drawing on documented local history and appropriate educational activities.

The intended experience combines physical activity, discovery, problem-solving and supervised challenge. Facilities may serve school and outdoor learning groups, camps, families and other public programs, with configurations suited to different ages, abilities and instructional purposes. Design should consider adaptive participation, accessible approaches, observation areas and space for group preparation and reflection. Woodland exploration routes and specialized challenge elements may have different access and supervision arrangements.

The March 2026 inspection provides a technical baseline for evaluating renewal of the existing adventure facilities. Its findings inform decisions about repair, replacement and the suitability of existing trees and structures. Detailed findings remain in the supporting assessment; individual projects will respond to current conditions and the intended experience. [C-05, findings summary and individual element records]

Outdoor classrooms and discovery spaces

Potential improvements include outdoor teaching areas, gathering spaces, seating, shade structures, demonstration settings, interpretive features and equipment storage. These facilities may be located in compatible farm and natural settings, with connections to the circulation network described in A.4.

Spaces should accommodate both guided learning and opportunities for observation and discovery. Flexible arrangements can support school groups, camps, family activities, adult learning and volunteer stewardship without requiring a separate facility for every program. Their location and design should preserve the character of the setting and account for nearby agricultural activities.

Pond learning and observation

Potential improvements around the park's ponds include shoreline observation areas, teaching platforms, boardwalks, seating and interpretation. These features could provide places to explore aquatic life, water quality, seasonal change and the relationship between water, agriculture and the surrounding landscape.

The extent and location of improvements will reflect shoreline conditions, water levels, habitat, accessibility and visitor safety. Learning and observation facilities may be coordinated with shoreline restoration and water-management improvements described in A.8, connecting public use with stewardship of the ponds.

Supporting facilities and operating readiness

Capital projects may include equipment storage, participant preparation areas, staff access, emergency access and infrastructure needed for inspection, maintenance and rescue. These supporting elements will be considered alongside the principal learning facilities so that completed projects can be operated and maintained effectively.

Adventure facilities will enter service following appropriate technical acceptance, required permissions and confirmation of operating readiness. Staffing, training, participant management, inspections and emergency procedures are addressed through the POMP and subsequent OCP operating processes.

A.7 Heritage interpretation and coordinated improvements

Capital improvements will connect Discovery Oaks' agricultural history, historic buildings and traditional skills with the experience of a working farm. Heritage learning can help visitors understand how people grew and preserved food, built structures, made useful goods and cared for the land—and how those practices relate to agriculture and daily life today.

This category includes the settings of the Benjamin-Barton Farmhouse and Craig Cabin, the existing barn, Underground Storage/Root cellar, Bowers Cottage and associated landscape and interpretation areas. Potential Pickering Barn reconstruction is addressed in A.2 and could further strengthen the relationship between local agricultural history and the working farm. [F-01–F-04; B-01; C-02; Section 1.7]

Heritage settings and visitor connections

Potential improvements include interpretive displays, paths, accessible approaches, seating, gathering areas, landscape treatments and supporting services that connect heritage resources with the wider campus. Improvements may help visitors move between buildings, agricultural activities and demonstrations while understanding the history and purpose of each setting.

The existing barn, Underground Storage/Root cellar and Bowers Cottage may provide opportunities to interpret agricultural work, food storage, domestic life and the changing use of the property. Their suitability for particular activities will reflect building condition, accessibility and intended occupancy. Building repair and adaptation are addressed in A.2; this category addresses their contribution to heritage learning and the visitor experience.

Traditional skills and agricultural heritage

Potential investments include adaptable demonstration and workshop spaces, work surfaces, equipment, tool and material storage, and supporting utilities for heritage learning. These settings could accommodate activities such as candlemaking, blacksmithing, beekeeping, timber framing, breadmaking and textile arts, connecting practical skills with their historical and contemporary uses.

Facilities may support visiting artisans, instructors, volunteers and partner-led activities alongside OCP programming. The scope of individual improvements will reflect the activities proposed, including appropriate ventilation, fire protection, sanitation, equipment separation and visitor access.

The programs and services section describes the educational direction. Capital improvements will provide flexible settings that can accommodate changing offerings rather than dedicate a separate facility to every activity.

Preservation Bloomfield partnership

Preservation Bloomfield, a 501(c)(3) nonprofit organization, owns the Benjamin-Barton Farmhouse and Craig Cabin. Those buildings did not transfer to OCP through the interlocal agreement. Their preservation responsibilities remain distinct from OCP's applicable responsibilities for the leased land and supporting services. [Section 1.7; J-03–J-04]

Potential coordinated improvements may strengthen access, interpretation, landscape connections and appropriate public use of these buildings. Work will reflect the applicable ownership and lease arrangements. Any additional allocation of work, costs or operating responsibilities will be addressed through the proposed MOU or another applicable written agreement.

This capital framework supports integration of the heritage experience into Discovery Oaks without assigning OCP general responsibility for preserving Preservation Bloomfield's buildings.

A.8 Natural resources and landscape resilience

Capital improvements will sustain the soils, water, woodlands and habitats that support Discovery Oaks' working agricultural landscape and visitor experience. Investments may strengthen ecological health, address

erosion and drainage needs, improve landscape character and create opportunities for people to learn through stewardship.

This category includes woodlands, ponds and drainage areas, wetlands where present, fields, pastures, gardens, habitat areas, property boundaries and developed landscapes. Projects may combine restoration, agricultural improvements and visitor access where their purposes overlap. [E-01–E-03; C-03]

Woodlands and habitat

Potential improvements include invasive-species management, tree care, replacement and succession planting, native vegetation establishment and habitat restoration. Work may improve woodland condition, sustain shade and landscape character, and support wildlife and pollinators.

Woodland improvements will be coordinated with trails, forest exploration and adventure-learning facilities. Tree condition, terrain and habitat needs will inform the location and design of paths, observation areas and other features. Planting and restoration may also strengthen connections among wooded areas, field edges, gardens and other habitat settings.

Soils and agricultural landscapes

Potential improvements include erosion control, soil restoration, pasture renovation, field-edge planting and measures that protect productive growing areas. Work may address compacted or disturbed ground, stabilize frequently used areas and support suitable vegetation in fields, pastures and adjoining landscapes.

Agricultural and ecological needs will be considered together. Soil improvements, grazing infrastructure, drainage and planting can support farm production while protecting water and habitat. Projects may also provide opportunities for demonstrations and volunteer stewardship, connecting investment in the landscape with the park's educational purpose.

Ponds, shorelines and water

Potential improvements include shoreline stabilization, native shoreline planting, aquatic habitat enhancement, erosion control and measures to improve water quality and pond function. Assessment may identify additional restoration or management needs appropriate to individual ponds and drainage areas.

These projects will be coordinated with the drainage infrastructure described in A.3 and the pond-learning facilities described in A.6. Observation areas, boardwalks and teaching spaces should be located and designed to support public learning while protecting shoreline stability and habitat. Water levels, drainage patterns and surrounding agricultural uses will inform project scope and methods. [C-03; Appendix E]

Property-edge buffers and landscape improvements

Potential improvements along the I-75 and East Square Lake Road boundaries include landscape buffers, screening, planting, fencing and related site treatments. These improvements would strengthen the farm's landscape character, improve the visitor setting and help separate agricultural and recreational activities from adjoining transportation corridors. Design would account for visibility, drainage, maintenance and applicable right-of-way requirements.

Landscape improvements may also strengthen entrances, parking edges, gathering areas and connections among facilities. Plant selection and placement should reflect site conditions, seasonal interest, habitat value and long-term maintenance needs. Boundary treatments will be coordinated with the entrances, trails and potential identification sign described in A.4.

Environmental conditions and project planning

Environmental assessments and current site information will inform work in affected areas, including excavation, grading, planting and changes in use. Qualified assessment and applicable permitting will guide projects involving wetlands, shorelines or other regulated features. Restoration and routine landscape work remain distinct from investigation or remediation of contamination; responsibilities for environmental conditions remain governed by the interlocal agreement and applicable requirements. [E-01–E-03; A-01 §6.4]

Individual projects will reflect verified conditions, intended use and available resources. The framework allows improvements to proceed in practical phases, coordinating agricultural operations, natural resource care and visitor access.

A.9 Recreation and seasonal gathering spaces

Capital improvements will strengthen Discovery Oaks as a four-season destination where recreation, seasonal traditions and community gatherings complement the working farm. Investments should preserve the property's agricultural character while making experiences more accessible, comfortable and practical to operate.

Discovery Oaks will contribute to OCP's coordinated approach to four-season activation across the park system. Planning will consider how its experiences complement those at other parks, extend opportunities across seasons and geographic areas, and make effective use of shared staff, equipment and partnerships. Its distinctive contribution will remain rooted in agriculture, food, outdoor learning and seasonal recreation.

This category includes Winter Park and existing event areas, the visitor campus and compatible developed portions of the property. Potential improvements include renewal, expansion and reconfiguration of recreation facilities, flexible gathering spaces and supporting visitor amenities. [B-01; C-03; G-01]

Winter Park and seasonal recreation

Potential improvements may expand Winter Park's capacity and improve the experience of tubing, skating and winter gathering. Work may include additional or reconfigured tubing runs, slope improvements, a conveyor lift, skating improvements and associated equipment and infrastructure.

The extent and arrangement of improvements will respond to site conditions, visitor demand, accessibility and operating capacity. Facilities and supporting spaces should accommodate compatible uses across seasons where practical, allowing investment in winter recreation to contribute to the broader park experience.

Flexible gathering and event spaces

Potential improvements include adaptable outdoor spaces, shelters, pavilions and supporting facilities for seasonal attractions, festivals, demonstrations, recreation and community gatherings. Spaces may accommodate different activities over time, with layouts that support both everyday use and larger events.

Design will consider circulation, seating, shade, landscape character, sound, utilities and the effects of repeated use. Gathering areas should connect naturally with the farm's food, learning and recreation experiences while allowing agricultural work and animal care to continue effectively.

Visitor amenities and operating support

Potential investments include warming and gathering spaces, restrooms, food-service support, equipment storage, lighting, power and other infrastructure needed for seasonal operations. These improvements will be coordinated with the building, utility and parking categories in A.2–A.4.

Expansion will be evaluated alongside the resources needed to sustain it, including staffing, maintenance, utilities, equipment replacement and visitor management. Planning will account for farm operations, OCP school and outdoor learning programs, and BHS's specifically retained rights.

The framework allows recreation and events to evolve with community interests, systemwide priorities and available resources. Individual scopes, capacities and schedules will be established as projects advance through applicable OCP processes.

A.10 Operations and supporting assets

Reliable farm operations, animal care, learning programs and visitor services depend on suitable workspaces, equipment, storage and service access. Capital improvements will support this daily work, protect public investment and provide the operating capacity needed as the park's facilities and activities evolve.

This category includes maintenance and storage yards, workshops, staff work areas, delivery and service access, and operating systems throughout the campus. Anticipated improvements include construction, renovation or reconfiguration of support facilities; secure storage for tools, feed, equipment and materials; waste, recycling and composting facilities; staff support spaces; fencing, access controls and security systems; communications and operating technology; and acquisition or replacement of equipment supporting park operations. [C-01–C-03; A-04]

The location and arrangement of these facilities will support efficient daily work and reduce conflicts among service vehicles, deliveries, visitors and learning activities. Improvements may provide better access for animal care, agricultural production, maintenance and program preparation while preserving the character of the working farm. Supporting facilities and equipment will be considered alongside the public spaces and activities they serve, including opportunities to use shared OCP resources where practical.

Individual projects will account for continuing maintenance, utilities, equipment replacement and staff needs. Staff assignments, equipment specifications, procurement methods and maintenance schedules will remain within applicable OCP administrative processes.

Equipment purchases and installed improvements will be evaluated under the agreement's capital-project definition and applicable funding requirements before being credited toward a specific investment commitment. [A-01 §§1.4, 4.4, 4.10]

A.11 Project development and CIP updates

Advancing projects

Projects will advance through the process described in Section A.1. Selection and sequencing will consider safety, accessibility, animal care, asset condition, stewardship, public demand, support for school and outdoor learning programs, available funding and continuing operating needs.

Projects may proceed individually or together where coordinated work improves results or reduces disruption. OCP may adjust sequencing to respond to conditions, funding opportunities and operating needs, while accounting for agricultural activities, public programs and BHS's specifically retained rights.

Working within the approved capital framework

The approved CIP establishes the project types, locations and intended uses that OCP may pursue as funding becomes available. Within that scope, OCP may refine designs, quantities, materials, schedules, delivery

methods and budgets through applicable County processes. These implementation decisions do not independently require an IPP amendment.

Projects outside the approved capital scope will follow the applicable BHS approval requirements. Section 4.4 requires prior written BHS approval for capital improvements not included in the approved PAP; proposals involving purposes outside those authorized by the agreement require the consent specified in §2.4. Changes to the parties' contractual rights or responsibilities must follow the agreement's amendment provisions. Applicable County authorizations, permits and expressly reserved BHS rights continue to apply. [A-01 §§2.1–2.4, 4.4, 4.7.4]

Updating the CIP

OCP will update the CIP at least every four years and submit it to BHS for review and approval under §4.7.4, which provides a 60-day review period. Updates will reflect current conditions, completed work, emerging needs and anticipated investment opportunities. [A-01 §4.7.4]

Attachment B — Park Operations and Management Plan

B.1 Operating framework

OCP manages Discovery Oaks as a working agricultural learning campus and public park, bringing together the people, expertise and shared services needed to sustain farm operations and deliver welcoming public experiences. Operations follow applicable County policies, this Integrated Park Plan and the BHS interlocal agreement, including its specifically retained rights and responsibilities. [A-01 §§4.3, 4.9]

An integrated operating team

Discovery Oaks' operating capacity combines site-based staff with district operations, specialized program teams and systemwide support. Outdoor Learning provides leadership for educational experiences and stewardship participation. Health and Wellness Activation and Recreation Programs and Services contribute to public participation, seasonal experiences, events and partnerships. Park Operations and facilities specialists support grounds, buildings, utilities, maintenance and site readiness. Planning, engineering, business systems, communications, finance and administrative services provide additional expertise as needed.

These functions work together to connect program ambitions with the practical requirements of delivery. Program staff identify the intended experience and participant needs; farm and site personnel identify agricultural requirements and daily operating conditions; and operations and technical teams support the facilities, equipment and services that make delivery possible. Shared staffing, equipment and specialized services allow Discovery Oaks to benefit from the capacity of the broader park system.

Michigan State University Extension contributes agricultural and livestock expertise through the applicable farm operating arrangements. Its role connects practical farm management with agricultural learning and complements OCP's program and operating responsibilities. Employees, volunteers, contractors and authorized partners may contribute to delivery within their respective roles, while OCP remains accountable for its obligations under the interlocal agreement. [A-01 §§4.3, 4.9; A-04]

Continuity of care and service

The working farm requires care throughout the year, including periods when public programs are not operating. Livestock care, crop production, utilities, security and essential maintenance continue across weekends, holidays and seasonal changes. Staffing and service planning will account for these responsibilities alongside instruction, visitor services, program preparation, cleanup and event support.

OCP will coordinate these needs through its established budgeting, staffing and work-planning processes. Changes in programming or facility use will be considered alongside the supervision, maintenance, technical support and continuing resources they require. Public activity will be managed to support safe operations, animal welfare, school and outdoor learning programs, and BHS's specifically retained rights.

Clear responsibilities and adaptable delivery

BHS retains ownership of the premises and the property and school-use rights specified in the interlocal agreement. OCP directs park operations within its authorized role. Other organizations contribute through their applicable agreements, with responsibilities for services, facilities and assets addressed in the relevant portions of this POMP. [A-01; A-04]

This POMP establishes operating responsibilities and direction. Detailed staffing assignments, schedules, procedures, emergency plans and service arrangements remain in OCP's administrative records and may be adjusted within its authority. This approach preserves clear accountability while allowing the operating model to evolve with experience, community needs and available resources.

Routine design, scheduling, staffing and program decisions will remain administrative matters within existing authority, approved budgets and the governing agreement. Proposed changes to park purpose, services, capital scope, budgets or continuing operating commitments will follow the approval requirements applicable to that decision. The nature and extent of the change will determine the required authorization; this plan does not establish an additional approval process.

B.2 Leadership and staffing

Leadership and coordination

OCP provides coordinated leadership for Discovery Oaks' public programs, visitor services and daily operations. The OCPRC Director and BHS Superintendent, or their written designees, administer the interlocal agreement. Site and program responsibilities are carried out through OCP's organizational structure and the applicable farm operating guidelines. [A-01 §§4.1–4.3; A-04]

The Chief of Outdoor Learning and Environmental Stewardship leads curriculum planning for OCP's field-trip program serving schools across Oakland County. OCP's outdoor learning team develops and delivers these experiences, connecting agricultural education, environmental learning and stewardship with the farm's animals, production areas and facilities.

BHS instructional staff remain responsible for curriculum and student supervision within the existing BHS-operated program at the site. That responsibility is specific to BHS's program and does not extend to directing OCP's field trips or other public learning experiences. Scheduling and use of shared resources will respect BHS's retained rights while supporting the wider educational purpose of Discovery Oaks.

The farm operating guidelines provide supporting detail for OCP administrative leadership, MSUE oversight, farm management and livestock care, consistent with the POMP framework described in Section B.4. These roles connect agricultural expertise with OCP's program leadership and operating support. [A-04]

The Chief of Outdoor Learning and Environmental Stewardship will establish outcomes for learning programs, including the authentic agricultural demonstrations and hands-on work that support those experiences. The Chief of Health and Wellness Activation will establish outcomes for agricultural production. Program staff will design the learning experiences, and farm management will coordinate agricultural activities to support both sets of outcomes, contributing technical expertise and identifying production, seasonal and animal-care requirements.

When competing learning and production priorities cannot be resolved by the responsible Chiefs, the Deputy Director will resolve the matter within delegated authority or refer it to the Director, as appropriate. Coordination will respect each organization's employment responsibilities and any applicable professional, licensing or permit authority. Only personnel with the applicable delegated authority may commit staffing, expenditures or continuing operating resources. Matters reserved to the Commission, other County authorities or BHS will follow existing approval requirements.

Decision	Responsibility
Learning-program outcomes, including agricultural demonstrations	Chief of Outdoor Learning and Environmental Stewardship

Decision	Responsibility
Agricultural-production outcomes	Chief of Health and Wellness Activation
Learning experience design and delivery	OCP program staff
Agricultural planning and daily execution supporting both functions	Farm management, with applicable MSUE expertise
Animal care and suitability for participation	Assigned livestock leadership and qualified professionals
Unresolved priorities between learning and production	Deputy Director within delegated authority; Director as appropriate

Function	Leadership and responsibility
Administration of the interlocal agreement	OCPRC Director and BHS Superintendent, or their written designees, within the agreement's provisions.
Site administrative leadership	OCP Chief of Health and Wellness Activation, as identified in the signed farm guidelines, coordinating the participating operating and program functions.
OCP school and outdoor learning programs	Chief of Outdoor Learning and Environmental Stewardship leads curriculum planning; the outdoor learning team develops and delivers field trips and related educational experiences.
Agricultural operations	MSUE oversight and farm management carry out the agricultural responsibilities assigned in the signed farm guidelines, coordinated with OCP's program and operating teams.
Daily livestock management	Livestock leadership directs animal care, health, breeding and herd management within the signed guidelines and applicable professional requirements.
Facilities and operating support	Assigned OCP operations, facilities and specialist teams provide maintenance, technical services and other support through established responsibilities and work processes.
Existing BHS-operated program	BHS instructional staff direct that program's curriculum and supervise its students.
Other partner services	Responsibilities are established through the applicable authorized agreements.

Staffing and reliable coverage

OCP will organize staffing and shared support around the work required to operate the park. Coverage will account for daily animal care, agricultural production, school and public programs, visitor services, seasonal activities and essential facilities. Assignments may combine site-based personnel, shared OCP staff, MSUE expertise, seasonal employees and authorized service providers.

Staff preparation and training will reflect the responsibilities assigned. Livestock handling, equipment operation, food service, adventure learning and technical maintenance require different skills and

qualifications. Supervisors will coordinate coverage, task assignments and access to appropriate expertise as operating needs change.

Volunteers support learning, stewardship and farm activities through defined assignments and appropriate supervision. Their contributions complement staff and professional responsibilities, with OCP, MSUE and BHS requirements applied to their respective activities. [A-01 §4.9; A-04]

Staffing levels, reporting assignments and service arrangements will be managed through the responsible organization's employment, budget and administrative processes. The plan establishes no fixed headcount or additional continuing BHS staffing obligation. Employment and transition provisions remain governed by the interlocal agreement. [A-01 §§4.9.2–4.9.3]

B.3 Reserved school use and building services

Instructional spaces and shared use

Discovery Oaks supports OCP's school and outdoor learning programs alongside the existing BHS-operated program. The interlocal agreement reserves specific instructional spaces for BHS and establishes when those spaces are available for other uses. OCP will coordinate scheduling and access according to these room-specific arrangements. [A-01 §4.18.1; B-03]

Space	Reserved use and availability
Room 117	Reserved exclusively for BHS instructional use during the school year, including evenings and weekends. Available for OCP-scheduled summer use unless the designated representatives agree otherwise in writing.
Rooms 115, 116, 118 and 119	Secured from public access during school hours. Available for OCP scheduling after school, on weekends and during summer as provided in the agreement.
Rooms 113, 114, 120 and 122	Available for general OCP use under the agreement.

Source: A-01 §4.18.1; B-03, building floor plan.

OCP will use calendars, staff coordination and access controls to support these arrangements and make shared spaces useful across the day and year. Scheduling will account for OCP programs, farm operations and BHS's specifically retained rights.

Renovations, repairs or other necessary work may temporarily affect instructional spaces or require activities to relocate. When this occurs, the appropriate OCP and BHS administrative representatives will coordinate the affected use and determine arrangements consistent with their authority under the agreement. Changes to reserved rights will follow the applicable agreement process.

Building services

OCP will arrange routine custodial, maintenance and security services through its established operating processes, consistent with the agreement's allocation of responsibilities. Service delivery may involve site staff, shared County services or authorized providers. Cleaning schedules, room changeovers, access arrangements and service contacts will remain administrative operating details. [A-01 §§4.5–4.6, 4.14, 4.18.1.4]

BHS remains responsible for its instructional activities, student supervision, instructional materials and other costs expressly assigned to it. Continued BHS use does not create an additional contribution toward general

park operating costs. Any proposed continuing contribution beyond BHS's existing obligations would require a subsequent written agreement.

BHS reservations and activities

BHS may reserve educational activities and BHS-sponsored events through OCP without a use fee when they do not conflict with scheduled activities, as provided in the interlocal agreement. BHS remains responsible for the associated setup, operation and cleanup costs specified by the agreement. Each party's promotion of the other's park activities will follow §4.18.2. [A-01 §4.18.2]

When BHS student activities involve livestock, machinery or restricted farm areas, access and supervision will follow the signed farm operating guidelines. BHS instructional staff and the responsible farm personnel will coordinate those activities within their respective roles. [A-04]

B.4 Farm learning and animal care

Learning through the working farm

Livestock and daily agricultural work are central to Discovery Oaks' identity and educational purpose. Feeding, watering, cleaning, observing animal health and caring for productive landscapes provide authentic opportunities to understand agriculture and the responsibilities it involves. OCP's field trips, summer camps, public programs and volunteer activities connect participants with this work through experiences suited to their abilities, the setting and the needs of the animals. The existing BHS-operated program and authorized MSUE/4-H activities provide additional opportunities within their respective arrangements. [A-04 §§1, 7, 11; PAP §1.6]

A working educational farm must balance efficient agricultural production with meaningful opportunities to learn through authentic work. Tasks that experienced staff could complete quickly may require more time, preparation and supervision when learners participate. That additional effort serves the farm's educational purpose.

Program staff will lead the design of learning experiences, determining how farm work can support participation, skill development and understanding. Farm management personnel will plan and carry out agricultural activities supporting the learning and production outcomes established by the respective Chiefs in Section B.2, contributing technical expertise and identifying practical requirements for animal care, crop production and stewardship. Together, they will identify opportunities for learners to contribute to real farm needs while maintaining animal welfare, safety and reliable operations.

This POMP establishes the management framework for farm learning and animal care, subject to the interlocal agreement. The September 2026 Farm Operations Guidelines were developed to provide interim direction as the school year began. They provide supporting operational detail and will be maintained consistently with the approved POMP. Routine procedures may be adjusted within existing authority without requiring a plan amendment.

Animal care and welfare

Animal care includes suitable housing, reliable feed and water, appropriate handling, health monitoring, veterinary care and management of breeding and animal movements. The MSUE Livestock Coordinator leads day-to-day livestock management and coordinates veterinary services. The Farm Manager is responsible for supporting facility conditions, equipment, biosecurity infrastructure and farm operations. These complementary responsibilities support reliable animal care and the farm's educational purpose. [A-04 §§2–4, 10]

Animal care and use follow MSU Extension standard operating procedures established and maintained under Michigan State University's Institutional Animal Care and Use Committee (IACUC). Applicable procedures govern staff, students, volunteers and visitors. Animal activities not addressed by an existing procedure require review and approval through the IACUC process before proceeding. Detailed care instructions remain in the operating procedures so they can respond to the animals, veterinary guidance and changing conditions. [A-04 §4, p. 5]

When the Livestock Coordinator cannot be reached and immediate veterinary intervention is necessary to prevent serious animal suffering or death, an authorized staff member present may contact emergency veterinary services, with the Livestock Coordinator, Farm Manager and MSUE District Director notified as soon as practicable. The Livestock Coordinator or Farm Manager may also intervene immediately to protect animal welfare in an emergency involving school-based enterprise animals. [A-04 §§4, 6, 10, pp. 5, 7, 11]

Coordinating instruction and participation

OCP's outdoor learning team leads its field trips and public learning experiences, coordinating animal and facility use with the responsible farm personnel. BHS remains responsible for instruction and student supervision within its own program, as described in B.2.

Farm personnel and instructional staff will coordinate BHS learning activities through annual and monthly activity planning. Those arrangements address confirmation of activities, supervision and communication when operating changes affect planned instruction. Routine activity planning remains an administrative process, separate from formal IPP amendments. [A-04 §§5, 7–9, pp. 6, 8–11]

BHS students do not independently access livestock areas, farm facilities or equipment. After-hours participation follows the scheduled BHS-instructor or approved MSUE/4-H supervision pathways; school enrollment or 4-H membership alone does not authorize access. Equipment use remains subject to applicable age, training, authorization and direct-supervision requirements. OCP programs and volunteer activities follow their applicable supervision and safety procedures. [A-04 §11, pp. 12–13]

Ownership and care responsibilities

Animal records will distinguish park-owned livestock, BHS-owned animals and individually owned project animals. Ownership, care responsibilities, costs and authorized use will be documented for each arrangement. Schedule 1.4 incorporates the October 23, 2026 inventory summary as the current baseline for animal transfers. OCP will maintain operational records reflecting subsequent changes in the farm's animal population. Housing an animal at the farm does not itself establish ownership or authority to transfer it. [A-01 §4.11; Master Animal Inventory, summary updated October 23, 2026.]

For BHS school-based enterprise animals, the BHS instructor is responsible for day-to-day care and student supervision under MSUE oversight, with BHS responsible for feed costs. Care during weekends, breaks and absences must be addressed, including documented backup care where the instructional program cannot provide continuity. These arrangements will follow applicable animal-welfare safeguards and operational confirmation processes. [A-04 §6, pp. 7–8]

B.5 Programs and Public Access

Participation and continuing learning

Discovery Oaks offers multiple ways to engage with a working agricultural landscape. School field trips, summer camps, public programs, volunteer activities and seasonal experiences connect people with animals, food

production, heritage and the natural environment. Designated public areas can also support everyday visits and informal exploration. Together, these experiences provide opportunities for an introductory visit to develop into continuing learning, practical involvement and stewardship. [PAP §§1.5–1.6]

OCP's outdoor learning team will lead the development and delivery of its educational programs, working with farm personnel and other OCP teams to align learning experiences with agricultural activities, facilities and available resources. School field trips require coordination of learning objectives, group arrangements, supervision, transportation and billing. Summer camps and public programs require qualified staff, suitable spaces and accommodations appropriate to participants and activities. Animal-related learning will follow the responsibilities and care framework in B.4.

Learning groups and community participation

Gardening, beekeeping and other agricultural interest groups can extend the farm's educational reach through specialized instruction, demonstrations, volunteer service and sustained participation. Groups such as the Master Gardeners of Oakland County and the Southeast Michigan Beekeepers Association illustrate the connections between the farm and people committed to learning and sharing practical skills. The association's eleven-week course held onsite provides an example of recurring participation that connects classroom learning with an agricultural setting.

OCP may work with these and similar groups to complement public programs, share expertise and create opportunities for participants to deepen their involvement. Arrangements will distinguish OCP-delivered programs from activities organized by outside groups and identify the applicable responsibilities for instruction, supervision, facility use and operating support. Partner and third-party operating arrangements are addressed in B.7.

Public access and paid experiences

The proposed access framework combines free use of designated public areas with paid experiences that require additional staffing, equipment, materials or supervision. The planned western trail entrance and associated day-use parking would provide access for walking and informal exploration, with routes and interior fencing separating visitors from controlled agricultural work areas. These facilities remain proposed improvements under the CIP. [Attachment A, trails and connectivity]

Free park entry and parking remain distinct from participation in particular programs, attractions and services. Open Barn is ordinarily a paid farm experience; designated partnership-supported occasions may offer participation without a fee. Registered programs, camps, equipment rentals and seasonal attractions may also carry charges established through OCP's applicable processes. Fees will be administered consistently with the interlocal agreement's resident entry and parking protections. [A-01 §§4.12, 5.2]

Free public access is available through existing seasonal offerings and designated admission-free Open Barn days, including those supported by partnerships. Winter Park provides free admission and use of the skating rink, with access to the farm store, kitchen and associated visitor amenities during operating hours. Food, ice cream and other retail purchases, skate rentals, tubing and other separately priced experiences remain paid offerings. These opportunities provide access before development of the proposed western trail entrance and parking area.

Access follows published operating hours and designated visitor areas. Agricultural work areas, animal enclosures and other controlled spaces remain subject to operating restrictions.

OCP will consider affordability, assistance and outreach in relation to public purpose, participation barriers and available resources. The financial approach in Section 1.8 guides these decisions without establishing a universal cost-recovery requirement or a permanent fee schedule.

Accessible service and visitor information

Public information will help visitors understand where to arrive, which areas are available for general access, whether registration or payment is required, and how to request an accommodation. Information about routes, surfaces, entrances, restrooms and temporary limitations will support informed choices and preparation.

Staff will address participation barriers through appropriate program design, accommodations, adaptive equipment and practical operating adjustments while longer-term capital improvements advance. Restricted production, equipment and animal-care areas will remain controlled. Accessible observation, interpretation and alternative activities can support participation where direct access or hands-on involvement is unsuitable. [C-04; B.4]

Managing an evolving program portfolio

OCP will establish and adjust operating hours, program calendars, group sizes, registration practices and offerings through its normal management processes. Decisions will consider educational purpose, public demand, staff expertise, accessibility, space, animal welfare, seasonal conditions and operating sustainability, while respecting the agreement's purposes and BHS's specifically retained rights. Routine changes within OCP's authority do not require separate partner approval. Activities outside the agreement's permitted purposes remain subject to its applicable provisions. [A-01 §§2.4, 4.3, 4.18]

The Outdoor Learning Program Inventory in Appendix G provides a supporting reference for program planning and coordination. OCP will use information about audiences, seasonal demand, facilities, staffing and participation to guide delivery and adjustments through its normal management processes. Program names, schedules, fees and delivery arrangements may evolve within the authority established by the interlocal agreement and this plan.

Individual offerings may evolve as needs and opportunities change. Community gardening may continue, be modified, relocate to another suitable setting or be discontinued through applicable OCP processes and agreements. Its inclusion in this plan does not establish a permanent commitment to a particular program format or location.

Participation records and visitor feedback will inform these decisions using the framework in Section 1.9. School visits, camp registrations, event admissions and estimated visitation will remain distinguishable, with participant information managed under applicable privacy and records practices. [D-01–D-02; G-01]

B.6 Food Service and Agricultural Production

Connecting production, learning and the visitor experience

Agricultural production, food preparation and the farm store connect the daily work of Discovery Oaks with the visitor experience. Growing crops, caring for livestock, harvesting, preparing food and purchasing farm products offer complementary ways to understand agriculture and its relationship to everyday life. These connections support the Farm, Food, and Working Landscapes initiative described in the PAP.

These experiences come together at the visitor center, the farm's hub of activity, where visitors begin their visit and return through the Farm Store and Kitchen as they leave. The kitchen can support food preparation,

demonstrations and educational activities, while the store provides opportunities to purchase farm products, prepared foods and other items that complement the visit. Seasonal offerings can help visitors connect what they see in the fields, gardens and animal areas with what they taste, learn about and take home. Products sourced elsewhere may complement onsite production, with their origins represented accurately.

Managing agricultural production

Farm management personnel will lead production planning and define the agricultural outcomes, methods and practical requirements of the work. Program staff will design learning experiences that connect participants with those activities. As established in B.4, production planning will balance efficient operations with the additional time and supervision needed for meaningful participation by learners.

Production may include vegetables, pumpkins, field crops, sunflowers, horticultural bedding plants and livestock products, with the mix responding to growing conditions, educational priorities, visitor interest and available resources. Conventional methods and demonstrations of sustainable, organic and permaculture practices can help participants explore different approaches to agriculture, including their effects on soil, water, labor and productivity. The use of particular practices does not itself establish organic certification. [PAP §1.6]

Planting, animal management, harvest and product use will be coordinated with staffing, equipment, storage, handling capacity and intended markets or programs. Animal welfare, soil and water conditions, responsible chemical use and food safety will inform operating decisions. Production may support instruction, demonstrations, retail sales and food service without requiring the farm to supply every ingredient or product offered onsite.

OCP may adjust crops, growing methods, production areas and product offerings through its normal management processes. The plan establishes no fixed annual production quantities or guaranteed financial return. Decisions about expansion will consider both the resources needed to produce an item and the capacity to harvest, store, prepare, use or sell it.

Food preparation and service

Food preparation, concessions, retail sales and farm-to-table experiences will operate through clearly identified responsible staff or authorized providers. Each arrangement will identify responsibility for food handling, preparation, storage, sanitation, equipment care, staffing and service. Activities will follow applicable licensing, inspection and food-safety requirements. [A-01 §§4.17, 6.12]

Educational food activities and commercial food service may use shared facilities, but their supervision, preparation and operating needs will be addressed according to the activity. Scheduling will account for instruction, production, service, cleaning and storage so that these uses can function together. Facility improvements supporting these activities are addressed in the CIP.

Friends of Bowers Farm may support kitchen production, food service and related experiences through an authorized operating agreement. OCP may also use other qualified providers where appropriate. The applicable agreement will define the services provided, responsibilities retained by OCP and financial arrangements. Partner roles are addressed further in B.7. [J-02]

Retail, revenue and operating accountability

OCP may operate food and retail services directly or partner with a qualified vendor to activate the Farm Store, Kitchen and related visitor spaces. Vendor selection and contracting will follow applicable Oakland County purchasing policies. Operating agreements will define responsibilities for staffing, purchasing, inventory, pricing, sales transactions, receipts, applicable taxes and payments, using approved accounting and financial

controls. Park revenue and partner payments will be handled consistently with the interlocal agreement and applicable written agreements. [A-01 §5.3; PAP §1.8]

Food and retail services contribute to hospitality, agricultural learning and earned revenue. Their performance will be evaluated in relation to those purposes and the resources they require, including ingredients, products, staffing, preparation, cleanup, waste and shared operating support. Sales receipts alone do not establish their financial contribution.

Production and food-service staff will coordinate purchasing and product use to manage seasonal availability, reduce avoidable waste and make practical use of the farm's output. Composting may support appropriate management of organic materials where facilities and operating practices allow. Detailed menus, product selections, production schedules and service procedures remain operational decisions that can evolve within OCP's authority.

B.7 Partnerships, Events and Third-Party Use

Purpose and partner contributions

Partnerships, events and organized group activities extend Discovery Oaks' educational reach, strengthen community involvement and support a welcoming, active farm. Partners can contribute specialized knowledge, volunteer leadership, fundraising, food service and distinctive experiences that complement OCP's programs and daily agricultural operations.

OCP will determine how these activities fit the park's purpose, available facilities, program commitments and operating capacity. Arrangements will distinguish OCP-delivered programs, jointly delivered activities, contracted services and independent third-party uses so that participants and providers understand who is responsible for each experience.

Friends of Bowers Farm

Friends of Bowers Farm is a nonprofit organization whose mission is expressly dedicated to supporting the farm's property, programs and activities through financial support, community outreach and volunteerism. Its fundraising capacity provides a means for community contributions to sustain and strengthen the farm and the experiences it offers. [Friends of Bowers Farm, "Our Mission," schoolfarm.org/friends-of-bowers-farm; accessed October 26, 2026.]

The partnership will seek to connect that mission with Discovery Oaks' public purpose and OCP's Mission 26 priorities. Shared funding priorities may include expanding access and activation, helping schools and communities underrepresented in farm participation attend educational programs, supporting field-trip transportation and participation costs, and creating opportunities for families and individuals facing financial or other barriers. These investments can help more people experience agricultural learning while sustaining the working farm that makes those experiences possible.

Friends may also contribute through program activation, volunteer coordination, sponsorship and fundraising, signature events, and kitchen and food-service support. Its independent fundraising role remains directed toward its farm-support mission. Shared priorities and specific contributions will be developed with Friends through its governance processes and applicable donor restrictions.

The intended operating approach is an annual memorandum of understanding or other authorized agreement defining services, support, use of facilities and equipment, financial arrangements and coordination with OCP staff. The agreement will connect agreed contributions to identifiable farm needs and public benefits without presuming a fixed annual contribution or committing funds that Friends has not authorized. [J-02]

OCP retains its park management responsibilities. Friends' activities will complement OCP's program direction, farm operations and applicable volunteer and financial processes. Food-service responsibilities are addressed in B.6. Friends' funds, restricted contributions and park revenue will remain separately identifiable and administered according to their applicable terms.

Learning organizations and service providers

Gardening, beekeeping, agricultural, heritage and other community organizations may contribute instruction, demonstrations, volunteer projects and recurring learning opportunities. Their involvement can provide pathways from an introductory visit to sustained participation and practical skill development. The learning groups described in B.5 illustrate this role.

Operating arrangements will identify responsibility for instruction, participant supervision, scheduling, equipment, facility access, setup, cleanup and any associated charges or support. OCP may engage qualified vendors and service providers where they strengthen the visitor experience or provide needed expertise and capacity. Vendor selection and contracting will follow applicable Oakland County purchasing policies.

The scope and duration of each arrangement will reflect its purpose. Participation in a program or event does not itself establish continuing access to farm facilities, animals, equipment or staff support.

Preservation Bloomfield

Preservation Bloomfield's relationship to Discovery Oaks reflects its ownership of the historic buildings covered by its land lease with BHS. Those buildings were not transferred to OCP through the interlocal agreement. Their history, interpretation and potential use nevertheless contribute to the experience of the broader agricultural campus. [PAP §1.7; Appendix A, Preservation Bloomfield land lease]

OCP will pursue a memorandum of understanding with Preservation Bloomfield to address how the organizations can coordinate public access, interpretation, programming and use of the historic setting. The proposed MOU can clarify scheduling, communications, operating support and responsibilities associated with agreed activities.

That coordination will respect building ownership and the applicable lease responsibilities. It does not establish a general OCP obligation to preserve Preservation Bloomfield's buildings. OCP's applicable landlord, grounds and maintenance responsibilities are addressed in the maintenance and heritage portions of this POMP; any additional commitments will be established through an authorized written agreement.

Events, rentals and licensed use

Seasonal attractions, community gatherings, private functions and other authorized uses can introduce new audiences to the farm, encourage repeat visits and generate revenue supporting park operations. OCP will schedule these activities in relation to its school and outdoor learning programs, public offerings, agricultural work, animal care and BHS's specifically retained use rights.

OCP may license third-party park use through written agreements without BHS approval or notification, subject to the conditions in §4.17 and other applicable agreement limits. Required agreements will include BHS as an indemnified party and as an additional insured where insurance is required. Licensing a particular use does not authorize assignment of OCP's interlocal rights or obligations contrary to §7.2. [A-01 §§4.17, 7.2]

Event planning will address the needs of the activity, including capacity, setup and removal, parking and circulation, emergency access, sanitation, utilities, weather contingencies, food service, animal welfare and cleanup. Responsibilities will be assigned among OCP staff, organizers, contractors and other providers as

appropriate. Detailed arrangements may change through normal operating processes without amending the POMP when the activity remains within approved authority.

Sponsorship, financial administration and evaluation

Sponsorships and commercial arrangements will follow OCP policies and the interlocal agreement's specific restrictions, including those concerning school property and school sessions. Partner payments, park revenue and any authorized financial arrangements will follow the applicable written agreements and County controls. [A-01 §§4.16–4.17, 5.3, 6.10.2]

OCP will evaluate events and partnerships according to their public purpose, participant experience, financial contribution and demands on staff, facilities and other programs. Attendance and gross receipts provide useful information, but decisions will also consider preparation, shared operating support, cleanup and the effects on the working farm.

OCP may adjust, renew or conclude arrangements within its authority and their applicable terms. Authorization of an individual activity does not establish a permanent entitlement to a particular date, location or operating role.

B.8 Maintenance, Utilities and Equipment

Maintenance responsibility and service delivery

OCP will manage maintenance, repair and utility services within its responsibilities under the interlocal agreement. The purpose is to sustain a dependable working farm, protect facilities and equipment, and support animal care, agricultural production, learning and public use. BHS's expressly retained responsibilities remain in effect. [A-01 §§4.5–4.6, 4.14]

Site personnel, district operations staff, County technical services and qualified contractors will contribute according to the work required. OCP will use its established work-order, inspection, budgeting and procurement processes to organize preventive maintenance, respond to failures and identify renewal needs. Service schedules and assignments may change with operating conditions and available resources without requiring amendment of the POMP.

Maintenance planning will account for the farm's year-round responsibilities. Water, power, secure animal facilities and essential equipment support daily care even when public programs are not underway. Planned interruptions and repairs will be coordinated with farm personnel and program staff, with temporary arrangements appropriate to the affected operation.

Buildings, grounds and infrastructure

Maintenance encompasses the buildings and systems supporting the agricultural campus, including roofs and building envelopes; electrical, fire-safety and mechanical systems; HVAC and geothermal controls; water, sanitary and drainage infrastructure; roads, parking and paths; barns, fences and greenhouses; and visitor and service areas. Grounds care includes seasonal maintenance, snow and ice management, vegetation management and upkeep of designated public routes.

JFR's assessment provides a baseline for deferred-maintenance needs in the five structures it examined. GMB's infrastructure evaluation and the accessibility assessment provide additional information for setting priorities. OCP will use those findings alongside current inspections, operating experience and professional advice to determine the work needed. Assessment recommendations inform maintenance and capital planning without committing OCP to complete every identified improvement. [C-02–C-04]

Priorities will consider safety, animal welfare, accessibility, the risk of further deterioration and the consequences of service interruption. Repairs and renewal may be coordinated where addressing several systems together improves reliability or reduces disruption. Larger improvements will proceed through the capital framework and applicable authorizations described in Attachment A.

Equipment and asset management

OCP will maintain asset records and establish appropriate inspection, servicing, storage and operator requirements for equipment used in farm and park operations. Staff, volunteers and program participants may use equipment subject to OCP policies and applicable authorization, training and supervision requirements. Equipment condition may require repair, restricted use or removal from service.

The equipment-transfer approach is intended to preserve the resources previously used exclusively to manage and operate the farm. In response to BHS Operations' request to retain certain tools and equipment, the attached BHS retention list identifies a defined exception to that approach. All remaining active farm and kitchen inventory will remain onsite and transfer to OCP. The items identified for BHS retention will be available for pickup following adoption of the IPP. [C-01; Schedule 1]

Original inventory records will be preserved, with uncertain descriptions, quantities, condition or active status identified for resolution. Equipment condition and readiness for use will be evaluated separately from its allocation under the transfer and retention schedules.

BHS-retained equipment will be identified separately from the remaining active farm and kitchen inventory designated for transfer to OCP. Nature-center inventory will remain separate for the Bloomfield Oaks plan. The ownership schedules and supporting inventory records will document the final allocation. [C-01; Schedule 1]

OCP may repair, replace, acquire or retire equipment through its applicable asset-management and purchasing processes. Decisions will consider agricultural needs, educational use, operating reliability, staff capacity and lifecycle costs.

Preservation Bloomfield facilities and grounds

OCP will carry out the landlord and grounds responsibilities assigned to it under the governing arrangements for the Preservation Bloomfield lease area. Maintenance coordination will distinguish those responsibilities from the preservation and care of buildings owned by Preservation Bloomfield.

The proposed MOU described in B.7 will clarify practical arrangements for access, grounds care, maintenance coordination and support for agreed public uses. It will not be treated as transferring building ownership or assigning OCP a general historic-preservation obligation. Work on Preservation Bloomfield's buildings and any additional services will follow the applicable lease and authorized written arrangements. [PAP §1.7; Appendix A, Preservation Bloomfield land lease]

Caretaker residence

The caretaker residential lease is to be administered through BHS as the property owner. OCP's role in coordinating any caretaker services will remain distinct from the residential tenancy. The applicable written arrangements will identify responsibility for occupancy, utilities, maintenance and any services associated with the residence.

This plan does not authorize OCP to execute a residential lease as property owner or assume additional residential obligations beyond those established through the governing agreements. The lease and service arrangements remain to be finalized and reconciled with the interlocal agreement before reliance on a particular allocation of responsibilities.

Stormwater management

Stormwater maintenance will be coordinated with farm operations, grounds care, infrastructure work and natural-resource stewardship. Attention to drainage, runoff and the condition of stormwater facilities supports usable paths and pavement, productive agricultural areas, animal facilities and water quality. GMB's findings provide a baseline for evaluating drainage concerns and related improvements. [C-03; Attachment A]

OCP's proposed approach is to manage site stormwater compliance through its established technical and operating processes. If Corporation Counsel determines that BHS is not legally required to retain that responsibility, but BHS elects to continue managing compliance through its third-party vendor, BHS will be responsible for the associated costs. This proposed allocation remains subject to legal review and documentation in the applicable written agreement.

This review draft does not establish BHS's proposed vendor arrangement as an accepted OCP obligation. The final allocation will be documented through the appropriate written arrangement, with responsibility for required compliance maintained during the transition.

Transition and retained BHS responsibilities

The executed Transition Services and Operational Continuity Agreement provides for BHS support from July 1 through December 31, 2026, unless extended, modified or terminated under its terms. OCP reimburses BHS for the actual cost of services performed, with monthly invoicing and payment within 30 days of receipt. The agreement supports continuity while responsibilities transfer to OCP; it does not establish permanent BHS operating responsibilities beyond its term. [A-02 §§I–V.]

From January 1, 2027, this plan assigns no additional general continuing park operating costs to BHS beyond its express obligations. BHS's separate capital investment, property-insurance obligations, specified school-use and event responsibilities, and retained property rights remain as provided in the governing agreement. Any additional continuing BHS operating contribution will require a subsequent authorized written revision. [A-01 §§4.18, 5.1.2, 6.10.3]

B.9 Security, Technology and Emergency Response

Security and controlled access

OCP will provide park security at its expense, consistent with the interlocal agreement. Security arrangements will support a welcoming public setting while protecting participants, staff, animals, facilities and equipment. Access controls will account for public arrivals and departures, BHS's retained instructional spaces, agricultural work areas, deliveries and after-hours animal care. [A-01 §§4.14, 4.18]

Keys, access credentials, alarms, cameras and related systems will be managed through applicable OCP and County policies. Access will reflect the responsibilities of staff, authorized partners and service providers. Changes to assignments, programs or facility use may require corresponding adjustments to access permissions and security practices.

Public routes and entrances will be distinguishable from restricted animal-care, production, equipment and service areas. Security measures will accommodate authorized school use and emergency access while allowing OCP to adjust daily operations within its authority. Detailed access permissions, credentials and sensitive system information will remain in controlled administrative records.

Technology and service continuity

Communications, internet connectivity, registration, payment systems and operating technology support the farm's daily work and visitor services. OCP will coordinate these systems with the responsible County technical services and authorized providers, identifying ownership, support responsibilities and arrangements for responding to interruptions.

Technology planning will consider the needs of public programs, summer camps, events, farm operations and administrative work. Reliable communications and usable systems support staff coordination, visitor information, transactions and timely response to operating issues. Equipment and services may be updated or replaced through applicable County processes as needs and technology change.

BHS instructional systems and school-owned technology will remain distinguishable from OCP's operating systems and transferred assets. Shared services, connections or support arrangements will follow the applicable written agreements. Installation, testing and service handoffs will be managed through the responsible technical teams; unresolved transition items will remain in the completion memo until confirmed. [A-01 §4.18; B.8]

Emergency readiness and response

OCP will maintain emergency arrangements appropriate to a working agricultural campus serving school groups, campers, families, volunteers and event participants. Procedures will address foreseeable incidents such as medical emergencies, fire, severe weather, missing participants, animal incidents, utility failures and unauthorized access to restricted areas.

Site leadership will coordinate staff preparation, emergency contacts, responder access and current site information through OCP's established processes. Site maps will identify entrances and gates, buildings and access routes needed by responders. Staff responsibilities will reflect their roles, training and the activities underway, including coordination with BHS personnel when an incident affects its students or retained instructional spaces.

Programs and attractions with specialized risks will have operating and emergency procedures suited to the activity. Adventure-learning and challenge facilities will require appropriate staff preparation, inspection and rescue readiness before use. Animal emergencies will follow the care and veterinary-response framework in B.4. Event arrangements will address participant movement, emergency access and the responsibilities of organizers and service providers. [B.4; B.7; C-05]

Authorized staff may modify, suspend or close an activity or affected area in response to conditions, consistent with OCP policies and applicable authority. Communication with participants, partners and responders will support immediate response and an orderly return to operations.

Detailed response procedures, staff contact information, access credentials and sensitive security information will be maintained outside the public IPP and appendix binder. OCP may update procedures, training, contacts and operating arrangements through its normal administrative processes without amending the POMP, provided those changes remain within the governing agreement and applicable requirements.

B.10 Natural and Heritage Resources

Land and water stewardship

Discovery Oaks' fields, pastures, gardens, ponds and wooded areas support agricultural production, wildlife, public learning and recreation. Their care will reflect these different purposes while sustaining the health and character of the farm's landscape.

Farm leadership will coordinate with OCP's Natural Resources and operations staff on soil management, grazing, manure and composting, drainage, tree care, invasive plants and habitat management. Program staff will help connect this work with learning and volunteer participation. Management practices will respond to site conditions, agricultural needs, seasonal demands and available resources.

Productive agricultural areas will remain active settings for demonstrating how land is cultivated and cared for. Soil improvement, crop rotation, grazing management, composting and responsible water use can support both production and practical learning. Conventional and alternative growing methods may be demonstrated where appropriate, with practices selected for their suitability to the site and instructional purpose.

Woodlands, ponds and other natural areas will be managed for ecological health, suitable public access and outdoor learning. Work may include invasive plant management, habitat improvement, tree maintenance and protection of pond edges and drainage areas. Trail care and vegetation management will be coordinated with farm activities and visitor movement. Stormwater maintenance and the proposed allocation of compliance responsibilities are addressed in B.8. [Appendix E; B.8; Attachment A]

Stewardship will also provide opportunities for meaningful participation. Volunteers, school groups, summer camps and community partners may contribute through activities suited to their abilities, supervision and the work required. Program staff will shape the learning experience, while farm and natural-resource staff establish the technical requirements and intended land-management outcomes.

Environmental findings and responsible work

Environmental assessments will inform maintenance, excavation, construction and changes in use within affected areas. OCP will use the Phase I assessment, subsequent investigation findings and qualified professional advice to determine the precautions or additional evaluation appropriate to the proposed work. Recommendations for further investigation will remain distinguishable from confirmed conditions and enforceable restrictions. [E-01–E-03]

Staff planning work in an affected area will coordinate with the responsible technical personnel so that relevant findings are considered before work proceeds. The response will reflect the location, nature and extent of the activity. Routine maintenance, environmental investigation and remediation serve different purposes and will be managed accordingly.

Responsibility for environmental assessment, contamination response and associated costs will follow the interlocal agreement and applicable requirements. This section does not change that allocation or treat every assessment recommendation as a funded project. Supporting reports and subsequent findings will remain available in Appendix E to inform operating and capital decisions. [A-01 §§3.5, 6.4; Appendix E]

Heritage care and interpretation

Heritage buildings and agricultural traditions help visitors understand the people, skills and land uses that shaped the farm. Their interpretation can connect the site's history with contemporary agriculture, food production and stewardship, enriching the experience of Discovery Oaks as a working farm.

Preservation Bloomfield owns its historic buildings at the site, including the Benjamin-Barton Farmhouse and Craig Log Cabin. Those buildings did not transfer to OCP under the interlocal agreement. Preservation Bloomfield retains responsibility for their preservation under the applicable ownership and lease arrangements. OCP will carry out the landlord services assigned to it under the governing arrangements, coordinated with the park maintenance responsibilities described in B.8. [Section 1.7; applicable land lease; B.8]

OCP will pursue an operating memorandum of understanding with Preservation Bloomfield to define how the organizations will work together. The proposed agreement will address applicable landlord services, grounds and access, building use, program coordination and financial responsibilities. Any additional services or commitments will require authorization through that agreement rather than being assumed from historical practice.

Heritage activities may connect the buildings and landscape with traditional agricultural and household skills, craftsmanship and food preparation. Programs, demonstrations and volunteer projects will reflect the suitability of the setting, available expertise, accessibility and operating requirements. These experiences can complement the farm's broader learning program without requiring a fixed schedule or permanent commitment to particular offerings.

Care of other farm buildings and agricultural structures will follow their respective ownership and operating arrangements. Potential restoration, adaptation or reconstruction projects are addressed in the CIP. Their inclusion provides a planning framework; individual projects will establish the intended use, responsible parties and continuing care requirements as they advance. [Section 1.7; Attachment A; Appendices F and J]

B.11 Financial Records and Continuing Administration

Financial administration and accountability

OCP will administer park fees, revenue, expenditures and financial records through applicable County policies and accounting processes. Fee decisions will respect the resident entry and parking provisions of the interlocal agreement. The financial approach described in Section 1.8 will guide decisions about public subsidy, earned revenue and responsible investment. [A-01 §§5.2–5.4; Section 1.8]

Financial records will distinguish park operating receipts and expenses, capital expenditures, restricted contributions and funds belonging to BHS or partner organizations. Payments to vendors, program providers and partners will follow their authorized agreements and applicable County purchasing and financial controls. Park revenue will be received and accounted for by OCP as provided in the interlocal agreement. [A-01 §§5.3–5.4; B.6–B.7]

OCP will maintain records supporting its capital investment commitment and the improvements funded through it. Documentation of BHS's separate commitment will identify the accepted scope and qualifying investment. Section 1.8 describes the investment framework and matters requiring confirmation; Attachment A establishes the broader capital scope. Historical estimates, authorized budgets and actual expenditures will remain distinguishable. [A-01 §5.1; Section 1.8; Attachment A]

BHS may request the annual revenue accounting and exercise the audit rights established in the interlocal agreement. OCP will respond through its established financial and administrative processes. Internal management information may be developed as needed without creating an additional contractual reporting schedule. [A-01 §5.4]

Grants, insurance and retained responsibilities

OCP and BHS will coordinate grant opportunities in accordance with the interlocal agreement. Potential sources include the Michigan Natural Resources Trust Fund, administered by the Michigan Department of Natural Resources, which supports land acquisition for conservation and outdoor recreation and the development of public outdoor recreation facilities. At Discovery Oaks, this could support consideration of eligible trail, accessibility and outdoor recreation improvements. Proposed applications will be evaluated for eligibility, required matching funds, public-access conditions and continuing maintenance obligations. Improvements supported through BHS grants will follow the agreement's applicable provisions. [A-01 §5.5; Michigan DNR, Michigan Natural Resources Trust Fund program guidance.]

BHS will retain its real-property insurance responsibilities under the interlocal agreement. OCP will fulfill the specified reimbursement obligations for qualifying new-building premiums, and the parties will follow the agreement's process for repairs following an insured loss. These responsibilities continue according to their terms after the transition of daily park operations. [A-01 §6.10.3]

Other insurance, claims, liability and compliance matters will be administered under the governing agreement and applicable County processes. Authorized staff will maintain the records and coordinate the actions necessary to carry out their respective responsibilities. [A-01 §§6.2–6.13]

Continuing administration and plan updates

OCP will maintain operating records, procedures and service arrangements appropriate to the park's activities. These may include program schedules, staff assignments, maintenance records, animal-care records, equipment inventories, vendor agreements and emergency procedures. Detailed administrative and sensitive records will be maintained outside the public IPP.

OCP may adjust programs, activity formats, staffing deployment, providers, schedules and work methods within its existing authority and approved responsibilities. Such adjustments do not, by themselves, require amendment of the POMP. Changes affecting a reserved BHS right, an agreement requirement or another matter subject to approval will follow the applicable process. [A-01 §4.7.5; PAP implementation and approval provisions]

The POMP will be updated at least every five years and submitted to BHS for review and approval in accordance with the agreement's 60-day review provision. Updates will reflect changes in operations, facilities and management needs while preserving the responsibilities established by the governing agreement. Capital-plan updates will follow the separate requirements applicable to the CIP. [A-01 §§4.7.4–4.7.5]

Approved plan versions and subsequent authorized revisions will be retained with the governing records so staff and partners can identify the current direction. Changes to the interlocal agreement itself will follow its amendment requirements. Routine coordination and administrative updates will support implementation without creating additional partner approval rights or recurring obligations.

PAP Schedule 1: Equipment and Animal Transfers

Equipment and animal transfers are identified in PAP Schedule 1, which forms part of this plan. Section B.8 describes the equipment transfer arrangements, and Section B.4 addresses animal care and management.

The equipment and animal schedules identify the property included in the transfer under the interlocal agreement. BHS-retained items are separately identified. The final schedules will carry a date and version identifier corresponding to the schedules approved with the PAP. Program or group labels in an inventory describe an association and do not, by themselves, establish ownership.

Schedule 1.1 Farm and kitchen inventory directed for OCP transfer

Sheet	Row	Source equipment description	Model or identifier
Farm	6	Air compressor	Pro 4000
Farm	10	Various Automotive Tools	Not specified
Farm	11	Generator - Unleaded	Honda
Farm	12	6 Foot Tiller	Woods
Farm	13	4 Foot Tiller	Bad Boy
Farm	14	4 Row Corn Planter	John Deere 7000
Farm	15	Brush Hog 7'	BD840 Woods Brush Hog
Farm	16	Finishing Cutter	RDA400
Farm	17	Brush Hog 5'	Bad Boy
Farm	18	Post Hole Auger	Woods PHD 65
Farm	19	Hay Spike	Not specified
Farm	20	3 Prong Hay Spike	Not specified
Farm	21	Tractor Forks	Not specified
Farm	22	Tractor Buckets-Large &Small	New Holland TN65 & TN35
Farm	23	Scraper Blade	Ford Back Blade
Farm	24	Cultivator	John Deere Sweep Style
Farm	25	Disc	John Deere
Farm	26	Plow	John Deere 3 Bottom
Farm	28	Sprayer	Boom Type 200 gallon PTO

Sheet	Row	Source equipment description	Model or identifier
Farm	29	Tractor Rake	Ford-rear rake
Farm	30	Planter	1 Row
Farm	31	Subsoiler	3-shank
Farm	32	Harrow	John Deere 6'
Farm	33	Tiller w/ Depth Roller	For BCS
Farm	34	No Till Drill	Saya 507
Farm	35	Box Blade	County Line
Farm	36	Power Harrow	For BCS Rototiller
Farm	37	Agri-Fab UTV Tow Spreader	Not specified
Farm	39	Log Splitter	County Line
Farm	40	Hay Elevator	MYD-HAN-D
Farm	41	Trash Pump	Predator
Farm	42	Various Hand Tools	Not specified
Farm	43	Flail Mower	For BCS
Farm	47	Weed Trimmer	Stihl FS90R
Farm	48	Dewalt Cordless Mower	Not specified
Farm	51	Titan Post Driver	PGD3200XPM
Farm	53	Post-Hole Auger	Predator
Farm	55	Grinder Wheel	Duracraft 5hp
Farm	56	Metal Chop Saw	Ryobi-5hp
Farm	60	Drill Press	Craftsman 15in- 12 speed
Farm	62	Power MIG Pressurized Gas	Lincoln Power
Farm	64	(4) Angle Grinders	(2) Dewalt (2) Makita
Farm	67	Finishing Nailer	Air powered Porter Cable
Farm	71	Router Kit	Hitachi
Farm	72	Bench Grinder	Jet

Sheet	Row	Source equipment description	Model or identifier
Farm	76	Orbital Sander	Dewalt
Farm	77	Belt Sander	Ridgid
Farm	78	Shop Vac	Rigid 5hp
Farm	79	Tractor with loader	TNG65
Farm	80	Tractor	TC35
Farm	81	Tractor	3910
Farm	82	Tractor	TN55D
Farm	83	Tractor W/Loader	Bad Boy
Farm	84	Tractor with Loader	Boomer 50
Farm	85	Walk Behind Tractor	BCS 749
Farm	86	Manure Spreader	Model 175 2-speed-2117
Farm	87	Aluminum Four horse slant Gooseneck trailer	Exiss CX/400
Farm	88	Titan HitchTrailer	Challenger
Farm	89	Delco Stock Trailer	S816
Farm	90	K Trail Equipment Trailer	2RYKBCG27PM037989 SS#
Farm	93	Gray flatbed trailer	2-Wheel hitch trailer
Farm	94	Concessions trailer 18 ft	Not specified
Farm	96	Turf Gator	W00Turf003665
Farm	97	Kubota RTV-X1100	RTV-X-1100
Farm	98	Farm Truck	GMC- 3500
Farm	99	(4) Tractor Drawn Wagons	Not specified
Farm	100	Mobile Chicken coop wagon	Not specified
Kitchen	6	Walk in Fridge/Freezer	Not specified
Kitchen	7	Small Pizza Oven	Not specified
Kitchen	8	Ice Cream Freezer	Not specified
Kitchen	9	Bakers Display Rack	Not specified

Sheet	Row	Source equipment description	Model or identifier
Kitchen	10	Popcorn Maker	Not specified
Kitchen	11	Popcorn Maker	Not specified
Kitchen	12	Slushee Machine	Not specified
Kitchen	13	Gas Range	Not specified
Kitchen	14	Industrial Vent Hood	Not specified
Kitchen	15	Refrigerator	Not specified
Kitchen	16	Warming Oven	Not specified
Kitchen	17	Ice Maker	Not specified
Kitchen	18	Commercial Chemical Dishwasher	Not specified
Kitchen	19	Mixer	Not specified
Kitchen	20	Counter Top Oven	Not specified
Kitchen	21	Donut Maker	Not specified
Kitchen	22	Microwave	Not specified
Kitchen	23	Coffee Maker (4)	Not specified
Kitchen	24	Small Display Refridgerator	Not specified
Kitchen	25	Chest Freezer (2)	Not specified
Kitchen	26	Electric Range	Not specified
Kitchen	27	Dishwasher	Not specified
Kitchen	28	Over Counter Microwave	Not specified
Kitchen	29	Sandwich Press (2)	Not specified
Kitchen	30	Refridgerator	Not specified
Kitchen	31	Display Freezer	Not specified
Kitchen	32	Display Cooler	Not specified
Kitchen	33	Drink Cooler/refridgerator	Not specified
Kitchen	34	Display Freezer	Not specified
Kitchen	35	Display Cooler	Not specified

Source: C-01, May 2026 workbook; disposition direction: H-01. Original descriptions are preserved. The three active-status checks below remain unresolved. This is the review-draft schedule, not a representation of completed transfer.

Schedule 1.2 Equipment retained by BHS

Sheet	Row	Source equipment description	Model or identifier
Farm	7	Kubota Sprayer	Fimco Industries - 50 gallon
Farm	8	Boss UTV Snow Plow	Boss
Farm	9	Boss UTV Salt Spreader	Not specified
Farm	38	2-Small sprayer-Backpack	Chapin
Farm	46	Exmark Zero Turn Mower (small)	IH500V
Farm	49	Stihl Chain Saw	MS311
Farm	50	Backpack Blower	Echo PB-580T
Farm	52	Weed Whacker	Stihl FS 110R
Farm	54	Post Driver	Unknown
Farm	57	Chop Saw	Dewalt Double Bevel
Farm	58	Table Saw	Dewalt
Farm	59	Power Washer	Dewalt 3600
Farm	61	Power MIG Electric	Lincoln Power
Farm	63	Nailer	Dewalt - Battery powered
Farm	65	Reciprocating Saw	Dewalt
Farm	66	Circular Saw	Dewalt
Farm	68	Dremel Saw	Dewalt
Farm	69	Impact Wrench	Milwaukee
Farm	70	Hammer Drill	Miwaukee
Farm	73	Power Pack	Pittsburgh
Farm	74	Dewalt 20 Volt Batteries	Dewalt
Farm	75	Dewalt Cordless Blower	Dewalt
Farm	95	Kubota RTV 900	RTV 900

Schedule 1.3 Active status requiring resolution

Sheet	Row	Source equipment description	Model or identifier
Farm	27	Plow	Pittsburgh 282 3 Bottom
Farm	44	Riding Mower	John Deere R70
Farm	45	Riding Mower	Toro 520-H

Confirm the active status and intended disposition of these three entries before the final transfer schedule is approved. Preserve the source descriptions and identifiers. [C-01; H-01]

Schedule 1.4 Current Animal Transfer Schedule

The following schedule reproduces the animal groups and quantities recorded in the October 23, 2026 summary of the Bowers Farm Master Livestock Inventory. It provides the current inventory baseline for documenting animal transfers under the interlocal agreement. The complete workbook is retained in Appendix C, including supporting identification and historical animal-management records.

Animal group	Recorded quantity
Bourbon Red Turkeys	13
Broad Breasted Turkeys	40
Heritage Breed Turkeys	11
Chickens (laying hens)	120
Broiler Chickens (FFA)	69
Guinea Fowl	3
Ducks	22
Dairy Goats	5
Boer Goats	5
Boer Goat kids	6
Pygmy Goats	2
Hampshire Cross Sheep	5
Lincoln Sheep	1
Polled Dorset Sheep	11
Horned Dorset Sheep	5
American Guinea Sows/Gilt	3
American Guinea Hog - piglets	5
Ponies	6
Horses	5
Maine-Anjou Cows	4
Llamas	2
Rabbit	3
Cats	3

These quantities describe the farm's animal population on the inventory date. They do not establish permanent stocking levels or require OCP to maintain particular animals, breeds or quantities. Subsequent animal management will follow the care and operating framework in Section B.4.

Source: Master Animal Inventory, "Cheat Sheet (SUMMARY)" worksheet, updated October 23, 2026, rows 1–25.

Broiler Chickens (FFA): BHS-owned; included in the transfer to OCP.

Approval Record

This record identifies the approved plan and schedules, the actions taken by OCP and BHS, and the effective date. Planned milestones are shown separately from completed approvals. [A-01 §§1.8, 4.7.6; A-03]

The approval documentation will expressly identify whether BHS accepts the proposed October 1, 2028 OCP investment deadline and the requested BHS investment package described in Section 1.8.

Planned review and approval milestones

Milestone	Planned date / basis
Commission consideration and submission authorization	November 4, 2026; final approval remains subject to A-01 §4.7.6.
Delivery to BHS representative	November 5, 2026; document actual receipt.
Requested BHS response target	December 4, 2026; administrative target.
BHS comments and recommendations due	December 5, 2026, assuming November 5 receipt; 30 calendar days.
Extended Final PAP delivery deadline	December 15, 2026; delivery only, not a deadline for all approvals.

Final approval and effective date will be recorded after the applicable process. The November 4 resolution form and any subsequent Commission action remain subject to confirmation.

Actual approval record

Record	Entry
OCP action/resolution and date	_____
Actual BHS receipt date and delivery record	_____
BHS approval or deemed-approval basis and date	_____
Final PAP effective date	_____
Approved PAP, CIP and POMP version/date	_____
Schedule 1 equipment version/date	_____
Schedule 1 animal version/date	_____
Chris Ward, Director, Oakland County Parks	Signature and date: _____
Rick West, Superintendent, Bloomfield Hills Schools	Signature and date: _____

DISCOVERY OAKS - BOWERS FARM

Supporting Appendix Binder

Separate review edition | October 30, 2026

Actual supporting records organized under Appendices A-J. This binder excludes the governing IPP report.

Navigation: use the linked directory or PDF bookmarks. Each source retains its original internal pagination. The APP number in the bottom margin is the page of this separate binder. Embedded files include the original current program workbook and the working source register.

Appendix document directory

A-01 Bloomfield Hills - Oakland County Interlocal Agreement for Bowers Farm 03_20_26 Clean with exhibits.pdf
APP 7-24

A-02 Executed Transition Services and Operational Continuity Agreement
APP 25-32

A-03 BHS_OCP Joint Letter - IPP Deadline Extension.pdf
APP 33-33

A-04 Farm Operations and Collaboration Guidelines Signed September 24 2026
APP 34-47

A-06 Quit Claim Deed - excess parcel.pdf
APP 48-54

B-01 26-07-27 Discovery Oaks Master Plan.pdf
APP 55-55

B-02 Bowers Building Map.pdf
APP 56-56

B-03 Bowers Detailed Floor Plan.pdf
APP 57-57

B-04 Full historical master plan published July 2023
APP 58-214

C-01 Farm NC Equipment Inventory updated May 2026 - th.xlsx
APP 215-228

C-02 Bowers School Farm - Facilities Assessment - August 28, 2026.pdf
APP 229-344

Appendix document directory

C-03 24.08.30 Bowers School Farm - Site Infrastructure Evaluation Report.pdf
APP 345-453

C-04 BHS Bowers School Farm ADA Access Barrier-Removal Recomm Rpt Oct '22.pdf
APP 454-539

C-05 Bowers-School-Farm-03-12-2026-Annual-Course-Inspection-Myron-Gwinner---ESI-Level-2-Inspector-(#0048)---ACCT-Level-2-Inspector-(8021937).pdf
APP 540-576

C-06 Master Animal Inventory - October 23, 2026
APP 577-590

D-01 BHS Survey Full Report.pdf
APP 591-644

D-02 Discovery Oaks Advan Visitor Data (1).pdf
APP 645-646

E-01 P26-0480.00 Phase I ESA - FINAL REPORT.pdf
APP 647-1086

E-02 Bower's School Farm LPII ESA proposal (26-0480)_signedSR8.27.2026.pdf
APP 1087-1097

E-03 BHS_SWMP_v03.09.22.pdf
APP 1098-1232

E-04 BHS.BowersSchoolFarm.SWMap.pdf
APP 1233-1236

E-05 ASTI Limited Phase II ESA - final October 28, 2026
APP 1237-1281

Appendix document directory

F-01 Bowers Farm - Brief History.doc
APP 1282-1282

F-02 Land Lease - BHS & Pres Blmfld.pdf
APP 1283-1294

F-03 HISTORIC DISTRICT - Agreement - 2010.pdf
APP 1295-1301

F-04 Bill of Sale & Terms of Donation.pdf
APP 1302-1304

F-05 DEED Wm. Pulte to BHSD Jan 1967 - LIB 4981 Pgs 104-106.pdf
APP 1305-1307

F-06 DFP - 27Jun1954 - Pigsty Article.pdf
APP 1308-1309

F-07 Resolution - Barton Farmhouse.pdf
APP 1310-1312

F-08 Benjamin-Barton House Existing Conditions Assessment and Master Plan — June 24, 2011
APP 1313-1397

F-09 Pickering Barn assessment — revised August 5, 2024
APP 1398-1400

G-01 BHS MP Program and Budgets
APP 1401-1451

G-04 Farm and Nature Center Program Guide — 2021–2022
APP 1452-1471

Appendix document directory

G-05 Public Programs Inventory — April 28, 2026
APP 1472-1477

G-06 Current Outdoor Learning Program Inventory - Discovery worksheet
APP 1478-1487

H-03 Bowers_Johnson TRANSITION PERIOD WORK PLAN.docx
APP 1488-1490

I-01 Farm and Nature Center Financials - 3 year plus current year budget summary.xlsx
APP 1491-1492

I-02 BHS Capital Investment Discussion Brief October 8 2026
APP 1493-1493

I-06 Building renewal estimating correspondence - received October 29, 2026
APP 1494-1499

J-02 10a - Service_Agreement_Friends_of_Bowers_Farm_Oakland_County_Parks.docx
APP 1500-1522

J-03 OCP_Preservation_Bloomfield_Partnership_Framework.pdf
APP 1523-1525

J-04 OCP_Preservation_Bloomfield_Draft_MOU.pdf
APP 1526-1529

Disposition and remaining evidence

Included once: each of the 38 substantive documents in the prior review binder, with A-02 replaced by the fully signed copy; four additional records listed on the cover. The previous report, directory and BHS-only transition copy are excluded. The historical assembled binder is retained separately.

Cross-references: the Preservation Bloomfield land lease appears once as F-02; references from Appendix A and J point to it. B-04 is the July 2023 master plan, not a second copy of the binder. G-01 contains historical budgets; Appendix I references those rather than duplicating them.

Still to assemble or reconcile: verified existing-facilities/gates map and survey; additional cited strategy, research and history records; raw survey subset calculations; farm care standards; source IDs for leadership directions; historical versus current source status. See embedded source register for the detailed research history. Its earlier binder page references are superseded by this directory for included documents only.

Animal inventory: all 14 pages of the current PDF export are included. The summary is dated October 23, 2026; detailed historical pages do not replace that summary. Ownership confirmation for the FFA broilers is recorded in the IPP and tracker. The native animal workbook was not obtained in this assembly; change the master’s claim that the complete workbook is retained here, or supply it before final publication.

Review limits: source boundaries, page counts and document navigation were checked. Representative pages and all newly generated pages were visually inspected; this is not a fresh technical validation of every laboratory result, engineering recommendation or historical record. No source findings have been suppressed because they complicate the plan.

INTERLOCAL AGREEMENT BETWEEN
THE COUNTY OF OAKLAND
AND
BLOOMFIELD HILLS SCHOOLS
FOR BOWERS FARM

This Agreement (the "Agreement") is made between the County of Oakland, a Constitutional and Municipal Corporation, located at 1200 North Telegraph, Pontiac, Michigan 48341 ("County"), by, through, and administered by its statutory agent the Oakland County Parks and Recreation Commission ("OCPRC") and Bloomfield Hills Schools, a Michigan general powers school district, located at 7273 Wing Lake Road, Bloomfield Hills, Michigan 48301 ("BHS"). County/OCPRC and BHS may each be referred to herein individually as a "Party" and jointly as the "Parties".

INTRODUCTION AND PURPOSE OF AGREEMENT.

A. BHS is the owner of approximately 84+/- acres of real property, commonly known as Charles L. Bowers Farm, with Parcel Identification Numbers of 19-01-376-006, 19-01-451-002 19-01-451-004, and as more particularly described in the attached Exhibit A and to be confirmed by survey and title in accordance with Section 3.3.3.

B. The Parties desire to have OCPRC operate, manage, plan for, and maintain the Premises as a County Park, for conservation purposes and for public recreation purposes, including, but not limited to, public recreation activities, pathways, trails, and a parking lot for such purposes.

C. To effectuate this desire, the County and BHS enter into this Agreement, pursuant to Michigan law, to delineate the duties and responsibilities of the Parties with respect to operation, management, planning, and maintenance of the Premises as a County Park.

The Parties agree to the following terms and conditions:

1. **DEFINITIONS**. The following words and expressions used throughout this Agreement, whether used in the singular or plural, shall be defined, read, and interpreted as follows:

   1.1. **Agreement** means the terms and conditions of this Agreement, and Exhibits attached hereto, and any other mutually agreed to written and executed modification, amendment, addendum, or exhibit approved in accordance with Section 2.

   1.2. **Bloomfield Hills Schools ("BHS")** means BHS, a Michigan general powers school district, its Board of Education, Board members, administrators, employees, agents, contractors, subcontractors, volunteers, and/or any such persons' successors.

   1.3. **Bloomfield Hills Schools Employee** means any BHS administrator, employee, agent, contractor, subcontractor, and/or any such person's successors or predecessors (whether such persons act or acted in their personal, representative, or official capacities). "BHS Employee" shall also include any person who was a BHS Employee at any time during the Initial Term, or Renewal Term, of this Agreement but, for any reason, is no longer employed, appointed, or elected in that capacity.

   1.4. **Capital Improvement Project** means a project that: (1) costs thirty thousand dollars ($30,000.00) or more; and (2) extends the life cycle of an existing facility or asset on the Premises; replaces, renovates, or remodels an existing facility or asset on the Premises; or adds a new facility or asset on the Premises.

1.5. **Claims** means any alleged losses, claims, complaints, demands for relief or damages, lawsuits, causes of action, proceedings, judgments, deficiencies, liabilities, injuries, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are incurred by or asserted against a Party, or for which a Party may become legally and/or contractually obligated to pay or defend against, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law.

1.6. **County** means Oakland County, a Municipal and Constitutional Corporation, including, but not limited to, all of its departments, divisions, the County Board of Commissioners, elected and appointed officials, directors, board members, council members, commissioners, authorities, committees, employees, agents, volunteers, and/or any such persons' successors. The County and OCPRC may be used interchangeably throughout this Agreement to mean either or both.

1.7. **County Employee** means any County employee, officer, manager, volunteer, attorney, contractor, subcontractor, and/or any such person's successors or predecessors (whether such persons act or acted in their personal, representative, or official capacities). "County Employee" shall also include any person who was a County Employee at any time during the Initial Term, or Renewal Term, of this Agreement but, for any reason, is no longer employed, appointed, or elected in that capacity.

1.8. **Day** means any calendar day beginning at 12:00 a.m. and ending at 11:59 p.m.

1.9. **Effective Date.** the date the last Party signs this Agreement.

1.10. **Exhibits** means the following documents, which this Agreement includes and incorporates herein by reference:

1.10.1. **Exhibit A:** describes and depicts the Premises.

1.10.2. **Exhibit B:** Preliminary Park Use and Improvement Framework.

1.11. **OCPRC** means the Oakland County Parks and Recreation Commission, as established by resolution of the Oakland County Board of Commissioners pursuant to Public Act 261 of 1965, MCL 46.351, et seq., which is a statutory agent of the County.

1.12. **Park** means the park, with the name set forth in Section 2.6, located on the Premises, which is owned by BHS and operated, maintained and managed by the County as a County Park pursuant to the terms and conditions of this Agreement, except for the Bowers School Academy Building, as described in Section 4.18 below.

1.13. **Park Fees and Charges** means the following fees and charges: (1) equipment/facility rental fees; (2) event program fees; (3) sponsorship of events/programs by third parties; and (4) and all other fees and charges charged and collected by OCPRC associated with the use of the Park or the Premises.

1.14. **Park Revenue** means the monies generated from the Park Fees and Charges received by OCPRC and grants, gifts, and donations received by OCPRC or by BHS for the Park or Premises.

1.15. **Premises** means the real property including any buildings and improvements that are described and depicted in **Exhibit A**.

1.16. **Transition Period** means a period of time commencing on the Effective Date and ending on June 30, 2026. Prior to June 30, 2026, the BHS Representative and OCPRC Representative (as defined in Section 4.1) may mutually agree to change the end date of the Transition Period, but in no event shall the Transition Period extend beyond September 30, 2026.

2. AGREEMENT TERM/ REAL PROPERTY DESCRIPTION & TERMINATION.

2.1. **Agreement Term.** This Agreement shall commence on the Effective Date and terminate thirty (30) years from the Effective Date of this Agreement ("Initial Term"). Prior to the expiration of the Initial Term, the Parties may mutually agree to renew this Agreement for up to thirty (30) years, upon mutual written agreement of the Parties ("Renewal Term"). The terms and conditions contained in this Agreement shall not change during the Renewal Term, unless mutually agreed to in writing by the Parties. The approval and terms of this Agreement and any amendments shall be entered in the official minutes of the governing bodies of each Party. An executed copy of this Agreement and any amendments shall be filed by the County Clerk with the Secretary of State.

2.2. **Agreement Amendments.** All amendments or modifications to this Agreement shall be in writing and approved by both Parties and filed as set forth in Section 2.1.

2.3. **Real Property Subject to Agreement.** BHS grants to the County use of the Premises for the purposes and according to the terms and conditions set forth herein.

2.4. **Use of Premises.** On the date the Transition Period ends, OCPRC shall have care, control, and use of the Premises to operate, manage, plan, maintain, and improve the Premises for public recreation activities as a County Park, except for the Bowers School Farm Building, as described in Section 4.18 below, or as further described and delineated herein, and to provide other recreation activities mutually agreed upon in writing by the Parties. OCPRC shall obtain BHS' prior written consent to use the Premises for any purpose not described herein, and such approved use does not require a written amendment to this Agreement.

2.5. **Fee for Use of Premises.** The County shall not pay a monetary fee to BHS for the use of the Premises pursuant to this Agreement. The Parties acknowledge that the services provided by the County during this Initial Term and Renewal Term of this Agreement are adequate consideration for this Agreement.

2.6. **Designation of Park & Name of Park.** During this Agreement, the Park shall be designated as a County Park and named: "Discovery Oaks" with the farm areas designed at "Bowers Farm."

2.7. **Termination/Expiration.**

2.7.1. **Termination by BHS.** BHS may terminate this Agreement, at any time, if OCPRC is notified in writing at least one hundred eighty (180) days prior to the effective date of termination and any one of the following occur: (1) the Premises is no longer being used for the purposes identified in this Agreement; (2) OCPRC provided BHS with information at any time during the Initial Term or Renewal Term of this Agreement that was false or fraudulent; or (3) OCPRC fails to perform any of its obligations under this Agreement and such failure is not cured within thirty (30) calendar days after written notice of default to OCPRC or, if such default is of a nature that it cannot be cured within the thirty (30) day period, and OCPRC does not proceed to diligently cure the default in a time period

mutually agreed to by the Parties.

2.7.1.1. **Termination by BHS in Absence of Default/Breach.** If BHS terminates this Agreement, in absence of default or breach by OCPRC, then BHS shall reimburse OCPRC the amount of the non-depreciated value of Capital Improvement Projects to the Park, paid for by OCPRC, on the date of the termination notice, or such other period as agreed to by the Parties in writing.

2.7.1.2. **Termination by BHS for Default/Breach.** If BHS terminates this Agreement for default or breach by OCPRC, then BHS does not have to reimburse OCPRC the non-depreciated value of Capital Improvement Projects to the Park paid for by OCPRC.

2.7.2. **Termination by OCPRC.** OCPRC may terminate this Agreement, at any time, if BHS is notified in writing at least one hundred eighty (180) days prior to the effective date of termination and any one of the following occur: (1) the Premises is no longer being used for the purposes identified in this Agreement; (2) BHS provided OCPRC with information at any time during the Initial Term or Renewal Term of this Agreement that was false or fraudulent; or (3) BHS fails to perform any of its obligations under this Agreement and such failure is not cured within thirty (30) calendar days after written notice of default to BHS or, if such default is of a nature that it cannot be cured within the thirty (30) day period, and BHS does not proceed to diligently cure the default in a time period mutually agreed to by the Parties.

2.7.2.1. **Termination by OCPRC in Absence of Default/Breach.** If OCPRC terminates this Agreement in absence of default or breach by BHS, then BHS does not have to reimburse OCPRC the non-depreciated value of Capital Improvement Projects to the Park paid for by OCPRC.

2.7.2.2. **Termination by OCPRC for Default/Breach.** If OCPRC terminates this Agreement for default or breach of BHS, then BHS shall reimburse OCPRC the amount of the non-depreciated value of Capital Improvement Projects to the Park, paid for by OCPRC, before the date of the termination notice, or such other period as agreed to by the Parties in writing.

2.7.3. **Disposition of Personal Property Upon Expiration/Termination of Agreement.** Upon expiration or termination of this Agreement, for any reason, each Party shall retain ownership of personal property purchased by them, unless the Parties otherwise agree in writing. "Personal property" does not include buildings or fixtures attached to the Premises.

2.7.4. **Condition of Park Upon Expiration/Termination of Agreement.** Upon the expiration or termination of this Agreement, OCPRC shall cease all Park use, planning, management, maintenance, and operation, and surrender the Premises to BHS and cooperatively work with BHS to transfer management and operation of the Premises to BHS.

2.7.5. **Payment for Non-Depreciated Capital Improvement Projects Upon Agreement Expiration**. If this Agreement is not renewed at the end of the Initial Term for the Renewal Term, then BHS shall reimburse OCPRC the amount of the

non-depreciated value of Capital Improvement Projects to the Park, paid for by OCPRC, before the date this Agreement expires, or such other period as agreed to by the Parties in writing. Upon the expiration of the Renewal Term, BHS shall not reimburse OCPRC the amount of the non-depreciated value of Capital Improvement Projects to the Park, paid for by OCPRC.

3. **TRANSITION PERIOD.**

3.1. **Transition Period.** This Agreement includes a Transition Period. During the Transition Period, the Parties shall work cooperatively to facilitate the transfer of Park planning, management, maintenance, and operations to OCPRC. Notwithstanding any other provision, either Party may terminate this Agreement, without liability, prior to the end of the Transition Period, if they are not satisfied with the plans for the transfer, planning, management, maintenance, and operations of the Park. No Capital Improvement Projects may commence during this Transition Period.

3.2. **Park Information.**

3.2.1. **Grants & Endowments.** Within thirty (30) days of the Effective Date, BHS shall provide OCPRC copies of any grant agreements, endowment agreements, or other agreements, if any, that impose restrictions and conditions upon the Premises and its use.

3.2.2 **Agreements between BHS and Third Parties.** Within thirty (30) days of the Effective Date, BHS shall provide OCPRC with copies of all third-party agreements relating to the use, management, maintenance, or operation of the Premises, if any. OCPRC is not under any obligation to assume any third-party agreements relating to the management or operation of the Premises.

3.3. **Rights and Obligations During the Transition Period.**

3.3.1. **Park Operation and Maintenance During Transition Period.** During the Transition Period, BHS shall be responsible to operate, repair, and maintain the Premises and pay all costs associated therewith, including utilities (water, sewer/sanitary, electric, and gas).

3.3.2. **County Right to Access and Perform Work on the Premises.** During the Transition Period, the County may access the Premises to plan for maintenance, restoration, repairs, security and improvements to the Premises and only provide programming, mutually agreed to by the BHS Representative and OCPRC Representative in writing.

3.3.3. **Premises Inspections.** During the Transition Period, the County shall inspect the infrastructure and conditions of the Park/Premises and the title for the Premises, including but not limited to, the condition of utilities and their connections, parking lots, trees, buildings, restrooms, pavilions, playground equipment, trails and pathways, and any other structures or buildings located on the Premises. The inspection shall be codified in a written document to illustrate the condition of the Premises at the end of the Transition Period and provided to BHS. Any damage to the Premises due to such inspections, shall be repaired by the County and the Premises shall be fully restored to a condition that existed prior to such inspections. Additionally, any changes to this Agreement that are required based upon the County's inspection of the Park/Premises, including any restrictions or encumbrances relating to title, shall be reflected in an amendment to this Agreement

which shall be mutually agreed upon and entered into by the BHS Representative and the OCPRC Representative to reflect the same prior to the expiration of the Transition Period.

3.3.4. **Preliminary Park Use and Improvement Framework.** The Preliminary Park Use and Improvement Framework, **Exhibit B**, sets forth the use and improvement plan for the Transition Period and shall form the basis of the Park Action Plan described in Section 4.7.

3.3.5. **Park Planning.** During the Transition Period, the County shall: (1) assume primary responsibility for Park planning consistent with the Preliminary Park Use and Improvement Framework; (2) regularly consult with the BHS Representative about such planning; and (3) organize public/community engagement concerning the park development, and planning. The Parties acknowledge that OCPRC has conducted previous public/community engagement regarding this Park and the additional engagement required by this Section will build upon the previous public/community engagement.

3.3.6. **Park Programming.** During the Transition Period, OCPRC may organize and host recreation programs, events, volunteer activities, and other activities on the Premises upon mutual written agreement of the Parties.

3.4. **Mutual Assistance Agreements.** During the Transition Period and thereafter and until the Final Park Action Plan is mutually agreed to by the Parties, the BHS Representative and OCPRC Representative may enter into agreements, as needed, to provide additional services for the operation, repair, maintenance, and programming for the Park and to address the costs associated therewith.

3.5. **Environmental Condition.**

3.5.1. **Environmental Assessments.** During the Transition Period, OCPRC shall examine the Premises and perform a Phase I Environmental Site Assessment (ESA), at its sole cost, and may perform additional environmental assessments that OCPRC deems necessary, in its sole discretion and at its sole cost.

3.5.2. **Copies of Environmental Assessments.** OCPRC will provide BHS with a copy of the Phase I ESA and any other environmental assessments. OCPRC shall take possession of the Premises subject to such Phase I ESA and other environmental assessments performed pursuant to this Section.

3.5.3. **Termination Related to Environmental Assessments.** Notwithstanding any other provision, OCPRC or BHS may terminate this Agreement prior to the end of the Transition Period, if either Party is not satisfied with the condition of the Premises as evidenced by the Phase I ESA or other environmental assessments performed pursuant to this Section.

4. **PARK GOVERNANCE & OPERATIONS.**

4.1. **Agreement Administration.** BHS' Superintendent or his successor or his written designee is BHS' Agreement Administrator (hereinafter "the BHS Representative"). The OCPRC Director or their successor or their written designee is OCPRC's Agreement

Administrator (hereinafter "OCPRC Representative"). Each Party must notify the other Party of any changes to their written designees.

4.2. **Disputes.** All disputes arising under or relating to the interpretation, performance, or nonperformance of this Agreement involving or affecting the Parties shall first be submitted to the BHS Representative and the OCPRC Representative for possible resolution. If the BHS Representative and the OCPRC Representative cannot resolve the dispute, then the dispute shall be submitted to non-binding mediation, and both Parties shall share equally in the costs associated with mediation. If the Parties are unable to resolve the dispute through mediation, then either Party may seek any remedy available as permitted by law, in accordance with the governing law provisions under Section 7.10 of this Agreement.

4.3. **Park Management and Operations.** Except as otherwise provided by this Agreement, OCPRC shall manage and operate the Park in a manner consistent with other OCPRC Parks, OCPRC policies, the OCPRC 5-Year Parks and Recreation Master Plan ("OCPRC Master Plan") the Park Action Plan described in Section 4.7, and any other plans and programs set forth and described herein. OCPRC shall manage, maintain, and operate the Park with OCPRC employees, volunteers, and contractors and subcontractors pursuant to the plans and programs set forth and described herein.

4.4. **Park Improvement Projects.** OCPRC shall be responsible to provide, perform and construct (either directly or through third parties) improvements for the Park. This responsibility and the costs associated therewith shall be addressed in the Park Action Plan set forth in Section 4.7, with the general understanding that OCPRC shall be responsible for the costs associated with such improvements, unless otherwise agreed to by BHS. Where applicable, all improvements and Capital Improvement Projects that are to be completed pursuant to this Agreement or as part of the Park Action Plan pursuant to Section 4.7 shall be done in a professional and workmanlike manner and in compliance with all applicable local, state, and federal laws, including, to the extent applicable, those laws pertaining to school building construction, being the Revised School Code, MCL 380.1 *et seq.*, the School Building Construction Act, MCL 388.851 *et seq.*, the Still-Derossett-Hale Single State Construction Code Act, MCL 125.1501 *et seq.*, and the Michigan Building Code (collectively the "Construction Acts"). All Capital Improvement Projects constructed pursuant to the Park Action Plan shall become an integral part of the Premises, remain on the Premises at the expiration or termination of this Agreement, and shall be owned by the BHS. As such, BHS shall account for depreciation of any Capital Improvement Projects (if constructed) on BHS' financial statements. No Capital Improvement Projects shall occur without the prior written approval of the BHS Representative, unless such Capital Improvement Project is included in the Park Action Plan created pursuant to Section 4.7.

4.5. **Park Maintenance/Repairs.** The responsibility for, provision of, and costs for Park maintenance and repairs shall be set forth in the Park Action Plan described in Section 4.7. Notwithstanding the foregoing, it is the Parties intent that OCPRC shall be responsible for the all costs associated with such maintenance and repairs, unless otherwise agreed to by BHS and the Park, at a minimum, shall be maintained in a similar manner to how OCPRC maintains its other Oakland County Parks.

4.6. **Park Utilities and Services.** OCPRC shall be responsible to provide the utilities and services, it deems necessary for the operation of the Park. The provision of and costs for

all utilities, including water, sewer/sanitary, electric, and gas, for the Park and Premises shall be the responsibility of BHS until the end of the Transition Period and shall be responsibility of OCPRC thereafter during the Initial Term or Renewal Term of this Agreement. The Parties may further delineate the responsibilities and costs applicable to the Park and Premises utilities in the Park Action Plan described in Section 4.7. Notwithstanding the foregoing, it is the Parties intent that OCPRC shall be responsible for all the costs associated with such utilities and services, unless otherwise agreed to by BHS in writing. However, OCPRC shall not authorize or approve any easements or other encumbrances to, on, or across the Park or the Premises.

4.7. **Park Action Plan.**

4.7.1. By May 1, 2026, OCPRC shall create a Preliminary Park Action Plan for the Park and by September 30, 2026, OCPRC shall create a Final Park Action Plan for the Park. The Preliminary Park Action Plan and the Final Park Action Plan shall be collectively referred to in this Agreement as "Park Action Plan." The terms of this Agreement shall apply equally to the Preliminary Park Action Plan and the Final Park Action Plan. The OCPRC Representative and the BHS Representative may agree in writing to extend the deadline for the delivery of the Final Park Action Plan.

4.7.2. The Park Action Plan shall be based on **Exhibit B**, the Preliminary Park Use and Improvement Framework and created pursuant to OCPRC's current policies and procedures. The Park Action Plan shall establish a structure to guide the stewardship, operation, and investment of the Park with the following intentions:

4.7.2.1. Guide operational and capital decisions during the first five years of implementation;

4.7.2.2. Align Park priorities with OCPRC system goals;

4.7.2.3. Provide continuity and transparency as planning, engagement, and investment activities happen; and

4.7.2.4. Ensure the Park is managed in a manner that is equitable, fiscally responsible, resilient, and sustainable over the long term.

4.7.3. The Park Action Plan will have two Attachments: (1) Attachment A, the Capital Improvement Plan ("CIP") and (2) Attachment B the Park Operations and Management Plan ("POMP").

4.7.4. The CIP shall establish a five (5) year framework to identify, evaluate, and prioritize potential capital investments at the Park. The CIP serves as a planning and evaluation tool, not a guarantee of implementation. Inclusion of an item in the CIP does not constitute project approval, funding authorization, or a commitment to proceed. The CIP will set forth a process for approvals, authorizations, and commitments to proceed. Inclusion of an item in the CIP constitutes BHS pre-approval for the project type to proceed when funding is available, without requiring additional BHS approval. The CIP may be amended as set forth in the Park Action Plan, but at least every four (4) years OCPRC shall create an updated CIP, which the BHS Representative shall have at least sixty (60) days to review and approve. If the BHS Representative does not approve the CIP, the improvement may not be made, unless otherwise agreed to by the Parties. The updated CIP, approved by the BHS Representative, shall replace the existing CIP and be incorporated into the Park Action Plan as Attachment A.

4.7.5. The POMP shall establish a framework for day-to-day Park operations, Park maintenance, Park staffing, Park programming, and Park coordination. The POMP may be amended as set forth in the Park Action Plan, but at least every five (5) years OCPRC shall create an updated POMP, which the BHS Representative shall have at least sixty (60) days to review and approve. If the BHS Representative does not approve the POMP, the change may not be made, unless otherwise agreed to by the Parties. The updated POMP, approved by the BHS Representative, shall replace the existing POMP and be incorporated into the Park Action Plan as Attachment B.

4.7.6. Once completed, OCPRC shall submit the Park Action Plan to the BHS Representative for comments and recommendations. The BHS Representative shall submit comments and recommendations to the OCPRC Representative within thirty (30) Days of receipt of the Park Action Plan. The OCPRC Representative shall review and consider the BHS Representative's comments and recommendations and shall endeavor to address all comments and recommendations. The Park Action Plan shall not be approved or implemented by OCPRC without prior written approval by the BHS Representative. If the BHS Representative does not respond within the thirty (30) day period, then the BHS Representative is deemed to have approved the Park Action Plan. Every five (5) years OCPRC shall create an updated Park Action Plan, which the BHS Representative shall have at least sixty (60) days to review and comment on.

4.8. Notwithstanding any other provision in this Agreement, if the BHS Representative and OCPRC Representative cannot agree to a Preliminary Park Action Plan by the end of the Transition Period, then OCPRC or BHS may proceed under the Dispute Resolution Section of this Agreement, Section 4.2 or terminate this Agreement. No Capital Improvement Projects may commence during this Transition Period.

4.9. **Volunteers and Employees.**

4.9.1. OCPRC shall manage and operate the Park with OCPRC employees, volunteers, and contractors and subcontractors.

4.9.2. OCPRC may use volunteers at the Park in various capacities, including existing volunteers and volunteer groups. All volunteers providing volunteer service at the Park shall become part of OCPRC's volunteer program.

4.9.3. OCPRC has no obligation to hire BHS employees to work at the Park, but OCPRC shall provide information to BHS employees, who currently work at the Premises, on how BHS employees may apply for OCPRC employment.

4.10. **Personal Property and Equipment.** At no cost to OCPRC, BHS shall transfer ownership of all personal property and equipment listed in the Final Park Action Plan. The Parties acknowledge that this Agreement and the Final Park Action Plan will operate as a bill of sale and that no further documents are required to effectuate the transfer of the personal property and equipment. The BHS Representative and the OCPRC Representative are authorized to sign any other documents needed to effectuate the transfer of the personal property and equipment.

4.11. **Animals.** At no cost to OCPRC, BHS shall transfer ownership of all animals listed in the Final Park Action Plan. The Parties acknowledge that this Agreement and the Final Park Action Plan will operate as a bill of sale and that no further documents are required to

effectuate the transfer of the animals. The BHS Representative and the OCPRC Representative are authorized to sign any other documents needed to effectuate the transfer of the animals.

4.12. **Park Access/Parking.** OCPRC shall be responsible to determine how Park patrons will access the Park (ingress to and egress from the Park) and where patrons will park while using the Park. This responsibility and the costs associated therewith shall be addressed in the Park Action Plan with the general agreement that OCPRC shall be responsible for the costs associated with such parking, unless otherwise agreed to in writing by the BHS. In no event shall any resident of BHS or the County incur any fee or charge for entering the Park or Premises or for parking a vehicle in or on the Park or Premises.

4.13. **Park Rules.** During the Initial Term or Renewal Term of this Agreement, the Park and Premises shall be subject to OCPRC Rules and Regulations and OCPRC policies and procedures, except as otherwise provided by this Agreement.

4.14. **Park Security.** Security for the Park shall be provided by OCPRC at its sole expense.

4.15. **Signs.** OCPRC shall be responsible for and is permitted to erect signs to identify the Park and features/structures located therein and to erect other signs that are typical and/or necessary at a public park of this nature. OCPRC shall be required to comply with local ordinance requirements regarding the design and placement of any new signs. OCPRC shall be responsible for the cost of signs it erects.

4.16. **Sponsorship of Events/Programs at Park by Third Parties.** Without approval from the BHS, OCPRC may solicit or accept sponsorship of events/programs at the Park by third-parties, pursuant to OCPRC policies and procedures; provided that third-party sponsorships may not be associated with alcoholic beverages or drugs (legal or illegal) while school is in session on the Premises. Any sponsorship of events/programs shall be limited to those that would not be prohibited in BHS' facilities or on BHS property (use or promotion of alcohol, drugs or other illegal activities, etc.).

4.17. **Use of Park by Third Parties.** Notwithstanding any other provision in this Agreement, OCPRC may license use of the Park to third parties for events or programs, without approval from and notification to BHS. OCPRC shall allow such use via written agreement with the third party, pursuant to OCPRC policies and procedures. To avoid scheduling conflicts at the Park, all third parties desiring to use the Park for events or programs shall schedule such use through OCPRC. The written agreement for use of the Park by third parties shall also include BHS as an indemnified party and an additional insured as well, if insurance is required.

4.18. **Use of Park by BHS.**

4.18.1. **Bowers School Farm Building.** BHS shall have exclusive use and access to the Academy Wing of the Bowers School Farm Building pursuant to the following parameters:

4.18.1.1. Room 117 (Agriscience classroom) shall remain restricted for exclusive instructional use by BHS during the BHS school year. Room 117 would not be used by anyone else on evenings or weekends during the school year, but the Room can be used by others during the summer when school is not in session, unless otherwise agreed to, in writing, by the BHS Representative and OCPRC Representative. When school is not in session OCPRC shall be responsible for scheduling use of Room 117.

4.18.1.2. Rooms 115 and 116, 118, and 119, will remain secured and restricted from public access during BHS school hours. After BHS school hours, on weekends, and during the summer, the Rooms listed in this Subsection can be used for recreation and OCPRC programming and such use shall be scheduled by OCPRC.

4.18.1.3. Rooms 113, 114, 120 and 122 are considered general-use space and will be available for use by OCPRC.

4.18.1.4. Services and maintenance of the space in the Bowers School Farm Building, including but not limited to, custodial and security, shall be set forth in the Final Park Action Plan.

4.18.2. **BHS Events or Programs.** BHS may use the Park for education use or other BHS-sponsored events or programs at no cost, charge, or fee, if such use does not conflict with other scheduled events or programs. To avoid scheduling conflicts at the Park, BHS shall reserve use of the Park for its events or programs, through OCPRC. BHS shall be responsible for all costs associated with the setup, operation, and cleanup of such events or programs. Each Party shall promote activities planned by the other Party to take place in the Park in the same manner as they promote their own activities.

5. **PARK FINANCES.**

5.1. **Park Investments.**

5.1.1. **Investment by OCPRC.** OCPRC shall invest a minimum of One Million Five Hundred Thousand Dollars ($1,500,000.00) into the Park, which shall be used as set forth in the Final Park Action Plan.

5.1.2. **Investment by BHS**. BHS shall invest One Million Five Hundred Thousand Dollars ($1,500,000.00) into the Park ("BHS Investment"), which shall be used by BHS as set forth in the Final Park Action Plan.

5.2. **Establishment of Park Fees & Charges.** OCPRC shall establish all Park Fees and Charges at the Park. The Park Fees and Charges shall be created, adopted, and implemented pursuant to OCPRC's current policies and procedures as may be amended by OCPRC. Notwithstanding any other provision in this Agreement, at no time shall any BHS or Oakland County resident be charged a fee for entry into the Park or the Premises or for parking at the Park or on the Premises.

5.3. **Park Revenue.** Subject to applicable law, all Park Revenue shall be paid to OCPRC and shall be deemed OCPRC's revenue, unless otherwise agreed by the Parties during the Transition Period and codified in the Park Action Plan. OCPRC shall record the monies of all Park Revenue according to generally accepted accounting principles and in a manner similar to how OCPRC records other revenue it collects and receives.

5.4. **Annual Accounting and Audits.** If requested by BHS, OCPRC shall provide BHS with an annual accounting of Park Revenue consistent with generally accepted accounting policies and procedures. BHS has the right to annually review and audit OCPRC's records related to Park Revenue, upon written request to OCPRC.

5.5. **Park Grants.** The Parties shall use their best efforts to work together to secure grant funding for Park expansion, development, improvements, operation, and maintenance.

OCPRC and BHS shall work together to apply for and manage grants related to the Park. Any improvements to the Park funded via grants secured by or through BHS shall not be subject to reimbursement under Section 2.7.1.1 upon expiration or termination of this Agreement.

6. **ASSURANCES/LIABILITY/INSURANCE.**

6.1. **Title to Premises.** BHS warrants that it will confirm that it has fee simple title to the Premises in accordance with Section 3.3.3 and both Parties acknowledge that each Party has the authority to enter into this Agreement. Each Party shall hold the other Party harmless (including payment of attorney fees) against any third-party Claim challenging that Party's right to execute this Agreement or use of the Premises as set forth herein.

6.2. **Liability for Claims.** Except as otherwise provided herein, each Party shall be responsible for any Claims made against that Party by a third-party and for the acts or omissions of its respective BHS Employee or County Employee arising under or related to this Agreement.

6.3. **Liability for Claims Prior to the Effective Date.** To the extent permitted by law, BHS shall be solely responsible for and shall defend and hold harmless OCPRC (including payment of reasonable attorney fees) from any Claim that occurred prior to the Effective Date of this Agreement or that was incurred but not reported prior to the Effective Date of this Agreement.

6.4. **Liability for Environmental Matters.** Notwithstanding any other provision, OCPRC shall not be responsible to perform or pay for remediation or clean-up of any environmental contamination on or around the Premises, which existed on the Premises prior to the Effective Date and/or discovered by the Phase I ESA or any other environmental assessments performed pursuant to this Section 3, unless exacerbated by OCPRC during its inspections. OCPRC shall be responsible to perform or to pay for remediation or clean-up of any environmental contamination on or around the Premises, which is caused by OCPRC and, to the extent provided by law, is caused by any of its agents, employees, volunteers, officers, or officials, contractors, subcontractors or consultants, or invitees on the Premises.

6.5. **Legal Representation.** Except as provided herein, each Party shall seek its own legal representation and bear the costs associated with such representation, including judgments and attorney fees, for any Claim that may arise from the performance of this Agreement.

6.6. **Responsibility for Costs/Fines/Fees.** Each Party shall be solely responsible for all costs, fines and fees associated with any acts or omissions by its respective BHS Employee or County Employee arising under or related to this Agreement.

6.7. **No Indemnification/Reimbursement.** Except as otherwise provided for in this Agreement, neither Party shall have any right under this Agreement or under any other legal principle to be indemnified or reimbursed by the other Party or any of its agents in connection with any Claim.

6.8. **Governmental Function/Reservation of Rights.** Performance of this Agreement is a governmental function and government service. This Agreement does not, and is not intended to, impair, divest, delegate, or contravene any constitutional, statutory, and/or other legal right, privilege, power, obligation, duty, or immunity of the Parties. Nothing in this Agreement shall be construed as a waiver of governmental immunity.

6.9. **Limitation of Liability.** In no event shall either Party be liable to the other Party or any other person, for any consequential, incidental, direct, indirect, special, and punitive or other damages arising out of this Agreement.

6.10. **Insurance.**

6.10.1. Except for the insurance set forth in Section 6.10.2 and Section 6.10.3, this Agreement does not require either Party to obtain insurance to cover loss exposures associated with this Agreement and the Park. Each Party is solely responsible to determine whether it will obtain insurance, and in what amounts, to cover loss exposures associated with this Agreement and the Park.

6.10.2. If a Party purchases a special event insurance policy for use the Premises, for whatever reason, then the Party shall name the other Party and its boards, commissions, elected and appointed officers/officials, employees, and volunteers as "additional insureds" on such policy.

6.10.3. BHS, at its sole cost, shall obtain real property insurance or self-insurance for existing buildings and structures located on the Premises and for any future buildings and structures located on the Premises whether built by BHS or OCPRC. If a building or structure that is covered by BHS' real property insurance is damaged or destroyed, OCPRC shall repair or replace the building or structure in a timely manner and the BHS shall reimburse OCPRC for all costs associated with the repair or replacement of such building or structure to the extent such repairs or replacement are covered by BHS insurance coverages. OCPRC shall invoice BHS for the costs of the repair or replacement and BHS shall pay such invoice within thirty (30) calendar days. However, OCPRC shall reimburse BHS for insurance premiums related to buildings and structures constructed on the Premises by OCPRC.

6.11. **Waste.** Neither Party shall commit or allow to be committed any waste or nuisance on the Premises and will not use, or allow the Premises to be used, for any unlawful purpose.

6.12. **Compliance with Laws.**

6.12.1. The Parties shall comply with all applicable federal, state, or local laws, regulations, rules, and ordinances related to the operation, management, planning, maintenance, and improvement of the Premises and Park. OCPRC shall obtain any necessary permits regarding its use of the Premises.

6.12.2. OCPRC shall comply with all applicable grants and other agreements between BHS and another entity such as the State of Michigan, governing the operation of and restrictions upon the Premises, if OCPRC receives notice of such grants and other agreements from BHS.

6.12.3. The Parties acknowledges that any violations of the federal, state, or local regulations or convictions of any resource violations may be considered a default of this Agreement and the other Party may terminate this Agreement, as provided herein.

6.13. **Authorization.** The Parties have taken all actions and secured all approvals necessary to authorize and complete this Agreement. The persons signing this Agreement on behalf of each Party have legal authority to sign this Agreement and bind the Parties to the terms and conditions contained herein.

7. **GENERAL TERMS AND CONDITIONS.**

7.1. **No Interest in Premises.** Through this Agreement, OCPRC shall have no title interest in

and/or to the Premises or any portion thereof and has not, does not, and will not claim any such title or any easement over the Premises.

7.2. **Delegation or Assignment**. Neither Party shall delegate or assign any obligations or rights under this Agreement without the prior written consent of the other Party. For purposes of this Section, consent for the County shall be given by the OCPRC Director or his/her successor and consent for BHS shall be given by the BHS Representative.

7.3. **No Employee-Employer Relationship**. Nothing in this Agreement shall be construed as creating an employer-employee relationship between County and BHS.

7.4. **No Third Party Beneficiaries**. Except as provided for the benefit of the Parties, this Agreement does not and is not intended to create any obligation, duty, promise, contractual right or benefit, right to indemnification, right to subrogation, and/or any other right in favor of any other person or entity.

7.5. **No Implied Waiver**. Absent a written waiver, no act, failure, or delay by a Party to pursue or enforce any rights or remedies under this Agreement shall constitute a waiver of those rights with regard to any existing or subsequent breach of this Agreement. No waiver of any term, condition, or provision of this Agreement, whether by conduct or otherwise, in one or more instances shall be deemed or construed as a continuing waiver of any term, condition, or provision of this Agreement. No waiver by either Party shall subsequently affect its right to require strict performance of this Agreement.

7.6. **Severability**. If a court of competent jurisdiction finds a term or condition of this Agreement to be illegal or invalid, then the term or condition shall be deemed severed from this Agreement. All other terms, conditions, and provisions of this Agreement shall remain in full force.

7.7. **Captions**. The section and subsection numbers, captions, and any index to such sections and subsections contained in this Agreement are intended for the convenience of the reader and are not intended to have any substantive meaning. The numbers, captions, and indexes shall not be interpreted or be considered as part of this Agreement. Any use of the singular or plural, any reference to gender, and any use of the nominative, objective or possessive case in this Agreement shall be deemed the appropriate plurality, gender or possession as the context requires.

7.8. **Force Majeure**. Notwithstanding any other term or provision of this Agreement, neither Party shall be liable to the other for any failure of performance hereunder if such failure is due to any cause beyond the reasonable control of that Party and that Party cannot reasonably accommodate or mitigate the effects of any such cause. Such cause shall include, without limitation, acts of God, floods, fire, explosion, vandalism, national emergencies, insurrections, riots, wars, strikes, lockouts, work stoppages, other labor difficulties, or any law, order, regulation, direction, action, or request of the United States government or of any other government. Reasonable notice shall be given to the affected Party of any such event.

7.9. **Notices**. Notices given under this Agreement shall be in writing and shall be personally delivered, sent by express delivery service, certified mail, or first class U.S. mail postage prepaid, and addressed to the person listed below. Notice will be deemed given on the date when one of the following first occur: (i) the date of actual receipt; (ii) the next business day when notice is sent express delivery service or personal delivery; or (iii) three days after mailing certified U.S. mail.

7.9.1. If Notice is sent to County, it shall be addressed and sent to: OCPRC Director,

2800 Watkins Lake Road, Waterford, Michigan 48328 and the Chairperson of the Oakland County Board of Commissioners, 1200 North Telegraph Road, Pontiac, Michigan 48341.

7.9.2. If Notice is sent to BHS, it shall be addressed and sent to BHS Superintendent, 7273 Wing Lake Road, Bloomfield Hills, Michigan 48301.

7.9.3. Either Party may change the individual to whom Notice is sent and/or the mailing address by notifying the other Party in writing of the change.

7.10. **Governing Law/Consent To Jurisdiction And Venue**. This Agreement shall be governed, interpreted, and enforced by the laws of the State of Michigan. Except as otherwise required by law or court rule, any action brought to enforce, interpret, or decide any Claim arising under or related to this Agreement shall be brought in the 6th Judicial Circuit Court of the State of Michigan, the 48th District Court of the State of Michigan, or the United States District Court for the Eastern District of Michigan, Southern Division, as dictated by the applicable jurisdiction of the court. Except as otherwise required by law or court rule, venue is proper in the courts set forth above.

7.11. **Counterparts.** This Agreement may be executed in any number of counterparts, each of which shall be deemed an original agreement, but all of which together shall constitute one Agreement. Copies (photo, fax, or electronic) of signatures to this Agreement will be deemed originals and may be relied on to the same extent as originals.

7.12. **Entire Agreement**. This Agreement and the referenced Affidavit represents the entire agreement and understanding between the Parties regarding the maintenance, operation, and management of the Park and the Premises. This Agreement and the referenced Affidavit supersede all other oral or written agreements between the Parties regarding that subject matter. The language of this Agreement shall be construed as a whole according to its fair meaning and not construed strictly for or against any Party.

IN WITNESS WHEREOF, the Bloomfield Hills Schools Superintendent has been authorized by a resolution of Bloomfield Hills Schools' Board of Education, to execute this Agreement.

EXECUTED:

By: Rick West
Rick West

Its: Superintendent

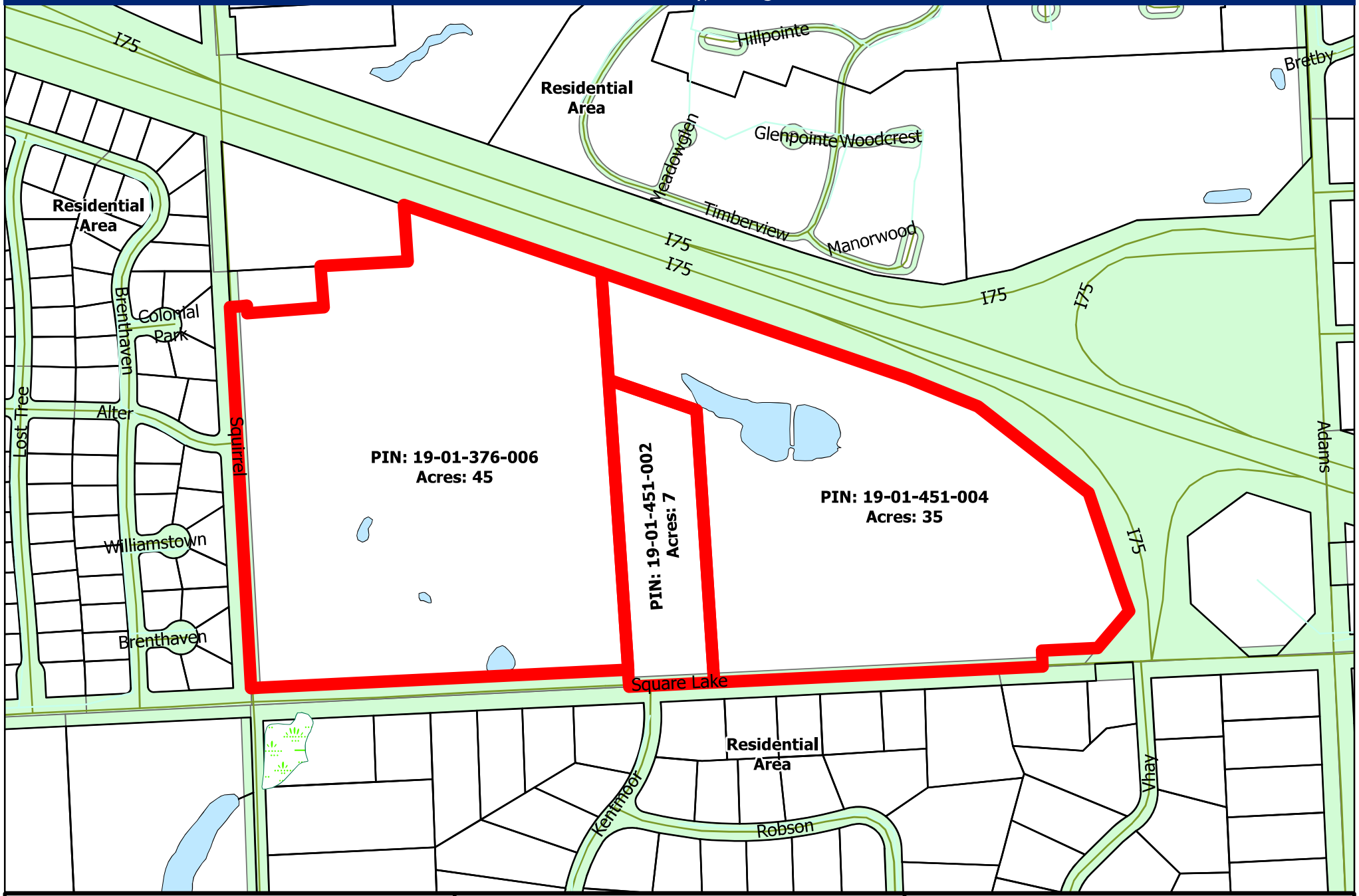
Date: 4/8/2026

IN WITNESS WHEREOF, David T. Woodward, Chairperson, Oakland County Board of Commissioners, has been authorized by a resolution of the Oakland County Board of Commissioners to execute this Agreement.

EXECUTED: David T Woodward (Apr 10, 2026 08:59:09 CDT) DATE: 04/10/2026
David T. Woodward, Chairperson
Oakland County Board of Commissioners

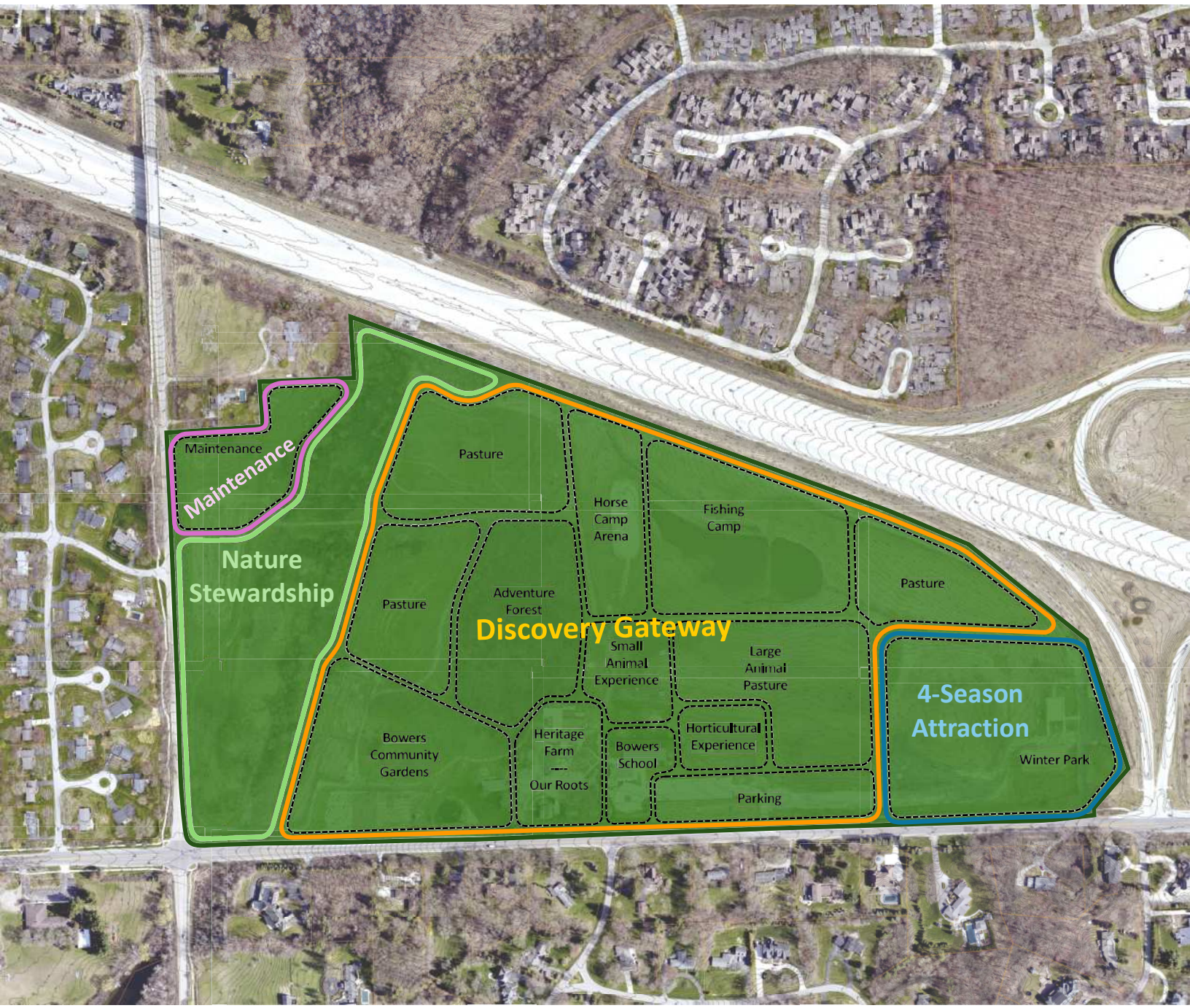
EXECUTED: Ebony Bagley DATE: 04/10/2026
Ebony Bagley Chairperson
Oakland County Parks and Recreation Commission

EXHIBIT A
Bowers Farm
Oakland County, Michigan



The Parties agree that during the Transition Period OCPRC will engage a civil engineer to conduct a survey and create a legal description for the Park.

OAKLAND COUNTY PARKS
Oakland County Parks and Recreation
2800 Watkins Lake Road
Waterford, MI
248-858-0906
www.OaklandCountyParks.com


Maintenance
Maintenance
Nature Stewardship
Pasture
Horse Camp Arena
Fishing Camp
Pasture
Pasture
Adventure Forest
Discovery Gateway
Small Animal Experience
Large Animal Pasture
4-Season Attraction
Winter Park
Bowers Community Gardens
Heritage Farm

Our Roots
Bowers School
Horticultural Experience
Parking

INTERLOCAL AGREEMENT
BETWEEN
BLOOMFIELD HILLS SCHOOLS AND
THE OAKLAND COUNTY PARKS AND RECREATION COMMISSION
FOR TRANSITION SERVICES AND OPERATIONAL CONTINUITY

This Interlocal Agreement (the "Agreement") is made and entered into between the County of Oakland, a Constitutional and Municipal Corporation, located at 1200 North Telegraph, Pontiac, Michigan 48341 ("County"), by, through, and administered by its statutory agent the Oakland County Parks and Recreation Commission ("OCPRC") and Bloomfield Hills Schools, a Michigan general powers school district, located at 7273 Wing Lake Road, Bloomfield Hills, Michigan 48301 ("BHS"). County/OCPRC and BHS may each be referred to herein individually as a "Party" and jointly as the "Parties".

INTRODUCTION AND PURPOSE

A. BHS and the County entered Interlocal Agreements for park operation and management under which certain property, set forth in the attached Exhibit A and described as parcels 19-01-376-006; 19-01-451-002; and 19-01-451-004 ("Discovery Oaks") and 19-09-301-050 and 19-09-301-051 ("Bloomfield Oaks" and Johnson Nature Center"), will be under the care, control, and use of OCPRC as of June 30, 2026, unless extended. Exhibit A is incorporated herein.

B. OCPRC desires to have BHS perform certain maintenance and services at Discovery Oaks, Bloomfield Oaks, and Johnson Nature Center and BHS is willing to undertake certain maintenance and services at such locations on the terms and conditions set forth below.

C. This Agreement for maintenance and services at Discovery Oaks, Bloomfield Oaks, and Johnson Nature Center will further the public health, safety, and welfare, promote efficient use of governmental resources and effectiveness of local governments;

Therefore, in consideration of the mutual covenants and conditions set forth herein, BHS and OCPRC agree as follows:

I.
COMMENCEMENT DATE

The commencement date of this Agreement shall be July 1, 2026 ("Commencement Date").

II.
TERM

The initial term of this Agreement shall begin on the Commencement Date and end on December 31, 2026 ("Initial Term"), unless terminated or modified by the Parties. Thereafter, upon mutual

agreement of the Parties, this Agreement may be amended to extend the Initial Term or renew the Agreement, unless terminated earlier by either Party as set forth below. An amendment, under this Agreement, shall be given by the OCPRC Director on behalf of the County and OCPRC. All terms and conditions of this Agreement shall equally apply to any amendments.

III.
SCOPE OF SERVICES

BHS shall assist OCPRC in providing the following activities/services at Discovery Oaks, Bloomfield Oaks, and Johnson Nature Center (collectively referred to as the "Properties"). The activities/services shall include the following, collectively referred to as "Services":

a. Operate, maintain, and repair all facilities, buildings, grounds, and infrastructures thereof in a safe, clean, functional, and ready for public and educational use manner;
b. Pay all utilities, including but not limited to municipal water and sewer, wells, septic systems, electricity, and gas;
c. Pay all operating expenses, including staffing, supplies, equipment, and program delivery;
d. Perform all groundskeeping, and land stewardship activities including snow and ice removal, landscaping, trail maintenance, invasive species removal, forestry, and environmental sustainability practices;
e. Manage all agricultural and seasonal operations, including maple syrup production and other site-based demonstration activities;
f. Provide comprehensive animal care and management for the animals housed at the Properties, including feeding, health monitoring, enclosure maintenance, and accurate record keeping;
g. Procure, operate, maintain, and repair all equipment, vehicles, and materials required for safe and effective operations/activities on the Properties;
h. Coordinate, schedule, and deliver all educational programming and site-based activities including staffing, logistics, transportation coordination, and partner engagement;
i. Administer all financial operations, including invoicing, revenue collection, deposits, payroll, expense processing, and budget tracking; provided that all revenues shall be paid to OCPRC pursuant to the Interlocal Agreement;
j. Manage all administrative, clerical, and operational systems, including records, calendars, staffing coordination, and compliance with laws, policies and procedures;
k. BHS will report any major repair issues to OCPRC as soon as they are identified; and
l. BHS will attend monthly communication meetings organized by OCPRC.

IV.
PAYMENT

OCPRC shall reimburse BHS for the actual cost of Services undertaken and performed by BHS or its contractors pursuant to this Agreement. BHS shall invoice OCPRC on a monthly basis for

the Services. OCPRC shall pay BHS within thirty (30) days of receipt of invoice. Upon request, BHS shall provide itemized and detailed receipts or documentation to support the costs contained in the invoices.

V.
TERMINATION

This Agreement may be terminated, in whole or in party, at any time, with or without cause, by either Party upon giving thirty (30) days advance written notice of termination to the other Party. In the event of such termination by either party, OCPRC shall immediately pay all fees, which may be due and owing to BHS for work performed through the date of termination of the Agreement. The OCPRC Director may terminate this Agreement, in whole or in part, on behalf of the County and OCPRC

VI.
RESERVATION OF RIGHTS, INSURANCE AND LIABILITY ASSURANCES

a. No Waiver of Governmental Immunity. All of the privileges and immunities from liability, and exemptions from laws, ordinances and rules, and all pensions, relief, disability, worker's compensation and other benefits which apply to the acts of BHS and their officials, officers, agents, and employees when performed within the territorial limits for their respective agencies shall apply to the same degree and extent to the performance of such acts of BHS, officials, officers, agents and employees of OCPRC. No provision of this Agreement is intended, nor shall any provision of this Agreement be construed, as a waiver of any governmental immunity as provided by Section 9 of the Act or otherwise under law.
b. Independent Contractor. BHS and OCPRC agree that at all times and for all purposes under the terms of this Agreement, BHS's relationship to OCPRC shall be that of an independent contractor. No liability, right or benefit arising out of any employer/employee relationship, either express or implied, shall arise or accrue to BHS or OCPRC as a result of this Agreement. BHS shall retain all authority for the rendition of services, standards of performance, control of personnel and other matters incidental to the performance of services by BHS under this Agreement. Nothing in this Agreement shall make any employee of BHS a OCPRC employee for any purpose.
c. Liability and Indemnification. BHS and OCPRC shall each be solely responsible for the acts and omission of its own officials, employees, agents, and contractors the costs associated with those acts and omissions. In no event shall either Party be liable to the other Party, for any consequential, incidental, direct, indirect, special, and punitive or other damages arising out of this Agreement.
d. Insurance. Each Party shall be responsible for maintaining liability insurance or governmental self-insurance covering its activities as they relate to this Agreement.

VII.
MISCELLANEOUS

a. Entire Agreement. This Agreement sets forth the entire agreement between the parties and supersedes any prior understandings related the to the provision of maintenance and services provided in this Agreement..
b. Multiple Counterparts. This Agreement may be executed in multiple counterparts, each of which when executed shall be deemed an original, and such counterparts when taken together shall constitute one and the same instrument.
c. Severability. If a Court of competent jurisdiction finds any provisions of this Agreement invalid or unenforceable, then that provision shall be deemed severed from this Agreement. The remainder of this Agreement shall remain in full force.
d. Governing Law. This Agreement shall be governed by Michigan law. Except as otherwise required by law or court rule, any action brought to enforce, interpret, or decide any claim arising under this Agreement shall be brought in the Oakland County Circuit Court.
e. Amendment. The Agreement may be amended only upon written agreement and approval of the Parties, which approval shall be given by the OCPRC Director and the BHS Superintendent.
f. Permits and Licenses. Each Party shall be responsible for obtaining and maintaining, throughout the term of this Agreement, all licenses, permits, certificates, and governmental authorizations for its employees/and/or agents necessary to perform all its obligations under this Agreement. Upon request, a Party shall furnish copies of any permit, license, certificate, or governmental authorization to the requesting party.
g. No Implied Waiver. Absent a written waiver, no failure, or delay by a party to pursue or enforce any rights or remedies under this Agreement shall constitute a waiver of those rights with regard to any existing or subsequent breach of this Agreement. No waiver of any term, condition, or provision of this Agreement, whether by conduct or otherwise, in one or more instances shall be deemed or construed as a continuing waiver of any term, condition, or provision of this Agreement. No waiver by either Party shall subsequently affect its rights to require strict performance of this Agreement.
h. Notices. Notices given under this Agreement shall be in writing and shall be personally delivered, sent by express delivery service, certified mail, or first-class U.S. mail postage prepaid to the person appointed to the governing board by the governing body of the participating agency.
i. Assignment and Subletting. This Agreement may not be assigned nor may duties or obligations hereunder be delegated without the prior written consent of both parties.
j. Interpretation of Agreement. This is a negotiated Agreement. Should any part of this Agreement be in dispute, the Agreement shall not be construed more favorably for one party over the other, and the doctrine of construction against the drafter shall not apply.
k. No Third Party Beneficiaries. The parties do not intend to confer third party beneficiary status on any non-party to this Agreement.
l. Contacts. Concerning matters associated with this Agreement, the primary contact person for BHS shall be Rick West, Superintendent of Schools, and the primary contact person for OCPRC shall be Chris Ward, Director.
m. Remedies. No right or remedy granted herein or reserved to the parties is exclusive of any right or remedy granted by law or equity; but each shall be cumulative of every right or remedy given hereunder.
n. Authorization. The Parties have taken all actions and secured all approvals necessary to authorize and complete this Agreement. The persons signing this Agreement on behalf of

each Party have legal authority to sign this Agreement and bind the Parties to the terms and conditions contained herein.

Bloomfield Hills Schools

By: _____

Date: 5/18/2026

Oakland County Parks and Recreation Commission

By: _____
Ebony Bagley, Chair

Date: 06/03/2026

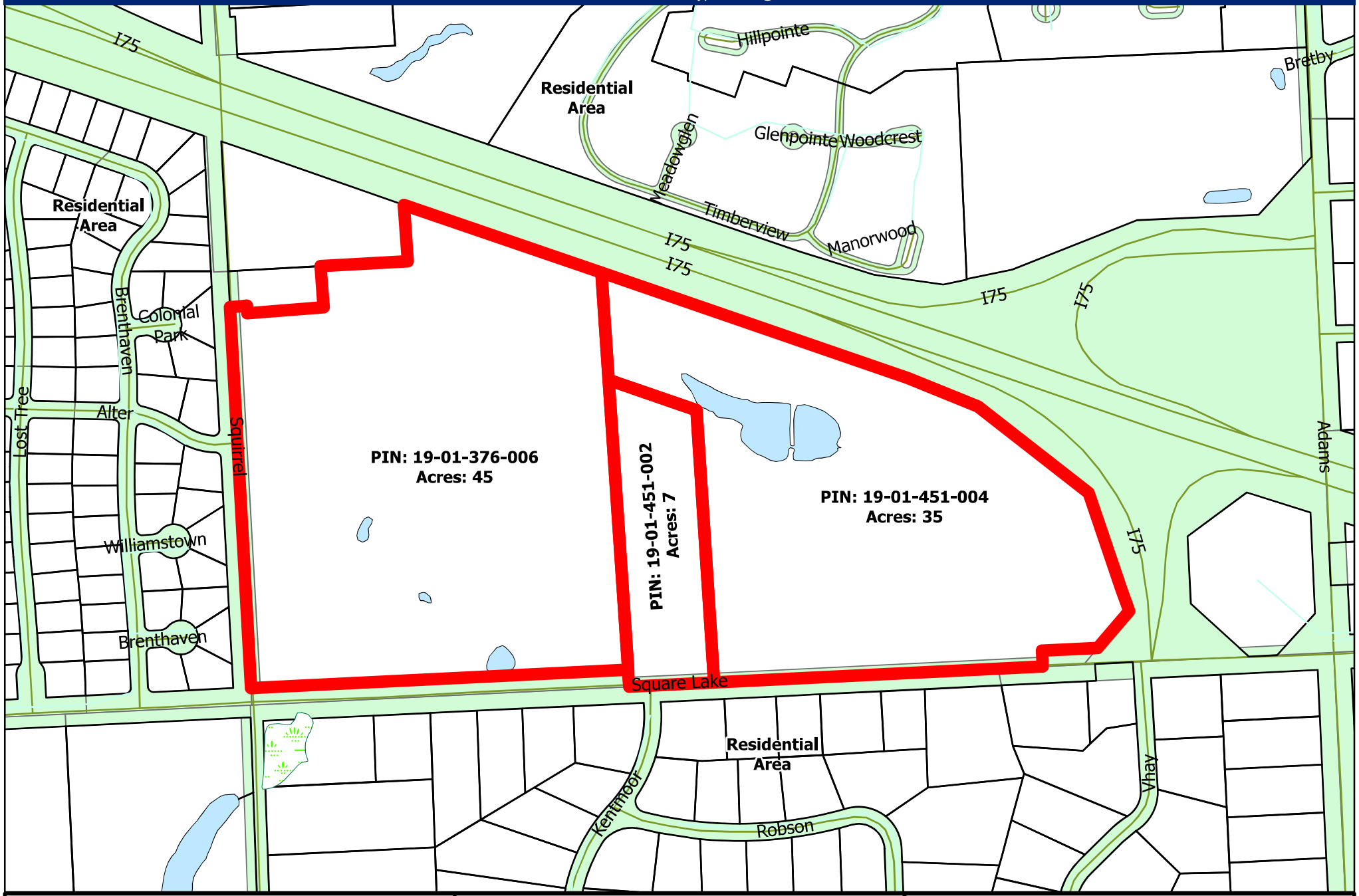
County of Oakland

By: _____
David T Woodward (Jun 19, 2026 11:05:02 EDT)

David T. Woodward, Chair
Oakland County Board of Commissioners

Date: 06/19/2026

EXHIBIT A
Bowers Farm
Oakland County, Michigan



The Parties agree that during the Transition Period OCPRC will engage a civil engineer to conduct a survey and create a legal description for the Park.

OAKLAND COUNTY PARKS
Oakland County Parks and Recreation
2800 Watkins Lake Road
Waterford, MI
248-858-0906
www.OaklandCountyParks.com

EXHIBIT A
Johnson Nature Center
Oakland County, Michigan



The Parties agree that during the Transition Period OCPRC will engage a civil engineer to conduct a survey and create a legal description for the Park.

OAKLAND COUNTY PARKS
Oakland County Parks and Recreation
2800 Watkins Lake Road
Waterford, MI
248-858-0906
www.OaklandCountyParks.com

JOINT AGREEMENT TO EXTEND
FINAL PARK ACTION PLAN DEADLINE

Date: September 9, 2026

Re: Discovery Oaks – Bowers Farm and Bloomfield Oaks – Johnson Nature Center

Pursuant to Section 4.7.1 of the respective Interlocal Agreements between Oakland County and Bloomfield Hills Schools for Bowers Farm and Johnson Nature Center, the undersigned BHS Representative and OCPRC Representative mutually agree in writing to extend the deadline for delivery of the Final Park Action Plans from September 30, 2026, to December 15, 2026.

The additional time will allow the parties to complete review of recently available planning, engineering, environmental, operational, and community-engagement information and incorporate that information into the final five-year plans for each park.

This extension applies only to the deadline for delivery of the Final Park Action Plans. All other terms and conditions of the respective Interlocal Agreements remain unchanged.

We remain committed to the successful long-term partnership between Bloomfield Hills Schools and Oakland County Parks and to the continued stewardship of Bowers Farm at Discovery Oaks and the E.L. Johnson Nature Center at Bloomfield Oaks as valued educational, recreational, and community resources.

Agreed and acknowledged:

Rick West _____

Rick West
Superintendent
Bloomfield Hills Schools
BHS Representative
Date: 9/30/2026

_____

Chris Ward
Director
Oakland County Parks and Recreation
OCPRC Representative
Date: 9/30/2026

FARM OPERATIONS AND COLLABORATION GUIDELINES

Bowers Farm at Discovery Oaks

Oakland County Parks and Recreation Commission | MSU Extension | Bloomfield Hills Schools CTE

Effective Date: 9/24/26 *Review Date:* _____

1. Purpose

These guidelines establish clear roles, responsibilities, communication expectations, and planning processes for the collaborative use of Bowers Farm at Discovery Oaks by Oakland County Parks (OCP), MSU Extension (MSUE), and the Bloomfield Hills Schools (BHS) Agriculture, Food and Natural Resources (AFNR) Career and Technical Education program. The goal is to support authentic student learning experiences while maintaining animal welfare, operational integrity, site safety, and OCP's obligations as a public park operator.

These guidelines are a coordination document. They do not independently create binding legal obligations. All enforceable commitments are established in the interlocal agreement between OCP and BHS and codified in the Integrated Park Plan (IPP).

2. Operational Authority and Leadership Structure

The following leadership structure governs all farm operations at Bowers Farm at Discovery Oaks:

- The MSUE Livestock Coordinator manages day-to-day livestock operations, animal health, breeding, and herd management.
- The MSUE Farm Manager manages day-to-day farm and agricultural operations, facilities, equipment, and grounds, and serves as a primary coordination point for BHS instructional activities alongside the Livestock Coordinator.
- The MSUE District Director provides administrative oversight of all MSUE operations at the site.
- The OCP Chief of Health and Wellness Activation retains final administrative authority over site operations in OCP's capacity as park operator.

The Livestock Coordinator and Farm Manager have complementary and distinct operational domains (see Section 3). Either may serve as the designated point of contact for a given activity depending on whether it primarily involves livestock or farm and facility operations. The CTE Instructor should direct coordination requests to the appropriate role; when uncertain, either contact may be used and will route accordingly.

Any activity involving animals, livestock facilities, farm operations, or site facilities must be communicated to and confirmed by the Livestock Coordinator or Farm Manager

before it begins. This applies to all staff, students, volunteers, and outside partners without exception.

3. Roles, Responsibilities, and Limits

The following table defines the primary domain of each role and the limits of each party's authority.

Domain	BHS AFNR CTE Instructor	MSUE Livestock Coordinator	MSUE Farm Manager
Primary role	Leads instruction, curriculum delivery, and student supervision.	Leads day-to-day livestock management, animal health, breeding, and herd management in accordance with the approved livestock management plan, budget, and established animal care protocols	Leads day-to-day farm operations, facilities, equipment, grounds, and agricultural production
Animal activities	Communicates plans and receives confirmation before conducting animal activities outside the approved monthly plan; the confirmed monthly plan serves as standing confirmation for activities listed within it. Has sole responsibility for care, oversight, and basic husbandry of School-Based Enterprise SAE animals including outside class time, under MSUE oversight (see Section 6)	Approves and oversees all activities involving livestock; issues confirmation for animal-related requests in a timely manner	Coordinates non-livestock farm and facility activities; supports animal activity logistics as needed
Veterinary care	May include veterinary professionals in planned instructional activities with advance approval; does not contact or schedule veterinary services independently	Coordinates all veterinary services; must approve any veterinary contact or visit; schedules routine appointments with reasonable consideration for	Supports veterinary logistics (facility access, records) as directed by Livestock Coordinator

		student instructional availability when practicable	
Breeding & reproduction	No independent authority; provides educational input through the planning process regarding breed selection, production cycles, and curriculum alignment. CTE instruction provides all program needs and breeding objectives in an Annual Program Overview. BHS may financially participate in breeding and reproduction activities for designated instructional herds through the Annual Program Overview, subject to facility capacity and OCP approval	Directs all breeding, reproduction, and herd development decisions. Consults with the CTE Instructor for educational input on instructional herd breeding decisions; retains final decision authority. All breeding costs funded by OCP are determined by OCP operational and public park mission priorities. For instructional herds identified in the Annual Program Overview, the Livestock Coordinator will consult with the CTE Instructor sufficiently in advance of breeding and selection decisions to discuss breeding objectives, educational priorities, and anticipated student learning opportunities. The CTE Instructor's educational input will be meaningfully considered in the planning process and, when practicable, student instructional activities will be incorporated into the breeding and selection process. Breeding direction remains with the Livestock Coordinator, as	Supports breeding operations as directed by Livestock Coordinator

		aligned with OCP site goals.	
Animal ownership & disposition	Animals funded and owned by OCP are managed and disposed of at OCP's discretion with advance notice and consultation prior to their removal. BHS may own specific animals outright, with full financial responsibility, 24/7 care responsibility, and mandatory IACUC compliance; ownership terms are documented in a written addendum	Coordinates the disposition of OCP-owned animals; provides advance notice to the CTE Instructor before the planned disposition of designated instructional animals.	Supports animal movement and facility transitions as directed by Livestock Coordinator
Facilities & equipment	Uses designated facilities and equipment consistent with confirmed annual and monthly plans; no independent facility or equipment changes	Coordinates use of livestock facilities and equipment	Manages scheduling and operational decisions for farm facilities, equipment, and grounds; primary contact for facility and equipment requests
Student supervision	Responsible for all student supervision during all farm activities at all times; students do not access farm areas independently	Does not direct student instruction; addresses animal-related chore quality concerns through CTE Instructor	Does not direct student instruction; addresses facility or equipment chore quality concerns through CTE Instructor
Planning	Submits Annual Program Overview by September 1 and monthly activity overview 5 days before each monthly coordination meeting; attends monthly coordination meeting	Provides a general livestock management plan to the CTE Instructor at the annual planning meeting to inform instructional planning. Reviews and confirms animal-related planning submissions; co-leads monthly coordination meeting	Provides a general site operations plan to the CTE Instructor at the annual planning meeting to inform instructional planning. Reviews and confirms facility and operations-related planning submissions; co-leads monthly coordination meeting

Escalation	Refers unresolved issues to BHS CTE Program Administrator, who determines whether to engage the MSUE District Director directly	Refers unresolved issues to MSUE District Director and OCP Chief of Health and Wellness Activation	Refers unresolved issues to MSUE District Director and OCP Chief of Health and Wellness Activation

4. Animal Care, Biosecurity, and IACUC Compliance

All animal care, biosecurity, disease prevention, handling, and welfare practices at Bowers Farm at Discovery Oaks are governed by MSU Extension Standard Operating Procedures (SOPs) as established and maintained under the authority of the Michigan State University Institutional Animal Care and Use Committee (IACUC).

The MSUE IACUC-governed SOPs supersede all other documents, guidelines, and protocols at this site with respect to animal care and use. All parties — OCP, MSUE, BHS staff, students, volunteers, and visitors — must comply with applicable SOPs at all times while on site.

MSU IACUC will perform periodic inspections of Bowers Farm to verify compliance with applicable animal care and use standards. OCP and MSUE will cooperate fully with IACUC inspections. BHS instructional activities and student access are subject to IACUC compliance requirements and may be modified as necessary to maintain compliance.

Key Compliance Responsibilities

- The MSUE Livestock Coordinator is responsible for ensuring that all animal care, handling, and use activities at the site comply with applicable IACUC-approved SOPs.
- The MSUE Farm Manager supports SOP compliance for facility conditions, biosecurity infrastructure, and operational practices.
- The BHS CTE Instructor is responsible for ensuring that students and instructional activities comply with all applicable SOPs and any IACUC-imposed conditions on educational use of animals.
- Any activity involving animals that is not addressed in an existing SOP must be reviewed and approved through the IACUC process before it proceeds.

Emergencies

In a genuine animal health emergency where the Livestock Coordinator is unreachable and immediate veterinary intervention is necessary to prevent serious animal suffering or death, any authorized staff member present may contact emergency veterinary services. The Livestock Coordinator, Farm Manager, and MSUE District Director must be notified as soon as practicable. Emergency action taken in good faith to protect animal welfare is not a protocol violation.

5. Annual Program Plan

Prior to the start of each school year, the BHS AFNR CTE Instructor will submit an Annual Program Overview to the Livestock Coordinator and Farm Manager no later than September 1. The Annual Program Overview establishes the baseline for all monthly planning and farm activity coordination for that program year. An annual program meeting will be held before the start of the school year to review the overview collaboratively and discuss the upcoming program year.

The Annual Program Overview shall include:

- Anticipated designated instructional herds and student project animals for the program year
- School-Based Enterprise SAE animals and enterprises planned for the year, including species, anticipated numbers, facility needs, and the instructional timeline (see Section 6)
- Planned livestock-related curriculum units and key dates (lambing, calving, kidding, livestock exhibitions, fair preparation, etc.)
- Greenhouse programming priorities and production schedule intentions
- After-hours and non-school-day access needs for FFA and SAE activities (see Section 11)
- Anticipated instructional veterinary activities, career exploration days, or outside visitors
- Equipment and facility needs beyond routine access
- Summer internship and SAE supervision requests
- Any BHS financial participation in breeding or reproduction activities proposed for the program year, subject to OCP approval based on facility capacity and public park mission alignment

The Livestock Coordinator and Farm Manager will review the Annual Program Overview prior to the annual meeting and provide written confirmation, modifications, or questions within fifteen (15) days of receipt. The confirmed Annual Program Overview becomes the operational baseline for that program year and is incorporated into OCP's site management planning.

The Annual Program Overview may be updated by mutual written agreement between the CTE Instructor, Livestock Coordinator, and Farm Manager to reflect significant program changes. Minor adjustments are handled through the monthly planning process.

OCP retains operational authority over all site decisions. Where planned OCP or MSUE operational changes will materially affect a confirmed CTE activity, instructional herd, or SBE enterprise, OCP will provide advance notice to the CTE Instructor and consult before implementation when time permits. OCP is equally bound to deliver on commitments made in the confirmed Annual Program Overview.

6. School-Based Enterprise SAE Animals

Definition and Scope

A School-Based Enterprise (SBE) SAE is a group instructional enterprise in which the whole class works together during scheduled class time on a shared agricultural business or production activity. Examples include managing a flock of broiler chickens for an FFA contest, operating a greenhouse flower production enterprise, or raising and caring for a classroom animal project. Individual students track their own hours, roles, and contributions within the shared enterprise as part of their SAE records.

SBE SAE animals are distinct from individually-owned student project animals and from the designated instructional herds managed by the Livestock Coordinator. They are class-based enterprises operated during instructional time under the direct leadership of the CTE Instructor.

Instructor Responsibility

The BHS AFNR CTE Instructor has responsibility for the day-to-day care, oversight, and use of SBE SAE animals during the approved enterprise period, including feeding, watering, health monitoring, routine husbandry, and supervision of students participating in SBE activities. The Annual Program Overview shall identify expected care responsibilities during weekends, school breaks, instructor absences, and other non-instructional periods. Where continuity of care cannot reasonably be provided by the CTE program, BHS and MSUE will establish a documented backup-care arrangement before the enterprise begins.

SBE animal care is to be carried out by the CTE program, under MSUE oversight. BHS will be financially responsible for all feed related to SBE livestock projects. The Livestock Coordinator will conduct periodic welfare and husbandry check-ins at a frequency established in the Annual Program Overview. The CTE Instructor will promptly communicate concerns regarding animal health, husbandry capacity, or continuity of care to the Livestock Coordinator.

Animal Welfare Failsafe

If the Livestock Coordinator determines at any time that the welfare of SBE SAE animals is not being adequately maintained, the Livestock Coordinator will notify the CTE Instructor and document the concern. If the welfare issue is not resolved within a timeframe appropriate to the severity of the concern, the Livestock Coordinator has authority to assume care of the affected animals and notify the MSUE District Director and OCP Chief of Health and Wellness Activation. Repeated or unresolved welfare concerns will be referred to the BHS CTE Program Administrator and may result in modification or suspension of the SBE enterprise for that program year.

In cases of immediate welfare emergency involving SBE animals, the Livestock Coordinator or Farm Manager may intervene without prior notice to protect animal health and safety. The CTE Instructor will be notified as soon as practicable.

Planning and Support

Each SBE SAE enterprise must be included in the Annual Program Overview submitted by September 1, identifying the enterprise type, species, anticipated animal numbers, facility and equipment needs, the instructional timeline, and the expected care responsibilities during non-instructional periods and school breaks.

Monthly planning submissions will include the current status of active SBE enterprises, any animal care needs that extend beyond class time, and any changes to the enterprise that affect facilities, animal numbers, or operational support needs.

OCP and MSUE will make reasonable efforts to support SBE SAE enterprises as part of Bowers Farm's educational mission. Any operational support needed from the Livestock Coordinator or Farm Manager must be identified in the Annual Program Overview and confirmed through the monthly planning process. Support that is not planned in advance cannot be assumed.

IACUC Compliance

All SBE SAE animals and enterprises are subject to MSUE IACUC-approved SOPs. The CTE Instructor is responsible for ensuring that SBE activities comply with applicable SOPs at all times.

7. Authentic Learning Experiences: Chores and Daily Animal Care

A core purpose of Bowers Farm is to provide students with authentic agricultural experiences, including the routine daily work of animal husbandry — feeding, watering, cleaning, health observation, and hands-on animal care. OCP and MSUE recognize the educational value of these activities and will make every reasonable effort to support student participation in chores and daily animal care as part of the instructional program.

All student chore and animal care activities must occur under the direct supervision of the CTE Instructor. Students will not perform chores or conduct animal care independently at any time. The CTE Instructor is responsible for teaching correct procedures before assigning chores, monitoring completion, and ensuring all work is done safely and consistently.

Chore assignments and routines that affect livestock operations must be coordinated and confirmed in advance with the Livestock Coordinator. Chore assignments and routines that affect farm facilities or grounds must be coordinated and confirmed in advance with the Farm Manager. Chore assignments will be reflected in the monthly planning process.

If the Livestock Coordinator or Farm Manager identifies concerns with chore quality or completion, those concerns will be communicated directly to the CTE Instructor, who will provide additional instruction or supervision. Operational decisions about animal care resulting from chore deficiencies remain with the Livestock Coordinator.

The Livestock Coordinator and Farm Manager are responsible for maintaining current chore instructions and communicating planned changes to animal care or management

in advance through the planning process or direct communication, allowing the CTE Instructor adequate time to prepare students for upcoming livestock activities.

8. Monthly Planning

The BHS AFNR CTE Instructor, the Livestock Coordinator, and the Farm Manager will meet monthly during the academic year to coordinate the upcoming month's farm activities. The monthly meeting is a working session that produces a confirmed Monthly Activity Plan aligned to the Annual Program Overview.

Monthly Overview Submission

No later than five (5) days before each monthly coordination meeting, the CTE Instructor will submit a written monthly overview to the Livestock Coordinator and Farm Manager by email. The overview shall include:

- Anticipated student farm activities and animal use
- Status and needs of active School-Based Enterprise SAE enterprises
- Planned lessons, demonstrations, or projects involving livestock or facilities
- Special events, outside visitors, or instructional veterinary activities
- Livestock, facility, supply, or equipment needs beyond routine access
- Any requests that may affect animal care or farm operations

Livestock Coordinator and Farm Manager Preparation

No later than the monthly coordination meeting, the Livestock Coordinator and Farm Manager will be prepared to provide updates on:

- Upcoming livestock management activities and dates — breeding, lambing, kidding, calving, health work, treatments, vaccinations, or animal movement
- Animal care and husbandry priorities that may affect student chores, access, or instructional activities
- Facility, equipment, or maintenance activities that may affect livestock areas or student access
- Planned farm events, visitors, or operational activities that may affect the CTE program or animal use
- Changes in livestock plans or management priorities that may require coordination with the CTE Instructor
- Opportunities for student involvement in upcoming livestock activities, demonstrations, or management tasks

Monthly Activity Plan

During or within three (3) days following the monthly meeting, the Livestock Coordinator and Farm Manager will issue a confirmed Monthly Activity Plan reflecting agreed activities, scheduling, and any operational adjustments. The Monthly Activity Plan is the

operative document for that month's farm activities. Activities not included in the confirmed Monthly Activity Plan require advance communication to and confirmation from the Livestock Coordinator or Farm Manager before proceeding.

If the Monthly Overview Is Not Submitted

If the CTE Instructor does not submit a monthly overview by the five-day deadline, the Livestock Coordinator or Farm Manager will send a reminder. If the overview is not received before the monthly meeting, the Monthly Activity Plan will be developed from the Annual Program Overview and known operational priorities. Activities or requests not reflected in the Annual Program Overview will not be incorporated into that month's plan and may not proceed until the next planning cycle or until a mid-month request is submitted and confirmed. OCP is equally bound to deliver on what the Annual Program Overview commits to, regardless of whether a monthly overview is submitted.

If the Monthly Activity Plan Is Not Followed

Deviation from a confirmed Monthly Activity Plan — including unannounced animal activities, unsupervised student access, or facility use outside confirmed parameters — is a protocol violation. The Livestock Coordinator or Farm Manager will document the deviation and notify the MSUE District Director and OCP Chief of Health and Wellness Activation. Repeated or significant deviations will be referred to the BHS CTE Program Administrator and may result in modification of access and coordination terms for the remainder of the program year.

9. Communication and Confirmation Before Farm Activities

The confirmed Monthly Activity Plan serves as standing confirmation for all activities listed within it. Before any activity outside of the approved monthly plan involving animals, livestock areas, farm facilities, or farm operations, the CTE Instructor will communicate the plan to the Livestock Coordinator or Farm Manager and receive written or verbal confirmation. Without confirmation, the activity will not proceed.

When an unforeseen circumstance related to health, welfare, safety, weather, or logistics prevents the CTE Instructor from carrying out a previously planned activity, the CTE Instructor will communicate the need to pivot as soon as possible and request confirmation for an alternative activity. Such circumstances are the exception; the authentic daily work of the farm is the expectation. Convenience or scheduling preference is not sufficient basis for an unplanned pivot.

The Livestock Coordinator or Farm Manager will acknowledge and respond to routine CTE requests within two (2) business days when practicable. Requests requiring additional review will receive an acknowledgment identifying the expected decision timeline. If the designated contact is unavailable or does not respond within the established timeframe, the request may be elevated to the designated secondary contact or appropriate administrator. A lack of response does not constitute approval.

Activities requiring advance communication and confirmation include but are not limited to:

- Moving, separating, combining, loading, or transporting animals
- Cleaning stalls, pens, barns, or livestock areas
- Changing feeding, watering, turnout, bedding, or care routines
- Using animals for lessons, projects, demonstrations, or events
- Changing animal housing or access to facilities
- Purchasing, acquiring, selling, rehoming, or otherwise transferring animals
- Using or purchasing livestock-related supplies or equipment
- Making facility changes that affect animals or farm operations

Urgent animal welfare or safety concerns must be reported to the Livestock Coordinator and Farm Manager immediately. If neither is reachable, emergency response procedures under Section 4 apply.

10. Veterinary Care and Instructional Veterinary Activities

Routine and Non-Emergency Care

Animal health concerns will be communicated promptly to the Livestock Coordinator. The Livestock Coordinator coordinates all veterinary services to ensure continuity of care, appropriate records, and treatment decisions consistent with IACUC-approved SOPs. The CTE Instructor will not contact, schedule, or engage veterinary services independently for routine or non-emergency care.

Instructional Veterinary Activities

Veterinary professionals may participate in planned instructional activities at Bowers Farm — including career exploration days, demonstrations, classroom visits, and curriculum-integrated farm visits — provided the activity is included in the Annual Program Overview or submitted as a monthly planning request and confirmed by the Livestock Coordinator in advance. Instructional veterinary activities must be consistent with applicable IACUC-approved SOPs.

Veterinary visits involving livestock will be coordinated to support both animal care needs and student learning. Scheduled appointments should, when reasonably practicable, align with CTE student availability and instructional schedules while remaining responsive to staff availability and the condition and needs of the animal. The CTE Instructor and Livestock Coordinator will communicate in advance to identify appropriate opportunities for students to observe or participate in veterinary activities. The supervising veterinarian retains discretion regarding student participation based on animal welfare, safety, and professional judgment.

Confirmed instructional veterinary activities are an appropriate use of Bowers Farm's educational mission and are encouraged where operationally and IACUC-compatible.

Emergencies

See Section 4. Emergency veterinary contact when the Livestock Coordinator is unreachable is not a protocol violation.

11. FFA, SAE, and After-Hours Student Access

General Scope

After-hours and non-school-day access by BHS students for FFA activities, Supervised Agricultural Experiences (SAE), livestock projects, chores, showmanship practice, or related agricultural education activities involves distinct considerations related to supervision, liability, site security, animal welfare, biosecurity, and public park operations that are not present during the regular instructional day.

Bowers Farm barn, livestock, and animal facilities are not open to general public access. Access to these areas at any time — including after hours — requires advance scheduling and approval as described in this section. BHS students, parents, and family members do not have an independent right of access to these facilities outside of approved and scheduled activities.

No Independent Student Access

BHS students are not permitted to access the barn, livestock areas, animal facilities, or farm facilities independently at any time — before school, after school, on weekends, or during breaks. All after-hours student presence on site must be tied to a specifically approved activity with an identified supervising adult, as defined in the access pathways below.

Approved After-Hours Access Pathways

A BHS student may be present at Bowers Farm after hours only under one of the following approved pathways. All pathways require advance scheduling and confirmation through the Annual Program Overview, Monthly Activity Plan, or separate written confirmation from the Livestock Coordinator or Farm Manager.

Pathway 1: 4-H Enrolled Youth Participating in a Scheduled 4-H Activity

Students enrolled as 4-H members may participate in scheduled, MSU Extension-approved 4-H activities at Bowers Farm. Access under this pathway is permitted only during the approved activity window, in the approved locations, and when MSU Extension staff or currently screened and MSU Extension-approved 4-H volunteers are present. Enrollment in 4-H alone does not authorize access to Bowers Farm facilities. Youth, families, and volunteers are not permitted to access farm facilities outside of approved program times, even if enrolled in 4-H.

Pathway 2: Scheduled Activity Supervised by the BHS AFNR CTE Instructor

Students may participate in after-hours farm activities directly supervised by the BHS AFNR CTE Instructor. The CTE Instructor must be physically present and actively supervising for the duration of the activity. Access is limited to the specific time, location, animals, and activities confirmed in advance by the Livestock Coordinator or Farm Manager. No other BHS employee or representative may serve as the supervising adult under this pathway without prior written approval from the Livestock Coordinator or Farm Manager, identifying the individual by name and role.

Written Access Standards

Before the start of each academic year, OCP and MSUE will provide BHS with the applicable written standards for FFA and SAE after-hours access, including eligibility requirements, supervision standards, permitted hours, access procedures, animal care responsibilities, emergency procedures, and applicable liability requirements. These standards will be incorporated into the Annual Program Overview and reviewed annually.

Only students age 18 or older may operate approved farm equipment, and only with prior authorization, training, and direct supervision.

The CTE Instructor may operate designated farm equipment and vehicles/trailers for approved instructional and livestock-management activities, subject to applicable OCP/MSUE training, authorization, and safety requirements, and coordination of use with Livestock Coordinator/Farm Manager.

Biosecurity and Compliance

All after-hours participants — students, supervising adults, and any accompanying individuals — must comply with MSUE IACUC-approved SOPs and all applicable biosecurity, safety, and facility-use protocols for the duration of their time on site. The supervising adult is responsible for ensuring compliance by all individuals in their group. Individuals who do not comply with biosecurity or facility protocols may be removed from the site and future access may be suspended pending review by the Livestock Coordinator and OCP Chief of Health and Wellness Activation.

12. Working Together

The BHS AFNR CTE Instructor, the MSUE Livestock Coordinator, and the MSUE Farm Manager have complementary and distinct roles. The CTE Instructor leads instruction and student supervision. The Livestock Coordinator leads day-to-day livestock management. The Farm Manager leads day-to-day farm operations and facilities. No party acts unilaterally in another's domain.

Final administrative authority rests with the MSUE District Director and OCP Chief of Health and Wellness Activation. All parties will communicate proactively, respect one another's expertise, and work together in support of students, animals, and the broader mission of Bowers Farm at Discovery Oaks.

All activities at Bowers Farm are conducted in compliance with MSU IACUC-approved Standard Operating Procedures, which supersede all other site-level guidelines and protocols with respect to animal care and use.

Signatures

By signing below, the parties acknowledge these guidelines and commit to the planning and communication processes described herein.

Oakland County Parks and Recreation Commission
Signature: Erin Watson
Name/Title: Erin Watson / Chief of Health & Wellness Activation
Date: 9/24/26

MSU Extension
Signature: Kristi Evans
Name/Title: MSU Extension District Director
Date: 9/22/26

Bloomfield Hills Schools — AFNR CTE Program
Signature: Sarah E. Fairman
Name/Title: Sarah E. Fairman / Director of Secondary Education
Date: 9/22/2026

Bloomfield Hills Schools
Attn: Ms. Christina Kostiuk,CPA, CFO
723 Wing Lake Road
Bloomfield Hills, Michigan 48301

Dear Ms. Kostiuk:

Subject: Excess Property Request, Tract 1388, Control Section 63174, Parcel 322 Pt A, Oakland County, Michigan

Enclosed is the executed and recorded Quit Claim Deed for the above excess property request from the Michigan Department of Transportation.

If you have any further questions, please feel free to contact me at (517) 335-5452 or BonsallJ@Michigan.gov.

Sincerely,

Joseph G. Bonsall
Property Analyst
Property Management Unit
Development Services Division

Enclosure(s)

A-06 | original source page 1 | APP 48

Michigan Department
Of Transportation
2416 (05/16)

QUITCLAIM DEED

The Michigan Department of Transportation (Grantor), whose address is P.O. Box 30050, Lansing, Michigan 48909, for the sum of One hundred fifty-five thousand five hundred dollars ($155,500.00) quit claims to Bloomfield Hills Schools (Grantee), whose address is 7273 Wing Lake Road, Bloomfield Hills, Michigan 48301, the following described real property (the Property) situated in the Township of Bloomfield, County of Oakland, State of Michigan, described as:

LEGAL DESCRIPTION:

See attached Legal Description

Exempt from Michigan Real Estate Transfer Tax under 1966 Public Act 134 Section (5)(h)(i) as amended, MCLA 207.505(h)(i) and under 1993 Public Act 330 Section (6)(h)(i) as amended. MCLA 207.526(h)(i).

The Property may be located within the vicinity of farmland or a farm operation. Generally accepted agricultural and management practices which may generate noise, dust, odors, and other associated conditions may be used and are protected by the Michigan Right to Farm Act, Act No. 93 of Public Acts of 1981, MCL 286.471 *et seq.*

Grantor grants to Grantee the right to make all available division(s) under section 108 of the land division act, Act No. 288 of Public Acts of 1967, MCL 560.101 *et seq.*

PROPERTY TAX CODE none assigned - former highway right-of-way		
CONTROL SECTION 63174	PARCEL C-322 Pt A	JOB NUMBER
TRACT NUMBER 1388	LAND CONTRACT NUMBER n/a	

A-06 | original source page 2 | APP 49

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CONTROL SECTION 63174	PARCEL C-322 Pt A	JOB NUMBER
TRACT NUMBER 1388	LAND CONTRACT NUMBER n/a	

A-06 | original source page 3 | APP 50

to reimburse Grantor for any and all amounts incurred by Grantor arising out of Grantee's noncompliance with this restriction including, but not limited to, design and construction costs, repair costs, highway defect claims, incidental damages, loss of use and attorney fees and court costs.

3. All easements of record and right to maintain any public utility facilities existing on, under or over the Property. Upon acceptance of this conveyance, Grantee agrees to permit the owners of these facilities to cross over the Property for maintenance purposes.

4. No bill board, sign, sign structure, or advertising device shall be erected, permitted, or maintained in or upon the lands herein conveyed.

See page 4 for reservation #5

Signed this 23rd day of December, 20 20

APPROVED
By Mary Waddell at 9:15 am, Nov 30, 2020

Signature Bradley C. Wieferich, Director, Bureau of Development
Michigan Department of Transportation

STATE OF MICHIGAN
COUNTY OF Ingham

The foregoing instrument was acknowledged before me this 23rd Day of December 20 20,

By Bradley C. Wieferich, Director, Bureau of Development
Michigan Department of Transportation

SUSAN LUBITZ
NOTARY PUBLIC, STATE OF MI
COUNTY OF IONIA
MY COMMISSION EXPIRES May 25, 2023
ACTING IN COUNTY OF Ingham

Susan Lubitz, Ingham, Michigan 5-25-2023
NOTARY PUBLIC COUNTY COMMISSION EXPIRES

Drafted by:	When recorded return to:
Michigan Department of Transportation Development Services Division, Joseph G Bonsall P.O. Box 30050 Lansing, MI 48909	Michigan Department of Transportation Development Services Division, B250 Attn: Joseph G Bonsall P.O. Box 30050 Lansing, MI 48909

PROPERTY TAX CODE n/a		
CONTROL SECTION 63174	PARCEL C-322 Pt A	JOB NUMBER
TRACT NUMBER 1388	LAND CONTRACT NUMBER n/a	

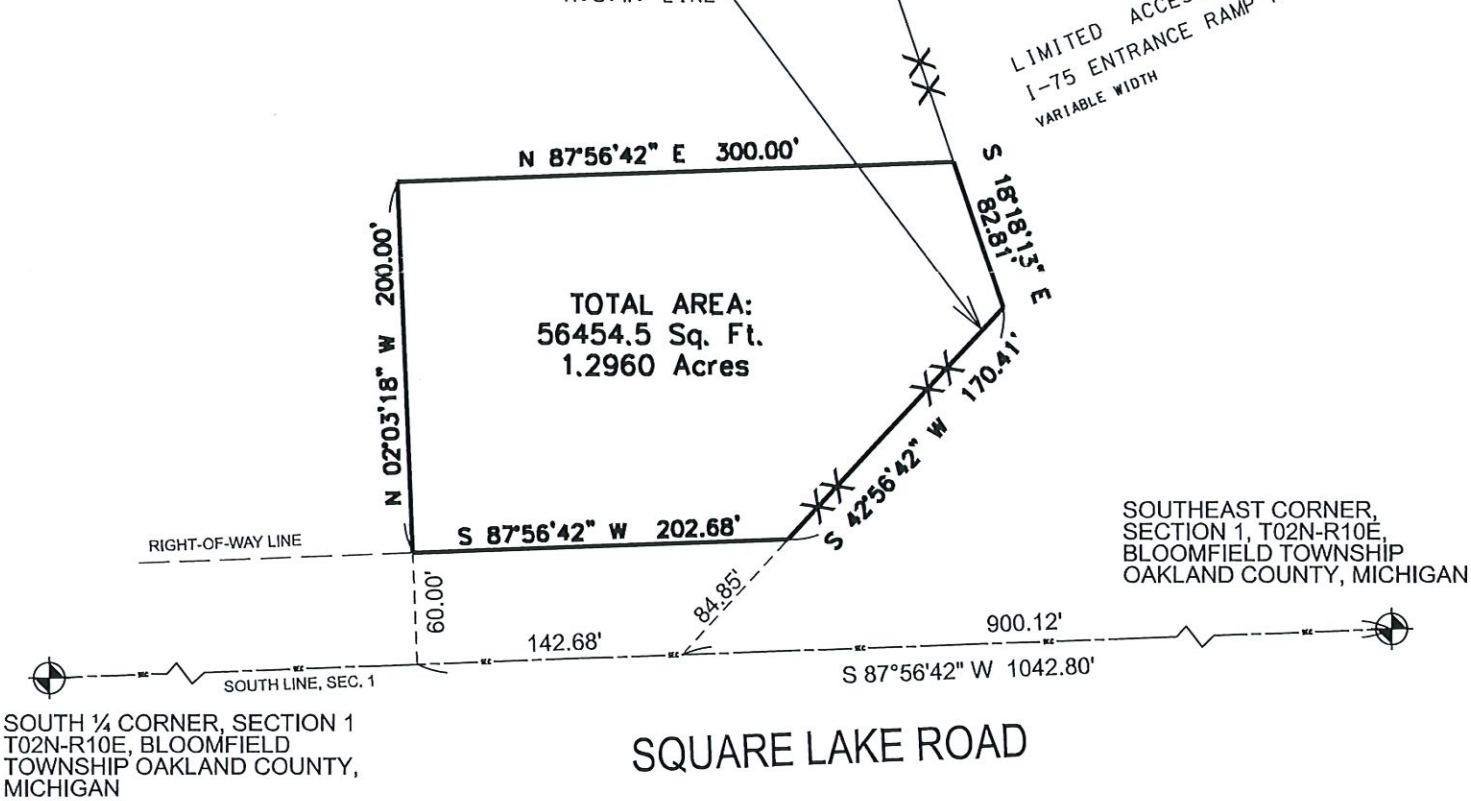
THENCE S 87° 56 42" W, ALONG SAID NORTHERLY RIGHT-OF-WAY LINE OF SQAURE LAKE ROAD, 202.66 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION. CONTAINING 1.2960 ACRES, MORE OR LESS.

Further described in the attached "Exhibit A"

PROPERTY TAX CODE none assigned - former highway right-of-way		
CONTROL SECTION 63174	PARCEL C-322 Pt A	JOB NUMBER
TRACT NUMBER 1388	LAND CONTRACT NUMBER n/a	

Director. Compensation for release is based on the difference between the original sale price and the current market value of the property (less the value of improvements made by the purchaser) prorated over the ten (10) year reversionary term. The current market value will be determined by an appraisal. The purchaser is responsible for bearing the cost of the appraisal.

PROPERTY TAX CODE none assigned - former highway right-of-way		
CONTROL SECTION 63174	PARCEL C-322 Pt A	JOB NUMBER
TRACT NUMBER 1388	LAND CONTRACT NUMBER n/a	



PROPERTY DESCRIPTION:

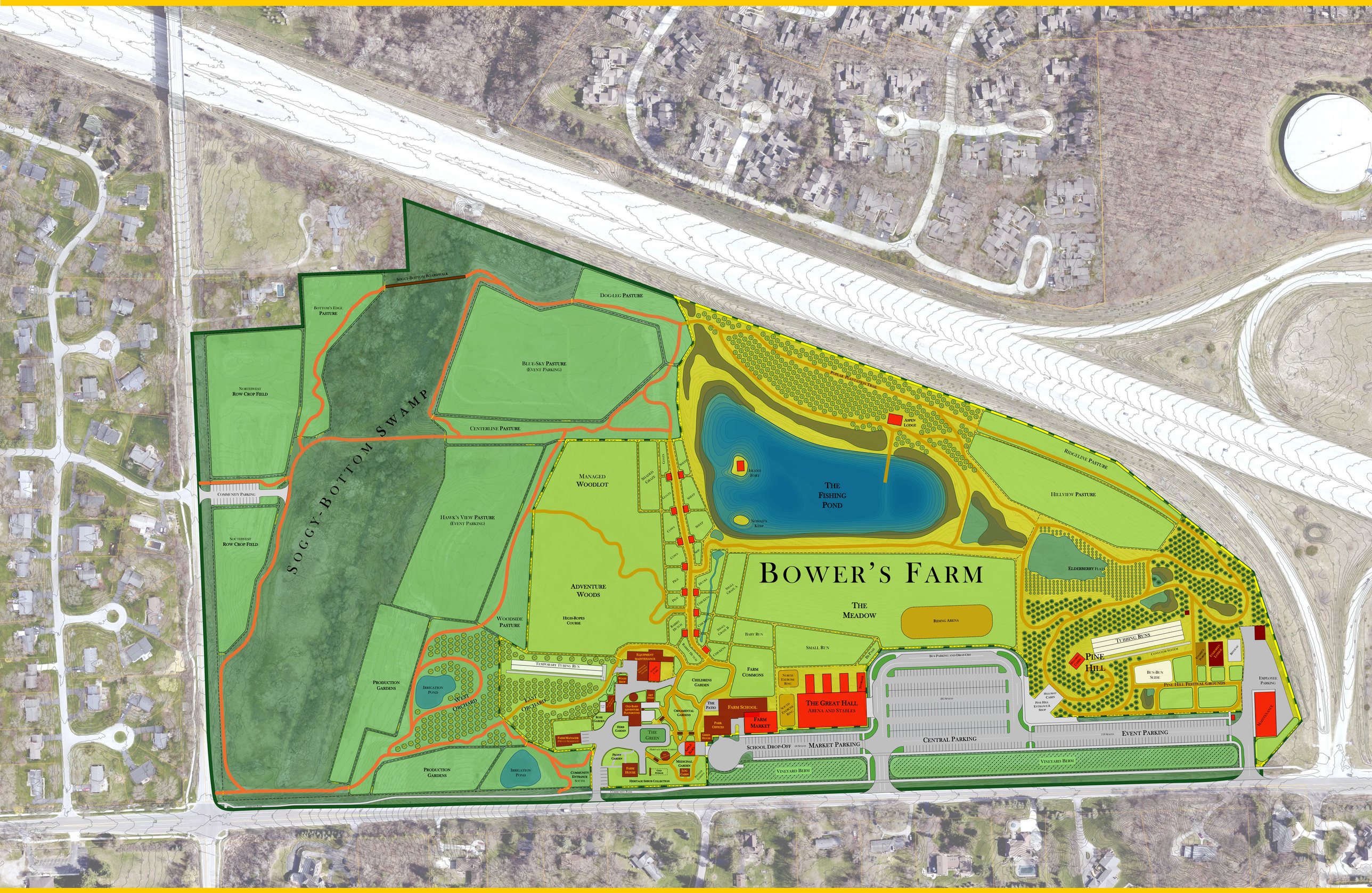
PART OF THE SOUTHEAST 1/4 OF SECTION 1, T02N-R10E, BLOOMFIELD TOWNSHIP, OAKLAND COUNTY, MI, THE BOUNDARY OF THE PARCEL BEING DESCRIBED AS: BEGINNING AT THE SOUTHEAST CORNER OF SAID SECTION 1; THENCE S 87°56'42" W, ALONG THE SOUTH LINE OF SAID SECTION 1, 1042.80 FEET; THENCE N02°03'18" W, 60.00 FEET TO THE NORTHERLY RIGHT-OF-WAY LINE OF SQUARE LAKE ROAD AND THE POINT OF BEGINNING OF THIS PARCEL; THENCE CONTINUING N 02°03'18" W, 200.00 FEET; THENCE N 87°56'42" E, PARALLEL WITH SAID SOUTH SECTION LINE, 300.00 FEET TO THE WESTERLY RIGHT-OF-WAY LINE OF THE I-75 RAMP H AND LIMITED ACCESS LINE; THENCE S 18°18'13" E, ALONG SAID RIGHT-OF-WAY AND LIMITED ACCESS LINE, 82.81 FEET; THENCE CONTINUING ALONG SAID RIGHT-OF-WAY AND LIMITED ACCESS LINE S 42°56'42" W, 170.41 FEET TO A POINT ON SAID NORTHERLY RIGHT-OF-WAY LINE OF SQUARE LAKE ROAD; THENCE S 87°56'42" W, ALONG SAID NORTHERLY RIGHT-OF-WAY LINE OF SQUARE LAKE ROAD, 202.68 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION. CONTAINING 1.2960 ACRES, MORE OR LESS.

NOTES:

1.) THE BEARINGS AND DISTANCES UTILIZED FOR THIS PARCEL DESCRIPTION ARE TAKEN FROM A DEED RECORDED IN LIBER 13079, PAGE 334, OAKLAND COUNTY, MICHIGAN RECORDS.

2.) EASEMENTS OR RESTRICTIONS OF RECORD NOT DEPICTED ON THE DRAWING MAY EXIST.

Bower's Farm
at
Discovery Oaks County Park



Park Map - Key

- Park Boundary
- Farm Estate – Managed Access
- Community Access Area
- Farm Roads/Trails
- Park Roads/Trails
- Farm Fencing
- Fenced Paddock
- Hardscape (Concrete or Asphalt)
- Existing Structures
- Proposed Structures
- Fruit Tree Orchard
- Evergreen Plantation
- Shrub Plantation
- Hardwood Plantation
- Trellis Arbors
- Waterbodies
- Wetlands
- Synthetic Surface Slide Features
- Steps (not to scale)
- Riding Arena Surface

N

Bowers Academy / Farm Building

Building Map

= A.E.D.
= EpiPen
= BluePoint

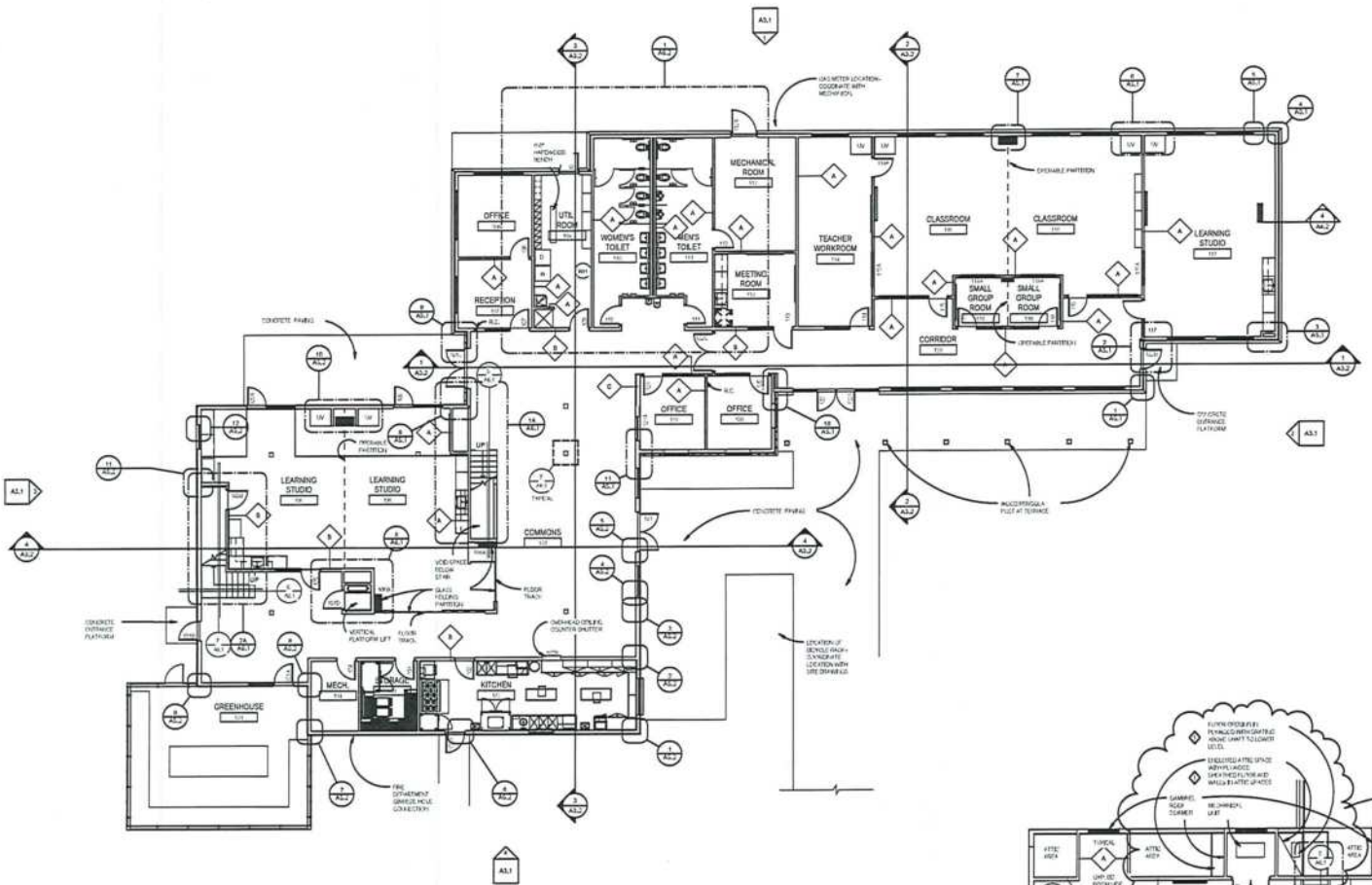


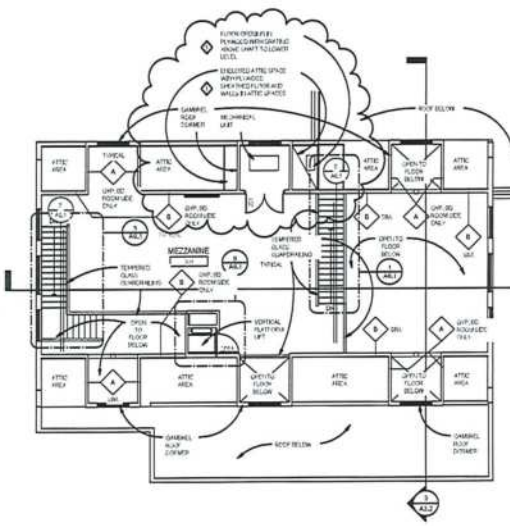
Bloomfield Hills Schools

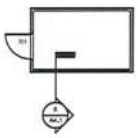
1223 E. Square Lake Road, Bloomfield Hills, MI 48304

www.bloomfield.org • 248.341.5990

Unauthorized changes to this map are strictly prohibited. If you would like to make a change, please contact the Communications Office at 248.341.5451.







PUMP HOUSE
1/8" = 1'-0"



BOWERS SCHOOL FARM MASTER PLAN 2027

Phase 1: Facility and Market Analysis
Phase 2: Strategic Plan
Phase 3: Master Planning Report

Published July 2023

FELIS consulting

BOWERS SCHOOL FARM
BLOOMFIELD HILLS SCHOOLS

Monumental Strides



Phase 1 Report: Facility & Market Analysis

FELIS consulting

BOWERS SCHOOL FARM
BLOOMFIELD HILLS SCHOOLS

Monumental Strides

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STRATEGIC & MASTER PLANNING

3 PHASE PROCESS

Phase 1
Facility & Market Analysis
(Aug – Nov 2022)

Phase 2
Strategic Planning
(Nov 2022 – Jan 2023)

Phase 3
Master Planning
(Jan 2023 – May 2023)

Define our starting point

- Assess current site, facilities and operations
- Assess current market performance
- Identify SWOT

Define our Destination

- Identify goals and vision for next 5 yrs.
- Define the strategies and action plan to reach these goals

Create a Roadmap for Implementation

- Design the program and site plan for Farm improvements
- Identify key stories and overarching messages for guest experience
- Phased diagrams and illustrations to build stakeholder excitement and assist with fundraising efforts

PHASE 1 EXECUTIVE SUMMARY

The Bowers School Farm is a unique and powerful asset for the Bloomfield Hills communities. Originally created in 1967 to support the school district's agriculture education efforts, the facility today not only strengthens the Bloomfield Hills Schools' formalized education program but also provides authentic, hand-on learning opportunities for community residents (primarily up to a thirty-minute drive time). It is a working farm that welcomes all ages seeking to inspire lifelong curiosity and positive change through engaging and meaningful experiences with agriculture, food, and sustainable natural resources.

SITE & FACILITY ANALYSIS

Sited on almost 95 acres, developed areas supporting the farm's operations is primarily focused in one defined area centrally located at the south edge along E. Square Lake Rd. While the location of this 'main village' is advantageous in welcoming students and visitors and acting as a hub for agricultural activities, it is disconnected from the developments supporting events located at the southeast corner of the site. Reconfiguring existing programmatic elements in the master plan will improve farm operations and user experiences if the following are addressed:

- More efficient site layout of existing and new attractions
- Improved physical accessibility and visitor wayfinding
- Clear delineation of user spaces – employees, students, volunteers and visitors
- More effective water management onsite
- Improved and intentional design improvements to make the Farm more aesthetically pleasing and take advantage of the beautiful landscape

Many of the facility's buildings and infrastructure systems are aging or no longer serve the needs of the farm. Of particular concern are the utilization of the historic structures onsite to integrate into the Farm's story, as well as their functionality related to animal wellness and guest accessibility. Additionally, through a team evaluation of the facilities based on age/condition, functionality/efficiency, and guest experience, the sewer infrastructure, production gardens, Academy Café, Root Cellar, Horse & Goat Barn, and Bowers Cottage were all identified as most critical to be improved in the near future.

An Accessibility Evaluation was completed by an Inclusive Recreation and Accessibility Consultant (Cynthia Burkhour) who evaluated the site and all facility spaces for accessibility compliance. The site is currently very limiting for people of varying abilities, especially those with limited mobility. Some key recommendations include:

- Redesigning noted pathways for appropriate slopes and surface materials to facilitate accessibility for all abilities.
- Providing information about accessibility on the Farm's website, at the Visitor Information Center and on signs located across the site.
- Providing all-terrain wheelchairs to help with navigating less accessible routes
- Considering other methods for engaging visitors in areas where accessibility cannot be achieved (e.g. moving animal demonstrations on busy days, using mirrors or photographs to visually communicate concealed areas, etc.)

CURRENT PROGRAMS

While most of the education and community programs currently target K-12 students, Bowers School Farm does offer programs and events focused on engaging the community and adults throughout the year. The Farm Store and Events (Winter Park, Fall Festival, and Bourbon & Brews) were noted by several in the community as effective means of engagement as well as opportunities for the Farm to expand its offerings. Community members also expressed a strong desire for the Farm to expand their capacities related to Camp programs, including expansion into the school year.

PERFORMANCE ANALYSIS

The Felis Consulting team analyzed attendance data and revenue data to understand how the site/facilities and business overall is performing. Our attendance analysis confirmed that the toilet and parking capacities meet the Farm's needs for today, but any increases in attendance will strain these amenities. The business analysis highlights the complications in the current public-private hybrid management and funding structure but showcases the potential for growth in community focused revenue streams. Revenue streams most promising include those related to food, retail, site rentals, events, education programs, and membership programs.

COMPETITION & BENCHMARKING

Competitors for Bowers School Farm include other farm experiences, along with Farmers Markets and businesses providing animal experiences. When looking at the competitive landscape, we highlighted top competitors based on the following categories:

- Education (student programs and field trips)
- Visitor Experience
- Resource for Local Food
- Event Spaces
- Fundraising
- Volunteers

Competition assessment included site visits and online research and was focused on helping the Farm understand what makes them unique. Qualities that differentiate the Bowers School Farm experience from others included the following.

- Authentic, credible, and relatable
- Strong relationships created with visitors and community
- The Farm's unique story

BRAND & PUBLIC PERCEPTION

The Felis Consulting team conducted three stakeholder workshops and a public engagement survey to gather data supporting the perception of the Farm, as well as brainstorm ideas for improvement. The results confirmed that the community recognizes and values the roles the Farm plays, both in supporting the BHS education program and in providing learning opportunities and agriculture experiences for people of all ages. Guests today are visiting the Farm for events, to view or interact with the animals, make purchases in the Farm Store, or participate in programs. Additionally, they are hoping to see more events, programs, interpretation, longer hours and more things to do during Farm visits. One of the most noted barriers for visitation is a lack of awareness especially related to events, programs, and generally what there is to do at the Farm.

While perceptions of the Farm are very positive, many visitors noted a lack of value—particularly wanting more for the price of admission. However, throughout all the public engagement touch points, the community expressed a strong desire to NOT commercialize (i.e. Farm-Amusement) and want the Farm to focus on educational experiences that build community within the BHS market.

SWOT

Using feedback from our public engagement efforts and internal workshops with key stakeholders (Farm Staff, BHS Central Office, Bowers Academy, Friends of the Farm), we outlined the Farm's internal strengths and weaknesses as well as external opportunities (trends/events that the Farm can use to support its growth) and threats (trends/events that can derail growth efforts.) These will be key in Phase 2 as we identify the Strategic Plan goals and strategies for 2027.

STRENGTHS

Farm Features, Programs & Attractions

Unique attraction (a farm in the city/suburbs)

Hands-on, authentic, intimate and educational experiences with agriculture are well received by the community

Large plot of land (93 acres) with diverse features (lake, gardens, pasture, woods)

Easy access from I-75

Historic structures provide additional education opportunities and strengthen story

Unique and engaging animal experiences

Farm Store with popular food offerings – fresh produce, farm raised meat, ice cream and pizza

Team & Internal Culture

Strong, talented, motivated and effective team

Friendly and relatable staff and teachers

Passionate and engaged volunteer groups

Active Friends of the Farm group

Events

Successful events that attract wider and more diverse audiences

“Farm to Table” events have been well received

Brand & Public Perception

Ongoing community support of the Farm is conveyed through the following.

- Strong (and growing) membership program
- Community Garden participation
- Summer Camp enrollment
- Excitement about current food products

Safe & secure environment and other positive perceptions

WEAKNESSES

Team & Internal Culture

Additional staff needed for any future growth

Employee benefits, work-life balance and focus on mental health

Current hiring constraints and limited HR capacity makes hiring new employees for the Farm a difficult process

Farm would benefit from stronger representation and positioning in BHS

Farm Features, Programs & Attractions

Land – more efficient layout for operations and use

Outgrown current facilities esp. kitchen, staff spaces & storage

Maintenance / replacement plan needed for aging facilities

New (and designated) quarantine facility

Production garden is not visible to public

Farm does not function as a community gathering space

Continued growth and efficient management of community and school farm education programs

Longer and more consistent hours for the Farm Store

Growth and retention in Membership

Limited recycling and no composting

Physical accessibility of the site

Limitations in reaching underrepresented and underfunded communities outside of BHS

Brand & Public Perception

Farm story is not told consistently

Stronger marketing strategy for Farm’s current offerings

New PR/Communications plan to communicate the Farm’s story and manage unforeseen events

OPPORTUNITIES

New Markets

Interested public audience presents opportunities for better communication and engagement

Strong demand for community programming and events

Customer and volunteer pools are growing among the following groups

- Retiring Boomers who are looking for something to do
- People looking for a greater purpose in life

Ropes courses could be used to target organizations looking for team building experiences

Moving Membership under Friends of BSF could help shift perception from “customer” to “farm supporter”

- Manages expectations of “what do I get for my membership”
- Strengthens sense of ownership for the Farm

Funding

Economic downtowns result in increased BHS student enrollment

Large pool of potential donors in the BHS area

Grants are available through the Dept. of Natural Resources to assist with improving accessibility issues

Food

Popular food trends could open new revenue sources

Partnership with Aramark to provide food to BHS

Expanded Farm to Table events

Operations

New technology is available today for more efficient farm operations with less staff

Friends of the Farm organization could play a greater role in managing and growing community focused initiatives for maximum success in overcoming current staffing and funding barriers

THREATS

BHS Board & Community

Private school attendance continues to limit the following.

- Financial support
- Students reached through field trips and BHS programs

Aging population in the BHS area and low inventory of homes to attract new families reduces current (primary) target audience.

Operations

The following issues impact staffing.

- Retaining current staff and attracting new staff as many are looking elsewhere for jobs that pay more for less work
- Hiring process and training takes time

Public Perceptions

Community perception that access fees should be “covered by the school taxes they already pay”

Food is typically viewed as a commodity among some audiences.

- People with less disposable income
- Older generations

Animal related diseases negatively impact attendance

Animal deaths and/or animal activist groups could result in negative backlashes that impact attendance, guest perception and brand

SECTION 1:

WHAT IS THE FARM TODAY?



VISION & MISSION STATEMENT



Vision

We are growing a better future by:

- Cultivating community
- Inspiring learners to find purpose & create change
- Engaging visitors through meaningful & memorable experiences

Mission Statement

We welcome every learner to discover and wonder in the world around them. We encourage a lifetime of informed choices in the agriculture, food and natural resource systems.

Both the Farm and the Nature Centers share a common purpose - to inspire authentic learning through hands-on experiences.



DEI STATEMENT

We are committed to building a community focused on health, healing and the sustainability of all life on earth.

- Place: We will cultivate attention to the beauty and wonder of nature, the harvest and the interconnectedness of all living things.

- Inquiry: We will partner with all members of our community to draw in a wide range of strengths and knowledge in order to design and provide educational experiences that promote equity and compassion for all. We will do so through a process that is rooted in inquiry and reciprocity.

- Civic engagement & action: We will develop awareness and inspire positive change by welcoming, engaging and supporting our local community members and visitors.

SITE ANALYSIS

What is the current state of the physical facility?
What are potential opportunities and challenges to development?



EXISTING SITE PLAN

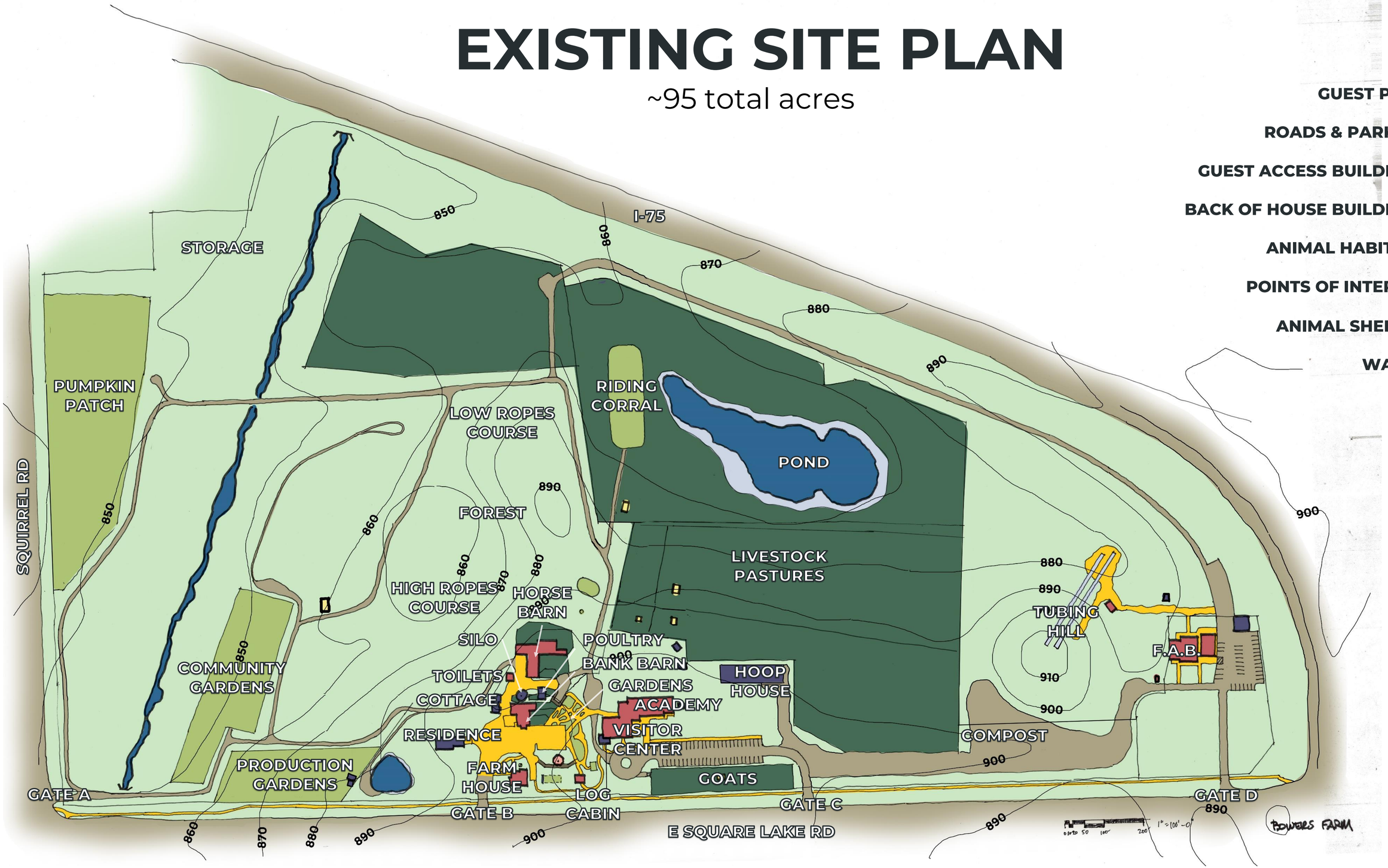
~95 total acres



- GUEST PATH
- ROADS & PARKING
- GUEST ACCESS BUILDINGS
- BACK OF HOUSE BUILDINGS
- ANIMAL HABITATS
- POINTS OF INTEREST
- TREES & VEGETATION
- ANIMAL SHELTER
- WATER

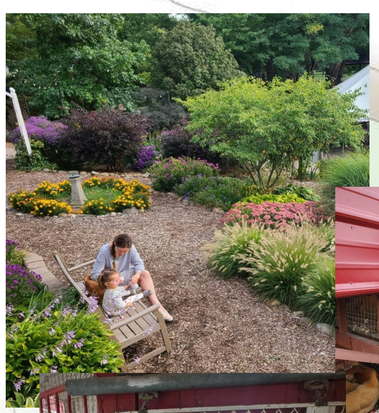
EXISTING SITE PLAN

~95 total acres



- GUEST PATH
- ROADS & PARKING
- GUEST ACCESS BUILDINGS
- BACK OF HOUSE BUILDINGS
- ANIMAL HABITATS
- POINTS OF INTEREST
- ANIMAL SHELTER
- WATER

EXPERIENTIAL ANALYSIS



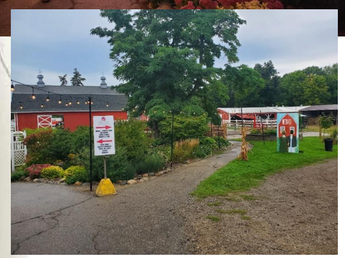


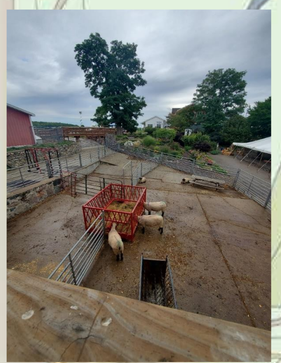


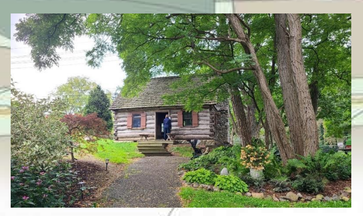












SPECIAL PLACE

GOOD VIEW

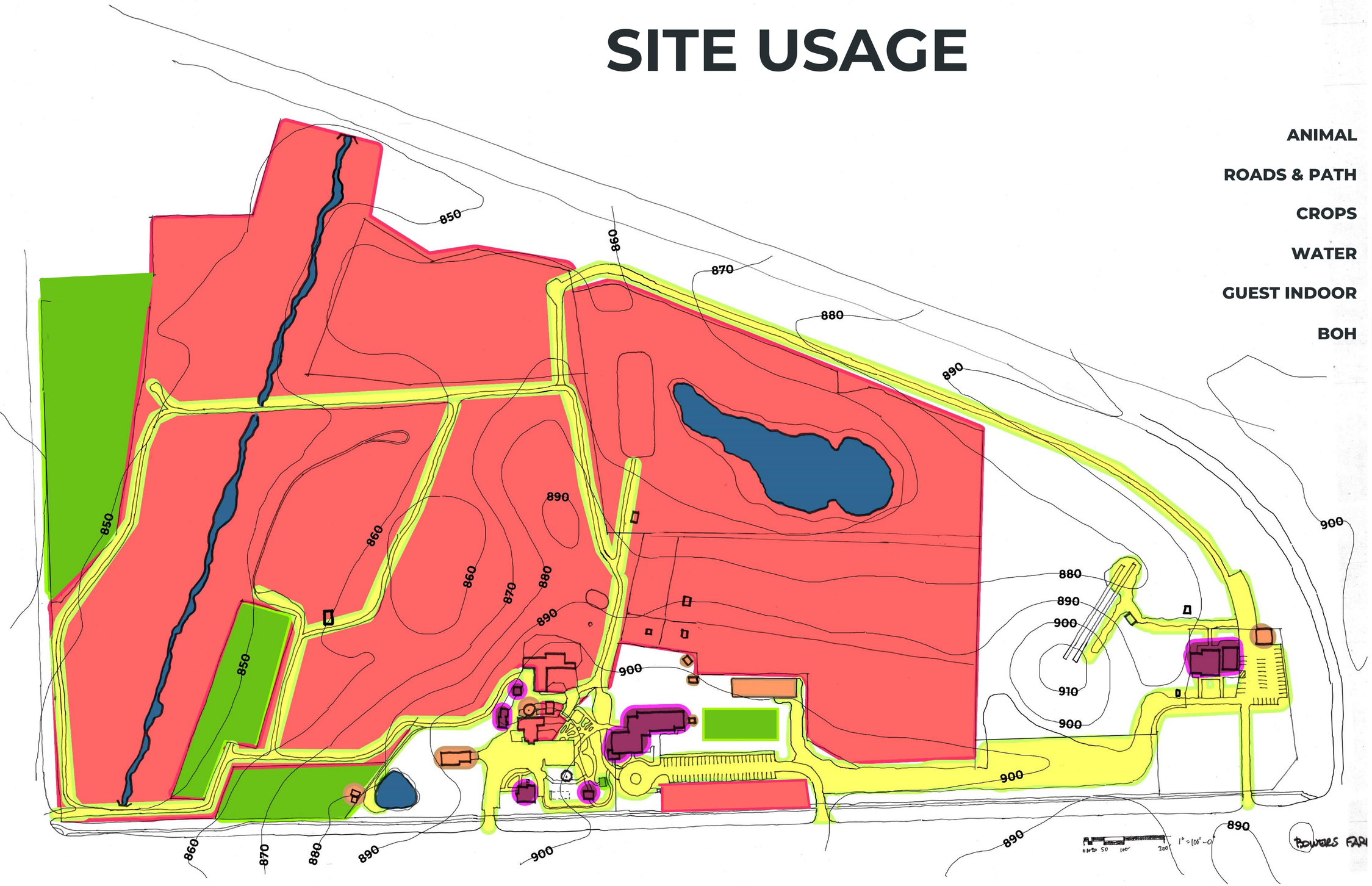
NEGATIVE VIEW

CONFUSION

MISSED OPPORT.

NOISE

SITE USAGE



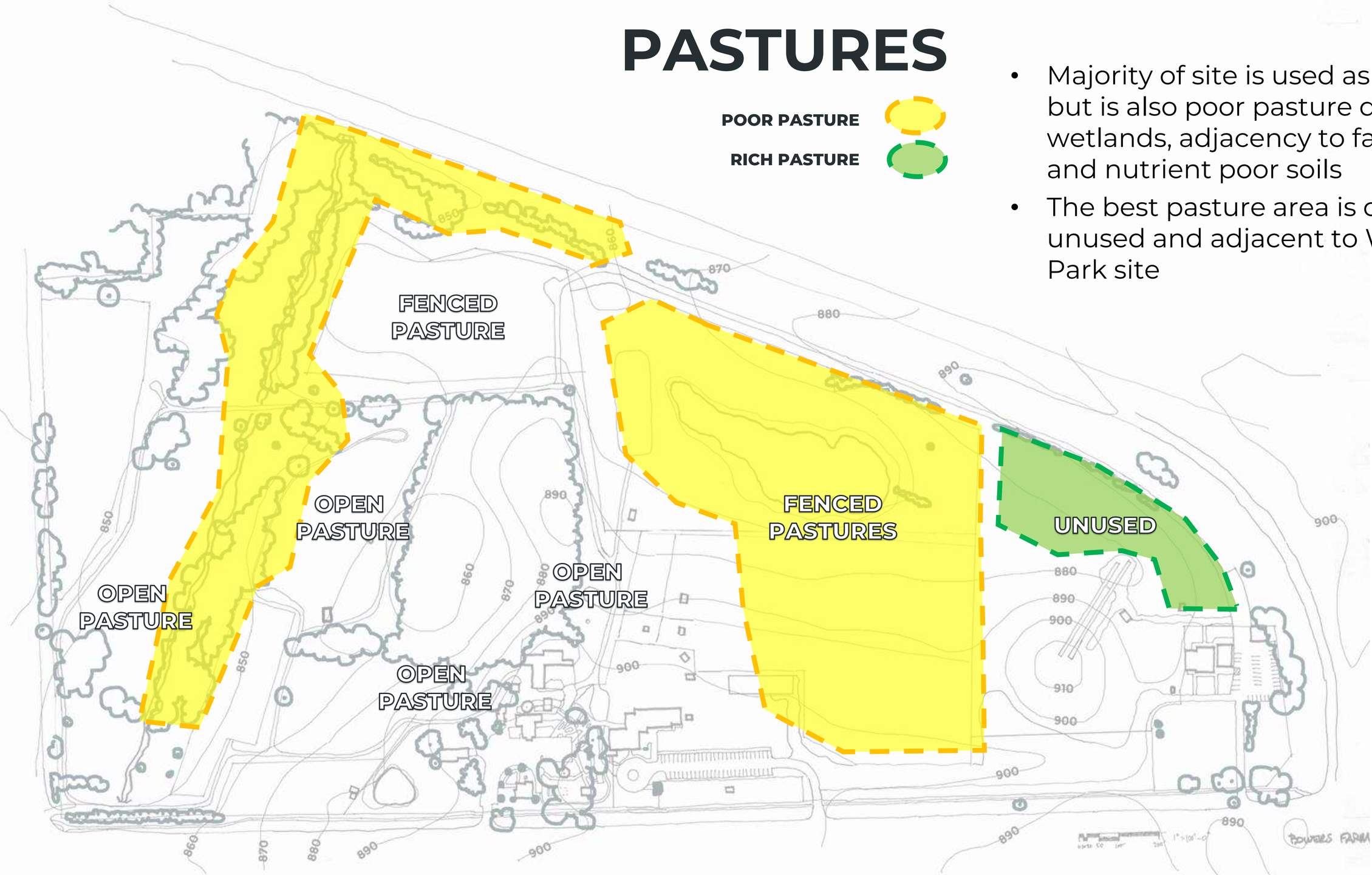
	PERCENT OF TOTAL
ANIMAL	57%
ROADS & PATH	8%
CROPS	6%
WATER	3%
GUEST INDOOR	0.7%
BOH	0.5%

PASTURES

POOR PASTURE

RICH PASTURE

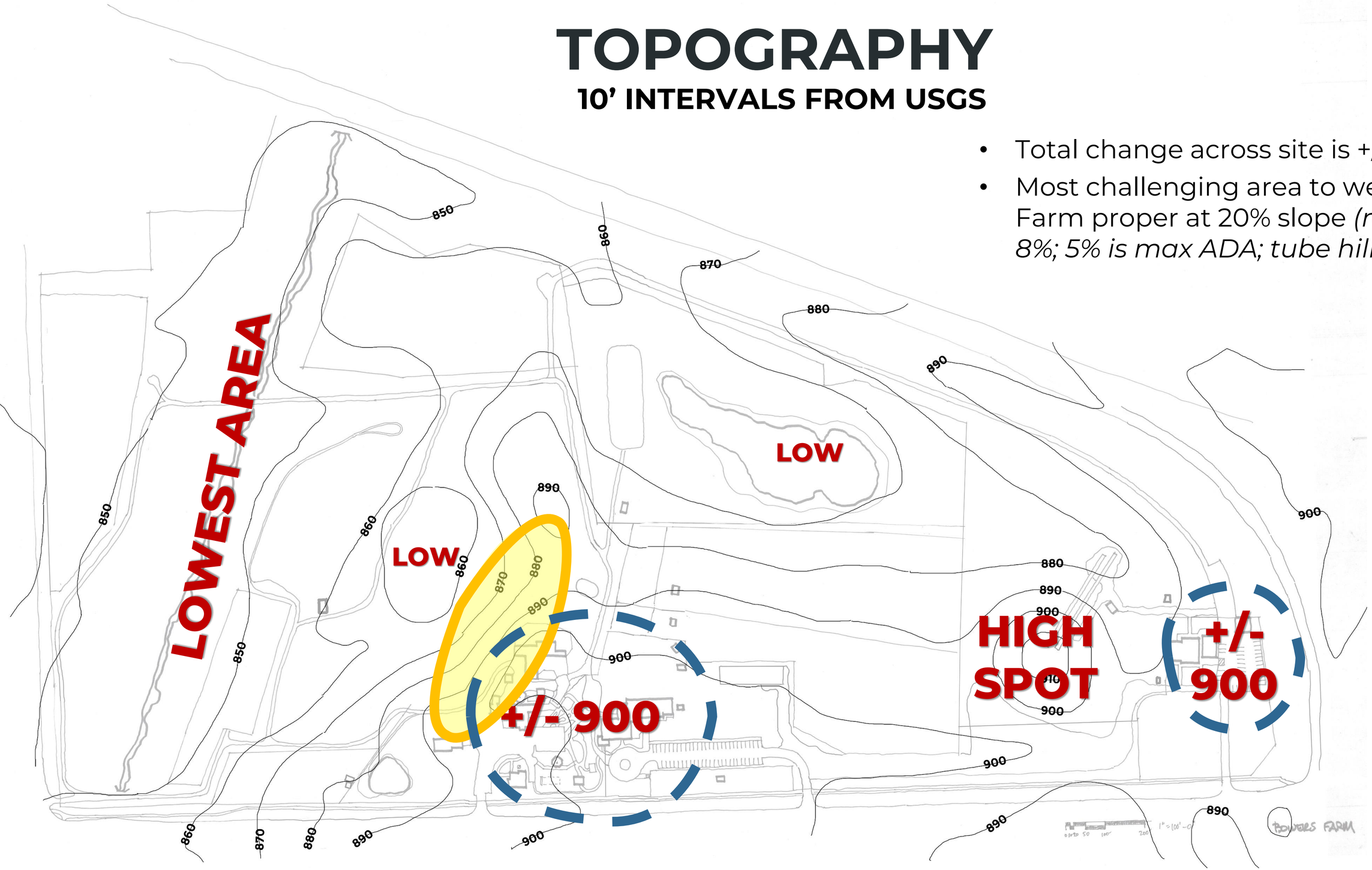
- Majority of site is used as pasture, but is also poor pasture due to wetlands, adjacency to farm pond, and nutrient poor soils
- The best pasture area is currently unused and adjacent to Winter Park site



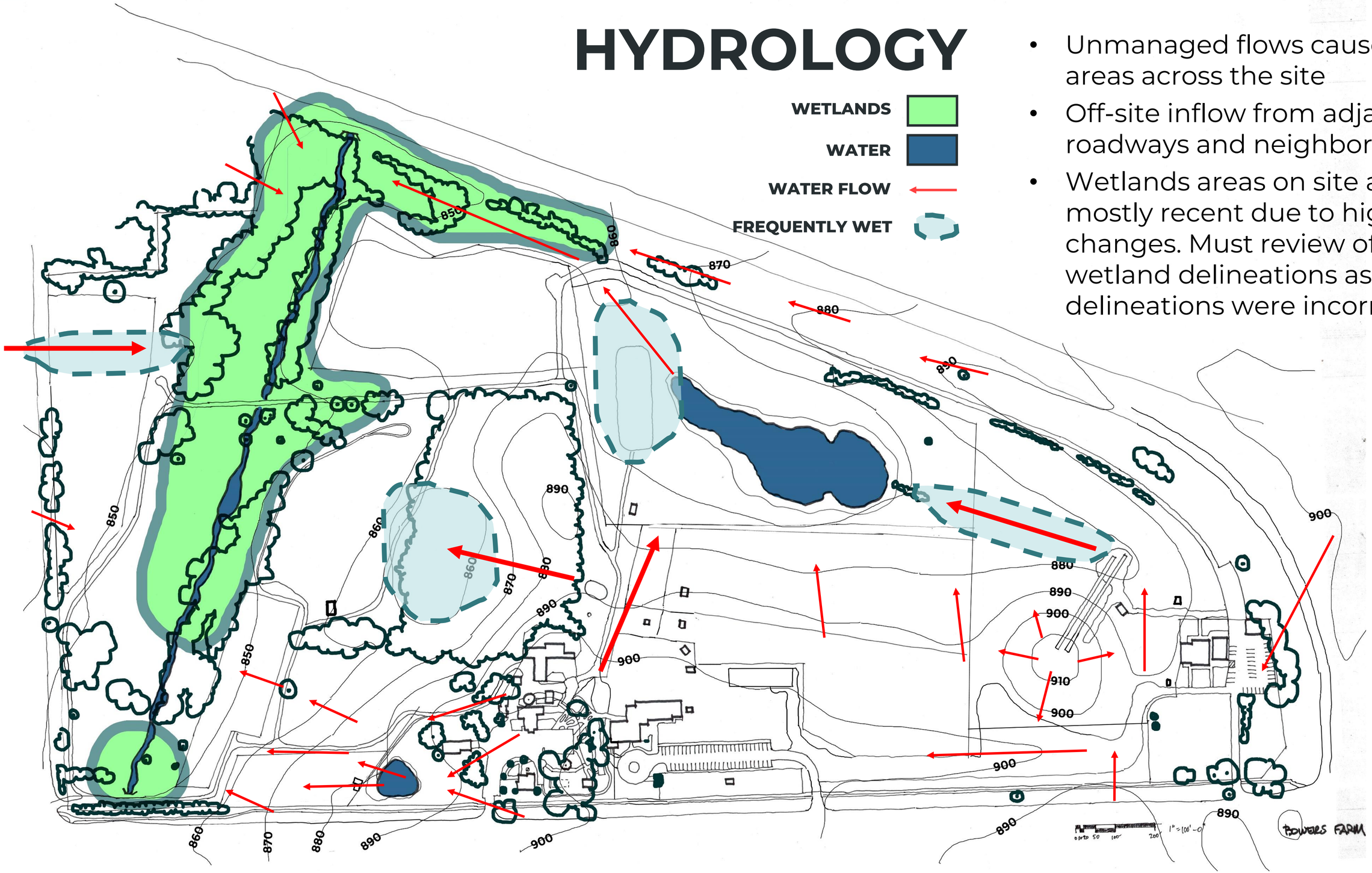
TOPOGRAPHY

10’ INTERVALS FROM USGS

- Total change across site is +/- 60’
- Most challenging area to west of Farm proper at 20% slope *(ramps are 8%; 5% is max ADA; tube hill 16%)*



HYDROLOGY



- Unmanaged flows cause wet areas across the site
- Off-site inflow from adjacent roadways and neighborhoods
- Wetlands areas on site are mostly recent due to highway changes. Must review official wetland delineations as USGS delineations were incorrect.

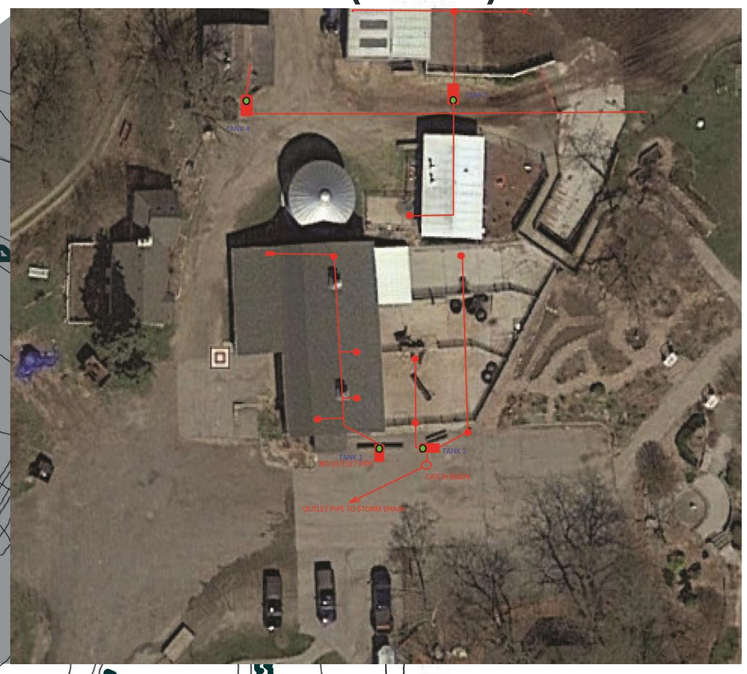
HYDROLOGY

USGS DELINEATED WETLANDS

WATER

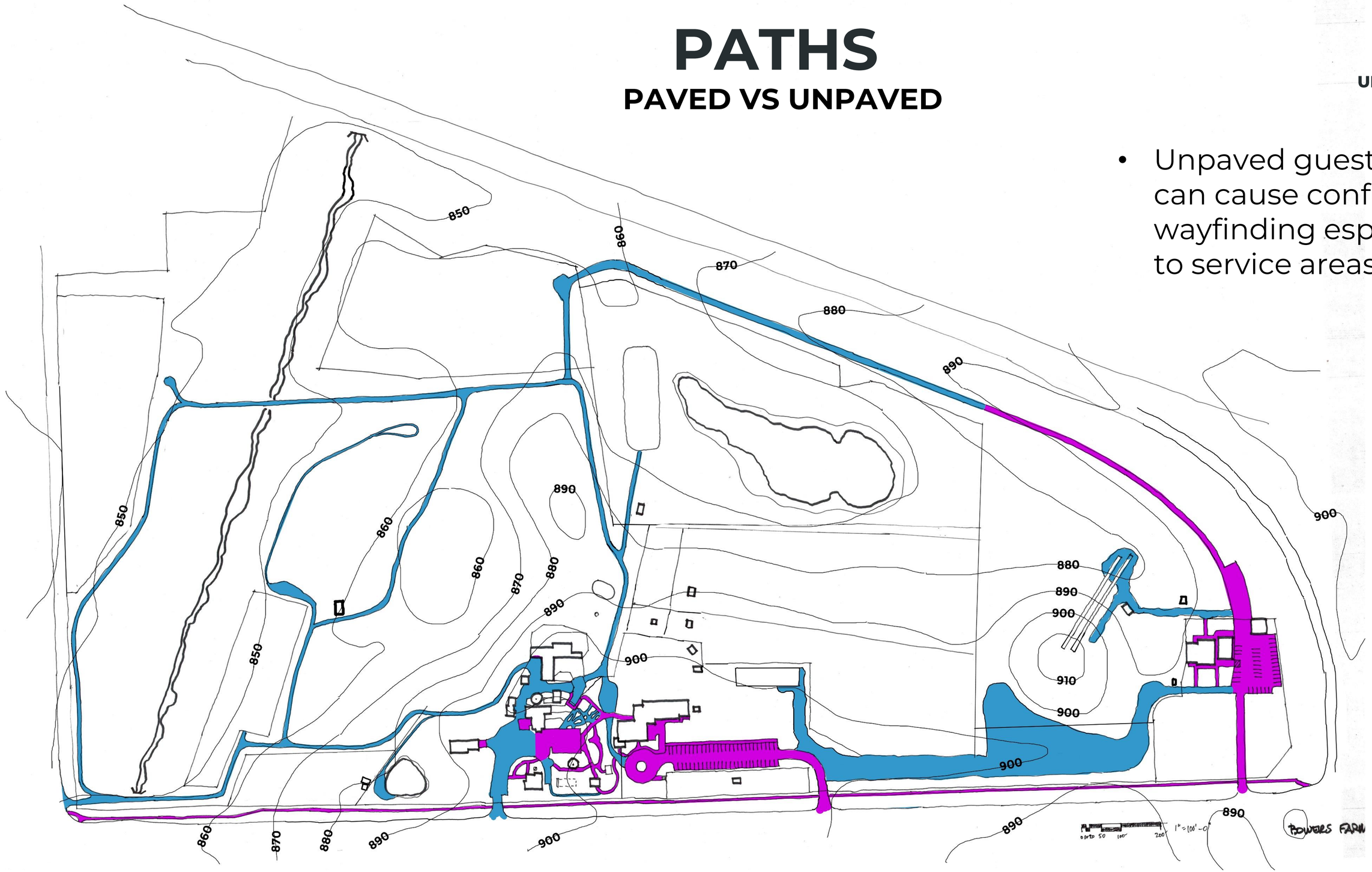
- Lack of sewer infrastructure and aging / unusable systems

SEPTIC LINES & TANKS (PUMPED)



PATHS

PAVED VS UNPAVED



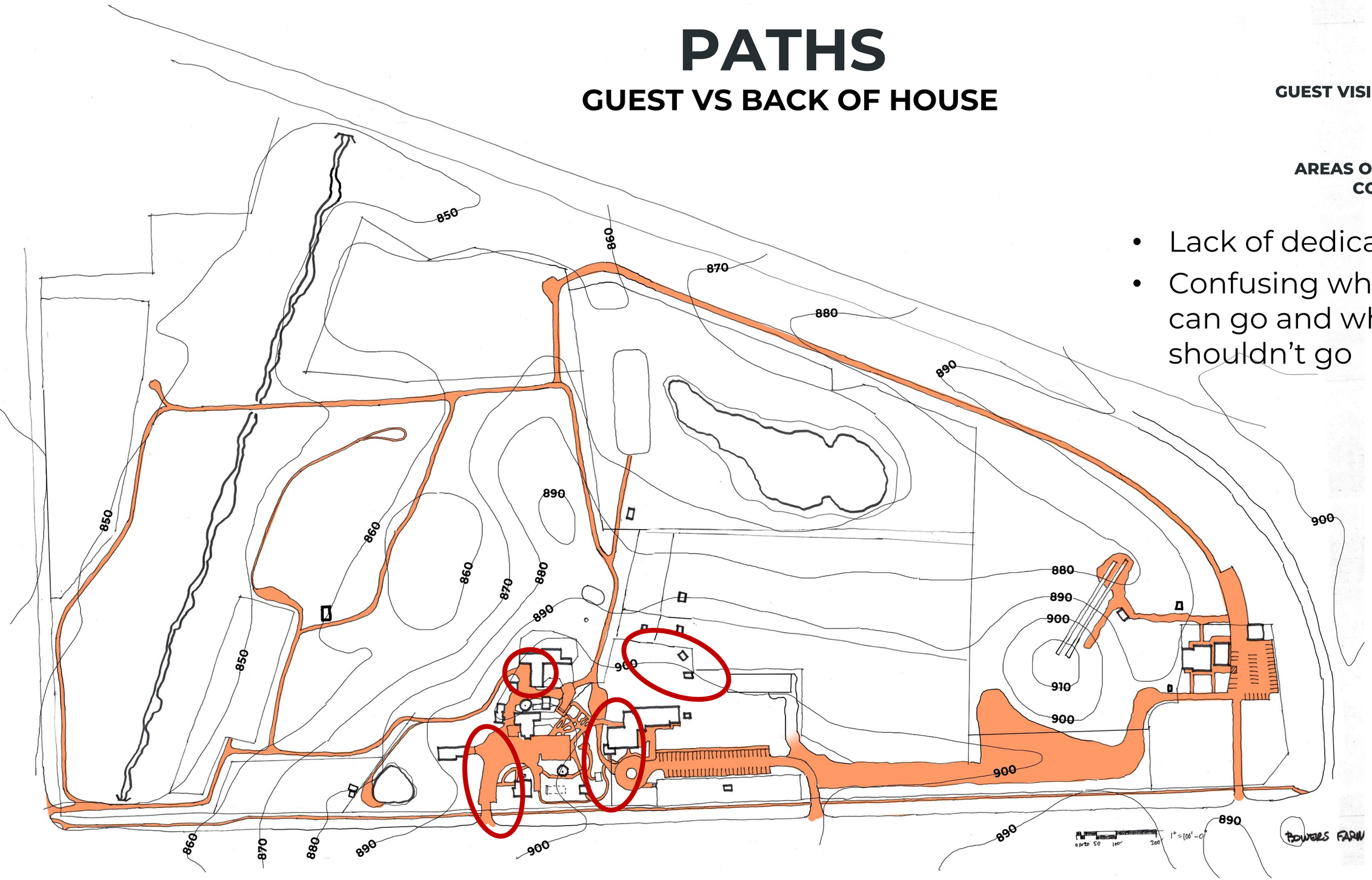
PAVED

UNPAVED

- Unpaved guest paths can cause confusion for wayfinding esp. related to service areas

PATHS

GUEST VS BACK OF HOUSE



GUEST VISIBLE PATH

BOH

AREAS OF VISITOR CONFUSION

- Lack of dedicated BOH
- Confusing where guests can go and where they shouldn't go

FACILITY EVALUATION

	Ave / Priority	Age / Cond.	Function/ Efficiency	Guest Exp.	Known Improvements Needed
Hoop House / New Field Wash Pack	0.0	N/A	N/A	N/A	Needs to be created.
Academy Café	1.0	1	1	1	Café used as social work office space now; Carpeted floor; Storage for food; Too many uses and too small.
Root Cellar	1.0	1	1	1	Leaks. Needs a full space review - needs to be rodent proof. Historic structure.
Horse & Goat Barn	1.0	1	1	1	It's time to replace. Not ideal for any animal. We have made many modifications to work current needs.
Bowers Cottage	1.0	1	1	1	It is a space that has potential. Needs total overhaul.
Toilet Building	1.0	1	1	1	Needs to be replaced.
Laundry Room	1.3	2	1	1	Beat up, older stuff. Not enough lockers or space. Office supplies in there. Need additional washer and dryer for kitchen vs animal stuff. Need biosecure entry for all from Farm.
Toilets Entry / Academy	1.3	2	1	1	All people use the same toilet...need additional and separate areas. Bad toilet, gaps in doors, etc.
Produce Display (in store)	1.3	2	1	1	Since we are growing produce, we need to be able to get it to the customer. Closed coolers, not have to move it back and forth.
Store	1.3	2	1	1	Not intended for retail. Was originally a lunchroom. No secure inventory storage. Lack of power. No wall for display. No water line for ice cream. Sound issues.
Ticketing	1.3	1	1	2	
Livestock Pastures	1.3	1	1	2	Poor ground, poor drainage, and lack of guest experience access.
Event Storage Barn: FAB Garage	1.3	2	1	1	Needs to be organized.
Outdoor Flex Space "parking lot area"	1.3	1	1	2	Use for show ring - use for teaching space - not a parking lot. Used for events - more entertainment vs parking lot. Needs better water management.
Hillside Pasture	1.3	1	1	2	Poor soil. Lack of water access. Fences are patched together. Guests love to say hello. Concern of biosecurity with animals nose to nose with dogs on walks. Too far from core of animal care.
Residence	1.3	1	1	2	Needs major improvements (roof, soffits)
Production Gardens	1.3	1	2	1	Needs new shed roof, ok for growing - hard to get to, lack of consistent management for optimal weed and pest management. Back part is on a big hill - erosion issues. No electricity. Far from everything - especially the store and the cooler. Will benefit with full site deer fencing. Groundhog issues. NO equipment storage.
Wash Pack (area where produce is prepped)	1.3	2	1	1	Currently a car port - no electricity. No rodent proof storage space. One season use. Drainage issues.
I-75 Pond	1.3	1	1	2	When there is water, it is pretty. Water is mostly all run off. Not ideal for animals. Very shallow - attracts unwanted water birds. Not ideal for pasture animals.
Ropes Course	1.3	1	2	1	Was built in 1991 - 4 out of 6 elements will have to be retired by spring and needs a complete rework. Accessibility is a challenge. No site maps. No signage. No electricity. Lots of room for improvements and opportunities.
Staff Break Room (Hall)	1.5	2	1	N/A	Not really a room, old equipment.
Admin 1st Floor Offices	1.5	2	1	N/A	Lacking HVAC, too small.
Loft Offices	1.5	2	1	N/A	HVAC...intended to be guest experience space but is used as offices; No storage; No storage for personal items; Break out space in the open space; Copy and office supplies located here.
Gazebo	1.7	1	2	2	Starting to show age. Needs power. ADA concerns. Slippery when wet.
Academy Staff Office	1.7	3	1	1	Student workspace and staff workspace, storage and copy all together--too small. Storage and copy pulled out as separate.
Academy Common Space (Hall)	1.7	3	1	1	Too many things happening here--lunchroom, storage, office, kitchen, hallway, ticket window.
Academy Library	1.7	3	1	1	Needs to be much bigger--holds 2 kids right now; would like seating, study space, more book storage; 25 kids max.
Academy Science Classroom	1.7	3	1	1	Not designed for science lab (needs plumbing for sinks; overhead electric; lab tables). Furniture change. Needs more storage. Need chemical storage. Eye wash station. Need Exterior access.
Greenhouse	1.7	2	1	2	Mechanics for the temperature controls are unreliable. Too hot in the summer. Control of systems needs a reboot. Too small for current needs.
Kitchen	1.7	3	1	1	Too small right now for teaching... equipment is wrong for use for teaching or for bulk production; Like concession and pizza oven. Storage lacking.

	Ave / Priority	Age / Cond.	Function/ Efficiency	Guest Exp.	Known Improvements Needed
Chicken Mobile Coop	1.7	2	1	2	Needs to be reworked in areas. Water and feed challenges. Inside parts have started to come apart. Animal husbandry? Would like to look at an improved space for care.
Bank Barn	1.7	1	2	2	Needs historical correct repairs. Wood rot. Water drain issues. electrical issues - not enough power. Hard to clean. Functionality is not designed for current methods of use.
Outside Lower Barn (bank barn)	1.7	2	2	1	Could be improved by leveling the concrete and finding a way for a skid steer to enter for cleaning. LOVE the outside animal space.
Community Gardens	1.7	1	2	2	Will benefit with full site deer fencing. Concern of hydrant reliability. Some areas are too wet and should not be used for growing. Needs a dedicated, enclosed compost area.
Chicken / Bee Classrooms	2.0	2	2	2	
Riding Arena	2.0	2	2	2	Does the job - needs shade shelter - look at shade. All cattle shades not adjacent to a horse barn.
Academy Classroom 1	2.3	3	2	2	Too many functions...needs exterior door. Needs storage. Add spaces for gym and office.
Academy Classroom 2	2.3	3	2	2	Connected to #1
Hoop House	2.3	3	2	2	Excited to use this! Still under construction. Need interior tables for production support. Being used as a supplemental space to the existing greenhouse -> this is not ideal but working with what we have.
Farm Activities Building	2.3	3	2	2	Deck needs to be covered to increase space to accommodate a group of 100. Tent is not a permanent solution.
Barton Farmhouse	2.3	2	2	3	Wonderful old home. Needs a care plan for continuing to maintain not owned by BHS.
Horticulture "Master" Gardens	2.3	2	2	3	Beautiful and great community connection with the Master Gardeners.
Pumpkin Patch	2.3	2	2	3	Working on plans for improvement. need a deer perimeter fence around full property. Fun destination for guests. Great for field trips. Use of a porta potty helps each season. Site wide crop rotation plan. Weed issues are great. Groundhog damage.
Tubing / Winter Park Facilities	2.3	2	2	3	People love it - drain on staff. Need to increase capacity, change operational model to reduce staff inputs. Auto snow maker and snow carpet would help.
Cooler (not the freezer)	2.5	3	2	N/A	At times it is not large enough for kitchen and garden use.
Craig Log Cabin	2.7	2	3	3	Love it! Aware of ADA accessibility. What is the plan for long term maintenance not owned by BHS?
Academy Admin Office	3.0	3	3	3	

SITE ACCESSIBILITY

The BSF site and facilities were evaluated for accessibility compliance and recommendations were made to remove barriers for people of all abilities to better use the environment. Recommendations focus on achieving full inclusion – ALL share the same experience at the same time. Refer to *BHS Bowers School Farm ADA Access Barrier-Removal Recomm Rpt Oct '22* for the comprehensive assessment report and recommendations. Top Findings and Top Recommendations are summarized below.



Top Findings

- No accessible routes connecting Visitor's Center / Bowers Academy building and the individual experiences (Gardens, Animal enclosures, Craig Log Cabin, Barton Farmhouse, etc.)

- Many asphalt pathways and boardwalk surfaces need to be replaced/repaired for accessibility and safety.

- There is no accessibility information about the Farm facilities, programs and experiences are posted on the website.

SITE ACCESSIBILITY

Top Recommendations

- Invest in all-terrain wheelchairs to make pathways and routes more accessible; wheelchairs should be available to all students and guests.

- Close pathways or invest in signs noting routes with extreme slopes; offer solutions - alternate routes, staff assistance with navigating, etc.

- Develop a maintenance program to keep route conditions repaired and clear of obstacles (overgrown vegetation, debris, etc.)

- Minimum level of access to inaccessible spaces could include video tours, photographs and strategically placed mirrors to provide visual access.

- Move animals and demonstrations to areas that are accessible for events or high traffic days.



CURRENT PROGRAMS & AUDIENCES

What programs & events does the Farm currently offer?
Who is visiting the Farm today (and which groups are missing?)









EDUCATION PROGRAMS

Date: Year-Round (Differs by Program Type)

Programs / Activities

- Bowers Academy
- AFNR Students and FFA
- Summer Camp
- Field Experience Programs (In-District and Out of District)
- Ropes Courses

Target Audience

- Children ages 3-14 yrs. old
- High school juniors and seniors

Program Goals

- Support formalized education with hands-on agriculture experiences
- Provide non-traditional learning opportunities for students



OPEN BARN

Date: April – October (F, Sa, Su)

Programs / Activities

- Farm animal encounters
- Chicken experience
- Goat milking
- Horse/pony grooming
- Crafts
- Wagon rides

Target Audience

- Families with young kids
- Home schooled and parochial students
- Local community residents

Program Goals

- Provide authentic, educational and hands-on farming experiences to audiences outside of the Bloomfield Hills schools
- Increase community engagement



FARM STORE

Date: Year-Round (F, Sa, Su)

Programs / Activities

- Fresh produce, eggs and meat
- Michigan produced items (jams, dips, desserts, popcorn, etc.)
- BSF branded clothing
- Toys and plush
- Pizza
- Ice cream

Target Audience

- Open Barn visitors
- Camp families
- Local community residents

Program Goals

- Generate revenue
- Showcase products grown and raised at the Farm
- Increase community engagement



COMMUNITY GARDEN

Date: Year-Round

Programs / Activities

- 79 plots available for rent
- Only available to Farm members

Target Audience

- Community residents
- Condo/apartment residents
- Families and Baby Boomer generation

Program Goals

- Generate revenue
- Increase community engagement
- Drive Farm membership

COMMUNITY PROGRAMS



Date: Year-Round

Programs / Activities

- 4-H Club
- Scouts & small groups
- Workshops & classes

Target Audience

- Children ages 3-10
- 4-H families
- Local community residents

Program Goals

- Cultivate future leaders
- Provide additional opportunities for children to learn about and engage in farm activities



EVENT: BOURBON & BREWS

Date: September/October (1 Night)

Programs / Activities

- Beverage tastings – bourbon, whiskey, beer, wine and seltzers
- Animal encounters
- Live music
- Wagon ride and BOH Tour (VIP)
- Food available for purchase

Target Audience

- Adults only (21+)
- Festival goers looking for music, drinks & fun close to home
- Bourbon and beer enthusiasts

Program Goals

- Generate revenue
- Attract adult only audience
- Provide unique and fun experience with animals and farm environment

EVENT: FALL FESTIVAL



Date: October (1 Weekend)

Programs / Activities

- Pumpkin picking
- Wagon rides
- Animal encounters
- Live music performances
- Straw tower
- Crafts
- Games
- Food available for purchase

Target Audience

- Families with young kids
- Local community

Program Goals

- Generate revenue
- Increase community engagement
- Celebrate the fall season



EVENT: WINTER PARK

Date: January/February (8 Weeks)

Programs / Activities

- Snow tubing
- Ice skating
- Bonfires
- Entertainment
- Animal encounters
- Food available for purchase

Target Audience

- Residents within a 2-hr. drive market who are looking for a fun and unique winter outdoor experience

Program Goals

- Generate revenue
- Attract a more diverse audience (age, home location, etc.) to the Farm
- Target untapped markets - birthdays, date nights, corporate parties, teen sports groups, etc.
- Attract visitors during off-season months

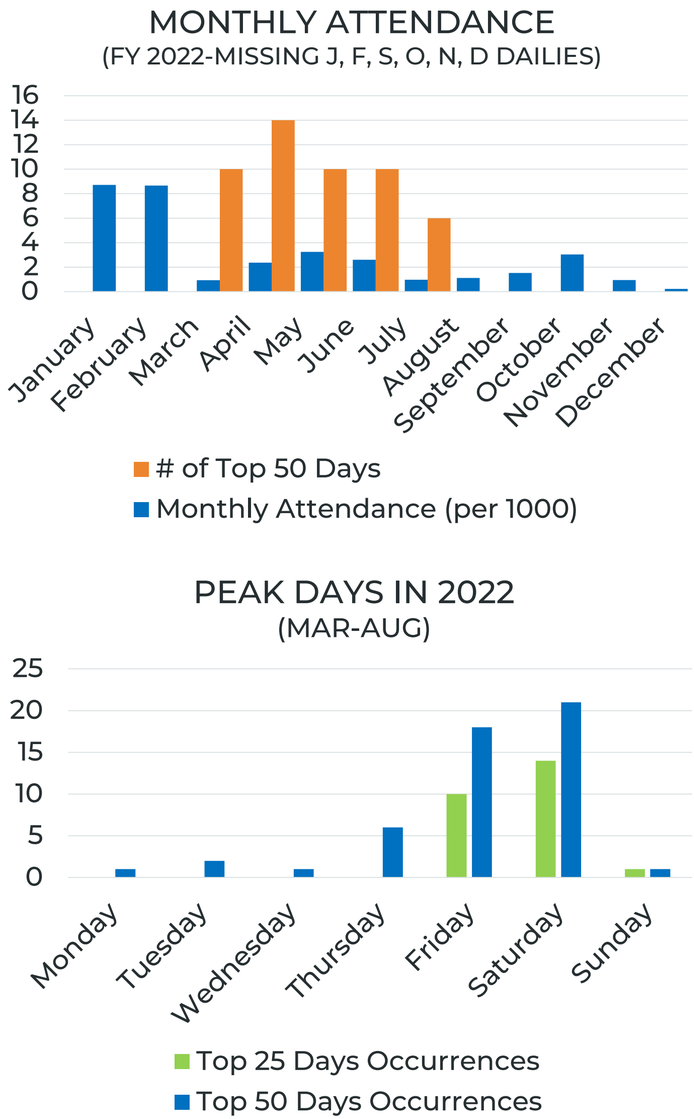
PERFORMANCE ANALYSIS

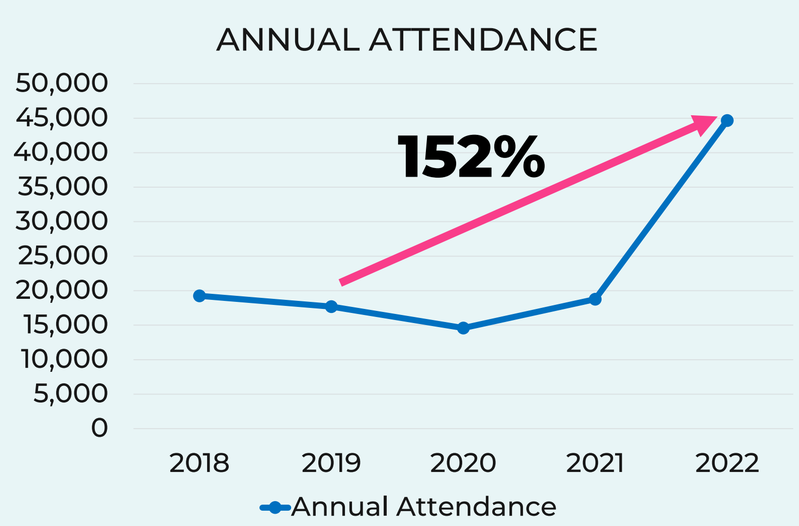
What trends are we seeing with attendance and finances?

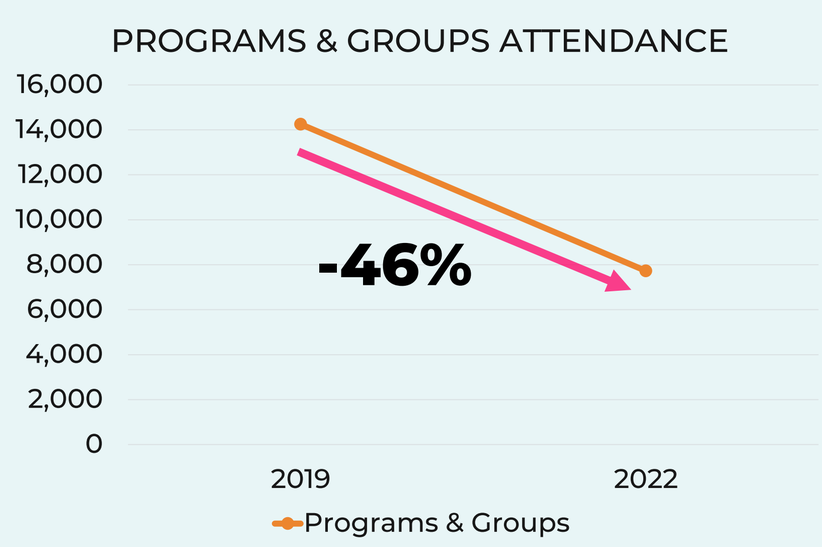
What are the successes and potential areas of growth in the market?

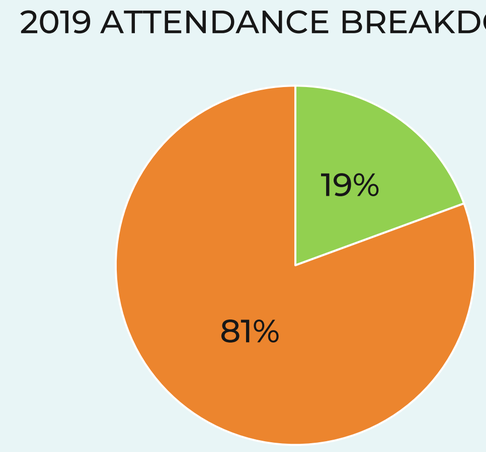


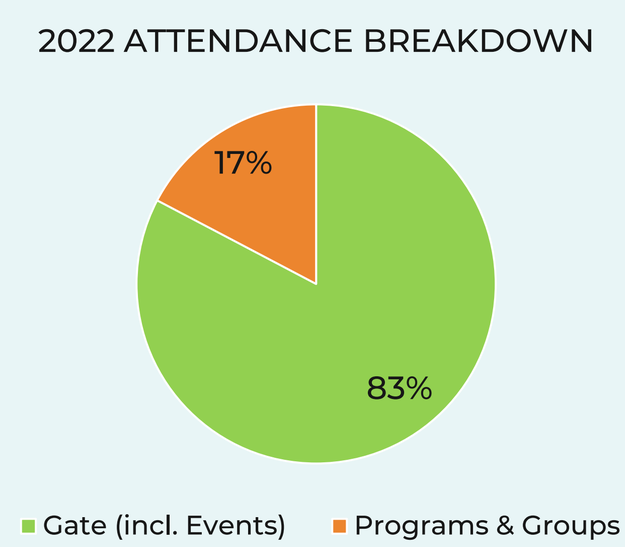
ATTENDANCE TRENDS











DAILY ATTENDANCE PATTERNS

Design Day

	Arrival		Departure		In Park	
Before 8:00 AM	0%	0	0%	0	0%	0
8:00 AM	0%	0	0%	0	0%	0
9:00 AM	0%	0	0%	0	0%	0
10:00 AM	31%	117	14%	53	17%	64
11:00 AM	23%	87	20%	75	20%	75
12:00 PM	10%	38	9%	34	21%	79
1:00 PM	19%	72	9%	34	31%	117
2:00 PM	12%	45	21%	79	22%	83
3:00 PM	3%	11	15%	57	10%	38
4:00 PM	2%	8	8%	30	4%	15
5:00 PM	0%	0	4%	15	0%	0
6:00 PM	0%	0	0%	0	0%	0
	100%		100%			
Maximums	31%	117	21%	79	31%	117
					Length of Stay	**1.25**

Annual Attendance:	**44,660**	FY 2022 (programs & gate)
Ave Peak Day:	**512**	Average of top 10 days
Maximum Day:	**2068**	Fall Fest day 2021: 2580 total
Design Day:	**436**	Average of top 15 - 25 days (NOT EVENTS)
Design Day, Peak in Park:	**117**	
Length of Stay:	**1.25**	

Max Day = Absolute busiest day of the year; example is Fall Fest or Winter Park day

Peak Day = Average of top 10 busiest days of the year—example is Friday in May or October; busy beautiful summer Saturday

Design Day = Average of non-event top 15-25 days of the year—example is a regular Saturday in Summer

DAILY ATTENDANCE PATTERNS

Friday Program (Field Trip) Day

	Arrival		Departure		In Park	
Before 8:00 AM	0%	0	0%	0	0%	0
8:00 AM	10%	35	0%	0	10%	35
9:00 AM	30%	105	0%	0	40%	140
10:00 AM	1%	4	1%	4	40%	140
11:00 AM	26%	91	28%	98	38%	133
12:00 PM	1%	4	1%	4	38%	133
1:00 PM	1%	4	1%	4	38%	133
2:00 PM	9%	32	15%	53	32%	112
3:00 PM	9%	32	15%	53	26%	91
4:00 PM	9%	32	15%	53	20%	70
5:00 PM	4%	14	15%	53	9%	32
6:00 PM	0%	0	9%	32	0%	0
	100%		100%			
Maximums	30%	105	28%	98	40%	140

Between 9am and 10am, students arrive for Pre-K and field trips
Between 11am and 12pm, most of those students depart and afternoon field trips arrive
Between 2pm and 3pm, half of the afternoon students depart and Open Barn begins
Between 4pm and 5pm, the rest of the students depart

Annual Attendance:	**44,660**	FY 2022 (programs & gate)
Ave Peak Day:	**512**	Average of top 10 days
Maximum Day:	**2068**	Fall Fest day 2021: 2580 total
Design Day:	**350**	Average Friday in May
Design Day, Peak in Park:	**140**	
Length of Stay:	**N/A**	

Although these busy days are limited to the month of May, due to the morning influx of Pre-K and field trips alongside Academy students, the highest peak in park for the Farm is experienced on these days. These peaks mostly inform the parking lot, traffic flow, and entry design as most of these visitors are participating in specific formal programs.

A secondary PIP occurs when Open Barn opens in the afternoon.

DAILY ATTENDANCE PATTERNS

Friday Camp & Open Barn

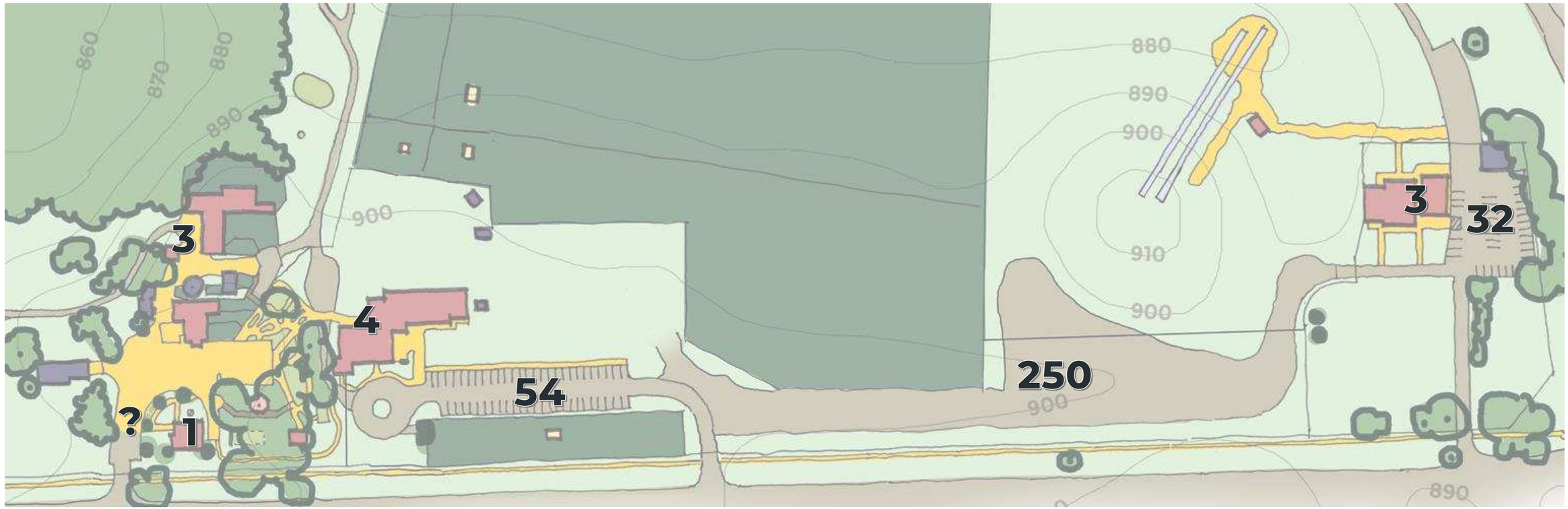
	Arrival		Departure		In Park	
Before 8:00 AM	0%	0	0%	0	0%	0
8:00 AM	25%	84	0%	0	25%	84
9:00 AM	5%	17	0%	0	30%	101
10:00 AM	0%	0	0%	0	30%	101
11:00 AM	0%	0	0%	0	30%	101
12:00 PM	0%	0	0%	0	30%	101
1:00 PM	0%	0	0%	0	30%	101
2:00 PM	10%	34	0%	0	40%	134
3:00 PM	40%	134	38%	128	42%	141
4:00 PM	12%	40	40%	134	14%	47
5:00 PM	8%	27	15%	50	7%	24
6:00 PM	0%	0	7%	24	0%	0
	100%		100%			
Maximums	40%	134	40%	134	42%	141

Annual Attendance:	**44,660**	FY 2022 (programs & gate)
Ave Peak Day:	**459**	Average of top 10 days
Maximum Day:	**2068**	Fall Fest day 2021: 2580 total
Ave Day:	**336**	2022 Average Friday in June / July
Design Day, Peak in Park:	**141**	
Length of Stay:	**N/A**	

Peak Arrival is at 3-4pm when peak Open Barn meets Camp pick-up. Peak Departure and Peak in Park aligns with this rush.

CAPACITY ANALYSIS

Parking & Toilets



PARKING

54 paved spots at entry (including ADA)
- Design Day Peak in Park = 56 spots needed

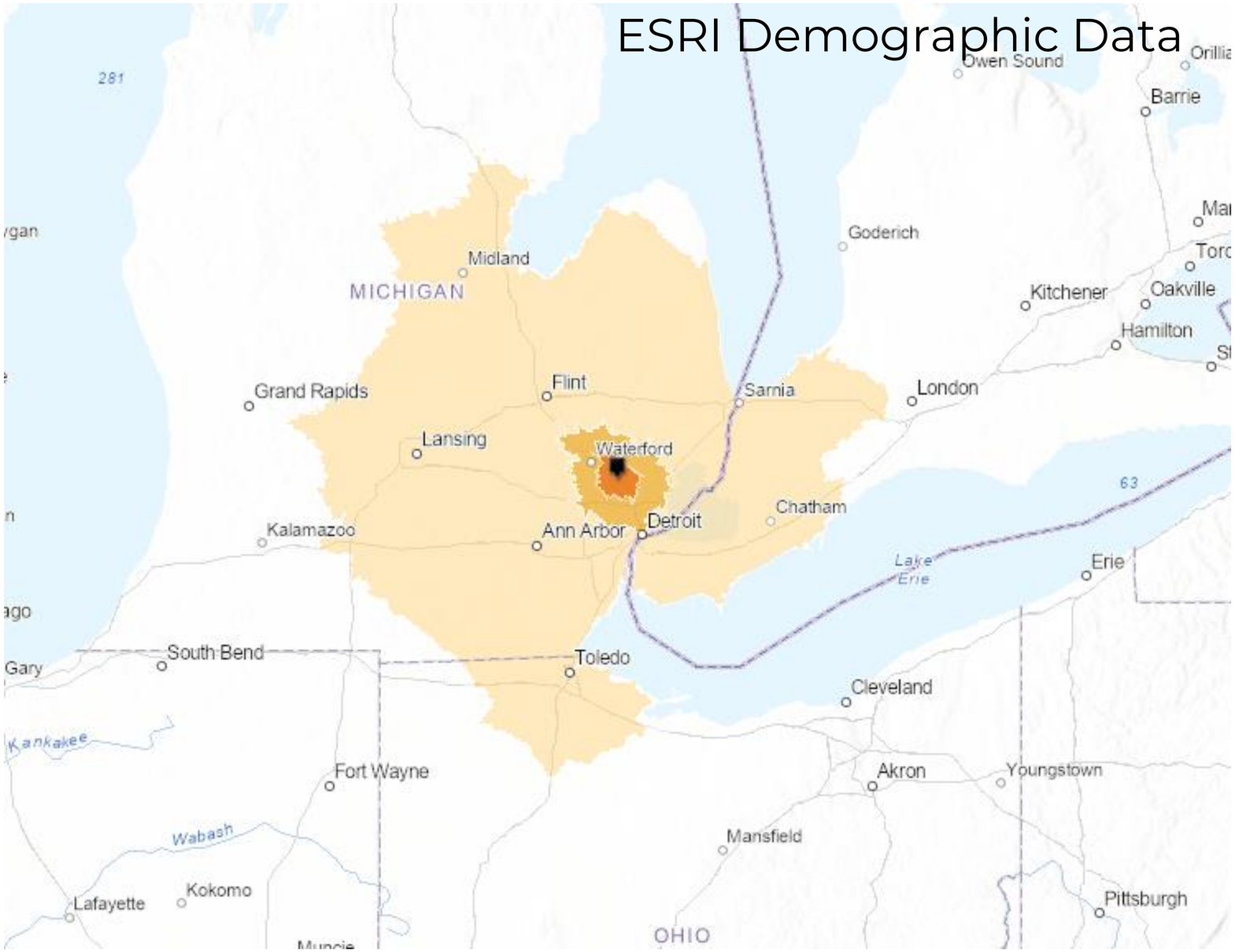
32 paved spots at FAB parking
- Sized correctly for max capacity in FAB

TOILETS

Using 60 guest per fixture ‘comfort’ standard:
- 3 fixtures per gender required in Farm
- 3 fixtures per gender at Entry (max arrival / departure)
- Based on max capacity for FAB, restrooms meet group needs. However, 3 per gender does not meet needs for Winter Park event.

POTENTIAL MARKET

ESRI Demographic Data



15 MIN DRIVE TIME FROM FARM

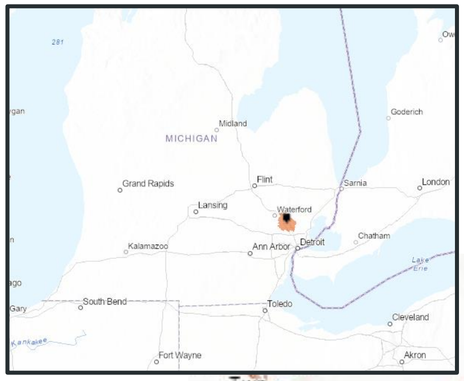
30 MIN DRIVE TIME FROM FARM

2 HOUR DRIVE TIME FROM FARM

LOOKING FOR GROWTH

- Residential market 15 & 30 min drive time
- Regional tourism 2 hour drive time
- Who lives here gives insight into expectations and type of experiences to draw more visitors
- Compare to existing attendance / audience to reveal any pockets of growth potential

POTENTIAL MARKET

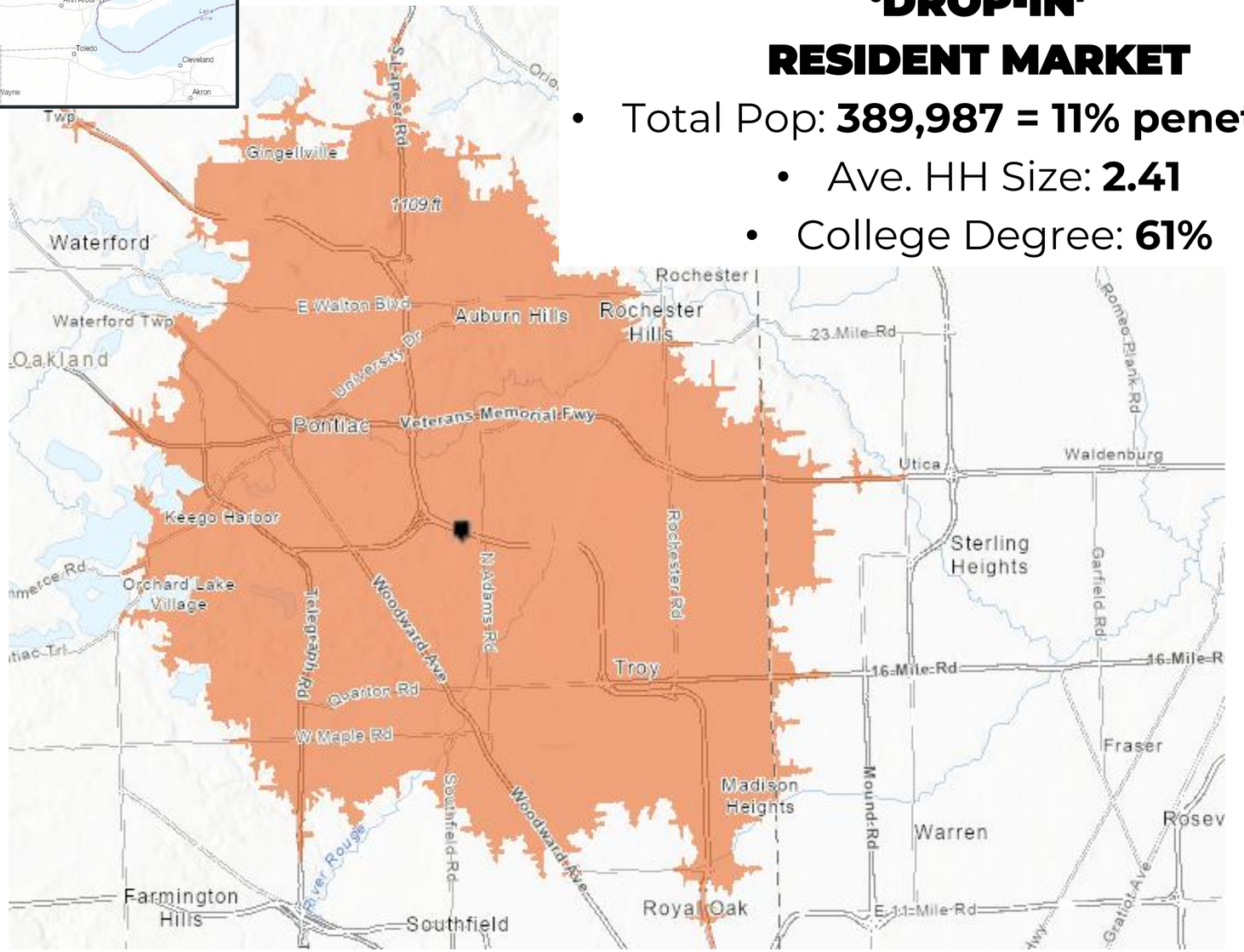


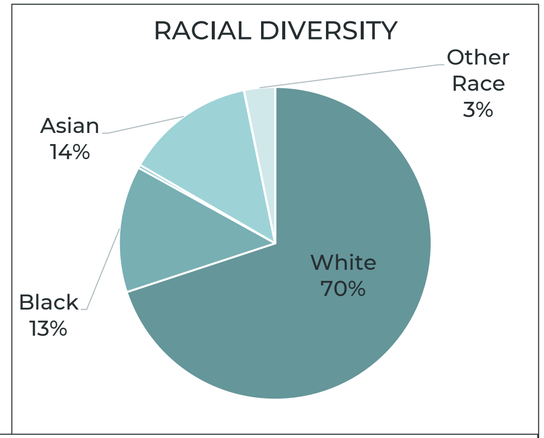
15 Minute Drive Time

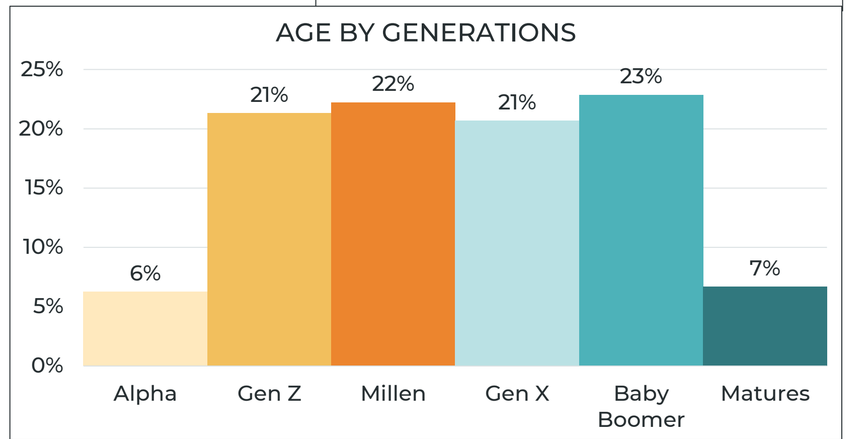
‘DROP-IN’

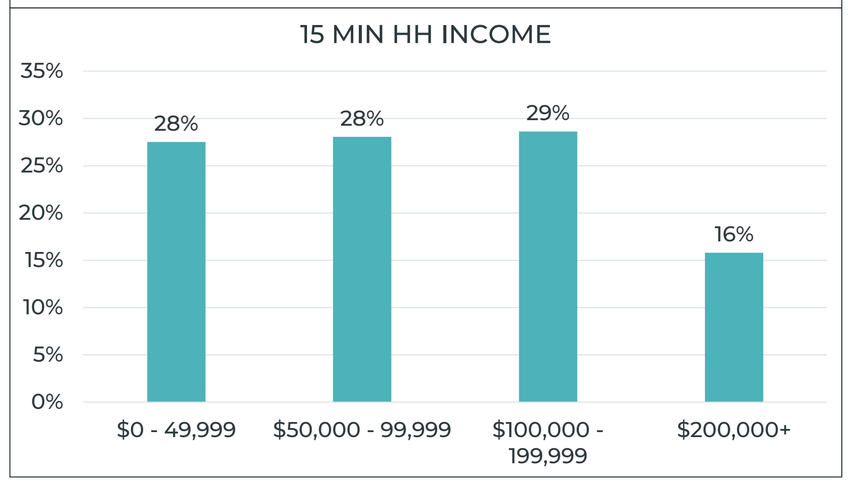
RESIDENT MARKET

- Total Pop: **389,987 = 11% penetration**
- Ave. HH Size: **2.41**
- College Degree: **61%**











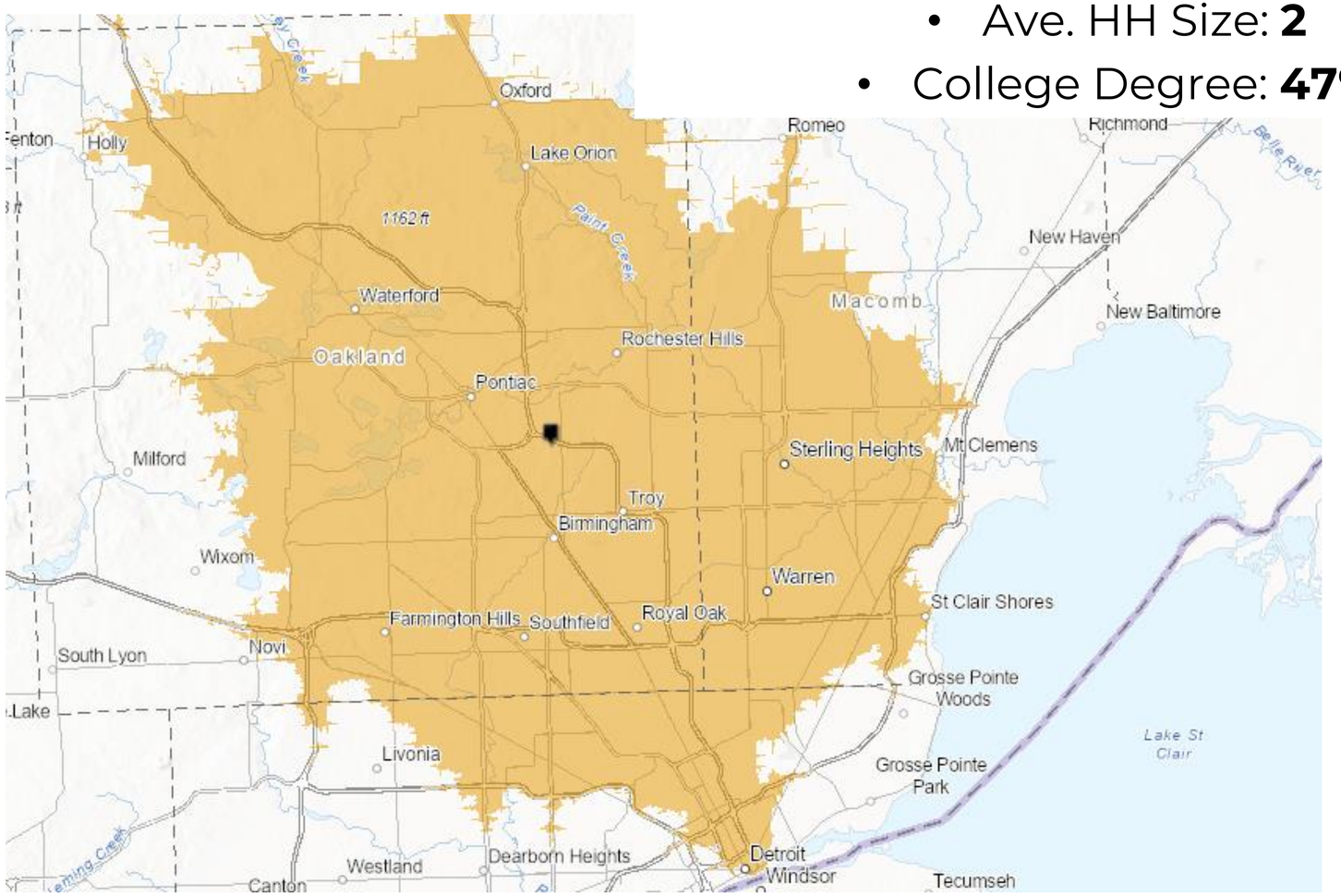
POTENTIAL MARKET

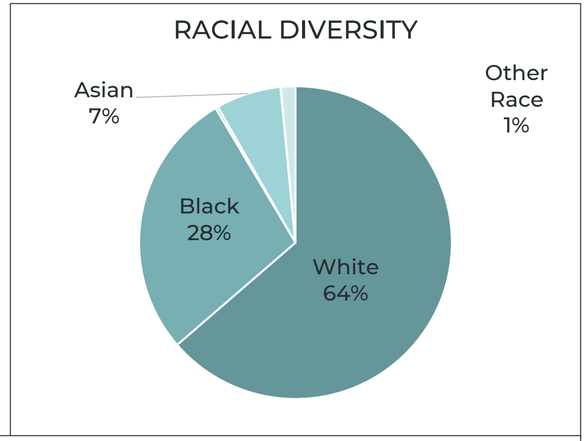
30 Minute Drive Time

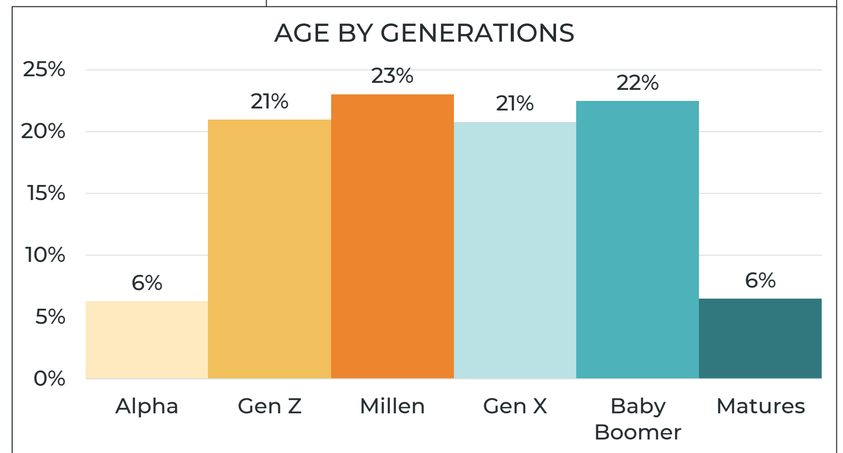
'PLANNED VISIT'

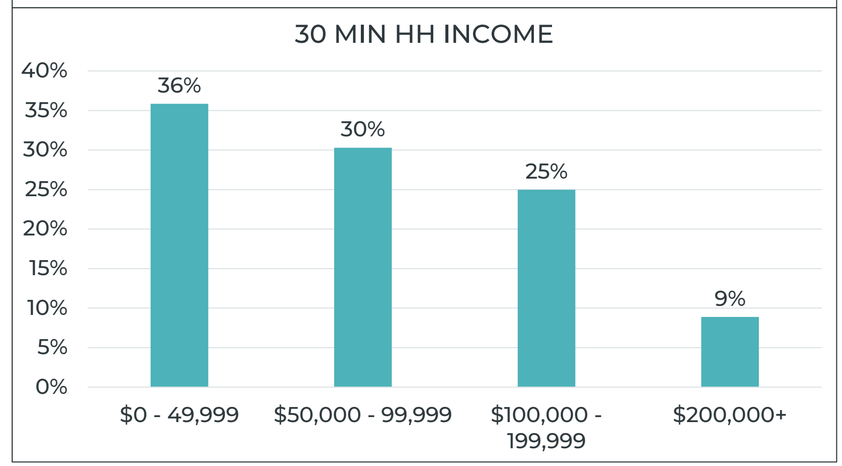
RES. MARKET

- Total Pop: **2,180,463 = 2% penetration**
- Ave. HH Size: **2**
- College Degree: **47%**









POTENTIAL MARKET

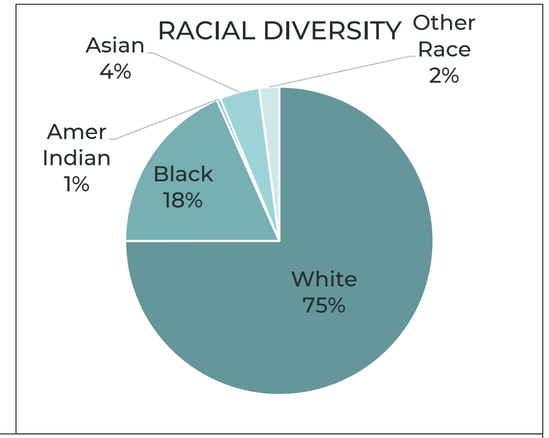
2 Hour Drive Time

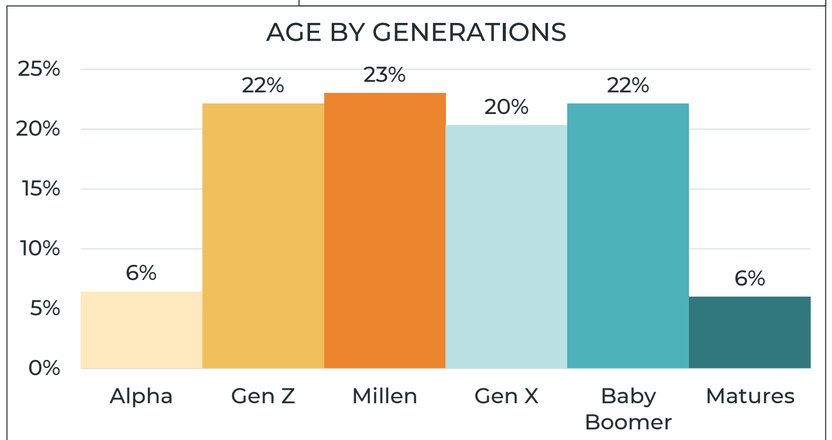
‘LOCAL TOURIST’ MARKET

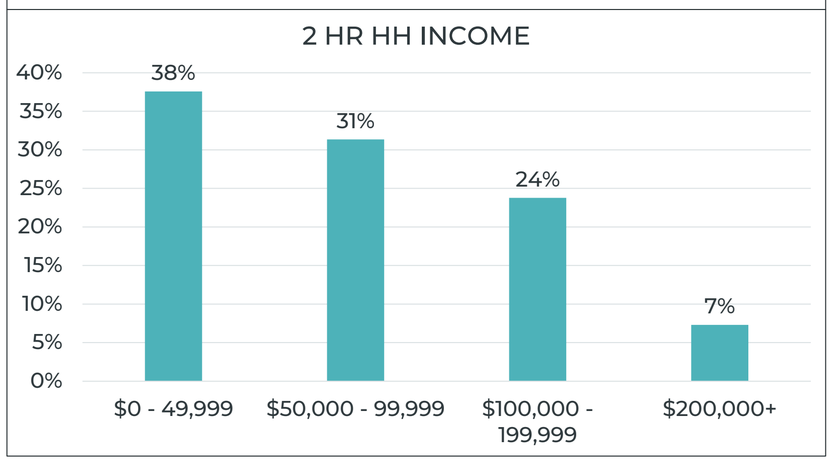
- Total Pop: **7,485,405 = 0.5% penetration**
- Ave. HH Size: **2.42**
- College Degree: **43%**











REVENUE ANALYSIS

Overall Financial Performance

GENERAL OPERATING REVENUE & EXPENSES			
Fiscal Year	Actual Revenue	Actual Expenses	Profit
2016	$173,441	$389,012	-$215,571
2017	$155,072	$415,442	-$260,370
2018	$45,138	$536,308	-$491,170
2019	$53,616	$558,906	-$505,290
2020	$58,719	$698,290	-$639,571
2021	$35,928	$806,544	-$770,616
2022	$361,750	$1,221,925	-$860,175

-311%

COMMUNITY REVENUE & EXPENSES			
Fiscal Year	Actual Revenue	Actual Expenses	Profit
2016	$62,211	$69,753	-$7,542
2017	$91,135	$59,596	$31,539
2018	$141,887	$72,903	$68,984
2019	$378,836	$244,383	$134,453
2020	$296,094	$303,064	-$6,970
2021	$356,444	$366,219	-$9,775
2022	$1,002,165	$990,364	$11,801

256%

Financial activity is accounted for in two separate funds: General and Community Services.

General Fund: The funding for the educational programs and overall operating costs of the Bowers School Farm is made possible through the General Fund of the district. The General Fund is the district's primary operating fund and spending must comply with Michigan laws. Educational services to students and direct expenses to fulfill the District's mission are covered by the General Fund. Since 2018, in-district schools were no longer charged for Farm programming, which was offset by an expense to the in-district school resulting in a zero net effect for the General Fund. Since then revenue generated relates to livestock sales and a transfer from the Community Services Fund to offset the operating costs of the farm. This means the School Education component is and will always be an expense to BHS; however, a portion of net profits from programs and services to the community will offset the net cost to BHS.

Community Services Fund: 'Community' relates to all out-of-district programs, community programs, camps, site rentals, events, community garden, farm store sales, and Open Barn admissions. Open Barn began in 2020 along with major growth in Camps capacity and store improvements which gave revenues a large boost. 2022 saw the effects of a successful Winter Park, with minor impact by Fall Fest (which began in 2020—adding much needed revenue during COVID that cancelled programs and camps). Expenses across the board have increased significantly since 2019, primarily focused on an investment into future community offerings that necessitated a restructuring of the farm's staffing roles, responsibilities as well as certain capital related costs such as the Winter Park sledding hill.

BHS currently provides funding for all expenses at the Farm and receives all Profit from the Farm. Currently, the Farm is providing negative profit to BHS, but shows potential to increase growth of revenues which fall within the Community Services Fund. The Farm, like the Nature Center are both considered an integral part of our educational programming similar to all cocurricular opportunities and choices provided to BHS students, including arts, music, athletics, clubs and more providing a full experience for our students.

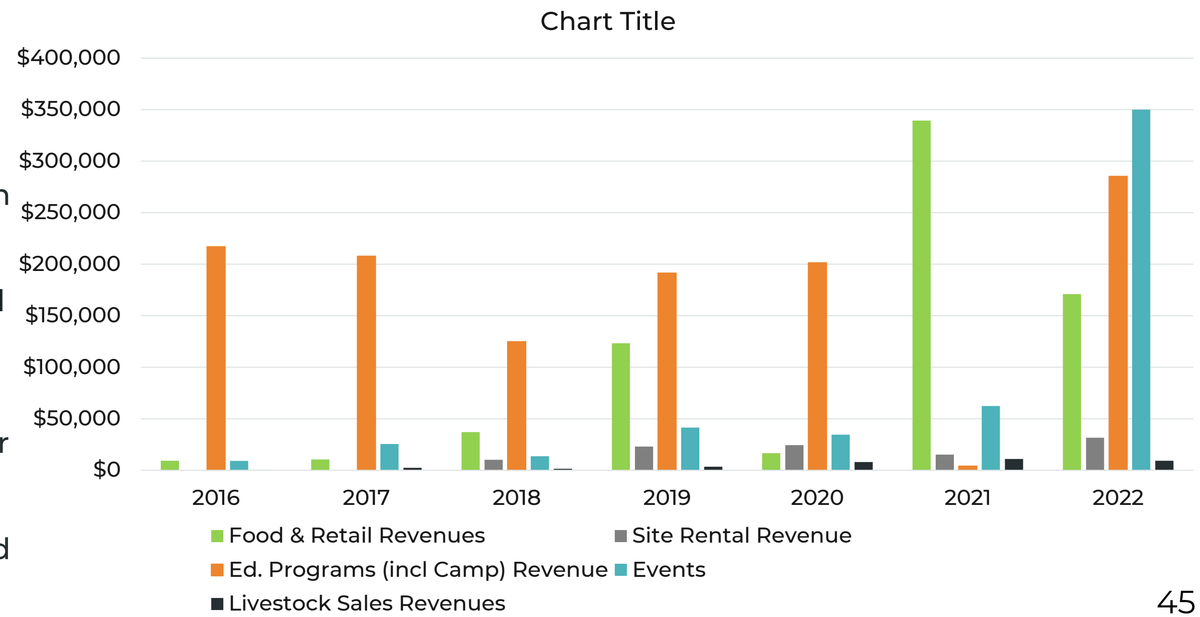
REVENUE ANALYSIS

Revenue Performance

FY Ending	Food & Retail	Site Rental	Ed. Programs (incl Camp)	Events Admissions	Memberships	Livestock Sales	Open Barn Admissions
2016	$9,244	$0	$217,085	$9,087**		$237	
2017	$10,495	$0	$207,855	$25,426**		$2,431	
2018	$37,004	$10,144	$124,820	$13,602**		$1,455	
2019	$123,219	$22,960	$191,344	$41,482**		$3,467	
2020 (Covid)	$16,636	$24,329	$201,430	$34,516		$8,055	$19,670*
2021 (Covid)	$339,338	$15,211	$3,999	$62,346	$72,590	$10,928	$43,000*
2022	$170,947	$31,645	$285,255	$349,948	$98,430	$9,250	$65,960

*Estimated revenue based on Open Barn Non-Member attendance number provided in Annual Report.
**2016-2017: Corn Maze; 2018: Pancake Breakfast only; 2019: Fall Fest + Pancake Breakfast; 2020: Fall Fest only; 2021-2022: Fall Fest + Winter Park

- Education Programs includes in-district (which became free for BHS students in 2018), out-of-district, camps, Pre-K, and other formal learning programs led by Farm staff and volunteers.
- Recording of revenues has been in flux in terms of categorization and COVID had variable impact on programs and experiences, so many of the years' data are not comparable. Also contributing to data confusion are changes to which events occurred and how they are managed.
- Despite these data challenges, revenue is showing clear growth, especially within the Events category influenced by the very successful Winter Park in 2022. Admissions and Memberships are showing growth trends, as well as Food and Retail, although 2020 & 2021 were anomalies.
- Site Rental and Livestock Sales have been variable, but relative to other revenues, are small and showing slow growth.
- Education Program revenue is, besides Events, the major contributor to success with slow, reliable growth since 2016 when Camps increased capacity.



REVENUE ANALYSIS

Per Cap & Revenue Comparative Performance

	Food & Retail Per Cap	Admissions Per Cap	Site Rental Revenue	Ed. Programs (incl Camp) Revenue	Events Revenue	Membership Revenue
Farm 2022	**$3.83**	**$1.48**	**$31,645**	**$285,255**	**$349,948**	**$72,590**
AZA <100k Attendance*	$0.58+$2.05= **$2.63**	**$6.64**	**$54,500**	**$96,370**	**$17,490**	**$77,800**
AZA in Midwest**	$2.32+$1.62= **$3.94**	**$5.71**	**$336,330**	**$553,030**	**$666,500**	**$2,147,000**
AZA Op. Budget $1.75-3.5mm***	$0.83+$1.45= **$2.28**	**$4.62**	**$56,260**	**$218,890**	**$149,175**	**$255,215**

Note: “AZA” stands for Association of Zoos and Aquariums; *20 sample size **58 sample size ***45 sample size

- Food and Retail per cap far exceed any comparable zoo or aquarium.
- Site Rental revenues could feasibly double to be comparative with peer small zoos and aquariums. In comparison to the average from all Midwest AZA facilities, there is a lot of room to grow—showing great potential earnings being left on the table.
- Ed Programs revenues are exceeding expectations based on small zoo peers but have potential to grow.
- The Farm’s Events Revenue is far exceeding its peers in the small zoo category and is on trend with the average from all of the zoo / aquarium facilities in the Midwest. (Note: Compared AZA’s “Catering” against “Events” Revenues, so these numbers may not be apples to apples.)
- Membership revenue appears to be an untapped opportunity for the Farm as compared to other facilities, even as compared to its small zoo peers.
- While Admissions per caps are much lower than the comparable sets and appears to be a potential area of growth, low per caps are due to limited Open Barn hours (and relative newness of the guest experience) as well as the Farm having a disproportionate number of attendees on-site for formal programs compared to a traditional zoo. This proportionality causes revenues from Admissions to be spread across a larger cohort of individuals in calculating per cap. However, if hours are extended (and as the public becomes more aware of Open Barn), this measure will increase.

COMPETITION & BENCHMARKING

Who/what are we competing against for visitation and funding?

How are we performing compared to similar attractions?

Who is your competition?

What can we learn from them?

How is the Bower's School Farm unique?

Competition Criteria

- Appeals to the same local target audiences
- Outdoor activities
- Animal and/or agriculture component
- Strong educational message







COMPETITION

Who do you consider to be your biggest competitor and why?

Education – Student Programs & Field Trips

- Belle Isle Attractions
- Detroit Zoo
- Dutton Farm
- Kensington Metropark Farm Center
- Maybury Farm
- Tamarack Adventure & Retreat Center
- Three Cedars Farm
- Tollgate Farm & Education Center (MSU)
- Upland Hills Farm



COMPETITION

Who do you consider to be your biggest competitor and why?

Visitor Experience

- Belle Isle Attractions
- Blake’s Farm & Cider Mill
- Carousel Acres
- Detroit Zoo
- Domino’s Farm Petting Zoo
- Dutton Farm
- Kensington Metropark Farm Center
- Maybury Farm
- Sea Life Michigan Aquarium
- Three Cedars Farm
- Upland Hills Farm



COMPETITION

Who do you consider to be your biggest competitor and why?

Resource for Local Food

- Blake's Farm & Cider Mill
- Dutton Farm
- Middleton Berry Farm
- Tollgate Farm & Education Center (MSU)
- Westview Orchards & Winery

Event Spaces

- Blake's Farm & Cider Mill
- Detroit Zoo
- Tamarack Adventure & Retreat Center
- Tollgate Farm & Education Center (MSU)
- Upland Hills Farm



COMPETITION

Who do you consider to be your biggest competitor and why?

Fundraising

- Detroit Zoo
- Dutton Farm
- Maybury Farm
- Tamarack Adventure & Retreat Center
- Tollgate Farm & Education Center (MSU)
- Upland Hills Farm

Volunteers

- Detroit Zoo
- Dutton Farm
- Maybury Farm
- Micah 6 Community
- Tollgate Farm & Education Center (MSU)



COMPETITION VISITS

The Felis Consulting team and Bowers School Farm steering committee visited key competitor farms in the area.

4 Local Farms Visited

- Tollgate Farm & Education Center
- Three Cedars Farm
- Upland Hills Farm
- Blake’s Farm and Cider Mill

TOLLGATE FARM & EDUCATION CENTER



Key Takeaways

- Authentic, full working farm
- Gardens used to welcome visitors and direct them to the central gathering space
- Beautifully constructed wetland and pond area used to manage site runoff
- Production crops reserved for CSA program
- No interpretive signs

Very similar to Bowers Farm except

- **Larger and more spread out**
- **More focus on education and programs, less on visitor/guest experience**

THREE CEDARS FARM



Key Takeaways

- Strong donut and cider business
- Lack of authenticity
- No real animals (plastic animals)
- Pumpkin field is available but Farm doesn’t grow pumpkins

People spaces are the primary focus (central commercial village)

UPLAND HILLS FARM



Key Takeaways

- Authentic, less commercialized
- Nimble with focus on reusing/repurposing existing spaces and buildings
- Multi-use gathering spaces available
- Fall Program (October) is the largest public event for the Farm (approx. 30k visitors)
- Buildings and attractions are sited around the site which gives you space, views and reinforces farm feeling
- Great signs for information, interpretation and story overlay
- Pumpkin field available but pumpkins are not grown here

Private and for-profit but agriculture experience and education are primary focus

BLAKE'S FARM AND CIDER MILL



Key Takeaways

- U-pick program
- High quality of products sold & consumed
- Limited educational value
- Focus is on making money – highly commercialized
- Not authentic – many products sold in stores have a Blake's label yet are not made with Blake's Farm products
- Too modern and could be located anywhere

People spaces are the primary focus (central commercial village)



WHAT MAKES US UNIQUE?

Authentic, credible & relatable

- “Messy Nature” (not fake or manicured)
- Organic & sustainable
- Part of a school district
- Long history (55+ years)
- Staff reflects and relates to community culture

Strong relationships created with visitors and community

- Multiple touchpoints through people’s lives
- Multi-generational experience
- Seeing & selling onsite builds an emotional experience with customers

Unique story

- Located in a large suburban area (not rural and easily accessible from adjacent urban developments)
- Historic structures onsite are unique story telling artifacts
- Talented, passionate & mastered staff

SECTION 2:

WHAT DO PEOPLE THINK OF THE FARM?



OUR BRAND

Describe characteristics of the Farm

What are attributes we don’t want associated with BSF?



BOWERS SCHOOL FARM

IS

- Welcoming
- Safe place (physical & emotional)
- Authentic
- Working farm
- Unique
- Operated by BHS
- Educational facility
- Leader in sustainability
- Transparent
- High standards for animal care
- Accessible
- Appealing to a wide audience
- Community building
- Entertaining
- Experiential
- Producers
- Building ties to land, history and animals

IS NOT

- Petting Zoo
- Free childcare
- ADA accessible (today)
- Just for show
- Just for the privileged (BHS students and community)
- Boarding facility for animals
- Rescue facility
- Animal rental facility

PUBLIC ENGAGEMENT

What do other stakeholder groups like/dislike about the Farm?

What ideas do community members have for improving BSF?





PUBLIC ENGAGEMENT STRATEGY

Specific groups were targeted for three in-person workshops for deeper levels of engagement.

Workshop 1: Farm Volunteers

- Friends of Bowers School Farm
- Preservation Bloomfield
- Historic Society
- Master Gardener's Society of Oakland County
- 4H Club (Parents)

Workshop 2: Students

- Bowers Academy
- BHS Students
- International Academy
- 4H Club (Students)
- FFA Community
- Helpful Hands



PUBLIC ENGAGEMENT STRATEGY

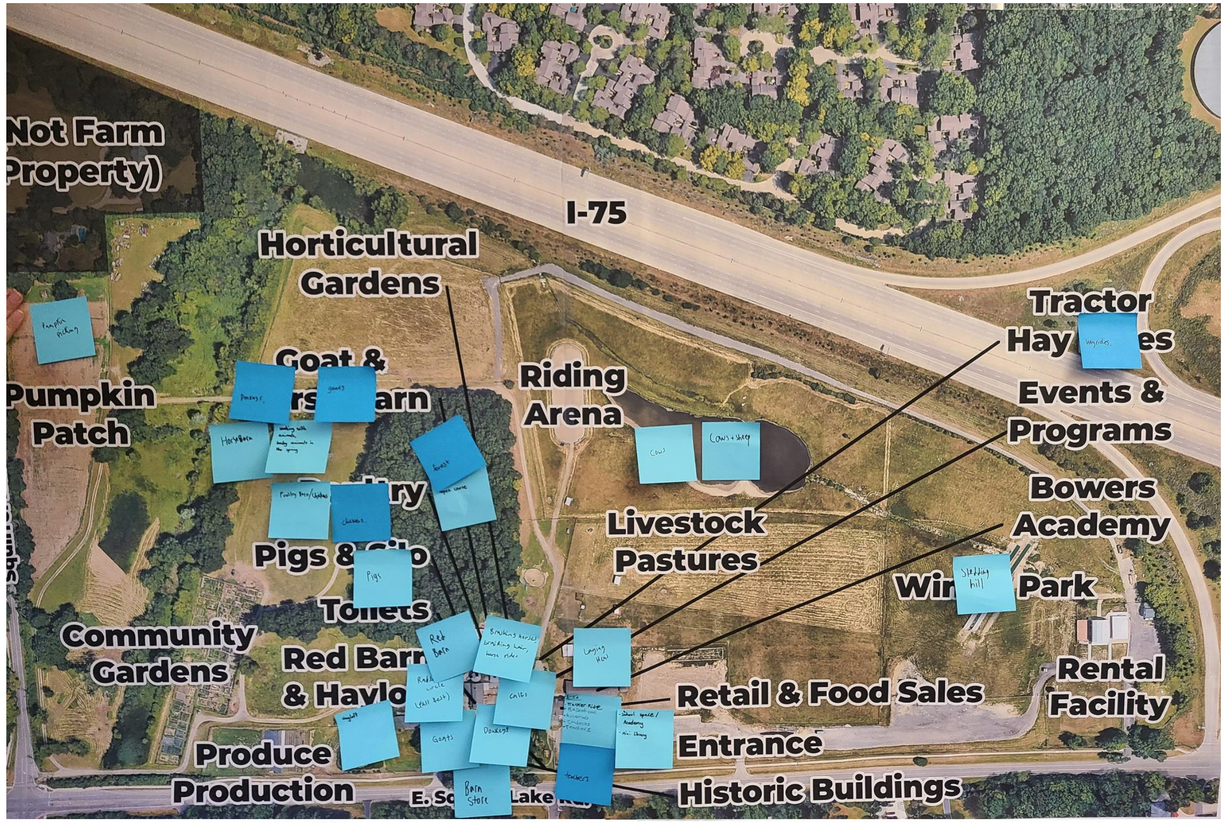
Workshop 3: Key Community Organizations

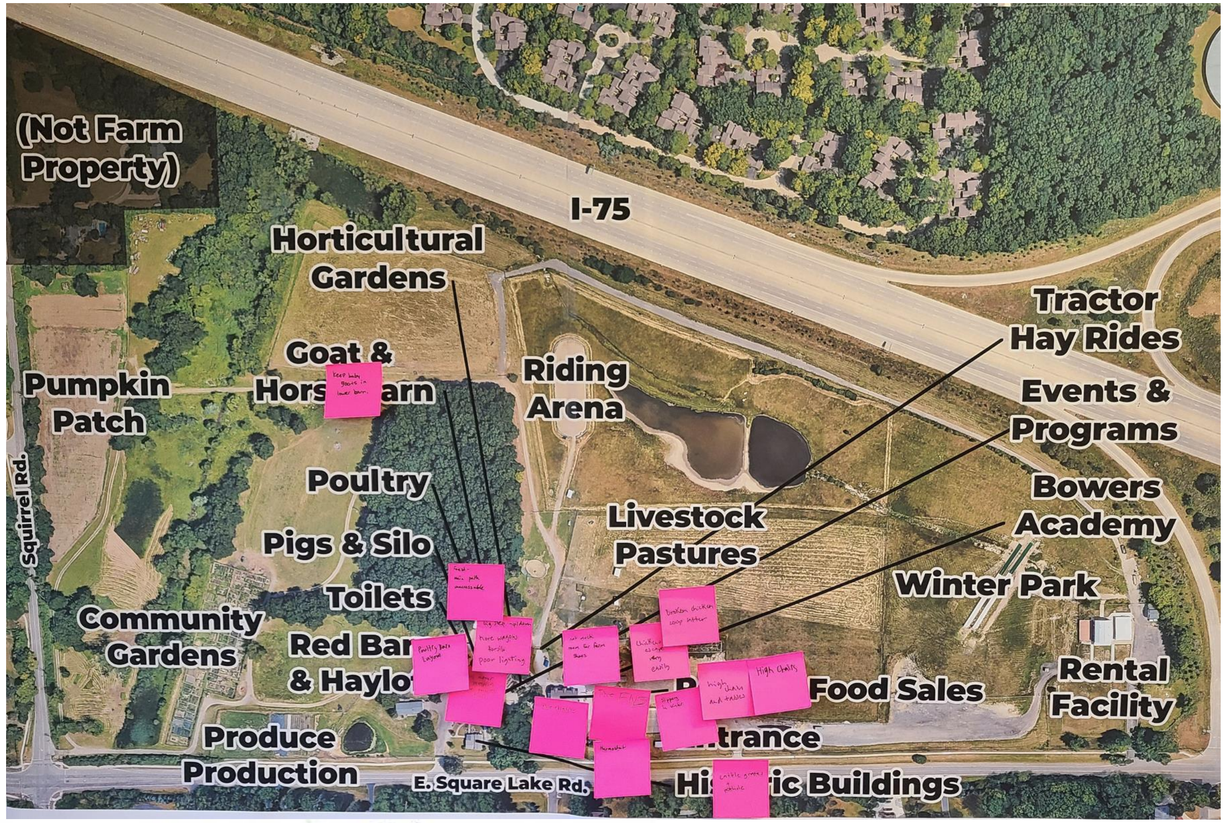
- Friends of Johnson Nature Center
- BHS PTO Council
- Donors
- JNC Tuesday Group
- Rotary Club
- Community Garden Members
- Optimist Club
- Equestrian Group
- Wild Ones of North Oakland
- MSU Extension
- Oakland Audubon
- Birmingham Bloomfield Chamber
- West Bloomfield Chamber
- Farm Bureau
- Township & Senior Services
- BYA
- Local Libraries



All stakeholder groups were invited to participate in a short survey (administered digitally).

WORKSHOP RESULTS





LIKES

- Variety of Events
- Good Publicity
- Volunteer Opportunities
- Involvement of School Sects. & Community
- Well-organized Events
- Nice & Welcoming Staff
- Girl Power
- Appealing "Look & Feel"

*P. Buckhalter

Likes

Accessible agriculture
Proximity to home
Unique property
Forest (preserved nature)
On site food production
4-H
Community events
Private events
Not a petting farm

Produce Sales
Donuts
Gardens

DISLIKES

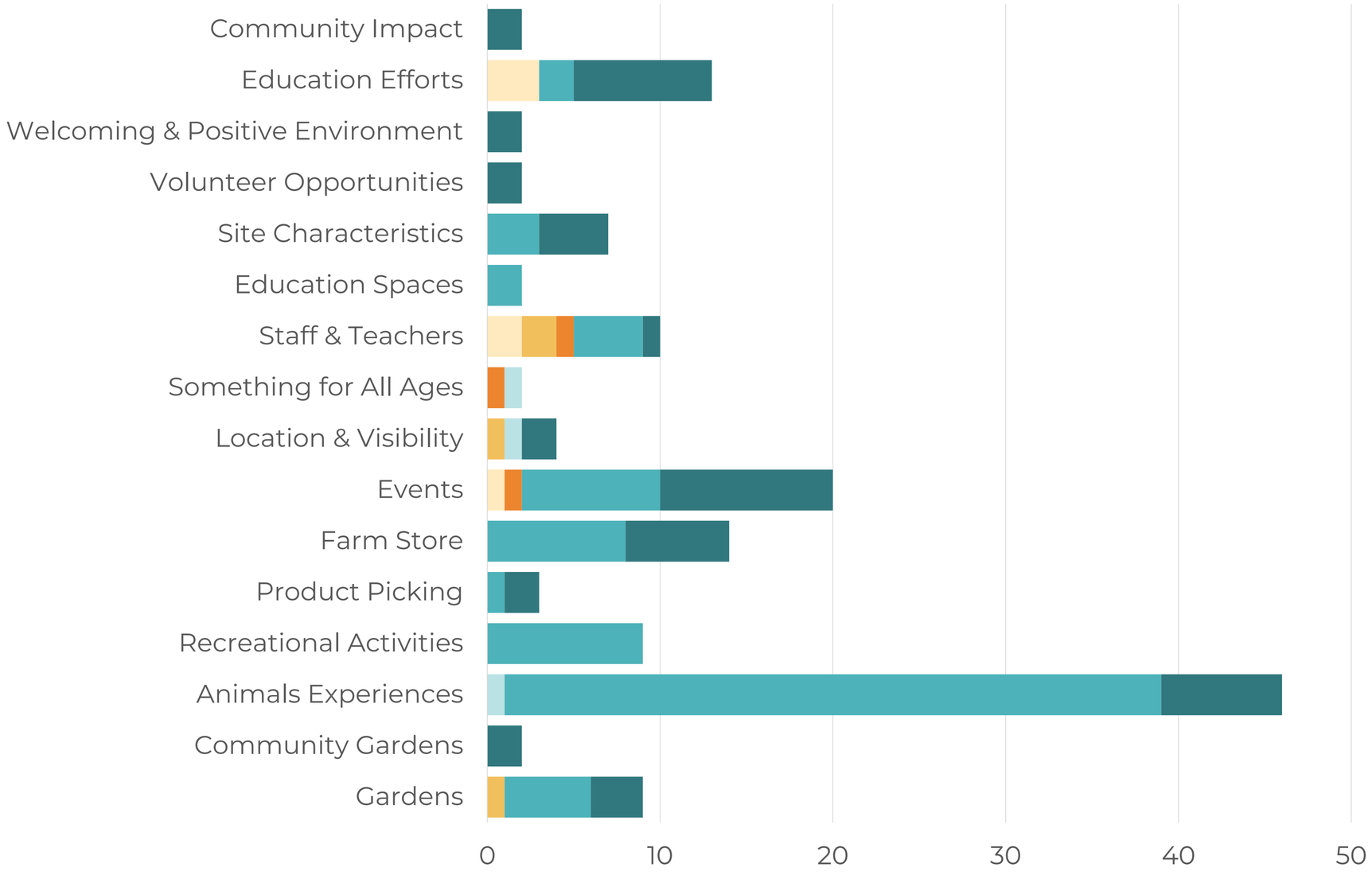
- Lack of Diversity (Have list (Black & White)
- " of store merchandise/ variety
- Event seem "exclusive" vs. "inclusive"
- Lack of "New" Programming: Meet & Greets, Concerts, retreats, Master Classes, Speaker Series, etc.

Dislikes

Restrooms near horse barn
Old facilities - hard to maintain, looks "old"
Horse barn unsafe - cattle stanctions
No grooming stalls (some)
Fencing is not horse appropriate
No indoor arena
Not handicap accessible
Not good flow of traffic
Not stalls for more than 1 horse
No Observation deck / safe space for audience

WORKSHOP RESULTS

What Do You Like About the Farm?

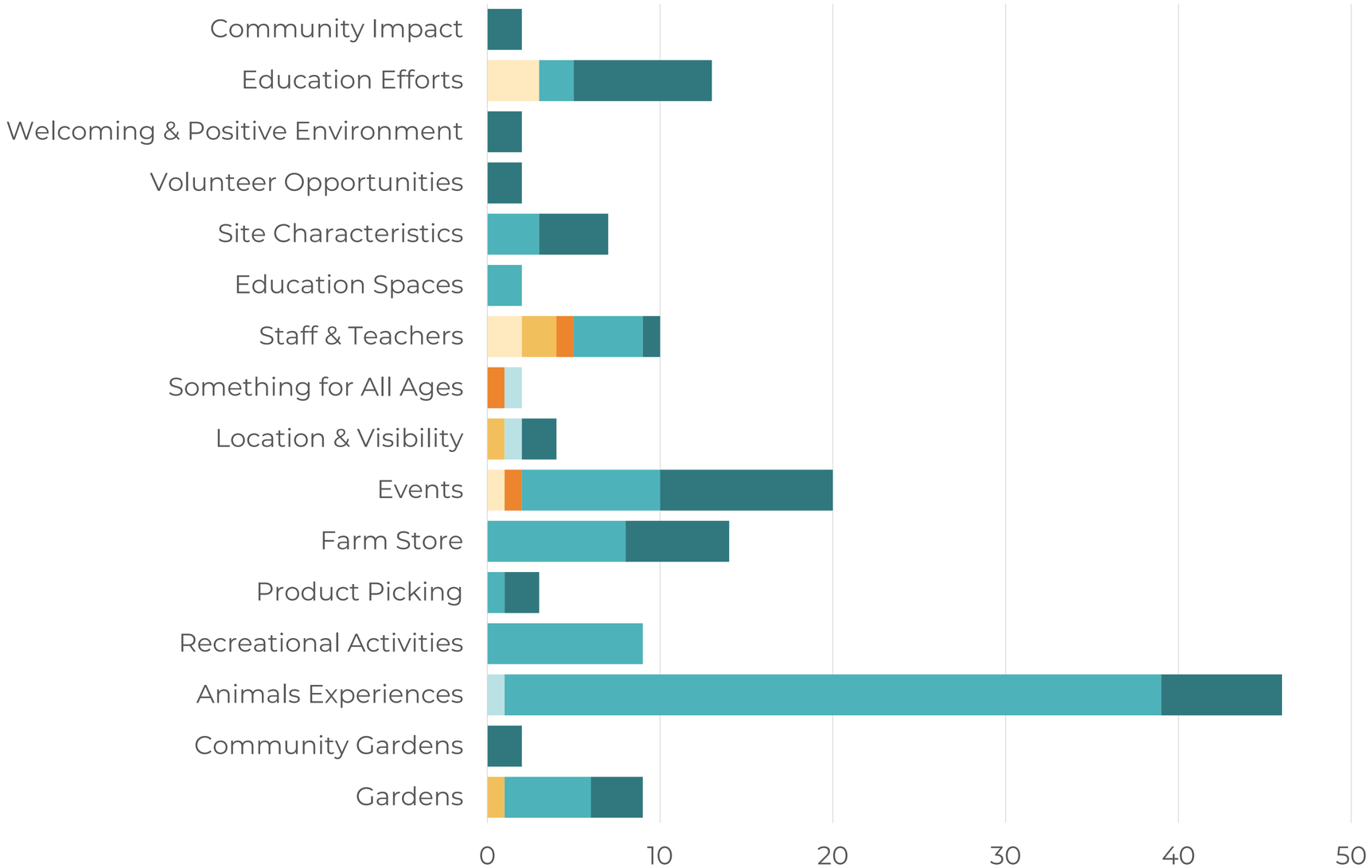


Top Ranking Likes

- Animal Experiences (31%)
- Events (14%)
- Farm Store (10%)
- Education Efforts (9%)
- Staff & Teachers (7%)
- Gardens (6%)
- Recreational Activities (Wagon Rides, Ropes Course, Basketball) (6%)

WORKSHOP RESULTS

What Do You Like About the Farm?

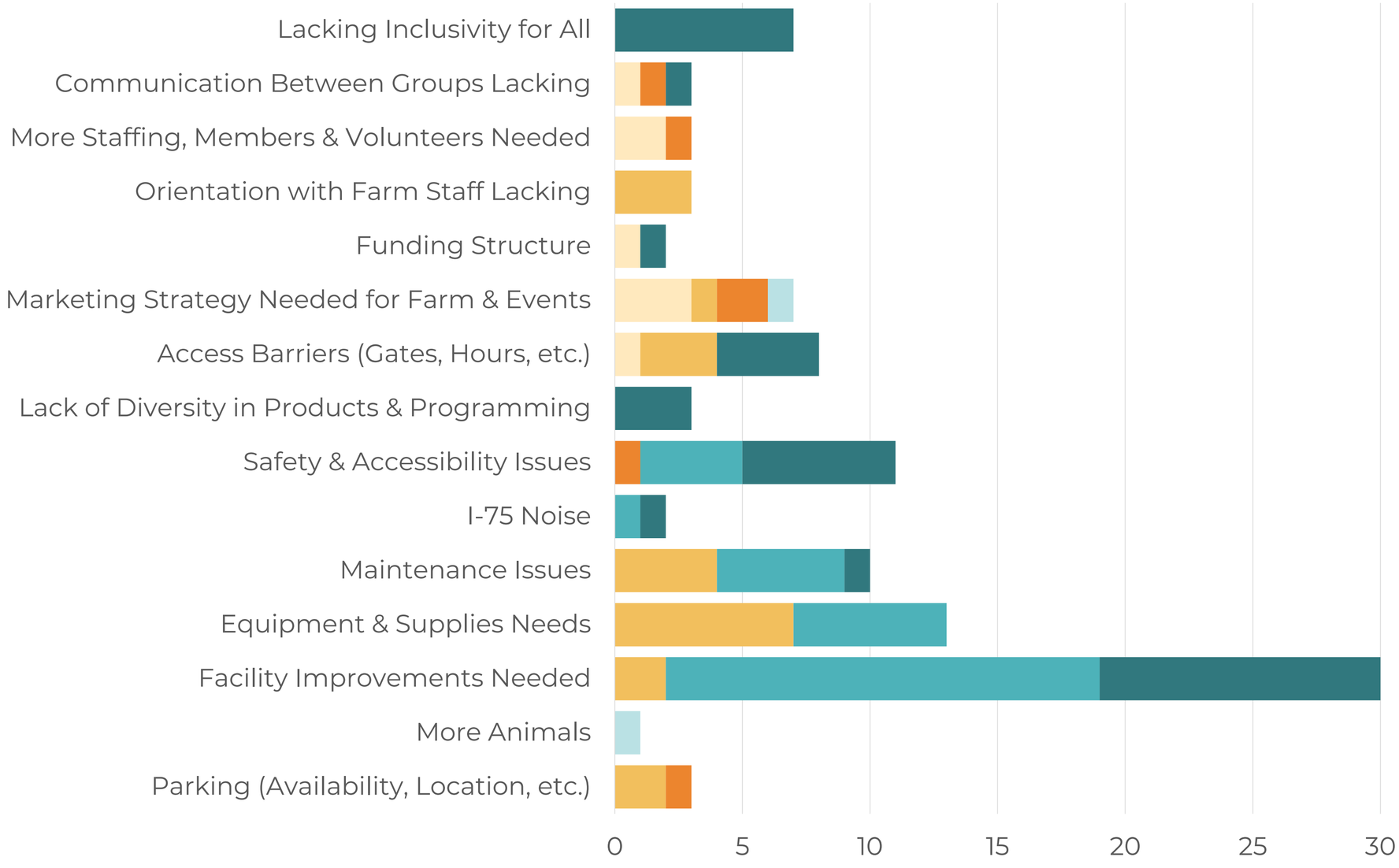


General Notes

- Animal experiences are very popular among students
- Ice cream and pizza were noted favorites, especially among students
- Winter Park was frequently mentioned as a favorite event
- Open House yielded several comments on the visual charm of the Farm
- Open House participants value the role that the Farm plays in educating students and community residents

WORKSHOP RESULTS

What Do You Dislike About the Farm?

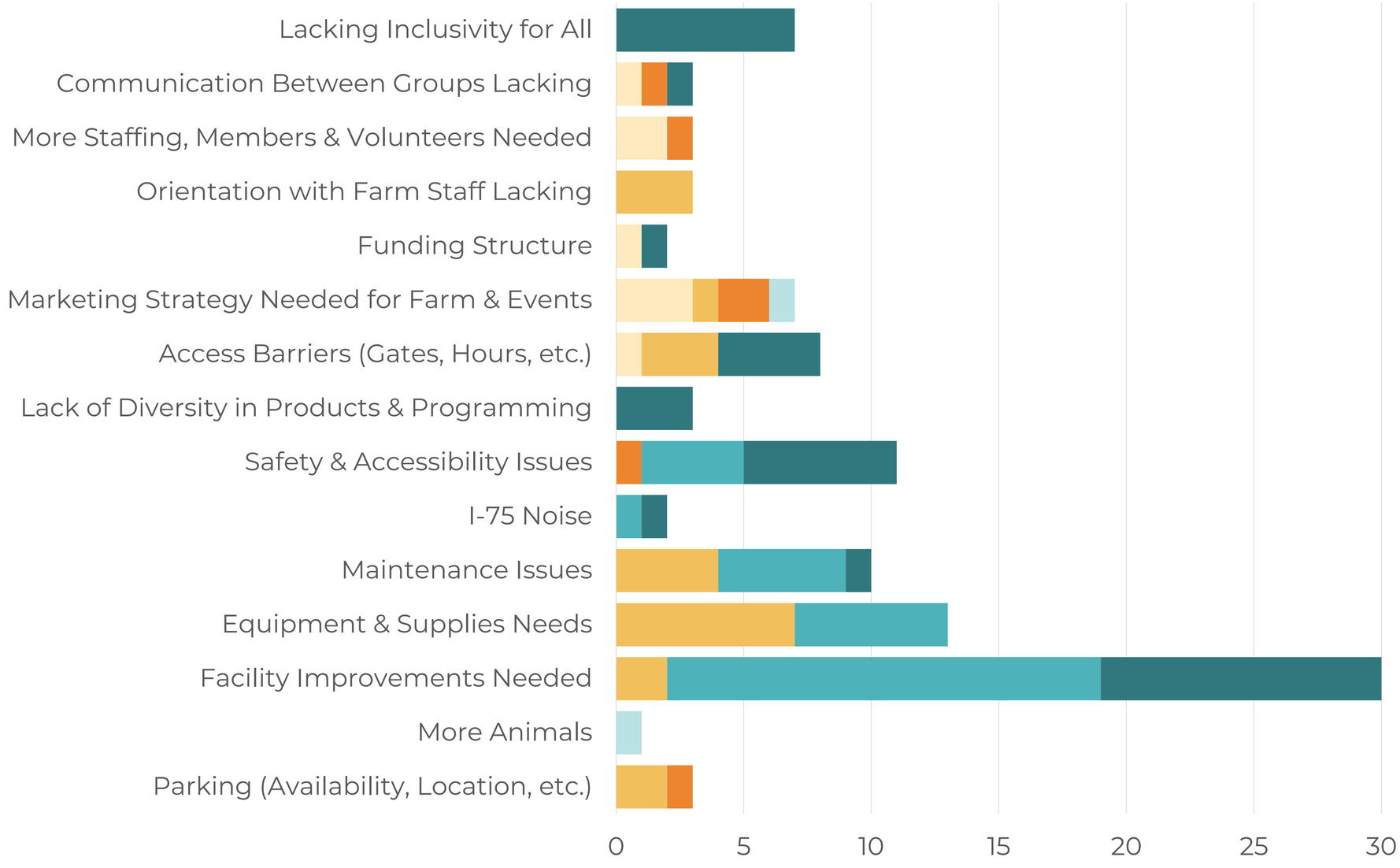


Top Ranking Dislikes

- Facility Improvements Needed (28%)
- Equipment & Supplies Needed (12%)
- Safety & Accessibility Issues (10%)
- Maintenance Issues (9%)
- Access Barriers (Gates, Hours, etc.) (8%)
- Marketing Strategy Needed for Farm & Events (7%)
- Lacking Inclusivity for All (7%)

WORKSHOP RESULTS

What Do You Dislike About the Farm?



General Notes

- The perception of lacking inclusivity was noted by Open House community members
- Safety & Accessibility issues were noted by all ages

WORKSHOP RESULTS

Key Takeaways

- Farm volunteer groups (Friends of the Farm, Preservation Bloomfield, Historic Society, Master Gardeners, and 4H) agreed on the following items.
  - Improved communication between groups and with the Farm staff
  - Improved marketing strategy for the Farm, its rental facilities, and events
  - Improved PR strategy for work that volunteer groups are doing onsite and fundraising efforts

- Animal experiences are a strong product for the Farm.

- Students gave honest feedback from operational (BOH), educational and guest experience perspectives.

- There was no mention of the Barton Farmhouse or Craig Log Cabin.

- Many noted positive attributes about the Farm staff and teachers.

- The number (and ages) of people noting perceived maintenance and safety/accessibility issues is telling.

- Inclusivity is another weakness noted by community members; comments highlighted financial barriers for programs and the need for stronger relationships with neighboring school districts & communities.



WORKSHOP RESULTS

BIG Ideas for Improving BSF

- Bring the Barn and House from Pickering Farm to the property
- More production gardens located in public viewing areas
- Additional gardens for students and 4H organization
- On-site restaurant / Celebrity Chef attraction
- Historical period clothing / Heritage days
- Solar power
- Separation of public viewing areas, education spaces and private BOH areas
- 4H exhibit with photos showing what 4H is, what they do, etc.
- Fundraising / Donation area onsite
- More events – Corn maze, Farm style escape room
- Treehouses, camping, cabins, yurts
- Add a gym to the school
- Farm preschool
- Walking trails around the property
- Green space for informal Farm visits and natural playground
- Indoor horse arena, horse riding classes for all
- Master classes & speaker series
- Wellness retreat
- Water slides on sledding hill in the summer
- Ride experience around the Farm (rollercoaster, trolley train car, etc.)



SURVEY RESULTS

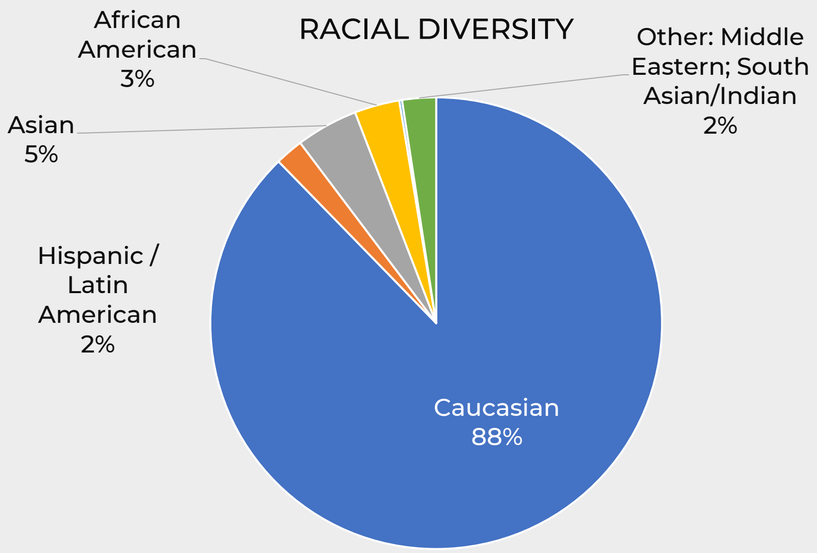
Key Takeaways

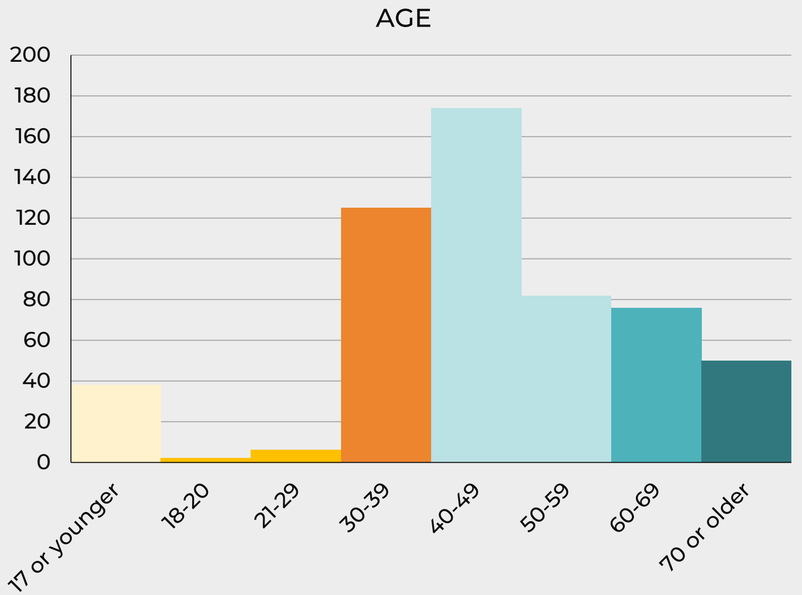
- The Farm is well-known in the community with the majority of visitors living within 15 min of the Farm.
- Non-visitors who are aware of the Farm have a perception that the Farm is primarily, although not exclusively, for BHS students and their families. These non-visitors tend to be older adults without children in their homes.
- Non-visitors from outside the 30 min drive time are looking for unique programs and activities that would make the drive worthwhile.
- Currently, the Farm suffers from a perception that it is not a value—that admission is not equal to the guest experience or length of stay.
- Strong overall perception of the Farm with many people anticipating increasing their attendance due to the changes they are seeing on-site, especially improvements to the store. Additionally, guests are saying they will visit more because they purchased a membership, or generally want to support a place they love.
- People are visiting for events (collectively), because they love the animals, are making purchases in the store, or are participating in programs.
- Strong desire to NOT commercialize (i.e. Farm-Amusement) AND to focus on educational experiences that build community within BHS market. More programs, more events, more interpretation, and more food options are the most popular suggestions for growth. Surprisingly, more animals / animal experiences were suggested far less.
- Very strong desire for focus or expansion related to horse experiences.

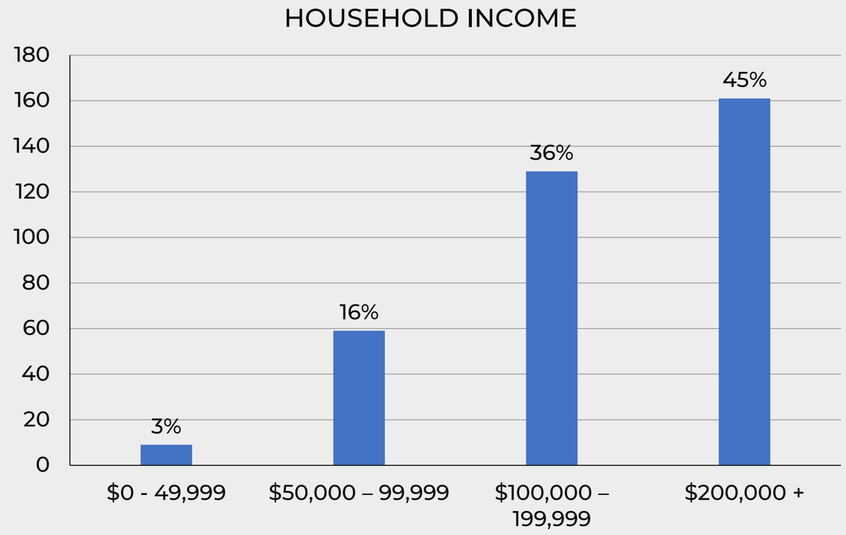
AUDIENCE SEGMENTS

- UNAWARE NON-VISITORS
- AWARE NON-VISITORS
- VISITORS
- 15 MIN DRIVE
- 30 MIN DRIVE
- 2 HR DRIVE
- NON-CAUCASIAN
- ADULTS W/O KIDS
- FAMILIES
- SENIORS
- UNDER 21

DIGITAL SURVEY RESULTS







553 TOTAL RESPONSES

Ave. HH Size: **3.4**
College Degree: **89%**
Adults Without Kids At Home: **30%**
93% are previous Farm Visitors
76% are previous Nature Center Visitors

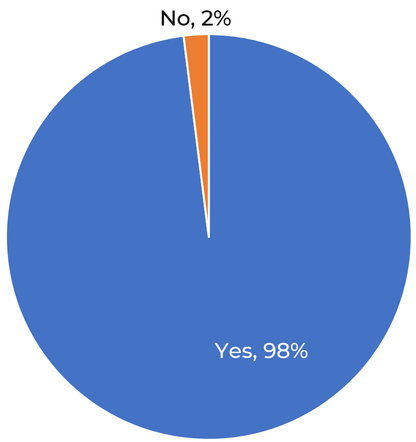
BSF & JNC Visitor Profiles look the same!

KEY POINTS:

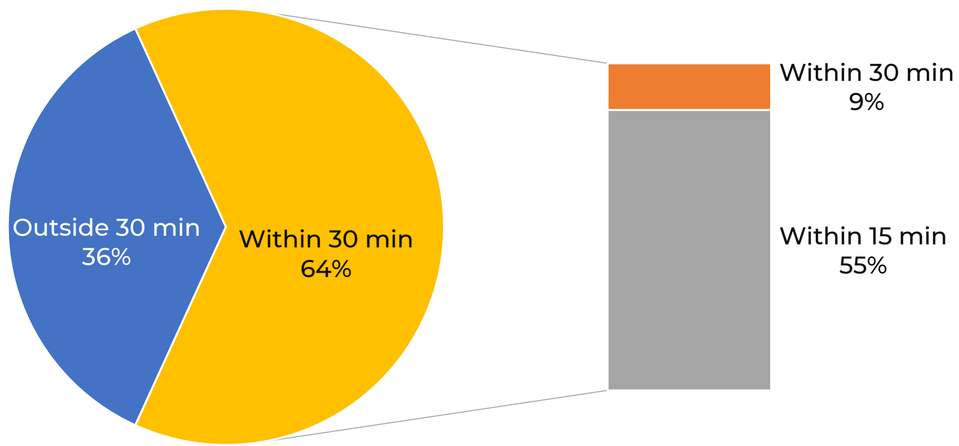
- Low responses from Non-Visitor segment
- Heavily Caucasian
- Black / African American underrepresented compared to population at 15, 30, and 120 min segments
- Underrepresented Gen Z segment and overrepresented Gen X segment compared to drive time populations
- Respondents' wealth is greater than drive time segment populations; Underrepresented low income demo

UNAWARE NON-VISITORS

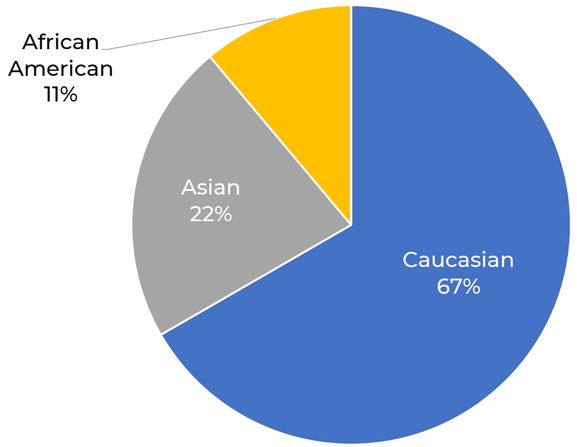
WERE YOU AWARE OF BOWERS SCHOOL FARM BEFORE SURVEY?



DRIVE TIME FOR THOSE UNAWARE



RACIAL DIVERSITY OF THOSE UNAWARE



11 TOTAL RESPONSES

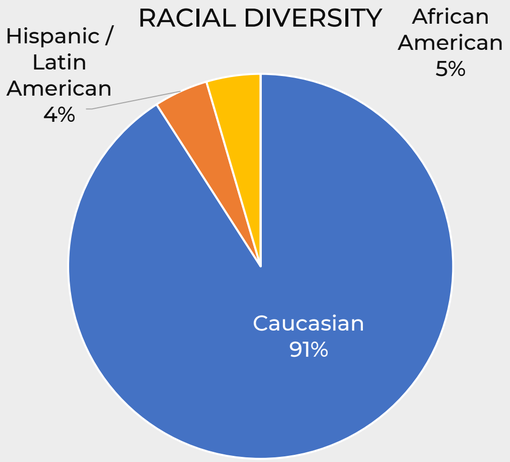
Ave. HH Size: **3.3**
College Degree: **73%**
Adults Without Kids At Home: 35%

KEY POINTS:

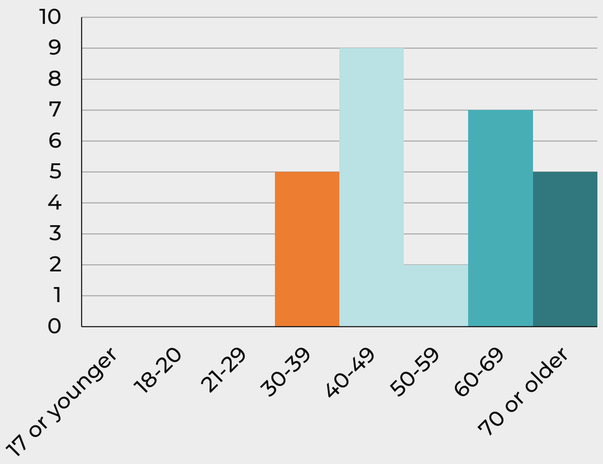
- Very low percentage of respondents unaware of Bowers School Farm
- Of those, the majority live within 15 min of the Farm
- Higher proportion of Asian and African American respondents than overall survey profile (Otherwise, this group reflects the overall respondent profile although more than half chose “Prefer not to answer” for HH income)

AWARE NON-VISITORS

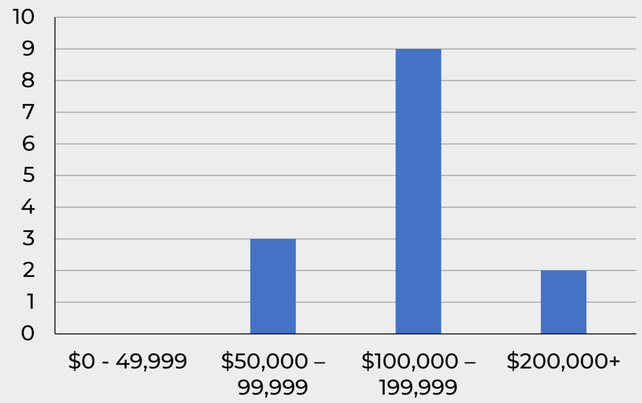
RACIAL DIVERSITY



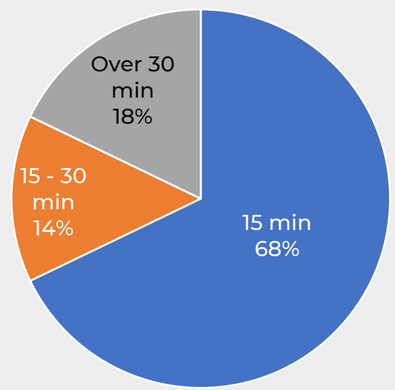
AGE



HOUSEHOLD INCOME



DRIVE TIME



FREQUENTLY VISITED ATTRACTIONS



28 TOTAL RESPONSES

Ave. HH Size: **3.0**
College Degree: **89%**
Adults Without Kids At Home: **53%**

Lower HH Income & Higher Age
More often are within 15 min drive than those Unaware
Less diversity than overall survey, but higher percentage of each represented minority.

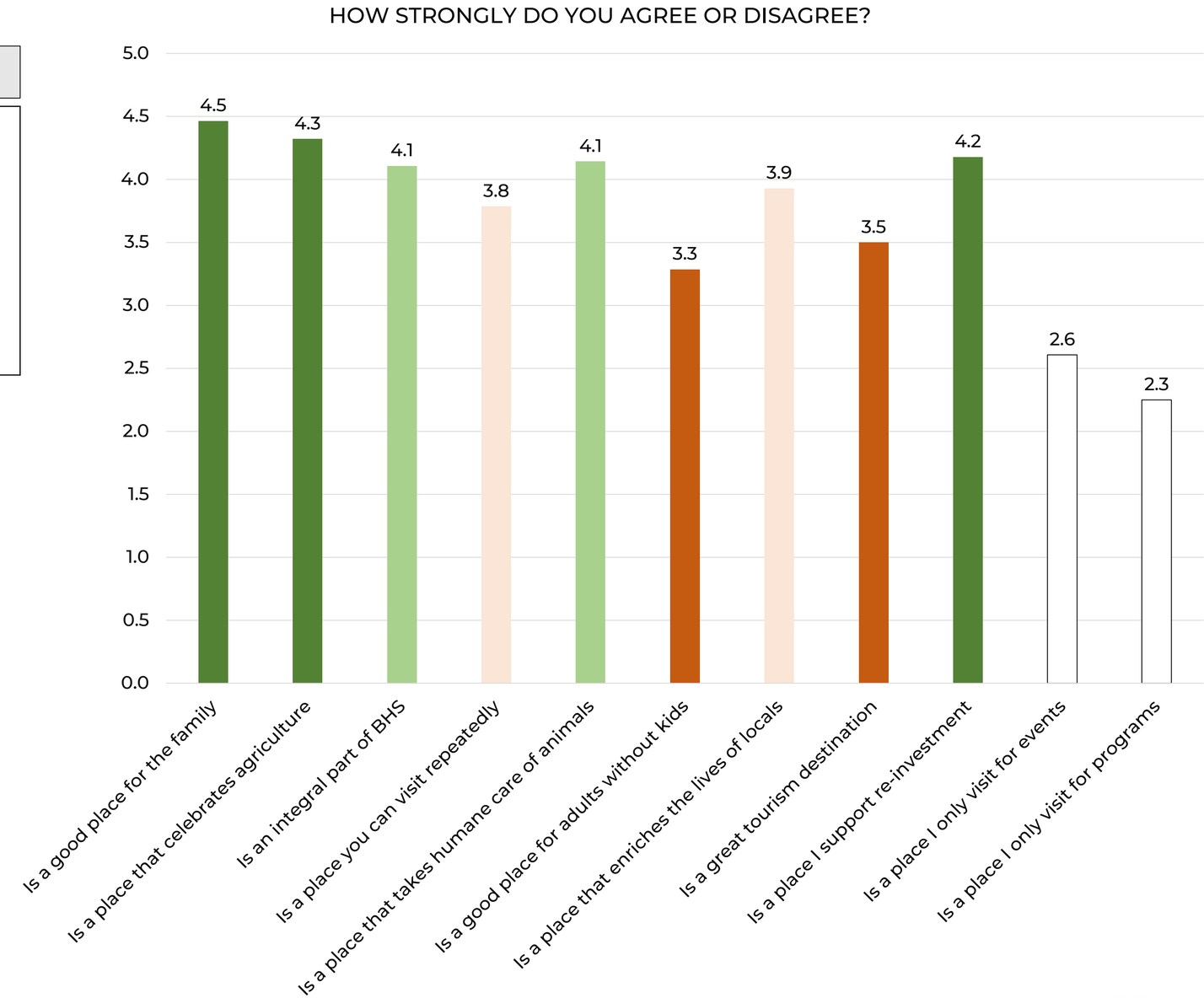
AWARE NON-VISITOR PERCEPTIONS

RANK YOUR BELIEF OF FARM PURPOSE:

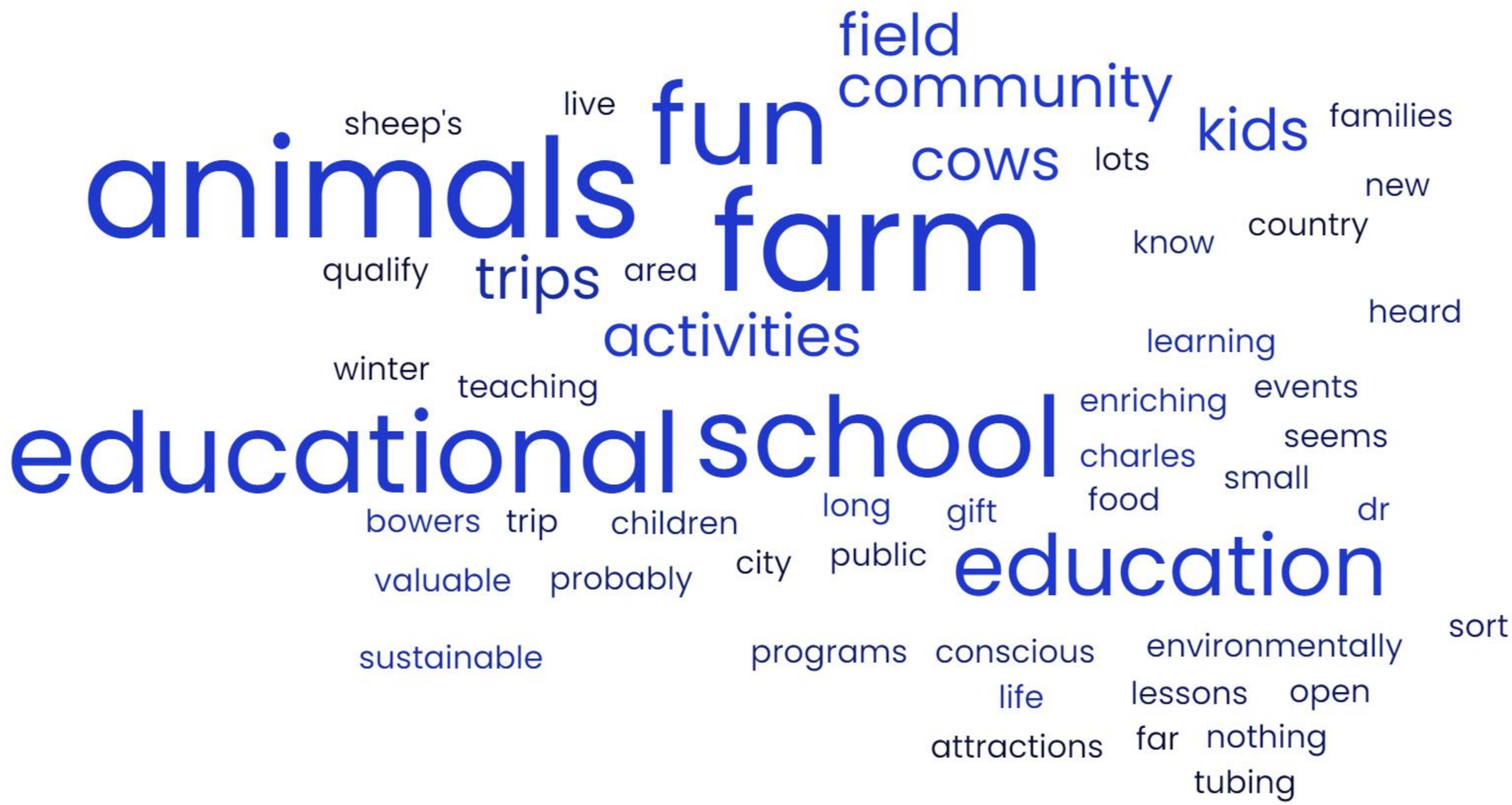
1 Improving student academic outcomes
2 Teaching about responsible agriculture
3 Recreation / leisure
4 Community gathering space
5 Food production
6 Tourism

Non-Visitor perceptions are generally positive, with the least agreed upon statements pertaining to being a good leisure / tourism destination for adults without kids. Top two purposes are related to education.

Reflects strong belief that Farm is for student families.

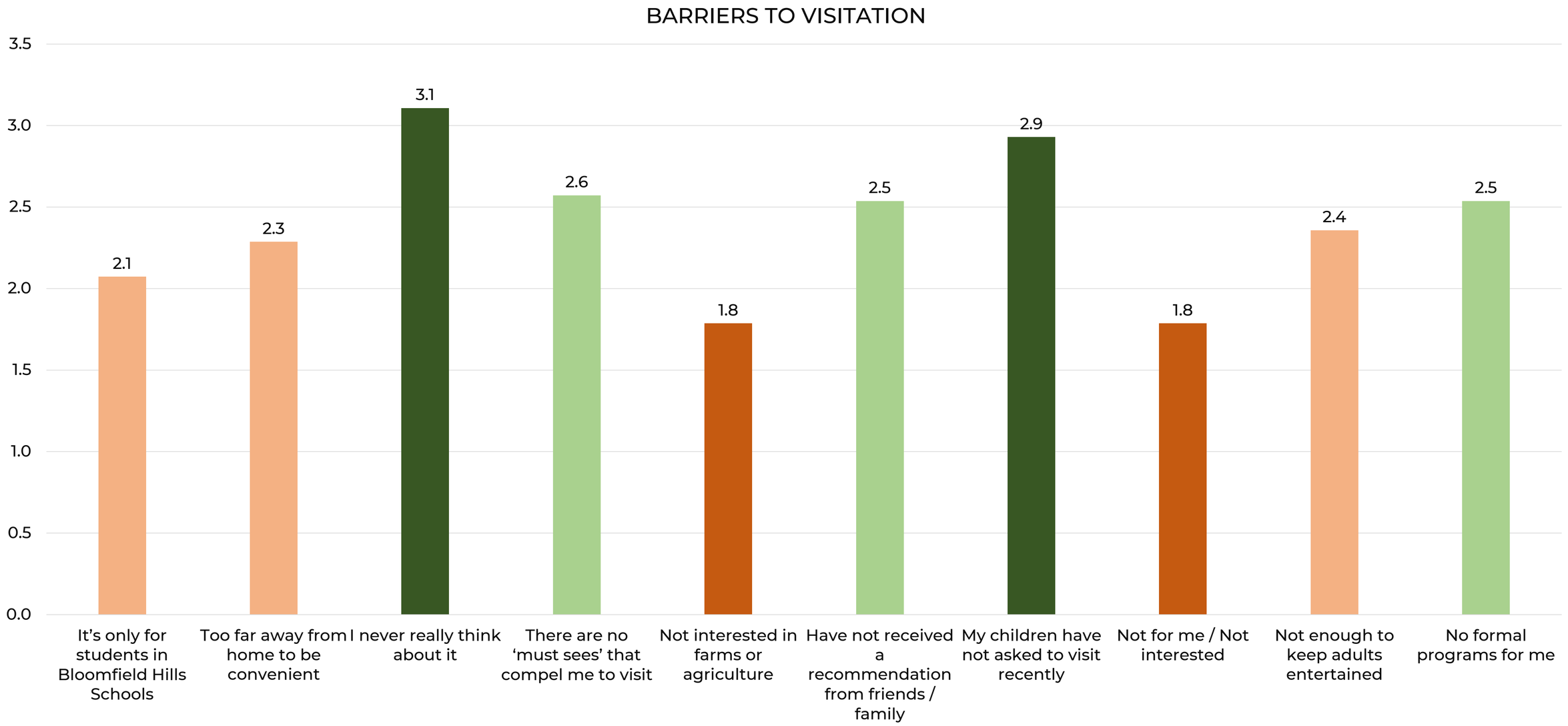


AWARE NON-VISITOR PERCEPTIONS



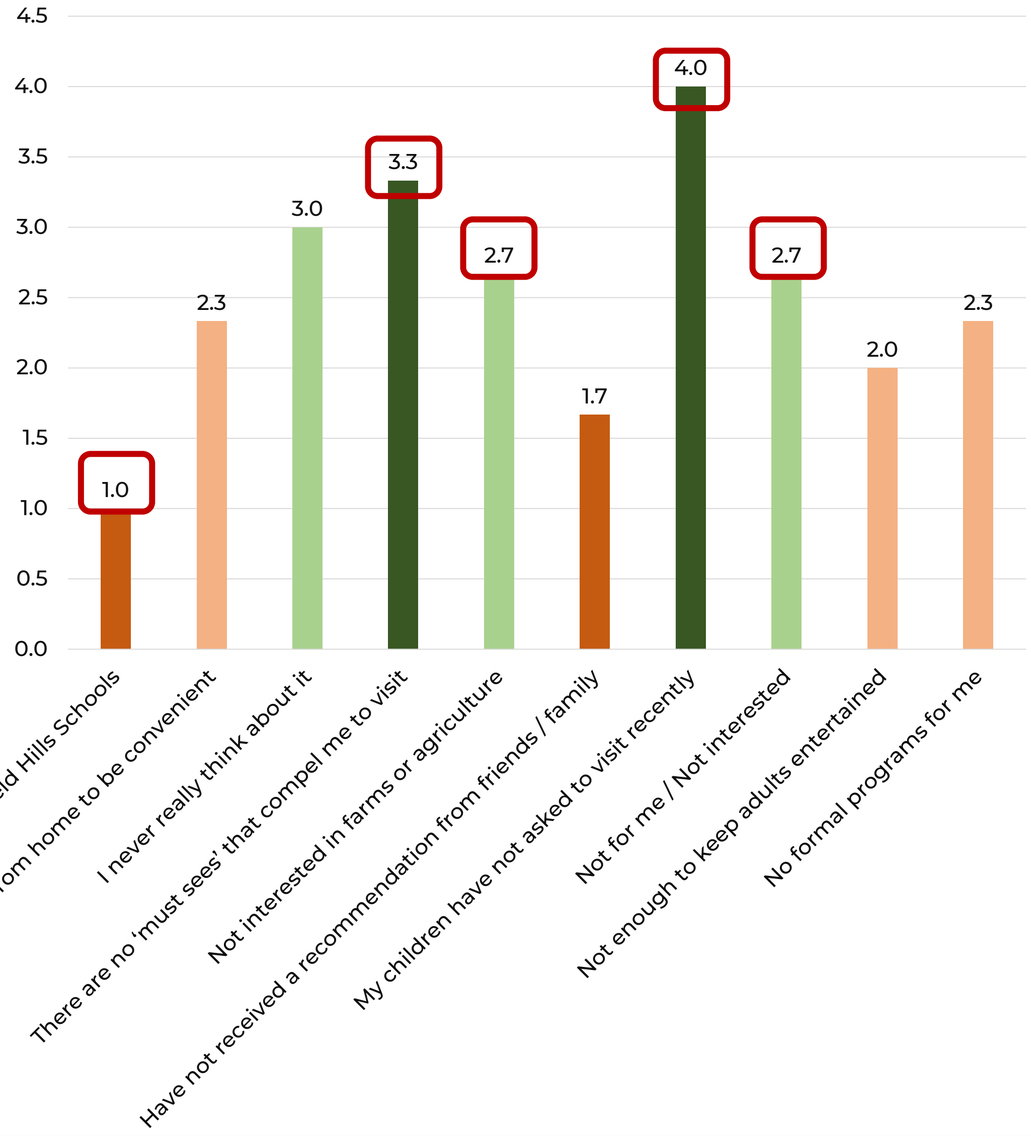
Non-Visitor perception of the Farm is very focused on **EDUCATION, KIDS,** and expected **FARM ELEMENTS** like animals**.**

AWARE NON-VISITOR PERCEPTIONS

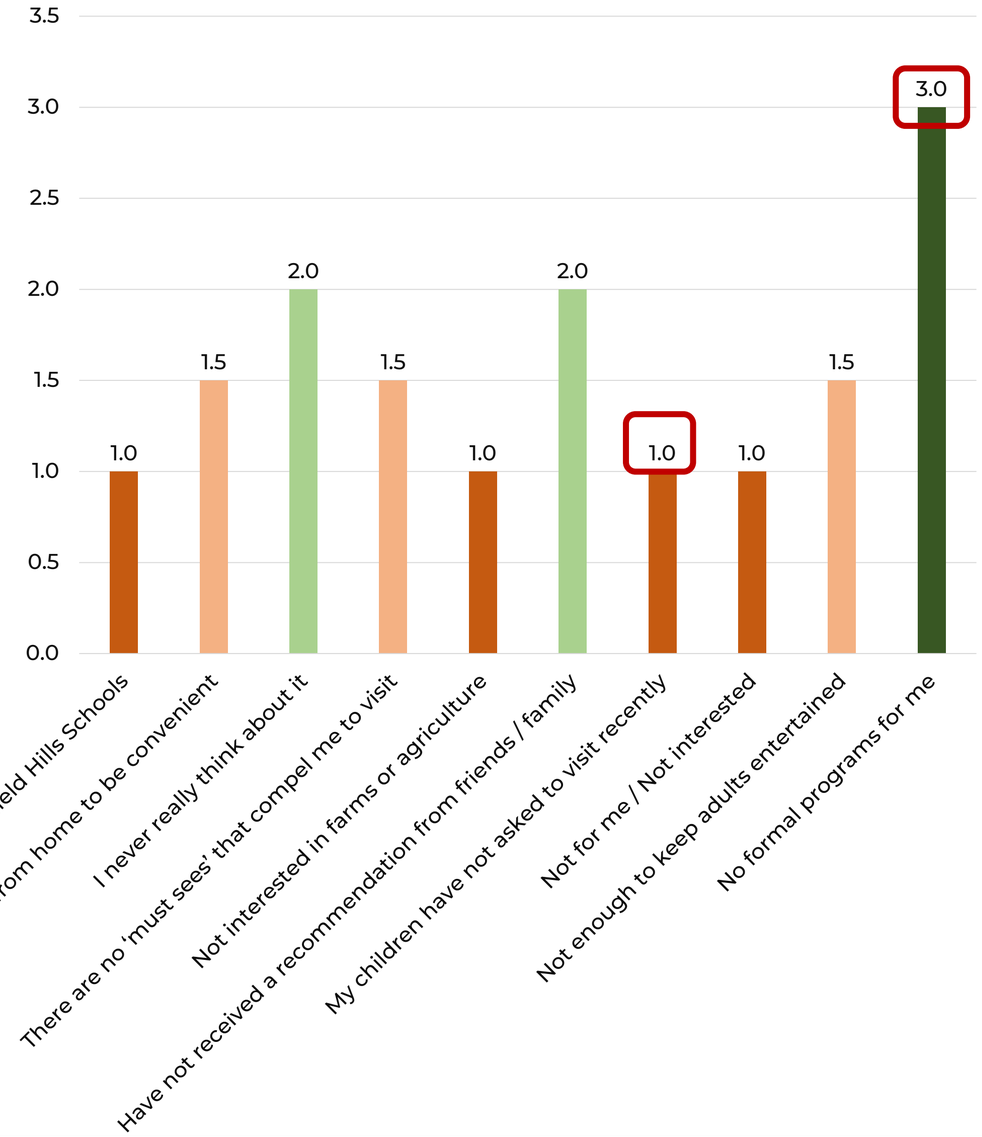


"I never really think about it" is top with **"My children have not asked to visit recently."**
However, none of the responses have strong agreement—most reflect **disagreement.**
What is the true barrier??

BARRIERS TO VISITATION
15 & 30 MIN DRIVE TIME

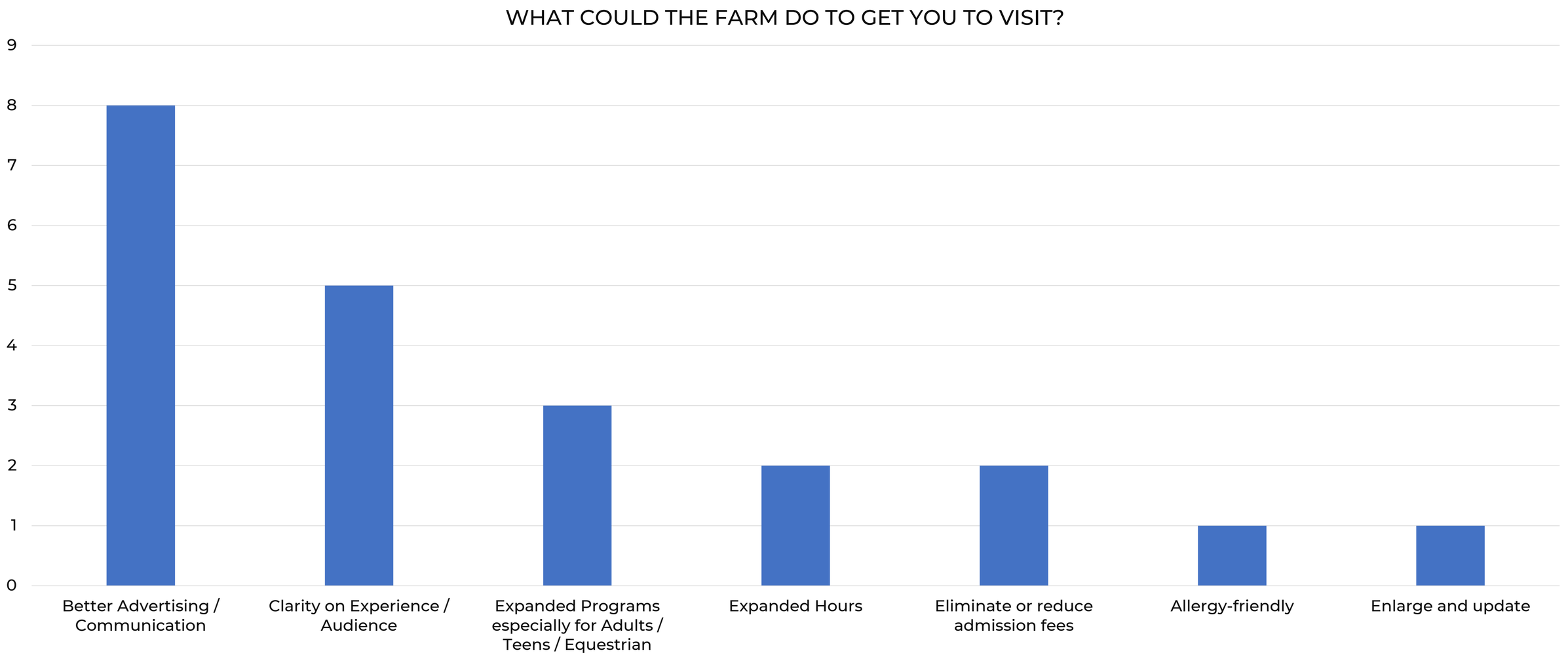


BARRIERS TO VISITATION
OVER 30 MIN DRIVE TIME



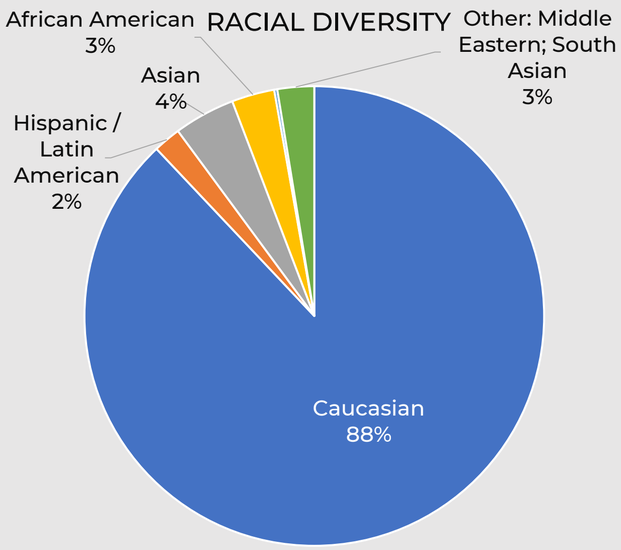
Drive time appears to have an impact on why people are not visiting. Non-visitors who live within 30 min drive rely on **children to ask to visit** and say there are **no must-see elements** at the Farm. They are also more likely to cite they **have no interest in agriculture** and its **generally not for them**. People living further than 30 min drive cite a **lack of formal programs** and surprisingly, are not impacted by **children asking to go**. (Segment has only 5 respondents.)

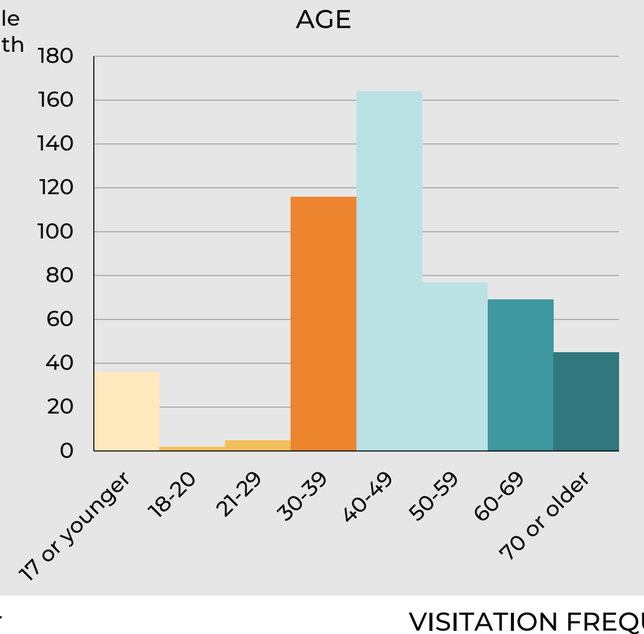
AWARE NON-VISITOR PERCEPTIONS

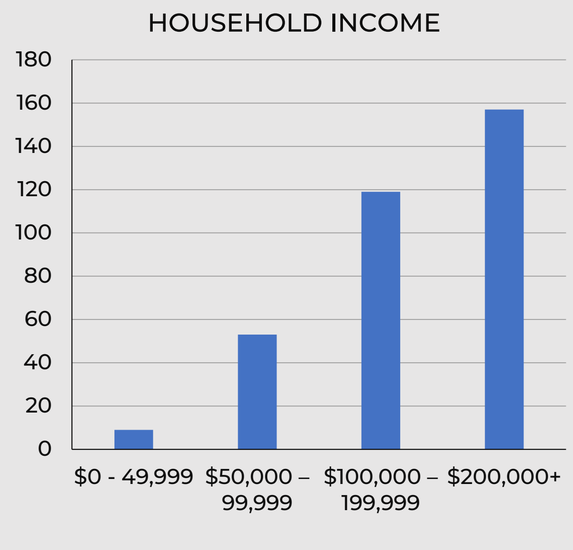


Suggestions reflect a **lack of awareness**—through advertising and word of mouth.
This aligns with “i never really think of it” as a barrier.
However, unprompted suggestions of changes include **expanding hours and programs**.

VISITORS



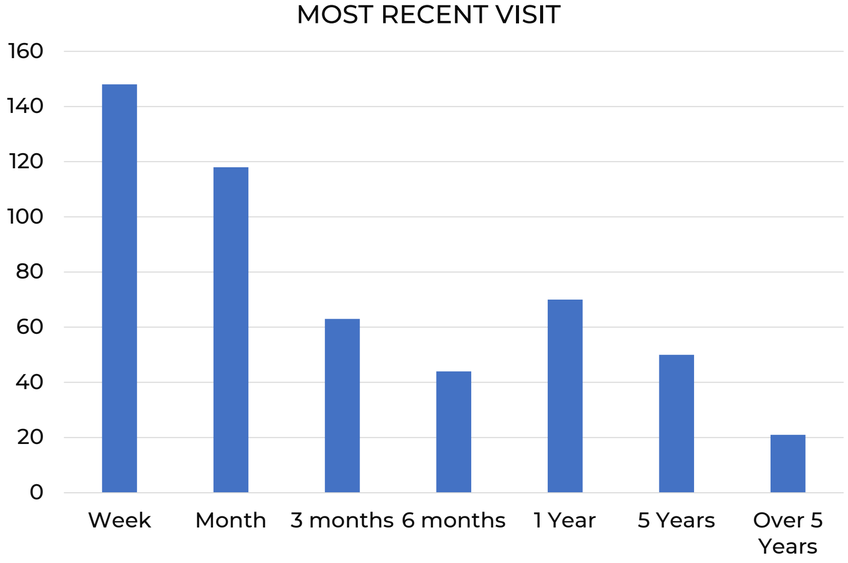


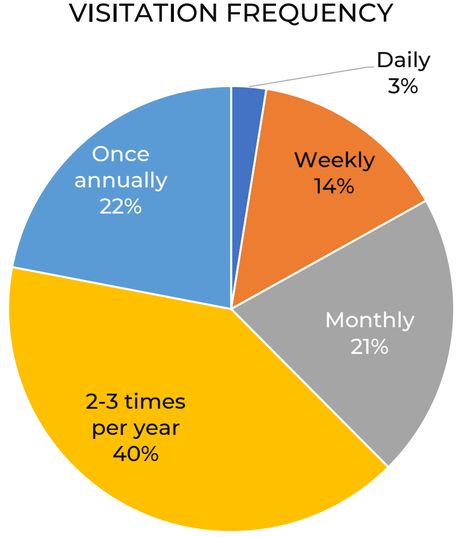


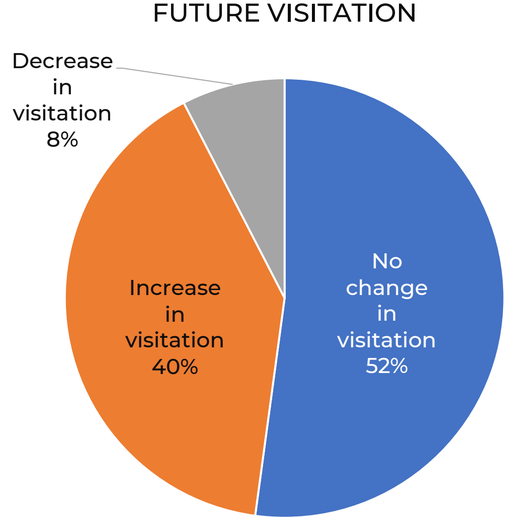
514 TOTAL RESPONSES

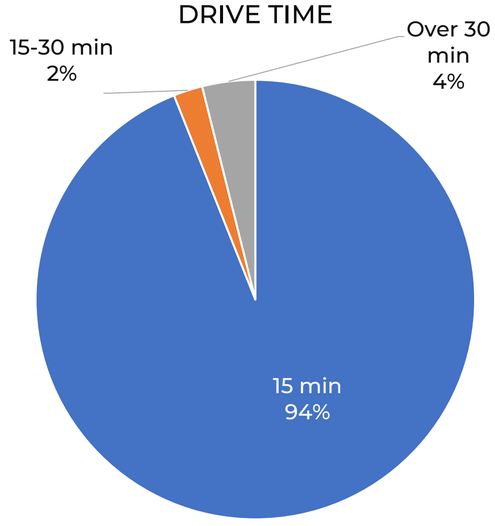
Ave. HH Size: **3.5**
College Degree: **89%**
Adults Without Kids At Home: **30%**
Majority are Recent Visitors and Frequent Visitors (~40% monthly+) and expect to increase visits.

Because most respondents are visitors, the profile is the same as overall survey.



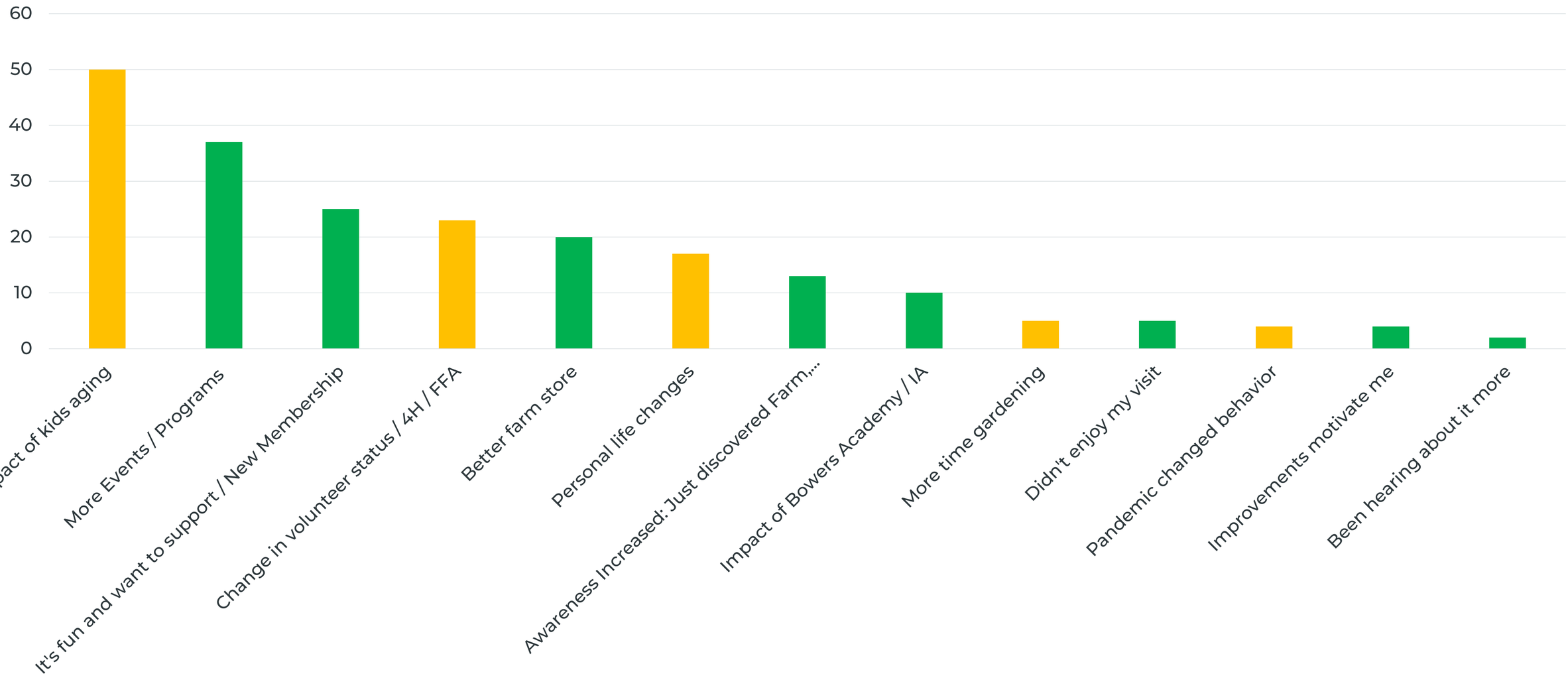






VISITORS

REASON FOR CHANGE IN VISITATION



Many people are excited by **new events and programs** they haven't yet tried, others simply want to **support the Farm** more, or have just **discovered** it. Visitation is most impacted by the **aging of children**: becoming or no longer interested and participation in programs. **Personal changes** including volunteering, schedule, and pandemic are out of the Farm's control. Finally, **improvements to the Farm Store** (and throughout the Farm) are motivating people to come more often.

VISITORS



FREQUENTLY VISITED ATTRACTIONS

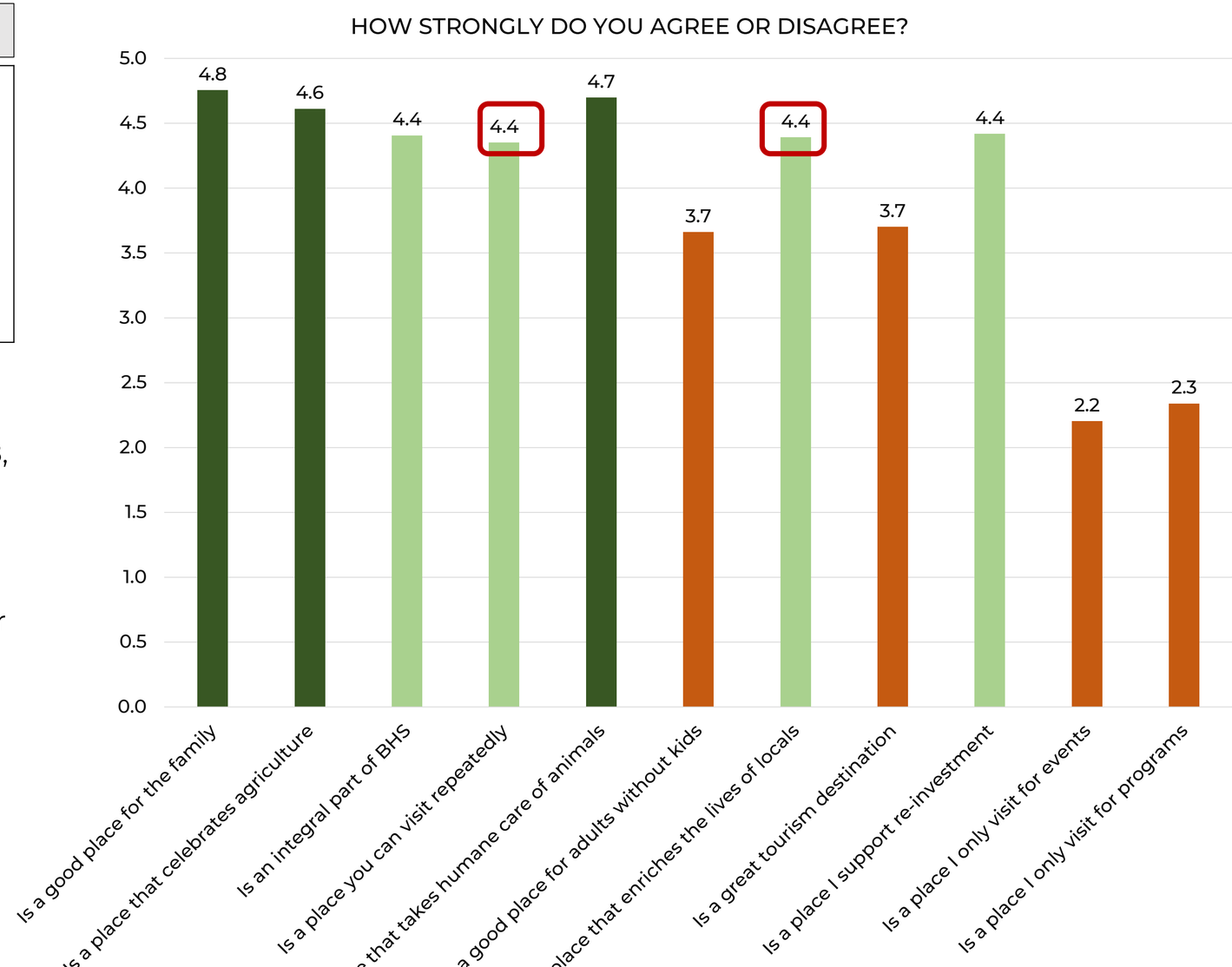
VISITOR PERCEPTIONS

RANK YOUR BELIEF OF FARM PURPOSE:

1 Improving student academic outcomes
2 Teaching about responsible agriculture
3 Recreation / leisure
4 Community gathering space
5 Food production
6 Tourism

- Visitor perceptions are much more positive than Non-Visitor despite sharing the same MOST agreed upon statement: “Is a good place for the family.” (Visitors at 4.8, Non-Visitors at 4.5.)
- Second most agreed upon ‘Celebrates Agriculture’ and ‘Humane Care of Animals’—both much more strongly than Non-Visitors.
- Least agreed upon—aside from only visiting for events or programs—”Is a good place for adults without kids” and “Great tourism destination” align with Non-Visitors, but more positively.
- Visitors more strongly believe you can visit repeatedly and that Farm enriches lives of locals.
- Same ranking of Purpose as Non-Visitors and all audience segments.

Reflects belief that Farm is an educational experience for families in the community.

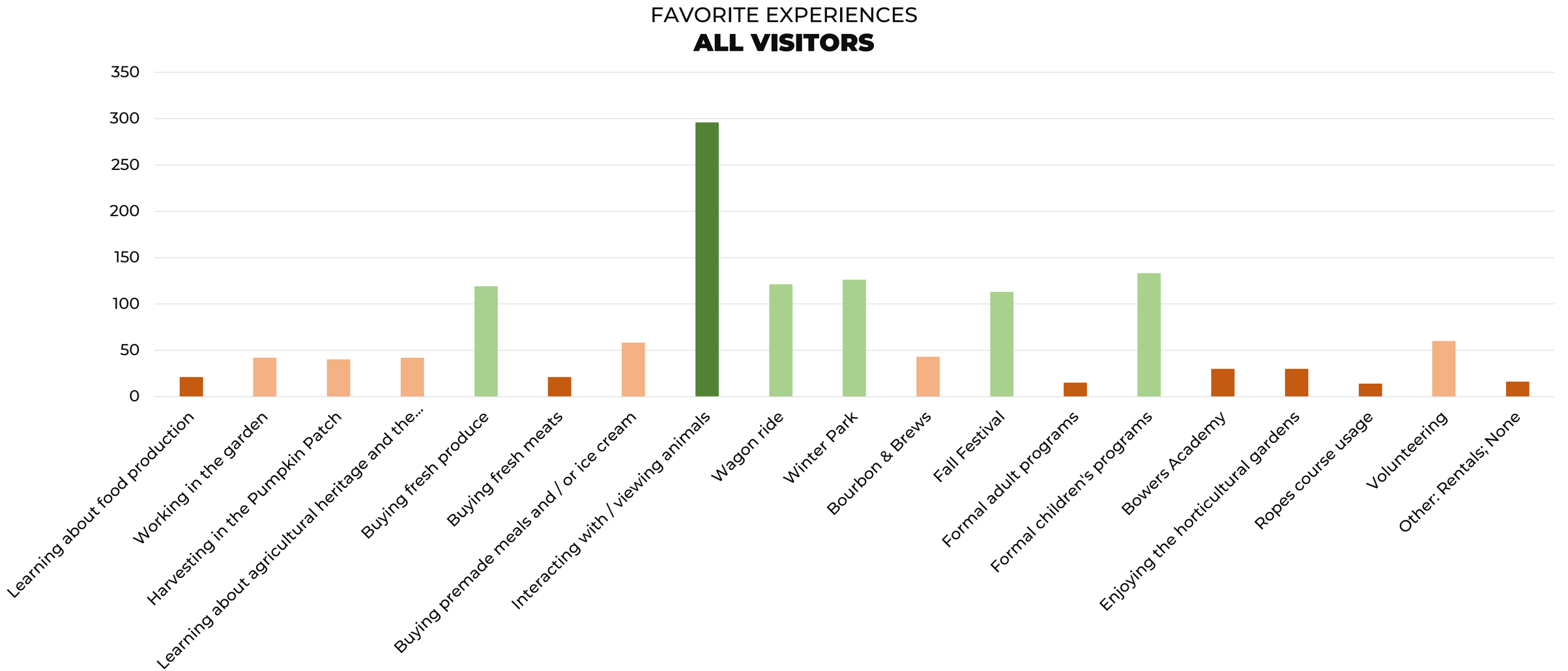


VISITOR PERCEPTIONS



Visitor perception of the Farm is very focused on **ANIMALS, FUN, FAMILY,** and **COMMUNITY** more so than education.

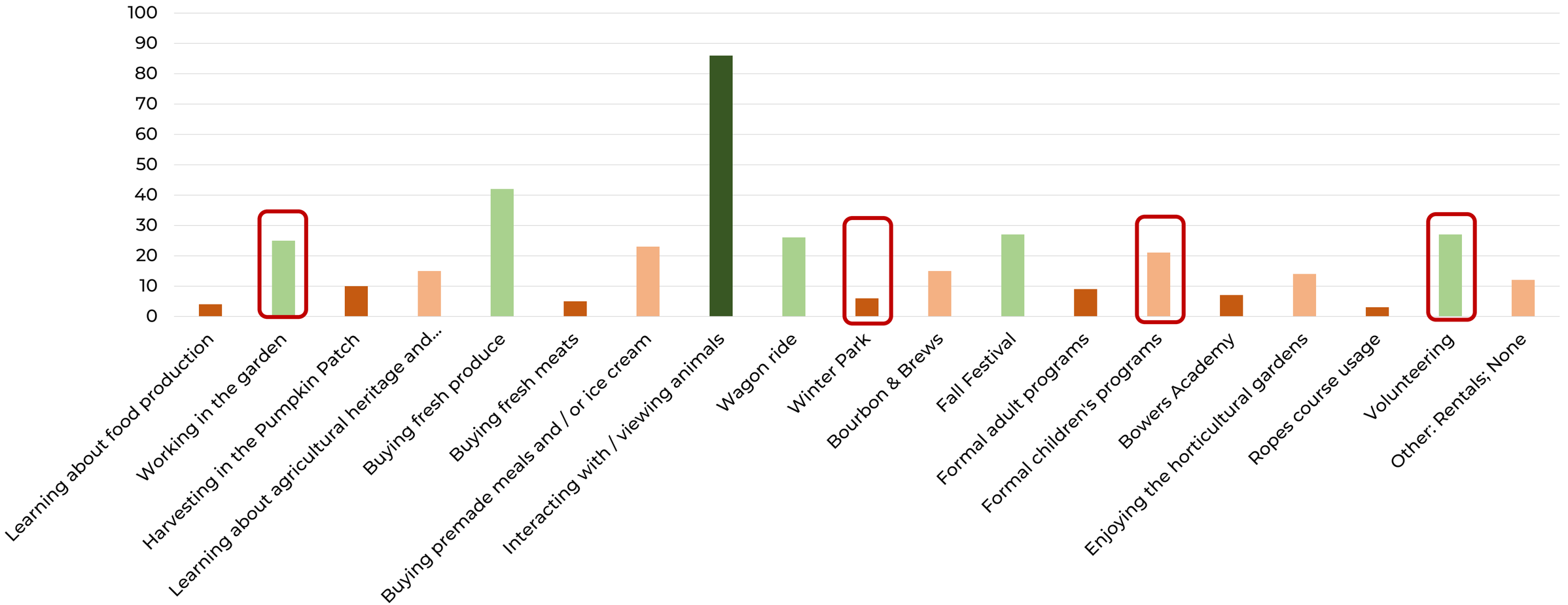
VISITOR PERCEPTIONS



Visitor favorite experience is being with **ANIMALS**. 2nd Favorite is **Children's Programs**, but **Adult Programs** was a least favorite. **Buying Fresh Produce** is one of the favorites, but **Buying Fresh Meat** and **Buying Premade Meals / Ice Cream** were less popular. **Family-friendly events** are also Favorites.

FAVORITE EXPERIENCES

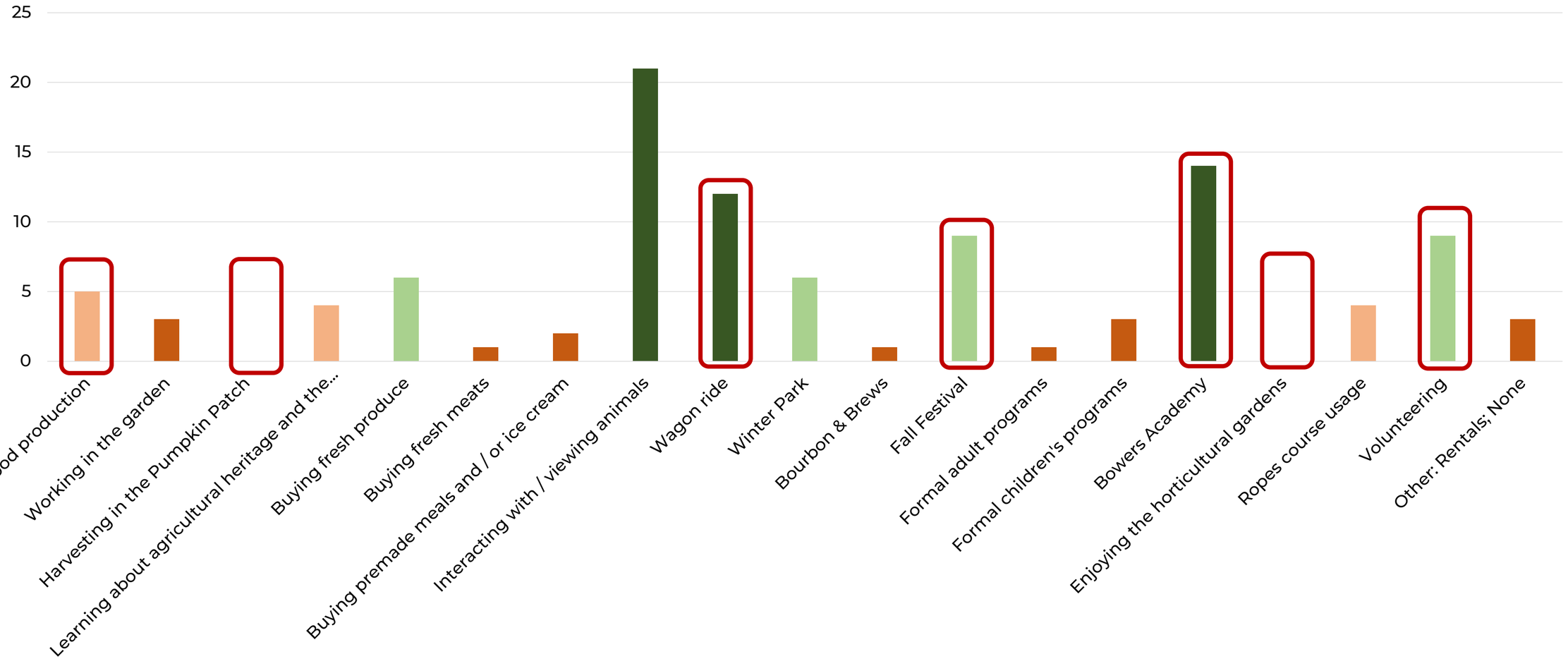
ADULT HOUSEHOLDS WITH NO CHILDREN & 60+



Adults Without Kids and Ages 60+ still love **Animals**! But, they don't love **Winter Park** and have less use for **Children's Programs**. **Adult Programs** are slightly more popular, while **Working in the Garden** and **Volunteering** are important experiences for this group.

FAVORITE EXPERIENCES

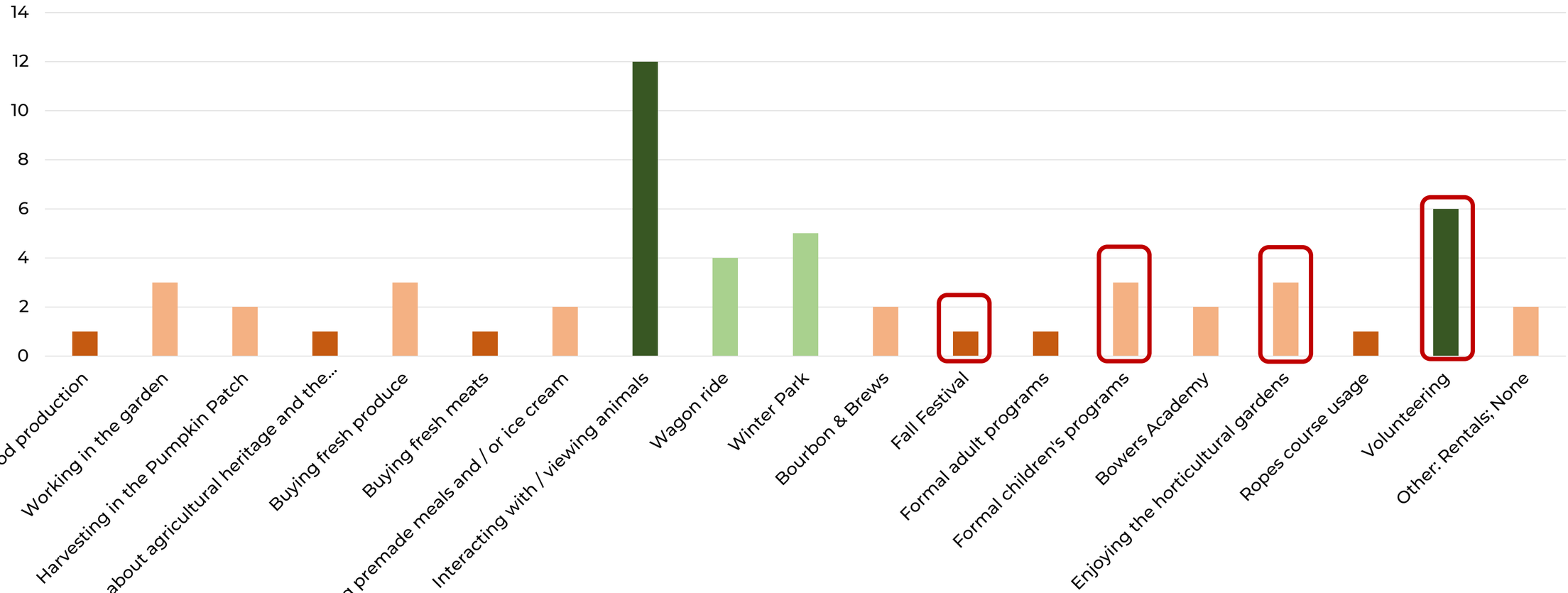
UNDER 21



The Under 21 segment predictably enjoys different aspects of the farm including the strongest affinity to **Bowers Academy** and **Wagon Rides**. They do not like **Harvesting in the Pumpkin Patch** or the **Horticulture Gardens**. **Fall Festival** and **Learning about Food Production** have the strongest connection with this group.

FAVORITE EXPERIENCES

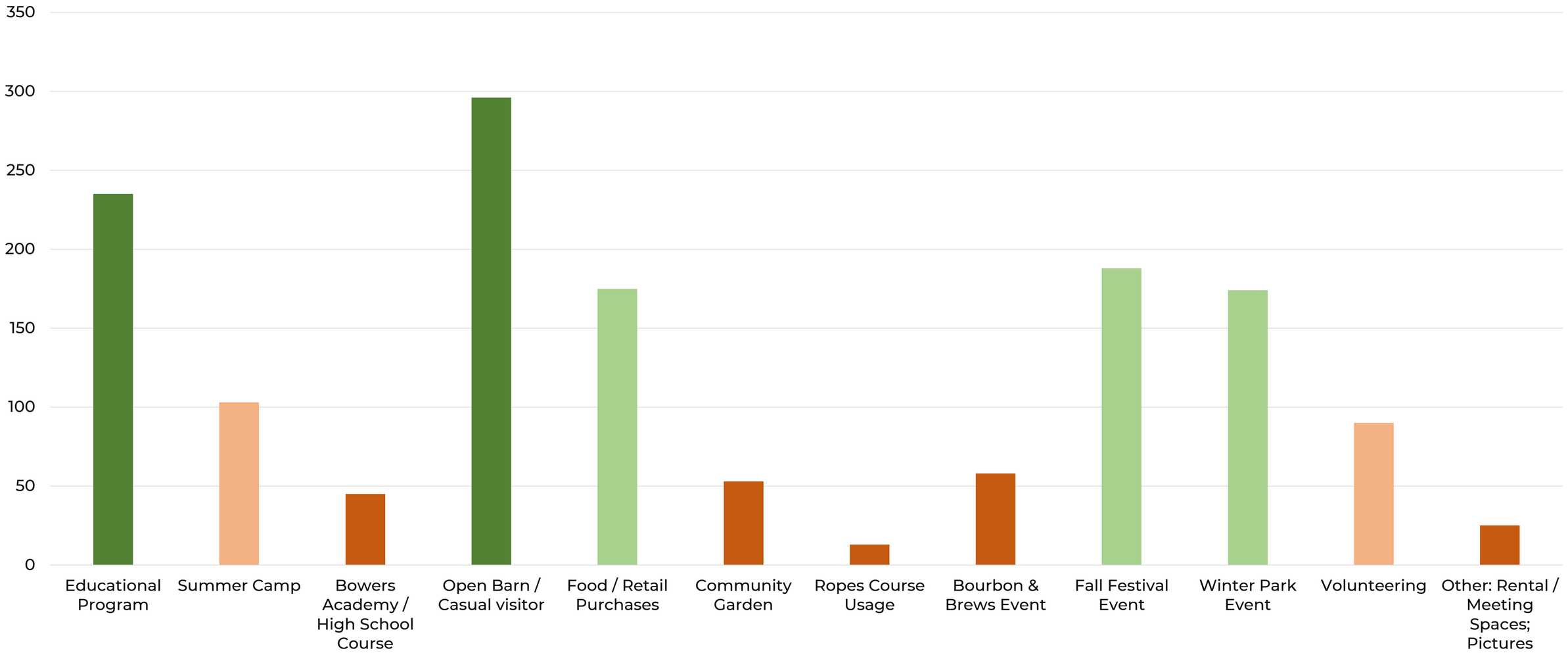
OVER 30 MIN DRIVE TIME



Visitors from further than 30 minutes away have a strong affinity for **Volunteering** and the strongest relative affinity for the **Horticultural Gardens** of all of the segments. However, predictably, **Children's Programs** are less important to them. Surprisingly, **Fall Festival** does not appeal to this segment.

VISITOR PERCEPTIONS

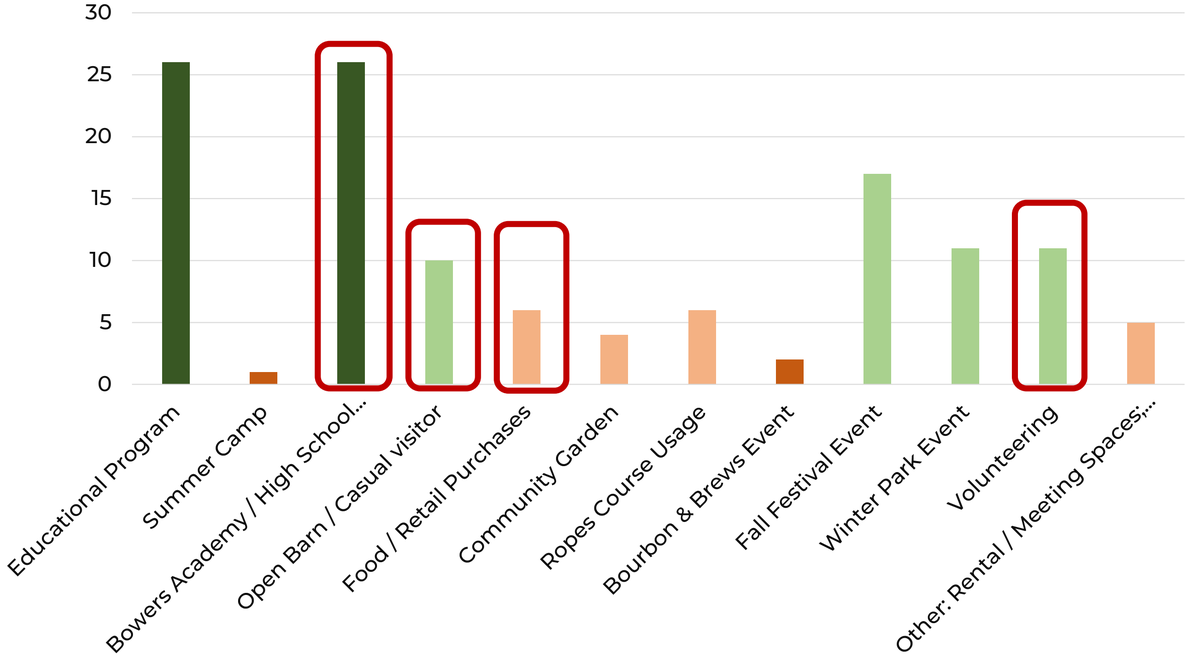
WHY ARE YOU VISITING?
(PURPOSE OF VISITS)



Purpose of visits are not surprising based on attendance data for Open Barn vs Programs and ticket sales at Events. However, the **Food / Retail Purchases** being amongst the highest purposes for visit, above Summer Camp and Volunteering, was somewhat surprising and indicates an opportunity.

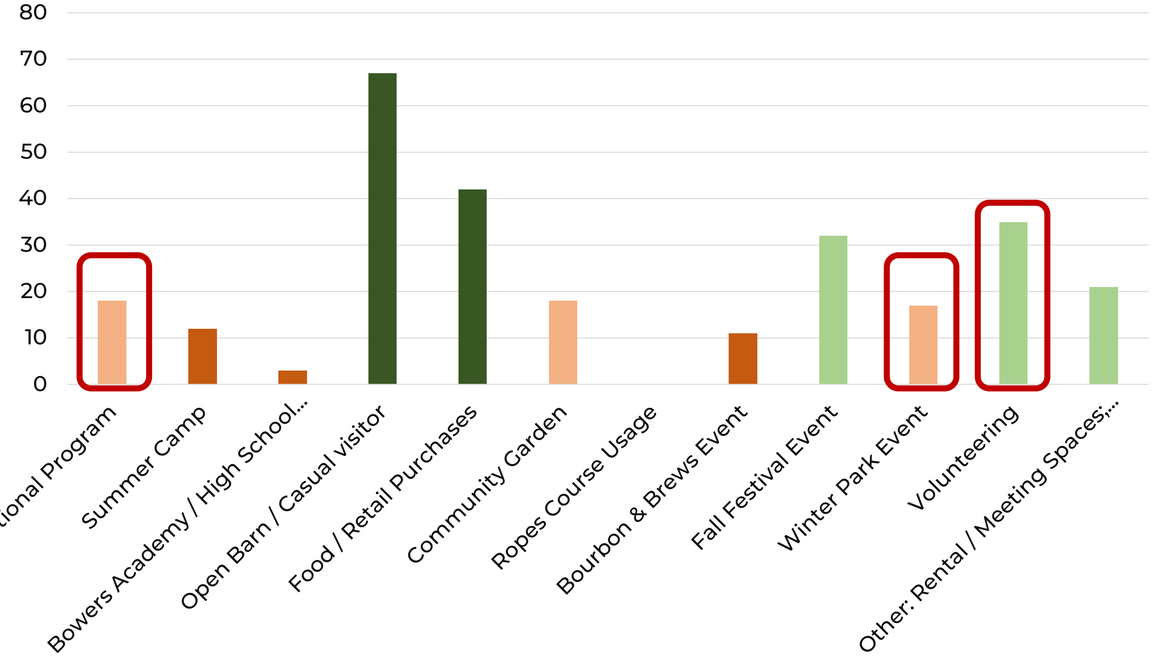
PURPOSE OF VISIT

UNDER 21



PURPOSE OF VISIT

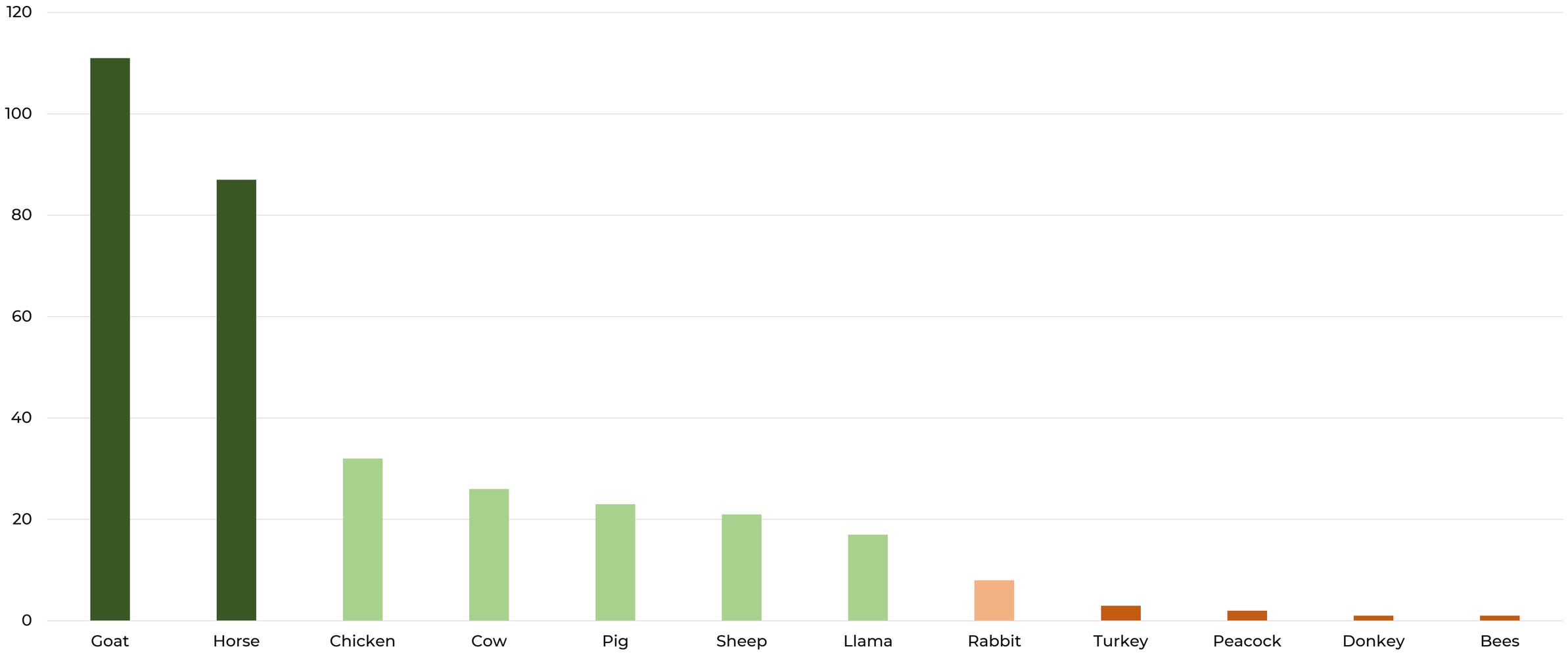
HH W/0 KIDS & AGES 60+



Under 21 group is likely comprised of **Bowers Academy** students which, alongside **Programs**, is their primary driver to visit the Farm. They do not make **Food / Retail Purchases** nor visit **Open Barn** casually, but **Volunteering** is a bigger driver than other visitor segments. Similarly, Households Without Kids and Age 60+ come to the Farm to **Volunteer**, but are less likely to attend the **Winter Park** or **Education Programs**.

VISITOR PERCEPTIONS

UNPROMPTED FAVORITE ANIMAL
(Only if selected ‘animals’ as favorite experience)



Goats and **Horses** are the strong favorites. **Chickens**, which are interactive, only third. While not popular, unprompted mentions for **Bees, Donkey, Peacock, and Turkey**.

SUGGESTIONS FOR CHANGE

Programs / Events: Teens & Adult focus; Afterhours events; One-time Programs; Short Programs / Classes / Lectures

Expanded Hours: Farm & Store

More to Do: Demos / Presentations; Tours; Walking Trail; Children's Garden; Native Garden; Corn Maze; Cider Mill; Open Historic Buildings; Farmer's Market; Play Area

Advertising: Lack of awareness of events and availability of produce

Price: Cost vs Value?

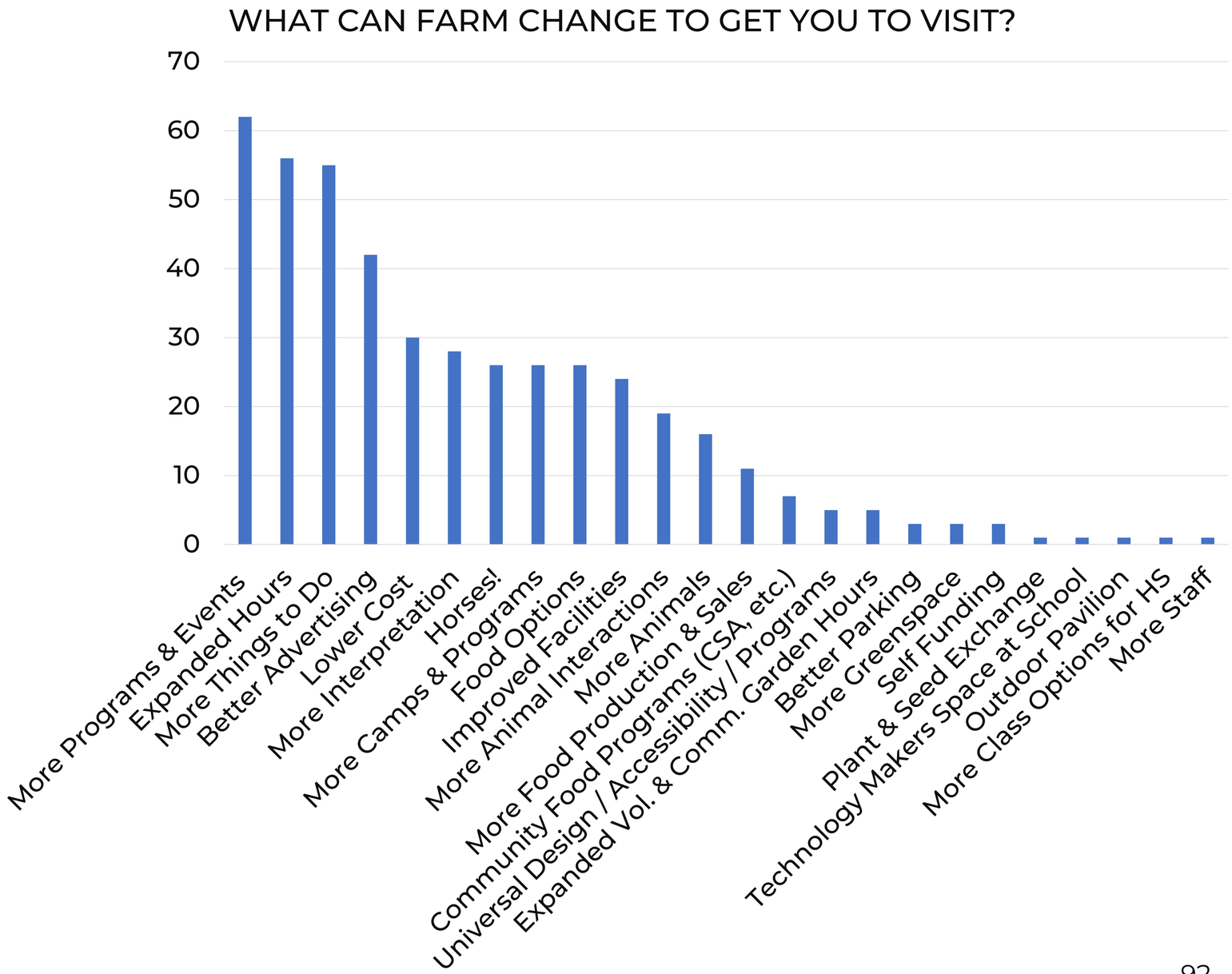
Interpretation: Self-guided and hands-on

Horses: For all interest levels and abilities

More Camps & Programs: Available slots

Food Options: Variety & quantity at store; Variety for on-site options (allergen & vegan friendly)

Improve Facilities: Clean-up, fix-up, and expand; Animal habitat improvements



SECTION 3:

SWOT

(STRENGTHS, WEAKNESSES, OPPORTUNITIES & THREATS)



STRENGTHS & WEAKNESSES

What do we do well and what can we leverage for future growth?

What are areas that could use improvement?









WHAT ARE OUR STRENGTHS?

Farm Features, Programs & Attractions

Unique attraction (a farm in the city/suburbs)

Hands-on, authentic, intimate and educational experiences with agriculture are well received by the community

Large plot of land (93 acres) with diverse features (lake, gardens, pasture, woods)

Easy access from I-75

Historic structures provide additional education opportunities and strengthen story

Unique and engaging animal experiences

Farm Store with popular food offerings – fresh produce, farm raised meat, ice cream and pizza



WHAT ARE OUR STRENGTHS?

Team & Internal Culture

Strong, talented, motivated and effective team

Friendly and relatable staff and teachers

Passionate and engaged volunteer groups

Active Friends of the Farm group

Events

Successful events that attract wider and more diverse audiences

“Farm to Table” events have been well received



WHAT ARE OUR STRENGTHS?

Brand & Public Perception

Ongoing community support of the Farm is conveyed through the following.

- Strong (and growing) membership program
- Community Garden participation
- Summer Camp enrollment
- Excitement about current food products

Safe & secure environment and other positive perceptions



WHAT ARE AREAS THAT COULD BE IMPROVED?

Team & Internal Culture

Additional staff needed for any future growth including

- New attractions and programs
- Larger production capacity
- Extended Farm Store hours
- More events (e.g. Farm to Table)

Employee benefits, work-life balance and focus on mental health

Current hiring constraints and limited HR capacity makes hiring new employees for the Farm a difficult process

Farm would benefit from stronger representation and positioning in BHS



WHAT ARE AREAS THAT COULD BE IMPROVED?

Team & Internal Culture

Farm would be looking to fill the following positions.

- Horse Program Director
- Human Resources
- Administration Support
- Dedicated Lobby Receptionist
- Grant Writing / Fundraising Support
- Volunteer Coordinator
- Marketing Director
- Facility Maintenance
- Grounds Keeper



WHAT ARE AREAS THAT COULD BE IMPROVED?

Farm Features, Programs & Attractions

Land – more efficient layout for operations and land use

Outgrown current facilities

- Kitchen struggles to support current education, camps and event needs
- Staff spaces and storage areas are limited and at capacity

Maintenance / replacement plan needed for aging facilities

New (and designated) quarantine facility

Production garden is not visible to public

Farm is currently not designed to function as a gathering space for the local community

Continued growth and efficient management of community and school farm education programs



WHAT ARE AREAS THAT COULD BE IMPROVED?

Farm Features, Programs & Attractions

Longer and more consistent hours for the Farm Store

Growing (and retaining) Farm membership is contingent upon the following.

- Conveying membership value to guests
- Fulfilling promises to current members (e.g. camp registration)

Institute recycling and composting programs

Physical accessibility of the site

Limitations in reaching underrepresented and underfunded communities outside of BHS



WHAT ARE AREAS THAT COULD BE IMPROVED?

Brand & Public Perception

Farm story is not told consistently

Stronger marketing strategy needed to inform the community about the Farm's current attraction offerings, programs and upcoming events

New Public Relations/Communications plan to support and strengthen the following.

- Describing "who we are" to the public
- Addressing the "I pay taxes, why should I have to pay for admission" perception
- Managing an injury, criminal, or lockdown event

Perception that the Bowers School Farm is only for school and family use

OPPORTUNITIES & THREATS

What are the opportunities today that could contribute to our success?

What barriers could arise that would hinder our ability to grow?







WHAT ARE POTENTIAL OPPORTUNITIES?

New Markets

Interested public audience presents opportunities for better communication and engagement

Strong demand for community programming and events (more programs targeting wider age ranges and adults-only events)

Customer and volunteer pools are growing among the following groups

- Retiring Boomers who are looking for something to do
- People looking for a greater purpose in life

Ropes courses could be used to target organizations looking for team building experiences

Moving Farm Membership under Friends of BSF could help shift perception from “customer” to “farm supporter”

- Manages expectations of “what do I get for my membership”
- Strengthens sense of ownership for the Farm



WHAT ARE POTENTIAL OPPORTUNITIES?

Funding

Economic downtowns result in increased BHS student enrollment

Large pool of potential donors in the Bloomfield Hills area

Grants are available through the Dept. of Natural Resources to assist with improving accessibility issues

Food

Popular food trends could open new revenue sources

- “Farm to Table” experiences
- Fresh food subscription models (CSA, meat shares, etc.)

Partnership with Aramark to provide food to BHS



WHAT ARE POTENTIAL OPPORTUNITIES?

Operations

New technology is available today for more efficient farm operations with less staff

Friends of the Farm organization could play a greater role in managing and growing community focused initiatives (events, programs, Farm Store, etc.) for maximum success in overcoming current staffing and funding barriers



WHAT ARE POTENTIAL THREATS?

BHS Board & Community

Private school attendance continues to limit the following.

- Financial support
- Students reached through field trips and BHS programs

Aging population in the BHS area and low inventory of homes to attract new families reduces current (primary) target audience.

Operations

The following issues impact staffing

- Retaining current staff and attracting new staff as many are looking elsewhere for jobs that pay more for less work
- Hiring process and training takes time



WHAT ARE POTENTIAL THREATS?

Public Perceptions

Community perception that access fees should be “covered by the school taxes they already pay”

Food is typically viewed as a commodity among some audiences.

- People with less disposable income
- Older generations

Animal related diseases negatively impact attendance

Animal deaths and/or animal activist groups could result in negative backlashes that impact attendance, guest perception and brand



BOWERS SCHOOL FARM & JOHNSON NATURE CENTER

FELIS consulting

BOWERS SCHOOL FARM
OPERATED BY BLOOMFIELD HILLS SCHOOLS

JOHNSON NATURE CENTER
OPERATED BY BLOOMFIELD HILLS SCHOOLS

Monumental Strides



Phase 2 Report: Strategic Plan

FELIS consulting

BOWERS SCHOOL FARM
BLOOMFIELD HILLS SCHOOLS

Monumental Strides

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STRATEGIC & MASTER PLANNING

3 PHASE PROCESS

Phase 1
Facility & Market Analysis
(Aug – Nov 2022)

Phase 2
Strategic Planning
(Nov 2022 – Jan 2023)

Phase 3
Master Planning
(March 2023 – July 2023)

Define our Starting Point

- Assess current site, facilities and operations
- Assess current market performance
- Identify SWOT

Define our Destination

- Identify goals and vision for next 5 yrs
- Define the strategies and action plan to reach these goals

Create a Roadmap for Implementation

- Design the program and site plan for Farm improvements
- Identify key stories and overarching messages for guest experience
- Phased diagrams and illustrations to build stakeholder excitement and assist with fundraising efforts

PHASE 2 EXECUTIVE SUMMARY

THE 20 YEAR VISION

Phase 2 Strategic Planning kicked off with a visioning workshop to describe the Farm in 20 years. During this workshop, we created vision boards for the following topics, describing how each contributes to our envisioned future.

- User groups: What will a day at the Farm look like for various user groups?
- Guest experience: What are the different experiences that one will encounter?
- Education: What role(s) will education play?
- Animals & Insects: What role(s) will animals & insects play?
- Food: What role(s) will food play?
- History: What role will history play and how does each component (site features, buildings/ structures, animals, farming operations, and gardens) support this story? How do visitors experience this story – observation only or highly interactive and immersive?

Also included in this visioning exercise were a review of the Farm's strengths, opportunities, unique characteristics, and stakeholder ideas for improvement identified during Phase 1. This enabled the group to build on things the Farm does well and include feedback from stakeholder engagement meetings.

The result of this workshop uncovered five major themes for our future vision – Learning, Experiences, Sustainability, Inclusivity and Impact.

GOALS AND STRATEGIES FOR 2027

Next, the group crafted three goals to define what the Farm will be doing to achieve this outcome. Each goal serves to move the Farm towards this envisioned future yet is achievable in the next 5 years. Each also has a specific focus (education, community and sustainable operations) and is supported with objectives to describe how we are defining and measuring success. The goals are as follows:

Goal 1: Become a Leader in Experiential Learning Using Innovative Practices Rooted in Agriculture, Food and Sustainability

Goal 2: Become The Place For Community Agriculture & Food Experiences

Goal 3: Build a Sustainable Operating Model

Each goal was broken down into strategies and includes steps to address organizational weaknesses and reduce the impact of environmental threats identified in Phase 1. Similar to the goals, the team considered the metrics for measuring completion as well as groups involved in implementation, individual action tasks and overall duration for each strategy. Strategies were then organized into an action plan (or road map) that builds on current efforts, maximizes success and outlines the path forward for achieving these three goals over the next five years.

SECTION 1:

WHAT DOES THE FARM LOOK LIKE IN 2027...AND BEYOND?



STRENGTHS

Farm Features, Programs & Attractions

Unique attraction (a farm in the city/suburbs)

Hands-on, authentic, intimate and educational experiences with agriculture are well received by the community

Large plot of land (93 acres) with diverse features (lake, gardens, pasture, woods)

Easy access from I-75

Historic structures provide additional education opportunities and strengthen story

Unique and engaging animal experiences

Farm Store with popular food offerings – fresh produce, farm raised meat, ice cream and pizza

Team & Internal Culture

Strong, talented, motivated and effective team

Friendly and relatable staff and teachers

Passionate and engaged volunteer groups

Active Friends of the Farm group

Events

Successful events that attract wider and more diverse audiences

“Farm to Table” events have been well received

Brand & Public Perception

Ongoing community support of the Farm is conveyed through the following.

- Strong (and growing) membership program
- Community Garden participation
- Summer Camp enrollment
- Excitement about current food products

Safe & secure environment and other positive perceptions

WEAKNESSES

Team & Internal Culture

Additional staff needed for any future growth

Employee benefits, work-life balance and focus on mental health

Current hiring constraints and limited HR capacity makes hiring new employees for the Farm a difficult process

Farm would benefit from stronger representation and positioning in BHS

Farm Features, Programs & Attractions

Land – more efficient layout for operations and use

Outgrown current facilities esp. kitchen, staff spaces & storage

Maintenance / replacement plan needed for aging facilities

New (and designated) quarantine facility

Production garden is not visible to public

Farm does not function as a community gathering space

Continued growth and efficient management of community and school farm education programs

Longer and more consistent hours for the Farm Store

Growth and retention in Membership

Limited recycling and no composting

Physical accessibility of the site

Limitations in reaching underrepresented and underfunded communities outside of BHS

Brand & Public Perception

Farm story is not told consistently

Stronger marketing strategy for Farm’s current offerings

New PR/Communications plan to communicate the Farm’s story and manage unforeseen events

OPPORTUNITIES

New Markets

Interested public audience presents opportunities for better communication and engagement

Strong demand for community programming and events

Customer and volunteer pools are growing among the following groups

- Retiring Boomers who are looking for something to do
- People looking for a greater purpose in life

Ropes courses could be used to target organizations looking for team building experiences

Moving Membership under Friends of BSF could help shift perception from “customer” to “farm supporter”

- Manages expectations of “what do I get for my membership”
- Strengthens sense of ownership for the Farm

Funding

Economic downtowns result in increased BHS student enrollment

Large pool of potential donors in the BHS area

Grants are available through the Dept. of Natural Resources to assist with improving accessibility issues

Food

Popular food trends could open new revenue sources

Partnership with Aramark to provide food to BHS

Expanded Farm to Table events

Operations

New technology is available today for more efficient farm operations with less staff

Friends of the Farm organization could play a greater role in managing and growing community focused initiatives for maximum success in overcoming current staffing and funding barriers

THREATS

BHS Board & Community

Private school attendance continues to limit the following.

- Financial support
- Students reached through field trips and BHS programs

Aging population in the BHS area and low inventory of homes to attract new families reduces current (primary) target audience.

Operations

The following issues impact staffing.

- Retaining current staff and attracting new staff as many are looking elsewhere for jobs that pay more for less work
- Hiring process and training takes time

Public Perceptions

Community perception that access fees should be “covered by the school taxes they already pay”

Food is typically viewed as a commodity among some audiences.

- People with less disposable income
- Older generations

Animal related diseases negatively impact attendance

Animal deaths and/or animal activist groups could result in negative backlashes that impact attendance, guest perception and brand



WHAT MAKES US UNIQUE?

Authentic, credible & relatable

- “Messy Nature” (not fake or manicured)
- Organic & sustainable
- Part of a school district
- Long history (55+ years)
- Staff reflects and relates to community culture

Strong relationships created with visitors and community

- Multiple touchpoints through people’s lives
- Multi-generational experience
- Seeing & selling onsite builds an emotional experience with customers

Unique story

- Located in a large suburban area (not rural and easily accessible from adjacent urban developments)
- Historic structures onsite are unique story telling artifacts
- Talented, passionate & mastered staff



STAKEHOLDER IDEAS FOR IMPROVEMENT

- Walking trails around the property
- Green space for informal Farm visits and natural playground
- More programs
- More events – Corn maze, Farm style escape room
- Expanded hours (Open Barn, Farm Store)
- More things to do
- Better advertising
- More interpretation signs
- More and consistent food offerings
- Community food programs
- More production gardens located in public viewing areas
- Additional gardens for community, students and 4H organization
- More animals
- Universal design / accessibility improvements
- On-site restaurant / Celebrity Chef attraction
- Bring the Barn and House from Pickering Farm to the property
- Historical period clothing / Heritage days
- Solar power
- 4H exhibit with photos showing what 4H is, what they do, etc.
- Fundraising / Donation area onsite
- Treehouses, camping, cabins, yurts
- Add a gym to the school
- Farm preschool
- Indoor horse arena & horse-riding classes
- Master classes & speaker series
- Wellness retreat
- Water slides on sledding hill in the summer
- Ride experience around the Farm (rollercoaster, trolley train car, etc.)

THE VISION FOR THE FARM IS ROOTED IN...

Learning

- Free Choice
- Strongly Integrated into K-5, Middle & High School Curriculum
- Agriculture & Community Based Learning
- Technical Education Offerings in Agriculture & More

Experiences

- Hands-on and Authentic
- Fun
- Creative
- Curated Paths
- Increased Animal Interactions
- Education & Food as Common Threads
- Immersive Education Programs Meeting a Wide Spectrum of Student Needs

Sustainability

- Leader in Sustainable Practices
- Value Driven (Time & Money)
- Technical Integration for Efficient Operations

Inclusivity

- Farm for All - Inclusive of All Ages, Abilities, Non-students, etc.
- Highlights Community Diversity
- Easily Accessible & Navigating Seamlessly
- Equity through Funding Sources and Program Pricing

Impact

- Experiences and “Take Aways” Beyond the Farm
- Increased Educational Reach
- Curiosity Inspiring Additional Learnings
- Adoption of More Sustainable Lifestyle Choices
- Supporting Under Resourced Students

2027 GOALS

What are we doing over the next 5 years to move the Farm towards this 20-year vision?



2027 GOALS

Become a Leader in Experiential Learning Using Innovative Practices Rooted in Agriculture, Food & Sustainability

Focus is on leading ag-based learning and sustainability efforts to educate and inspire change and action for all ages

Initiatives will focus on BHS Students first, but also include the BHS Community and other students

Metrics of measurement for leadership impact include:

- Increase in BHS student enrollment
- Increase in standardized test scores
- Increase in ag-based interest topics (student projects, clubs & interest groups, career & college education choices)
- Increase in life skills development

Efforts are led by BHS

Become The Place For Community Agriculture & Food Experiences

Focus is on building and strengthening relationships with the community

Metrics of measurement for engagement include:

- Increase in return visitation and touchpoint engagement
- Increase in BSF volunteerism (numbers and hours served) representing a larger age range
- Increase in revenue generated (sales, programs, events, etc.)
- Expanded membership program rooted in sense of ownership
- New partnerships with community businesses and organizations

Efforts are led by Friends of BSF in collaboration with BHS

Build a Sustainable Operating Model

Focus is on improved operations for environmental, economic and social successes today and with future growth

Metrics of measurement for sustainability include:

- Increase in BHS and BSF employment and volunteer numbers
- Strong and diversified funding sources and donor development
- Demonstrate practices that support sustainable philosophy
- Year-round opportunities for agriculture and food-based experiences

Joint effort between BHS and Friends of BSF

SECTION 2:

HOW WILL WE ACHIEVE OUR GOALS?



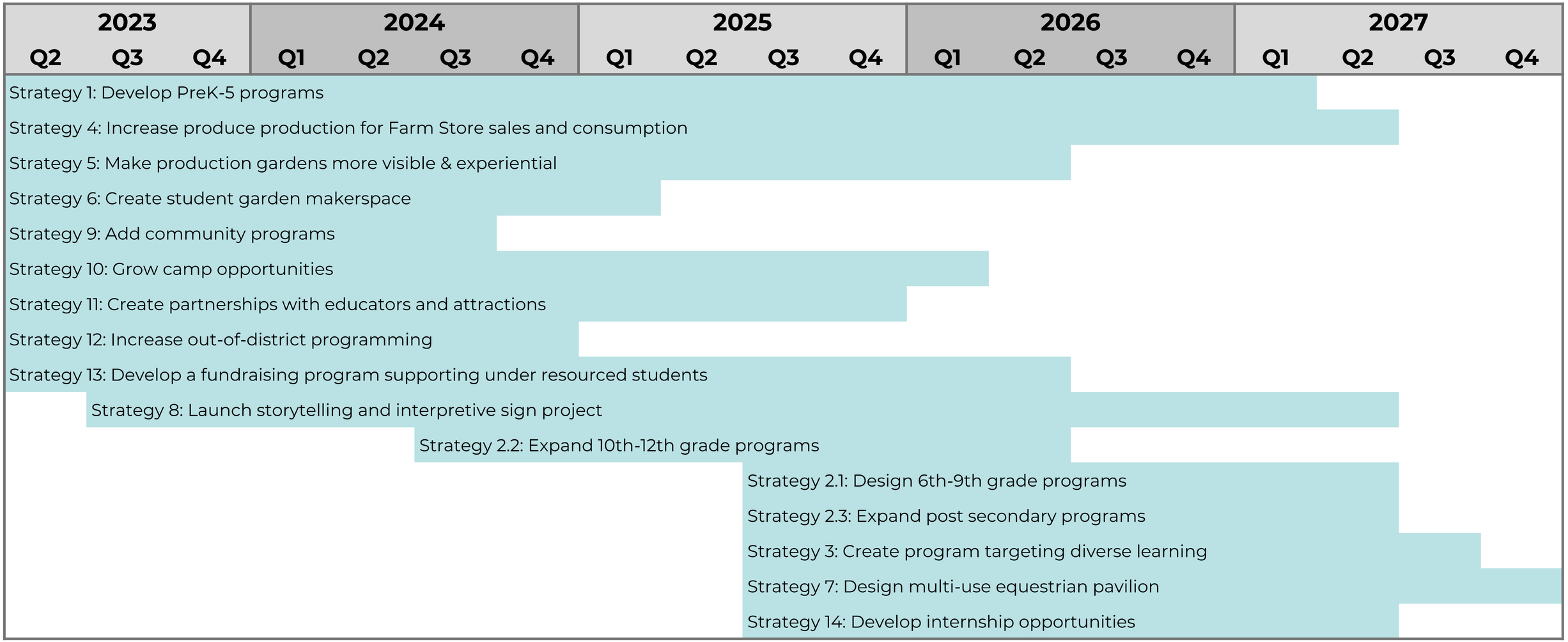
STRATEGIES & TIMELINE

Goal 1: Become a Leader in Experiential Learning Using Innovative Practices Rooted in Agriculture, Food & Sustainability

1) Continue developing PreK-5 programs
2) Expand education programs targeting:
   - Middle school students
   - High school students
   - Post secondary students
3) Create specific program for students with diverse learning needs
4) Increase produce production for:
   - Farm Store and onsite consumption
   - Student onsite consumption
5) Make production gardens more visible & experiential to the public and retail areas
6) Create student garden makerspace to support student learning and experimentation
7) Design multi-use equestrian pavilion (using bond funding) and horse program
8) Launch storytelling and interpretive sign project connecting animals, production gardens, gardens, and historic structures to the Farm story
9) Offer community programs for all ages
   - Different & seasonal topics
   - Agriculture & expanded
   - Technical & hobbies
10) Grow camp opportunities
    - Expand seasonally
    - Expand audiences (all ages)
    - Expand targeted interests/hobbies
    - Work on licensing requirements
11) Create partnerships with educators and area learning-based attractions to supplement learning objectives and expand educational opportunities
12) Increase programs targeting out-of-district schools
13) Develop a fundraising program to support under resourced students
14) Develop additional internship opportunities

STRATEGIES & TIMELINE

Goal 1: Become a Leader in Experiential Learning Using Innovative Practices Rooted in Agriculture, Food & Sustainability



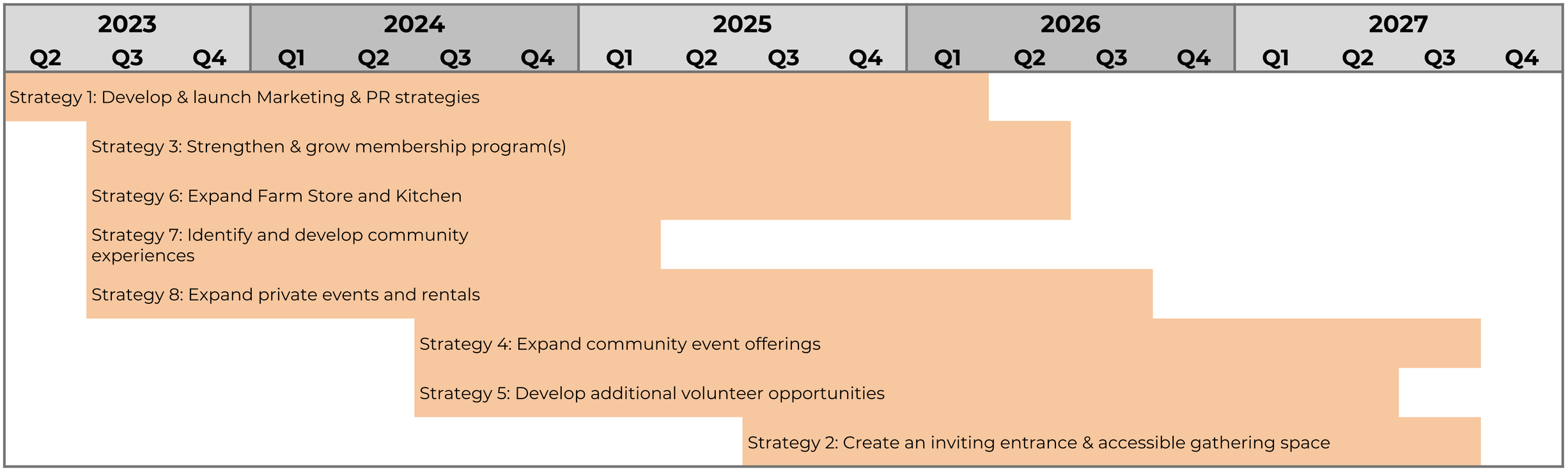
STRATEGIES & TIMELINE

Goal 2: Become The Place For Community Agriculture & Food Experiences

1) Develop & launch a Marketing/PR strategy targeting BHS community and communicating the BSF story and offerings (attractions, programs, events, etc.)
2) Create a more inviting entrance and an accessible gathering space with no admission fee & consistent hours
3) Strengthen & grow membership program(s)
4) Expand community event offerings
5) Develop additional volunteer opportunities
6) Expand Farm Store and Kitchen and align with sustainable operating model
   - Sell more food grown at BSF through the production and community gardens
   - Expand farm store and daily operating hours for all seasons
   - Create a plan to feature products from local businesses and partnerships that compliment the Farm's story / values / mission
   - Expand kitchen to support consistent food service operations (menu, operating hours, etc.)
7) Identify and develop types of experiences that community members are looking for
   - Add value to Open Barn through differentiated experiences
   - Increase casual and formal offerings
8) Expand private events and rentals that align to the philosophy and principles of sustainable agriculture

STRATEGIES & TIMELINE

Goal 2: Become The Place For Community Agriculture & Food Experiences



STRATEGIES & TIMELINE

Goal 3: Build a Sustainable Operating Model

1) Define sustainability through an agroecological philosophy and adopt a set of principles to guide all operational practices
2) Develop an accessibility plan (based on consultant's ADA evaluation) for improving areas that are unsafe and/or not accessible for mobility challenged guests
3) Develop a maintenance plan/replacement plan for aging facilities and equipment
4) Develop a technology systems & software investment plan to support more efficient farm operations
5) Create a communication strategy between staff and volunteer groups that facilitates improved internal communications and externally showcases volunteer work
6) Create new internship & volunteer opportunities (outside of Agriculture)
7) Develop a program that builds awareness of relationship with Johnson Nature Center
8) Create employee programs to provide benefits and growth opportunities for all employees
    - Continuing education funds or opportunities
    - Gestures of appreciation
9) Define & grow the Farm structure to allow Friends of the Farm to better support community focused initiatives and help eliminate funding and staffing barriers
10) Conduct staffing assessment that reviews current and future needs
    - Add Staff to fill current gaps
    - Evaluate workload and position responsibilities for better work/life balance
    - Increase future capacity through strategic hiring (example: Horse Program Coord., Admin Support, Volunteer Outreach Coord., Marketing Coord., Facility Events Manager, Guest Experience Staff, Groundskeeper, Fundraising and Grants Manager)

STRATEGIES & TIMELINE

Goal 3: Build a Sustainable Operating Model

2023			2024				2025				2026				2027			
Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Strategy 1: Define sustainability																		
	Strategy 2: Develop an accessibility improvement plan																	
	Strategy 3: Develop a maintenance plan Strategy 5: Create an internal comm. strategy																	
	Strategy 9: Grow Friends of the Farm Strategy 10: Conduct staffing assessment																	
					Strategy 4: Develop a technology investment plan Strategy 7: Develop a program that builds awareness of JNC Strategy 8: Create employee programs													
											Strategy 6: Create new internship & volunteer opportunities (outside of Agriculture)								



BOWERS SCHOOL FARM & JOHNSON NATURE CENTER

FELIS consulting

BOWERS SCHOOL FARM
OPERATED BY BLOOMFIELD HILLS SCHOOLS

JOHNSON NATURE CENTER
OPERATED BY BLOOMFIELD HILLS SCHOOLS

Monumental Strides



Phase 3: Master Planning Report

FELIS consulting

BOWERS SCHOOL FARM
BLOOMFIELD HILLS SCHOOLS

Monumental Strides

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STRATEGIC & MASTER PLANNING

3 PHASE PROCESS

Phase 1
Facility & Market Analysis
(Aug – Nov 2022)

Phase 2
Strategic Planning
(Nov 2022 – Jan 2023)

Phase 3
Master Planning
(March 2023 – July 2023)

Define our Starting Point

- Assess current site, facilities and operations
- Assess current market performance
- Identify SWOT

Define our Destination

- Identify goals and vision for next 5 yrs
- Define the strategies and action plan to reach these goals

Create a Roadmap for Implementation

- Design the program and site plan for Nature Center improvements
- Identify key stories and overarching messages for guest experience
- Phased diagrams and illustrations to build stakeholder excitement and assist with fundraising efforts

PHASE 3 EXECUTIVE SUMMARY

BRAND EXPERIENCE

After the results of Phase 1 and Phase 2 were compiled, the stakeholders met to discuss how the Goals and Strategies outlined in Phase 2 could be implemented at the Bowers School Farm site to achieve the 20 year (i.e. long-term) vision. From this detailed discussion, which included facility and site programming, design styles, architectural materials, service and guest circulation, animal needs and visitor experiences, we concluded that our master plan should focus on creating stronger and more meaningful visitor experience connections between these two sister sites (Bowers School Farm and Johnson Nature Center.)

By defining the shared experiential characteristics of both facilities alongside the unique attributes that make each special, a shared brand experience was created. Entitled “Nourish,” the brand experience seeks to create a framework upon which all guest experiences shall be formulated. Messaging and experiences fall within categories which are easily marketable and understandable by the general public and can even guide wayfinding design. These four categories include: Mind, Body, Soul, and Land.

For Bowers School Farm, the Nourish brand is expressed as experience zones within which physical elements that support each message are organized. For example, the Land zone focuses on farming and management techniques in historic and modern agriculture and includes experiences highlighting green practices, the historic Michigan farm, and farm machines including the earliest farm machine—the horse!

IMPLEMENTING THE VISION

In order to define initial projects, the holistic long-term site vision was created. This long-term vision plan is the fully realized and implemented brand experience.

Challenges to current guest, student, staff, and volunteer access to the site are addressed by creating three dedicated-use entries: the Soul zone is the casual visitor entry which includes ticketing, restaurant, farm store, teaching kitchen, outdoor kitchen, indoor and outdoor seating, wagon ride loading, and space to gather and play; the Mind zone featuring an expanded Academy building and staff offices includes a dedicated lobby to provide secure access for staff, students, and volunteers; the Land zone includes a secondary entry point with direct access to the Equestrian center and main West Service area.

From their dedicated entry point, guests, students, staff, and volunteers have more efficient and clear access to areas of the Farm they need to utilize most via redesigned wayfinding and ADA-accessible circulation across the site. For the casual visitor, the experience is defined via the brand experience zones (Mind, Body, Soul, Land) making their visit much more meaningful and educational.

The first step in achieving this long-term plan is defined via a 5-year Master Plan subdivided into five phases. Many of the long-term vision elements will be accomplished in this short-term plan. The key exceptions include fully redesigning and paving the parking areas and entries, the new Soul zone (i.e new entry), the farm machines outdoor play museum, and the indoor equestrian center (a clear-span tensile structure over a new outdoor arena is included in the 5-year plan).

Those items included in the short-term plan address immediate needs related to capacity for students and educational programs and revenue-generation for the Farm. Also included in the short-term plan is a temporary, yet exciting and well-designed entry experience utilizing retrofitted trailers and / or shipping containers for food and beverage sales, ticketing, and retail.

The estimated budget of the short-term plan is $13.6 million (which accounts for inflation). In conjunction with added programming targeting students and community visitors and a marketing strategy, these improvements are projected to increase attendance to the Farm by nearly 30% (from ~52,000 to ~66,000).

SECTION 1:

DEFINING THE BRAND EXPERIENCE



“WHAT DO YOU WANT TO NOURISH TODAY?”

DIFFERENTIATORS

OVERARCHING BRAND

Authentic

Southeast Michigan Focused

Approachable

Comfortable

Land Stewardship

Lifelong Personal Growth Focused

‘Get Yer Hands Dirty’ Experiential

Dynamic (Seasonally & Experientially)

THE FARM

- Agricultural Settings & Experiences
- Blending Historic & Modern
- Supportive
- Sustainable (Human Centered Stewardship)
- Colorful & Bold
- Concise and Clear (Efficient?)
- ‘Buzzing with Activity’ / Directed Activity

THE NATURE CENTER

- Nature Experiences
- Rustic & Timeless
- Nurturing
- Nature-first Stewardship
- ‘Of the Earth’—Subdued, Earth Tones
- Safely ‘Lost’ in the Woods
- Self-Reflective, Contemplative, Informal Rec.

SHARED BRAND EXPERIENCE

The NOURISH Project

The Farm

The Nature Center

LAND (Sustainability)	BODY (Health)	MIND (Learning)	SOUL (Connection)
• Facilities as Stewards • Ecosystems • Animal Exhibits • Our Roots (History w/ land)	• Food • Physical Fitness	• Formal Programs • Academy, Early Childhood & MS / HS • Learn a New Skill	• Connect to Land, Animals, Nature (Feed the Soul) • Artfulness • Mental Wellness • Community-focused spaces / events

BRAND EXPERIENCE

The Nourish FARM

LAND

- {Sustainable} agriculture interpretation
- Pastures & animal homes with modern husbandry
- “Our ROOTS” zone / trail; historic farm & heritage breeds

BODY

- “Where does your food come from” interpretive focus
- Ropes course
- Physical play
- Production, community & U-pick gardens

MIND

- Spaces for formal programming
- Academy facility needs
- Staff support spaces
- Learning Gardens: “Messy Garden” & Children’s Garden

SOUL

- Entrance (“The Farm is good for the soul”)
- Unstructured walking trail
- Horticultural gardens
- Animal interactions
- Art in landscape
- Community gathering & events

BRAND EXPERIENCE

The Nourish FARM

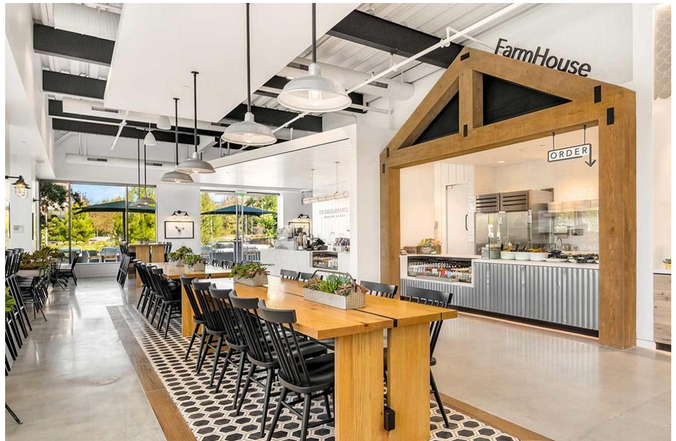
DESIGN INSPIRATION:

Contemporary Modern meets Authentic Barn (i.e. Industrial Farmhouse)

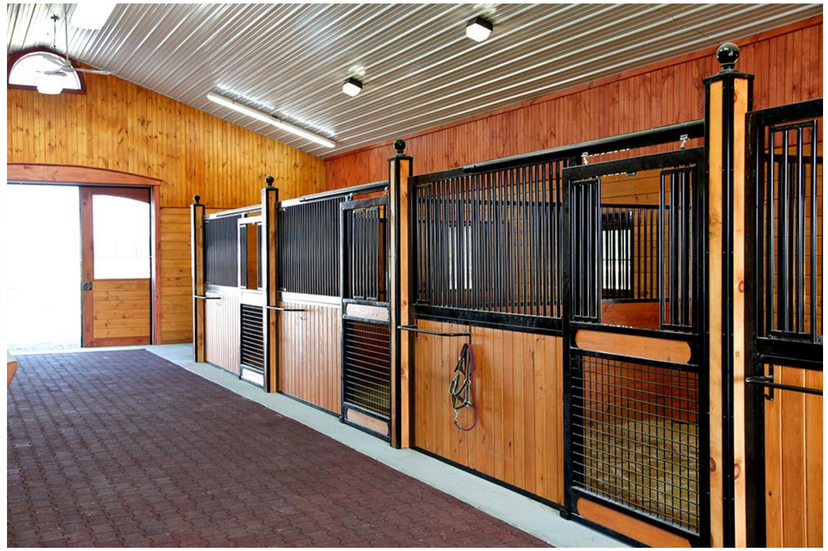
ATTRIBUTES:

- Local / green materials like wood natural stone alongside durable metal roofing & siding
- Many windows w/ bird protection to connect indoors to outdoors; thoughtful lighting design
- Rustic, authentic & operational farm materials and elements like aluminum and steel reused in creative ways
- Shapes inspired by historic barns but simplified in the modern style
- Cultivated, not manicured landscaping
- Simple, clear, bold, oversized fonts and bright colors on directional and wayfinding signs











NOURISH FARM

LAND

KEY MESSAGE:

Farmers are stewards of the land.

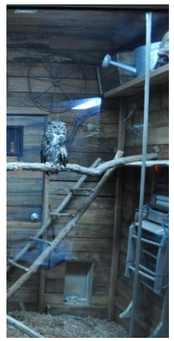
KEY EXPERIENCES:

- Outdoor interpretive experience explaining responsible pasture & livestock management, water quality, crop production, and sustainable things you can do at home
- Outdoor “Farm Machine” interactive / play museum highlights the evolution of farm equipment—from horses to today
- “Our ROOTS” zone / trail highlights how we have learned from the past to make a better ag future featuring historic farm buildings & artifacts and heritage breeds & garden
- State of the art equine facility for programs and events with interpretation for casual visitors



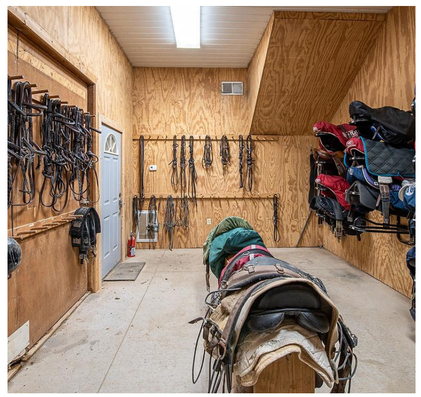


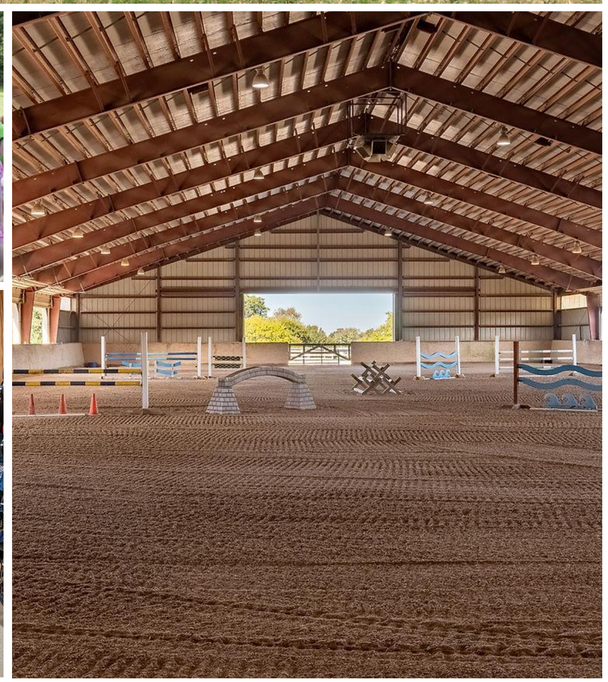












Our Roots

Equine Facility

NOURISH FARM

BODY

KEY MESSAGE:

Farms make healthy bodies through healthy food and physical exertion.

KEY EXPERIENCES:

- “Where does your food come from” outdoor interpretive experience with food production (gardens, livestock, swine, poultry, etc.) including state of the art livestock learning labs
- Improved and expanded ropes courses for physical fitness
- U-Pick gardens allow hands-on ‘straight from the garden’ experience
- Play equipment throughout allows physical and imaginative play for kids of all ages
- Bigger, better community gardens more deeply connecting people to their food

















NOURISH FARM

MIND

KEY MESSAGE:

The Farm is a place for learning and growth.

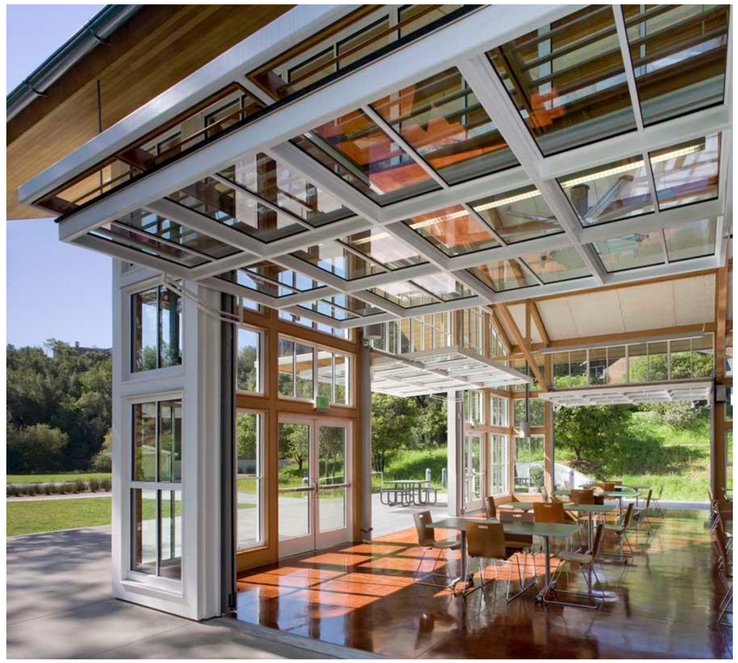
KEY EXPERIENCES:

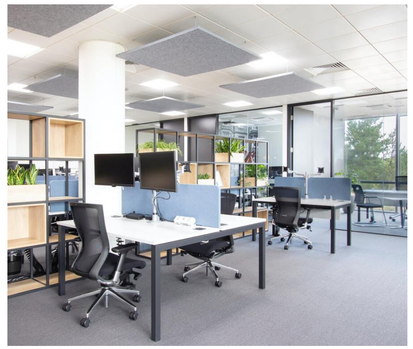
- Learning gardens (messy, experimental garden and formal Children's Garden) allow kids of all ages hands-on and imaginative opportunities for learning about agriculture
- Improved and expanded Academy better integrates formal learning with the hands-on and outdoor opportunities of the Farm
- Improved and expanded Education and Administration building improves efficiency and capacity for critical programs and support at the Farm

















NOURISH FARM

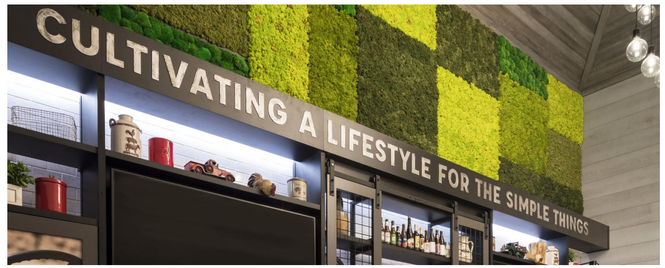
SOUL

KEY MESSAGE:

The work of a farm—connecting with animals, growing crops, and the bodily exertion—is work of the soul.

KEY EXPERIENCES:

- New welcoming visitor entrance includes a beautiful farm store highlighting local products, a farm restaurant with indoor and outdoor seating, a teaching kitchen, ticketing and membership sales, and orientation interpretives explaining focused experiences on-site
- Beautiful horticultural gardens for the joy of gardening
- Building community with gathering spaces and out of gate experiences













Casual Visitor Entry

SECTION 2:

IMPLEMENTING THE VISION



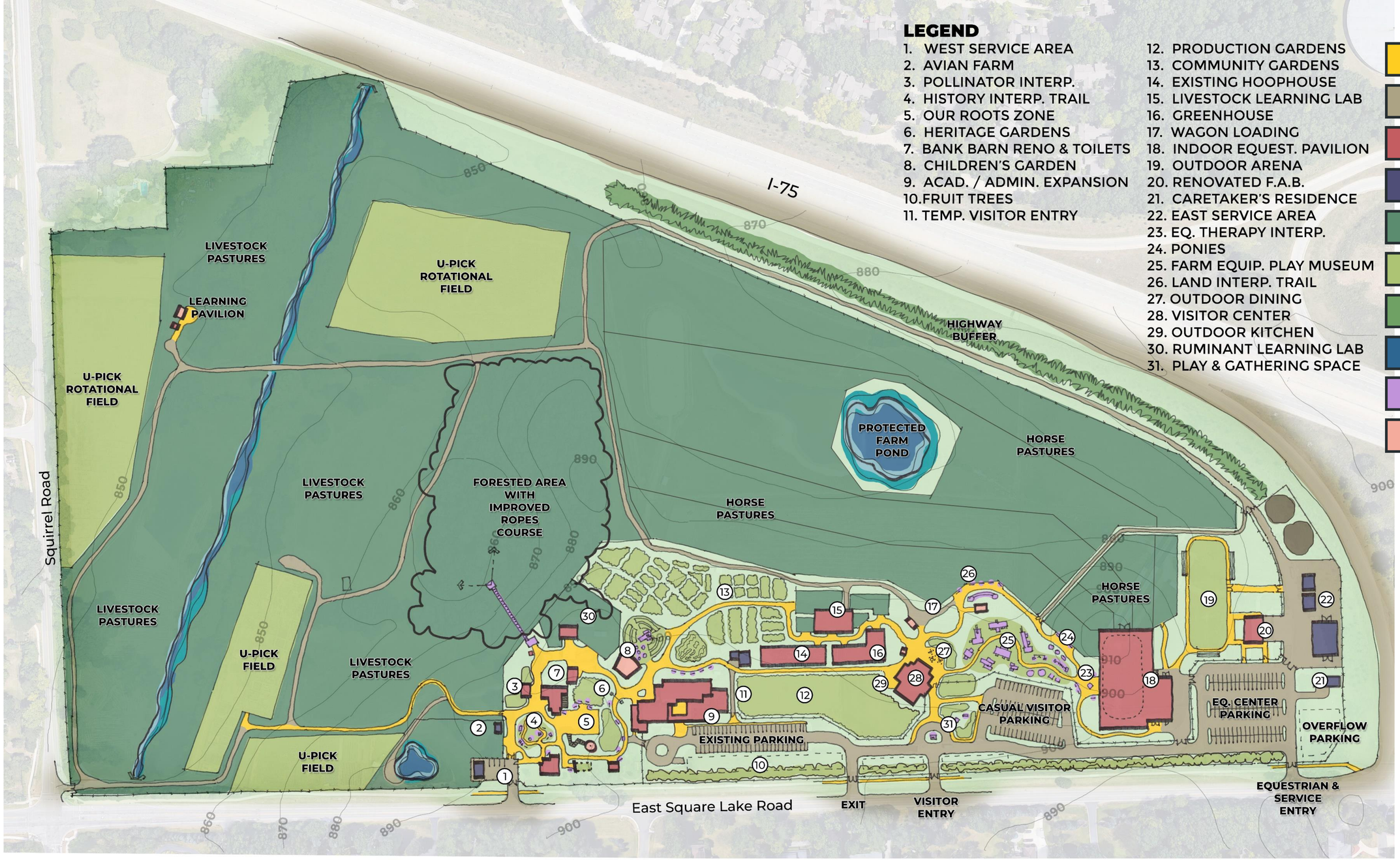
‘NOURISHING’ THE SITE

EXISTING SITE PLAN

~95 total acres



- GUEST PATH
- ROADS & PARKING
- GUEST ACCESS BUILDINGS
- BACK OF HOUSE BUILDINGS
- ANIMAL HABITATS
- POINTS OF INTEREST
- TREES & VEGETATION
- ANIMAL SHELTER
- WATER



BOWERS SCHOOL FARM
OPERATED BY BLOOMFIELD HILLS SCHOOLS

BOWERS SCHOOL FARM LONG-TERM VISION PLAN

Published July 2023

Scale: 1"=100'-0"

0 10 50 100 200

FELIS consulting

Monumental Strides



BOWERS SCHOOL FARM
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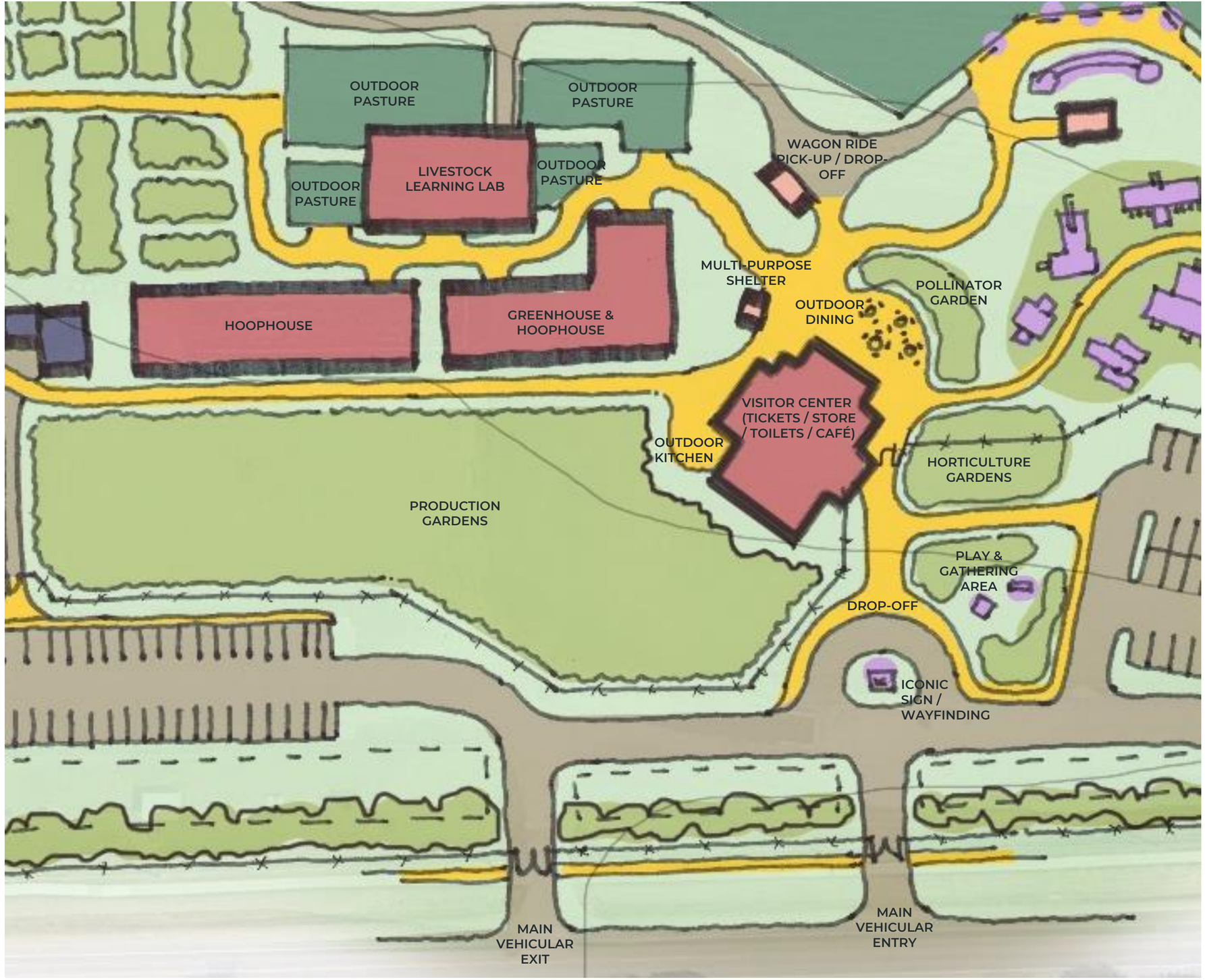


SOUL & BODY ZONES

- GUEST PATH
- ROADS & PARKING
- GUEST ACCESS BUILDINGS
- BACK OF HOUSE BUILDINGS
- ANIMAL HABITATS
- NON-ANIMAL PTS OF INTEREST
- TREES & VEGETATION
- WATER
- PLAY / INTERP. ELEMENT
- SHELTER / PAVILION

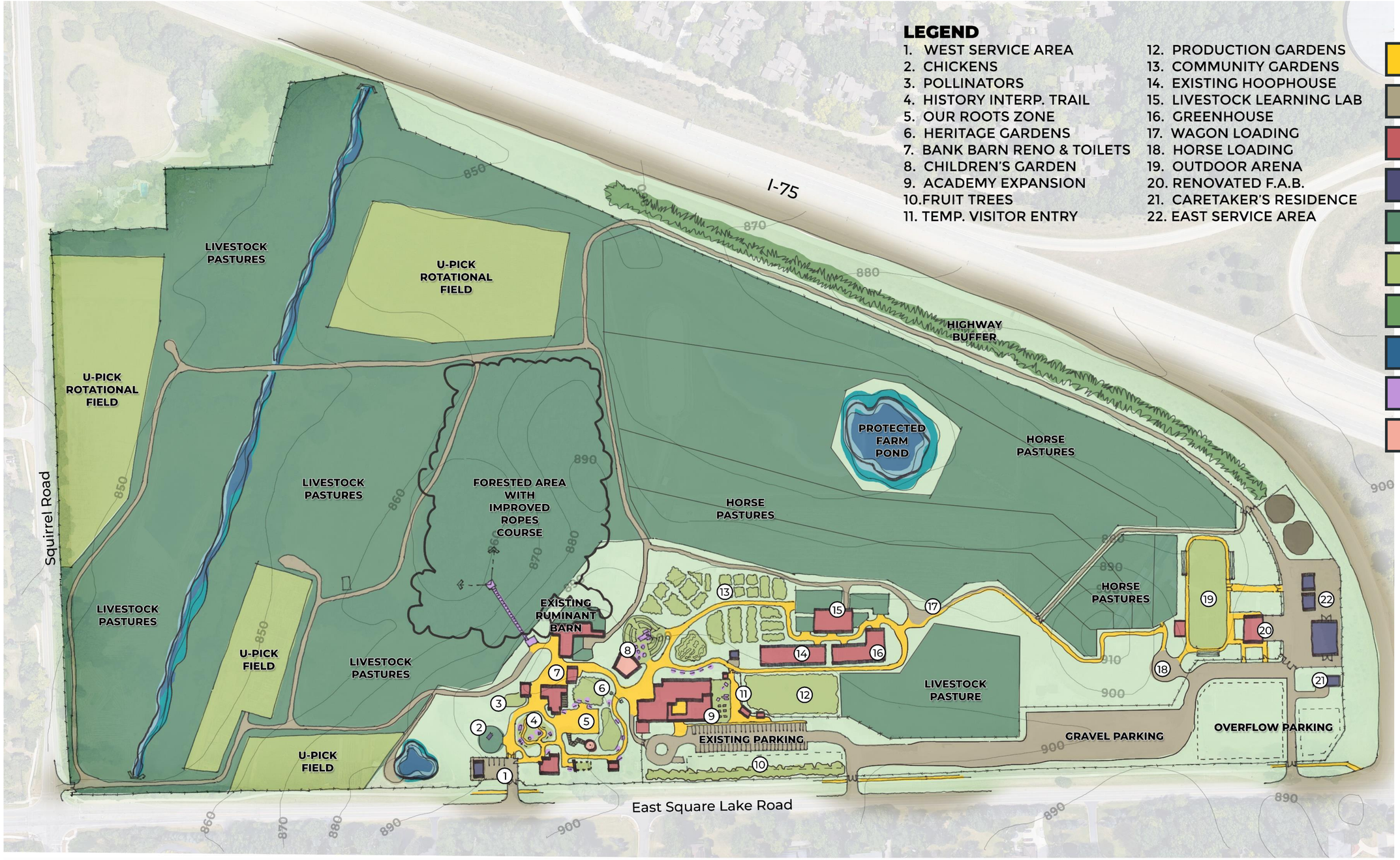
LAND ZONE:
EAST FARM

- GUEST PATH
- ROADS & PARKING
- GUEST ACCESS BUILDINGS
- BACK OF HOUSE BUILDINGS
- ANIMAL HABITATS
- NON-ANIMAL PTS OF INTEREST
- TREES & VEGETATION
- WATER
- PLAY / INTERP. ELEMENT
- SHELTER / PAVILION

HORSE PASTURE
HORSE PASTURE
HORSE PASTURE
HORSE PASTURE
HORSE PASTURE
HORSE PASTURE
LAND INTERPRETIVES
MULTI-PURPOSE SHELTER
OUTDOOR FARM MACHINE INTERACTIVE MUSEUM
POLLINATOR GARDEN
PONY PASTURE
PONY / HORSE INTERPRETIVES
OUTDOOR ARENA
EQUINE-THERAPY INTERPRETIVES
INDOOR ARENA
HORTICULTURE GARDENS
PARKING
PLAY & GATHERING AREA
STABLES / MULTI-PURPOSE ROOM / TOILETS / TACK ROOMS / STORAGE
TRAILER ACCESS
PARKING

LAND & MIND ZONES

- GUEST PATH
- ROADS & PARKING
- GUEST ACCESS BUILDINGS
- BACK OF HOUSE BUILDINGS
- ANIMAL HABITATS
- NON-ANIMAL PTS OF INTEREST
- TREES & VEGETATION
- WATER
- PLAY / INTERP. ELEMENT
- SHELTER / PAVILION



BOWERS SCHOOL FARM
OPERATED BY BLOOMFIELD HILLS SCHOOLS

BOWERS SCHOOL FARM MASTER PLAN 2027

Published July 2023

Scale: 1"=100'-0"

0 10 50 100 200

FELIS consulting

Monumental Strides

PHASING & ROLL-OUT

Phase	Projects	1	2	3	4	5	Total
1	Children's Garden Phase 1	149,600					$914,600
	Perimeter Deer Fence, Phase 1	152,000					
	Minor Renovation of Ruminants Barn	91,000					
	ADA Tracked Chairs for Immediate Accessibility	44,000					
	Temporary Visitor Entry, Farm Store & Gathering Space	478,000					
2	Production Gardens		446,000				$3,102,300
	U-Pick Gardens		79,000				
	Livestock Learning Lab		1,163,800				
	Livestock Pastures & Waterers		321,000				
	Utilities Upgrades		227,700				
	Wastewater management & septic		530,200				
	Highway Vegetative Buffer		33,000				
	Children's Garden Phase 2		149,600				
3	Perimeter Deer Fence, Phase 2		152,000				
	East Service Area (includes sled hill removal, new Residence & FAB renovation)			1,298,500			$2,461,600
	Outdoor Arena and Horse Pastures			691,000			
	Children's Garden Green Roof Pavilion			320,100			
4	Perimeter Deer Fence, Phase 3			152,000			
	Academy Renovation & Expansion (incl mezzanine)				3,355,000		$3,665,000
	Community Gardens				158,000		
	Perimeter Deer Fence, Phase 4				152,000		
5	Our Roots Zone						$1,975,800
	Bank Barn Multi-Purpose Space & Interpretive Renovation					996,600	
	History Interpretive Trail					422,400	
	Pollinators (incl Cottage renovation)					184,800	
	Chicken Relocation					31,000	
	West Service Area					44,000	
	Ropes Course					297,000	
	Total Capital by Year	$914,600	$3,102,300	$2,461,600	$3,665,000	$1,975,800	$12,119,300
4%	Inflated	**$951,000**	**$3,355,000**	**$2,769,000**	**$4,288,000**	**$2,404,000**	
	Running Total of Capital Costs	$951,000	$4,306,000	$7,075,000	$11,363,000	$13,767,000	**$13,767,000**

ATTENDANCE PROJECTIONS

Phase	Projects Impacting Attendance	1	2	3	4	5
1	Children's Garden Phase 1	5,200				
	Temporary Visitor Entry, Farm Store & Gathering Space					
2	Production Gardens		5,720			
	U-Pick Gardens					
	Children's Garden Phase 2					
	Livestock Learning Lab					
3	**Outdoor Arena and Horse Pastures**			3,175		
	Children's Garden Green Roof Pavilion					
4	Community Gardens				-913	
5	**Our Roots Zone**					6,298
	Ropes Course					
	Base Attendance: 52,000	57,200	57,720	60,895	59,981	**66,279**
	Projected Growth Rates per Phase	**10.0%**	**10.0%**	**5.5%**	**-1.5%**	**10.5%**
	1	10.0%	-5.0%	0.5%		
	Average Growth per Phase: 6.6% 2		15.0%	-5.0%	0.5%	
	Master Plan Impact on Attendance: +27% 3			10.0%	-5.0%	0.5%
	4				3.0%	-5.0%
	5					15.0%



BOWERS SCHOOL FARM & JOHNSON NATURE CENTER

FELIS consulting

BOWERS SCHOOL FARM
OPERATED BY BLOOMFIELD HILLS SCHOOLS

JOHNSON NATURE CENTER
OPERATED BY BLOOMFIELD HILLS SCHOOLS

Monumental Strides

BOWERS
SCHOOL FARM

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Alan Jaros, Director

Bloomfield Hills
Schools

Farm NC Equipment Inventory updated May 2026 - th.xlsx

Worksheet Farm Equip | Columns 1–8 | Printed cached source values

Original workbook is embedded in the PDF binder. Formula definitions, objects and source formatting remain available in that file. Blank cells are preserved within displayed rows. Entirely blank or zero-only rows are omitted from this print view; original row numbers are shown. For the shared master-plan workbook, this print view covers BSF and shared worksheets; JNC worksheets remain in the embedded original.

Source row	1	2	3	4	5	6	7	8
1			Bowers School Farm Equipment Information (updated 01-2026 KW)					
5	Equipment	Ownership - Transfer to OCPRC (Y/N)?	Equipment Type	Brand	Model	Uses	Notes	Condition
6	Air compressor		Air compressor		Pro 4000	Air up tires, blowing off projects		Good
7	Kubota Sprayer		Attachment	Fimco	Fimco Industries - 50 gallon	Spraying small pastures and fields	Purchased in 2018	Excellent
8	Boss UTV Snow Plow		Attachment	Boss	Boss	Plowing walks/paths		Operational
9	Boss UTV Salt Spreader		Attachment	Boss				Operational
10	Various Automotive Tools		Automotive Tools			Equipment Repair	VariousbSpecialty tools for repairs	
11	Generator - Unleaded		Generator		Honda	Power Supply		Good
12	6 Foot Tiller		Grounds Equipment	Woods	Woods	Tilling gardens	Needs servicing	Non-Operational
13	4 Foot Tiller		Grounds Equipment	Bad Boy	Bad Boy	Tilling gardens fields	Donated by Bad Boy 2024	Operational
14	4 Row Corn Planter		Grounds Equipment	John Deere	John Deere 7000	Planting field and sweet corn.	Purchased used 7 years ago.	Operational
15	Brush Hog 7'		Grounds Equipment	Woods	BD840 Woods Brush Hog	Mowing brush, corn, and grass.	Purchased new in 2008	Operational
16	Finishing Cutter		Grounds Equipment	Woods	RDA400	Mowing grass	Needs servicing	Non-Operational
17	Brush Hog 5'		Grounds Equipment	Bad Boy	Bad Boy	Rough field mowing	Purchased new 2025	
18	Post Hole Auger		Grounds Equipment		Woods PHD 65	Digs holes for building fences.	Purchased new in 2011	Operational
19	Hay Spike		Grounds Equipment			Moving Round bales		Good
20	3 Prong Hay Spike		Grounds Equipment			Moving Large Square Bales		Good
21	Tractor Forks		Grounds Equipment			Moving grain and other loads		Good
22	Tractor Buckets-Large &Small		Grounds Equipment			Moving dirt and other loads		Good

Source row	1	2	3	4	5	6	7	8
23	Scraper Blade		Grounds Equipment	Ford	Ford Back Blade	Scraping behind tractor, moving snow		Poor
24	Cultivator		Grounds Equipment	John Deere	John Deere Sweep Style	Field Work	Operational	Good
25	Disc		Grounds Equipment	John Deere	John Deere	Field Work	Operational	Fair
26	Plow		Grounds Equipment	John Deere	John Deere 3 Bottom	Field Work	Poor	Fair
27	Plow		Grounds Equipment	Pittsburgh	Pittsburgh 282 3 Bottom	Field Work	Need to Scrap	Poor
28	Sprayer		Grounds Equipment		Boom Type 200 gallon PTO	Spraying liquids/herbicides	Excellent, Purchased new 2025	Good
29	Tractor Rake		Grounds Equipment	Ford	Ford-rear rake	Finish work in field.	Non-Operational	Poor
30	Planter		Grounds Equipment		1 Row	Planting Crops	Good	Poor
31	Subsoiler		Grounds Equipment		3-shank	Field Work	Good	Fair
32	Harrow		Grounds Equipment	John Deere	John Deere 6'	Field work		Good
33	Tiller w/ Depth Roller		Grounds Equipment		For BCS	Small scale vegetable production	Purchased in 2020	Excellent
34	No Till Drill		Grounds Equipment		Saya 507	No Till Planter	Purchased New 2024	Excellent
35	Box Blade		Grounds Equipment		County Line	Used for grading dirt lot/trails	Purchased New 2024	Good
36	Power Harrow		Grounds Equipment		For BCS	Small scale vegetable production	Purchased in 2022	Excellent
37	Agri-Fab UTV Tow Spreader		Grounds Equipment			Small seed or salt spreading		
38	2-Small sprayer-Backpack		Grounds Equipment		Chapin	Yard work		Good
39	Log Splitter		Grounds Equipment		County Line	Firewood processing	Purchased new 2025	
40	Hay Elevator		Grounds Equipment		MYD-HAN-D	Moving hay from lower floor in hayloft to higher raised area		Good
41	Trash Pump		Grounds Equipment		Predator	Pumping Water		Great
42	Various Hand Tools		Hand Tool			Repairs		
43	Flail Mower		Mower		For BCS	Small scale vegetable production	Purchased in 2021	Excellent
44	Riding Mower		Mower		John Deere R70	Mow lawns	Not used since 2019; needs mtc	Non-Operational
45	Riding Mower		Mower		Toro 520-H	Mow lawns	Not used since 2019; needs mtc	Non-Operational
46	Exmark Zero Turn Mower (small)		Mower		IH500V	Mow, building lawns	Moved to farm from NC; fall 2019	Good

Source row	1	2	3	4	5	6	7	8
47	Weed Trimmer		Power Tool		Stihl FS90R	Trim weeds around pond and property		Good
48	Dewalt Cordless Mower		Power Tool			Mowing small areas around buildings		Fair
49	Stihl Chain Saw		Power Tool		MS311	Wood cutting/processing	Purchased new 2026	
50	Backpack Blower		Power Tool		Echo PB-580T	Leaf Blowing		Great
51	Titan Post Driver		Power Tool		PGD3200XPM	4 Cycle T Post Driver	Purchased New 2024	Excellent
52	Weed Whacker		Power Tool		Stihl FS 110R	Trim fencelines		Good
53	Post-Hole Auger		Power Tool		Predator	Drill holes		Good
54	Post Driver		Power Tool		Unknown	2 Cycle post driver	Gasoline	Good
55	Grinder Wheel		Power Tool		Duracraft 5hp	sharpening tools and blades, cleaning up hardware from rust		Good
56	Metal Chop Saw		Power Tool		Ryobi-5hp	Cutting metal	Donated	Good
57	Chop Saw		Power Tool		Dewalt Double Bevel	Cutting wood/plastic and other materials for projects	New in 2019	Good
58	Table Saw		Power Tool		Dewalt	Cutting plywood and other materials as needed	New in 2019	Good
59	Power Washer		Power Tool		Dewalt 3600	Washing equipment and buildings		Good
60	Drill Press		Power Tool		Craftsman 15in- 12 speed	Drilling holes in poles and wood		Poor
61	Power MIG Electric		Power Tool		Lincoln Power	Welding		Good
62	Power MIG Pressurized Gas		Power Tool		Lincoln Power	Welding		Good
63	Nailer		Power Tool		Dewalt - Battery powered	Nailing	New in 2020	Good
64	(4) Angle Grinders		Power Tool		(2) Dewalt (2) Makita	Metal cutting, fence cutting		Good
65	Reciprocating Saw		Power Tool		Dewalt			Good
66	Circular Saw		Power Tool		Dewalt	Cutting		Good
67	Finishing Nailer		Power Tool		Air powered Porter Cable	Nailing trim and other small pieces		Good
68	Dremel Saw		Power Tool		Dewalt	Making small cuts in objects		Good
69	Impact Wrench		Power Tool		Milwaukee	Electric powered		Good
70	Hammer Drill		Power Tool		Miwaukee	Electric powered		Good

Source row	1	2	3	4	5	6	7	8
71	Router Kit		Power Tool		Hitachi	Electric powered		Good
72	Bench Grinder		Power Tool		Jet	Electric powered	Purchased 2021	
73	Power Pack		Power Tool		Pittsburgh	Hydraulic		
74	Dewalt 20 Volt Batteries		Power Tool		Dewalt	Cordless Power Tools	Various sizes and ages	
75	Dewalt Cordless Blower		Power Tool		Dewalt	Blowing out shop/horse barn		
76	Orbital Sander		Power Tool		Dewalt			
77	Belt Sander		Power Tool		Ridgid			
78	Shop Vac		Power Tool		Rigid 5hp	Vaccumming		Good
79	Tractor with loader		Tractor	New Holland	TNG65	Main Tractor for Farm Operations	Multiple repairs each year due to age. Beyond useful age for daily use.	Operational
80	Tractor		Tractor	New Holland	TC35	Tilling and Hauling Wagons / Trailers	Has had many repairs and typically breaks down several times a year. Electrical issue - blows fuses.	Operational
81	Tractor		Tractor	Ford	3910	Used as an accessory for kids to play	Unsure of purchase date. Tractor was made in the mid 80’s to 90’s.	Non-Operational
82	Tractor		Tractor	New Holland	TN55D	Hauls Manure Spreader	Has turf tires- unsuitable for most farm work, aquired from PPS in 2014 likely purchsed in early 2000's	Non-Operational
83	Tractor W/Loader		Tractor	Bad Boy	Bad Boy	Farm Chores, Brush Hog Work, Tilling	Donated from Bad Boy 2024	Excellent
84	Tractor with Loader		Tractor	New Holland	Boomer 50	Pulling wagons & light farm work	Purchased in May 2020, hydrostatic for safety	Operational
85	Walk Behind Tractor		Tractor	BCS 749	BCS 749	Vegetable Production	Purchased from Earth Tools in 2020	Operational
86	Manure Spreader		Trailer	H & S	Model 175 2-speed-2117	Spreading animal waste material on fields	Purchased new in 2016 $9,000	Operational
87	Aluminum Four horse slant Gooseneck trailer		Trailer	Exiss	Exiss CX/400	Transports livestock and horses.	Unknown purchasing date	Good

Source row	1	2	3	4	5	6	7	8
88	Titan HitchTrailer		Trailer	Challenger	Challenger	Transports livestock and horses to programs.	Rebulit onsite 2025, used only onsite, not om road.	Fair
89	Delco Stock Trailer		Trailer		S816	Transports livestock	Purchased new 2025	Excellent
90	K Trail Equipment Trailer		Trailer		2RYKBCG27PM037989 SS#	Equipment/feed transport	Purchased new 2025	
91	28' Flatbed Trailer		Trailer			Decomissioned	Not in Use	Poor
92	Red Gooseneck Horse Trailer		Trailer			Decomissioned	Not in Use	Poor
93	Gray flatbed trailer		Trailer		2-Wheel hitch trailer	Used for putting water tank and moving around site, hauling things onsite	Replaced wood deck 2021 needs license plate to be road ready	Poor
94	Concessions trailer 18 ft		Trailer					
95	Kubota RTV 900		Utility Vehicle	Kubota	RTV 900	Transports equipment and people around the farm.		Fair
96	Turf Gator		Utility Vehicle	John Deere	W00Turf003665	Transporting people and items around the Farm.	Broken Frame	Non-Operational
97	Kubota RTV-X1100		Utility Vehicle	Kubota	RTV-X-1100	Personel transport, plowing, salting		Operational
98	Farm Truck		Vehicle		GMC- 3500	General Farm Work and Traveling Farms	Purchased new in 2012	Operational
99	(4) Tractor Drawn Wagons		Wagon			Transport visitors around the farm during programs including the Corn Maze	Rebuilt in 2012, new wooden decks and covered tops. Rusting.	Fair
100	Mobile Chicken coop wagon		Wagon			Houses and Transports Chickens around the farm for daily foraging	April 2020 delivered-custom built TC Construction	Great
101	Horse Drawn Wagon		Wagon			Hauling people on wagon rides (specialty)	Not found on Site	Good condition

Farm NC Equipment Inventory updated May 2026 - th.xlsx

Worksheet Farm Equip | Columns 9–9 | Printed cached source values

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Source row	9
5	Titled Y/N
6	N
7	N
8	N
9	N
10	N
11	N
12	N
13	N
14	N
15	N
16	N
17	N
18	N
19	N
20	N
21	N
22	N
23	N
24	N
25	N
26	N
27	N
28	N
29	N
30	N
31	N
32	N

Source row	9
33	N
34	N
35	N
36	N
37	N
38	N
39	N
40	N
41	N
42	N
43	N
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66	N

Source row	9
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68	N
69	N
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72	N
73	N
74	N
75	N
78	N
79	N
80	N
81	N
82	N
83	N
84	N
85	N
86	N
87	Y
88	Y
89	Y
90	Y
91	Y
92	Y
93	N
95	Y
96	?
97	Y
98	Y
99	N
100	N
101	N

Farm NC Equipment Inventory updated May 2026 - th.xlsx

Worksheet Kitchen Equip -Expendable | Columns 1–8 | Printed cached source values

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Source row	1	2	3	4	5	6	7	8
1			Bowers School Farm Kitchen Equipment Information (updated 01-2026 KW)					
5	Equipment	Ownership - Transfer to OCPRC (Y/N)?	Equipment Type	Brand	Model	Uses	Notes	Condition
6	Walk in Fridge/Freezer		Refrigerated			Food Storage for Kitchen	2021 Model Year	Good
7	Small Pizza Oven		Non-Refrigerated			Small Pizza Production	Visitors Center	Good
8	Ice Cream Freezer		Refrigerated			Ice cream storage/serving	Visitors Center	Good
9	Bakers Display Rack		Non-Refrigerated			Displaying Baked Goods	Visitors Center	Good
10	Popcorn Maker		Non-Refrigerated			Popcorn	Counter Top	Good
11	Popcorn Maker		Non-Refrigerated			Popcorn	Freestanding	Good
12	Slushee Machine		Refrigerated			Frozen Drink Maker	Visitors Center	Good
13	Gas Range		Non-Refrigerated	Imperial		Cooking/Baking	6 Burner with griddle	Good
14	Industrial Vent Hood		Industrial Vent Hood	CaptiveAire		Venting Cooking Fumes	Kitchen	Good
15	Refrigerator		Refrigerated	Victory		Food Refridgeration	Kitchen	Good
16	Warming Oven		Non-Refrigerated	CresCor		Keeping Food Warm	Kitchen	Good
17	Ice Maker		Refrigerated	Scotsman		Ice Making	Kitchen	Good
18	Commercial Chemical Dishwasher		Non-Refrigerated	CMA		Dish Washing	Kitchen	Good
19	Mixer		Non-Refrigerated	Hobart		Dough Mixing	Kitchen	Good
20	Counter Top Oven		Non-Refrigerated	Countertop Oven		Hamilton Beach	FAB	Good
21	Donut Maker		Non-Refrigerated	Belshaw		Donut Making	FAB	Good
22	Microwave		Non-Refrigerated	Panasonic		Countertop	FAB	Good
23	Coffee Maker (4)		Non-Refrigerated	Bunn		Coffee, Hot Water	2 in kitchen, 2 at FAB	
24	Small Display Refridgerator		Refrigerated			Egg Cooler	Visitors Center	

Source row	1	2	3	4	5	6	7	8
25	Chest Freezer (2)		Refrigerated			Deep Freeze for Meat	FAB	
26	Electric Range		Non-Refrigerated				Residential, at FAB	
27	Dishwasher		Non-Refrigerated			Dishes at FAB	Residential, at FAB	
28	Over Counter Microwave		Non-Refrigerated				Residential, at FAB	
29	Sandwich Press (2)		Non-Refrigerated				FAB	
30	Refridgerator		Refridgerator				Residential, at FAB	
31	Display Freezer		Refrigerated			Freezer housing meats for sale in store	FAB	
32	Display Cooler		Refrigerated				FAB	
33	Drink Cooler/refridgerator		Refrigerated			Displaying and cooling drinks for sale	Visitors Center	
34	Display Freezer		Refrigerated	Beverage-Air		Freezer housing meats for sale in store	Visitors Center	
35	Display Cooler		Refrigerated			Open cooler displaying produce for sale in store	Visitors Center	

Farm NC Equipment Inventory updated May 2026 - th.xlsx

Worksheet Current Inventory NC | Columns 1–7 | Printed cached source values

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Source row	1	2	3	4	5	6	7
1	Johnson Nature Center Equipment						
3	Equipment	Ownership - Transfer to OCPRC (Y/N)?	Equipment Type	Model	Uses	Notes	Condition
4	Tractor with Bucket		Tractor	John Deere 855	This is the main tractor that we use for NC operations.		Good
5	Small Manure Spreader-UTV		Grounds Equipment	Fimco Industries- 1/2 yard	Moving small manure loads and spreading in fields	New in 2017	Good, moved from Farm to NC in 2021
6	Bucket for Tractor		Grounds Equipment	John Deere 70A	Loader		Good
7	Brush Hog		Grounds Equipment	John Deere 513			Good
8	Utility Trailer		Trailer	Snow Bear 8' long / single axle	Utility hauling on site; not for road	Not for road	Good
9	Gator		Utility Vehicle	John Deere 4 X 2 with dump box	General hauling and towing of trailer	Electric dump	Good
10	Electric Golf Car		Utility Vehicle	Club Car DS Golf Car 2002	General hauling and towing of trailer	Manual Dump,	Good
11	Lawn Mower		Mower	Toro SR4 Push Mower 20"	Cut Grass		Fair
12	Chain Saw		Power Tool	Stihl MS180			Good
13	Chain Saw		Power Tool	Stihl MS251C			Good
14	Snow Blower		Grounds Equipment	Toro Power Clear 21"		Electric Start	Good
15	Long Handle Hedge Trimmer		Power Tool	Stihl			Fair
16	Hedge Trimmer		Power Tool	Stihl H576			Fair
17	Hedge Trimmer		Power Tool	Toro Electric			Fair
18	Weed Wacker		Power Tool	Stihl			Poor
19	Weed Wacker		Power Tool	Shindaiwa T230X			Fair
20	Leaf Blower		Power Tool	Echo PB 250LN			Good
21	Leaf Blower		Power Tool	Dewalt 20V DCBL772		Battery	Good
22	Hedge Trimmer		Power Tool	Dewalt 20V DCHT 820		Battery	Good

Source row	1	2	3	4	5	6	7
23	Circular Saw		Power Tool	Makita 7 1/4"			Good
24	Sawz All		Power Tool	Dewalt			Good
25	Screw Gun		Power Tool	Dewalt 20V DCD791			Good
26	Screw Gun		Power Tool	Dewalt 20V DCF 887			Good
27	Screw Gun		Power Tool	Dewalt 20V DCD778			Good
28	Screw Gun		Power Tool	Milwaukee 18V Fuel			Good
29	Table Saw		Power Tool	Craftsman 10" 2.5 HP			Fair
30	Scroll Saw		Power Tool	Craftsman 16"			Fair
31	Chop Saw		Power Tool	Delta Shop Master 10"			Fair
32	Air Compresser		Power Tool	Porta Cable 1.6 HP / 20 Gal			Good
33	Pressure Washer		Power Tool	Simpson 3000PSI MS61043			Fair

Farm NC Equipment Inventory updated May 2026 - th.xlsx

Worksheet SoldDecommissioned | Columns 1–5 | Printed cached source values

Original workbook is embedded in the PDF binder. Formula definitions, objects and source formatting remain available in that file. Blank cells are preserved within displayed rows. Entirely blank or zero-only rows are omitted from this print view; original row numbers are shown. For the shared master-plan workbook, this print view covers BSF and shared worksheets; JNC worksheets remain in the embedded original.

Source row	1	2	3	4	5
2	Buckeye Bed Shaper	Model #2121-D	Creating beds for veggies	SOLD- August 2019	Good
4	Buckeye Mulch Layer	Model #1923	Lays plastic mulch over veggies beds.	SOLD-August 2019	Good
6	Simplicity Riding Mower	26 H.P. Legacy	Mowing grass	Acquired from PPS 3/16/16. Returned to PPS 9/25/19	Poor Condition, non-working
8	FMC Orchard Sprayer		Never used.	SOLD- Auction 2018	Poor/Scrap
10	Corn Picker	New Idea		Sold in Auction 2018	Very Poor/Scrap
12	Auger/Post Hole Digger	Ford		Scrapped	Poor/Scrap
14	Gooseneck Red Trailer	Unsure	Not used in a few years for hauling animals. Displays our Corn Maze sign in the fall.	Unknown purchasing date.	Poor condition. Severe amount of rust, needs a new floor, not usable for livestock transport, bad tires.
16	Cultivator	4 Row	Used once to cultivate ground.	Purchased around 2008	Good
18	Transplanter	Holland 1 Row	Never used.	Purchased around 2008	Poor
19	Chainsaw	MS 250c	Trimming trees, woods maintenance	Easy pull start	
21	Farm Truck #11	2003 Ford F350	General Farm Work and Traveling Farms	No longer on farm-unsure when it was removed.	Poor- many mechanical failures therefore was decommissioned for use.
22	Seeder/aerator	Toro 93	Overseeding & planting grass	Sold Spring 2021	Unusable for pasture seeding
23	Front Tine Tiller	Craftsman 5hp walk behind	Community garden tiller		Used for parts. Head gaskets shot
25		= equipment not in use; need to consider selling or scrapping			

Farm NC Equipment Inventory updated May 2026 - th.xlsx

Worksheet ReplacementPurchase list | Columns 1–7 | Printed cached source values

Original workbook is embedded in the PDF binder. Formula definitions, objects and source formatting remain available in that file. Blank cells are preserved within displayed rows. Entirely blank or zero-only rows are omitted from this print view; original row numbers are shown. For the shared master-plan workbook, this print view covers BSF and shared worksheets; JNC worksheets remain in the embedded original.

Source row	1	2	3	4	5	6	7
2		Location	Equipment	Estimated Cost	Model	Uses	Notes
4		Farm	RTV	24000	Kubota RTV-X1100	Transports equipment and people around the farm.	Three sourcewell quotes received from Weingartz 09/2021. Placed order on 10/11/21, backordered until early spring.

BOWERS SCHOOL FARM

Bloomfield Hills, Michigan



FACILITY ASSESSMENT of SELECT BUILDINGS

August 2026

CELEBRATING 60 YEARS OF GROWING GREAT PARKS

Oakland County Parks

OaklandCountyParks.com

JFR ARCHITECTS

LAWRIN ENGINEERING

EXECUTIVE SUMMARY

OVERVIEW

All 5 buildings / structures visited inside and out appear to be in need of deferred maintenance over the past several years. These facilities are currently being used by the Bloomfield Hills school district for some activities and events.

Even though these buildings are currently in use, any future change in occupancy or program will require immediate improvements to meet current codes, zoning, and requirements from local building and engineering officials.

The site infrastructure evaluation by GMB Architects prepared in August 2024 should be consider and included in all future CIP programming and project needs.

Deferred maintenance is the initial area of concern at each facility. It is apparent that no capital improvement projects have been undertaken in the past 5 to 10 years or longer at these buildings and in many areas the existing conditions look to be near original in vintage and likely nearing their expected serviceable life cycle.

While some items have been repaired or replaced when critical failure (stop working) events require immediate repair and / or replacement it appears that these items have not always been completed in code compliance approach.

In addition to the typical maintenance items noted, there are a few critical areas of concern which will need to be addressed before these facilities can be repurposed and occupancy for new programming and open to public occupancy.

1. Electrical improvements for replacement of old or missing systems and various components.
2. Mechanical requirements for ventilation per current coded and public occupancy are not present in any of these buildings and will be required for new programming.
3. Structural improvements of public occupancy and building use group along with repairs of damage systems.
4. ADA and barrier free accessibility inside and outside of each building to meet current codes and requirements.
5. Life safety improvement and building occupancy exiting will need to be improved at each facility before public occupancy and building use group.

As many of these items are specific or minor in nature there are numerous locations / projects which need attention which can add to a larger scope of work to be planned for in future capital improvement planning. Along with the repairs and corrections of the concerning items, these project work scopes may expand to the level of requiring other improvements to become code compliant, much of this will need to be determined as programming is finalized and full work scopes and CIP budgets are planned.

LEGEND

PRIOIRTY RANKING

This column is an estimated identification of importance for when a various project or correction action should be planned and budget for in future OCPR capital improvement programs.

1	Critical Importance and immediate corrective action should be completed.
2	Important works associated with this deficiency, necessary tasks should be planned for and completed within 1 year or less.
3	Current conditions are at the end of their usable life and need to be scheduled for repair, removal, and replacement within the next 2 to 3 years.
4	The work associated with this item is nearing the end of its use and needs to be considered in future improvement plans in the next 4 to 6 years.
5.	Current conditions are acceptable and should be monitored and maintained as necessary, no immediate or near future action is anticipated.

WORK CATAGORY

This column is a descriptive interpretation of where the work scope importance for each individual corrective action item is considered in relationship to the building governing requirements.

A	Life safety element regarding the building occupants or the public interacting with the building and site amenities.
B	Code requirements for the building and site which may have been acceptable at the time of original construction and occupancy may not be allowed under new code interpretations. These items would be recommended or may be required for improvements with any future renovations, maintenance or expansion of the facility.
C	Building integrity are items which need to be repaired and / or replaced to maintain the existing building's physical attributes, function, and operation.
D	Accessibility compliance are items which need to be repaired, improved, or replaced for compliance and the minimum standards for universal accessibility for all building occupants.
E	Appearance are items which may not rise to the level of "building's integrity" although are in need of attention and repair or replacement before they become detrimental to the physical building assests.

ESTIMATE CLARIFICATIONS

This is an opinion of construction cost conceptual estimate. This is a working document that should be reviewed by the project team with necessary revisions duly raised and documented as part of the design process when each task and item is prepared for actual construction.

- It is assumed the building area will be occupied during construction with work done during normal business hours.
- The estimate assumes no single sourcing of materials, three manufactures required.

1. The project is estimated for construction at winter of 2026 / 2027 construction.

2. Escalation is difficult and near impossible to predict in the current construction environment.
   a. Prior to the onset of COVID 19 construction escalation in Southeast Michigan was holding steady at 3% - 4% per year.

   b. During the 2020 and 2021 years at the onset of COVID 19 escalation was running at 18% - 21%, along with long led items and supply chain disruption budgeting was impossible to accurately predict.

   c. From 2022 and through 2024 the current market has seen reduction in escalation down to 7% - 8% and has held steady for most building items in our local marketplace.

   d. From 2025 through 2026 and project into 2027 markets have been variable and prices can rapidly increase and decrease without notice, once again making the ability to accurately estimate construction projects difficult.

   e. It's anticipated that future budget escalation should reduce to about 4% - 6% per year, although the pre 2020 rates are not anticipated or expected to return in the foreseeable future due to market inflation.

3. Inclusions in" Conceptual Estimate Number"
   a. Specific construction item as listed or specified.
   b. Associated work that may be required but is not specifically listed or stated to complete each individual listed item.
   c. Construction insurance and bonds from a general contractor
   d. General contractors Overhead and Profit
   e. Labor is based on Southeast Michigan prevailing labor wage rates.
   f. Design contingencies
   g. Sales tax.

4. Exclusion in the "Conceptual Estimate Number"
   a. AHJ plan review Fees
   b. Permit application and fees.
   c. The owner furnished equipment, fixtures, and products.
   d. Technology and IT infrastructure
   e. Construction cost for relocation of spaces / departments during construction
   f. Moving costs
   g. Removal of contaminated and / or hazardous materials such as asbestos, lead, PCBs, and other hazardous materials.

BUDGET OPINION SUMMARY

1. Horse Stable Barn

Architectural	$112,500.00
Mechanical	$21,000.00
Electrical	$23,200.00
Total Budget Opinion	**$156,700.00**

2. Barn and Underground Animal Shelter (Bank Barn)

Architectural	$136,500.00
Mechanical	$18,500.00
Electrical	$71,000.00
Total Budget Opinion	**$226,000.00**

3. Toilet Room Barn Building

Architectural	$187,500.00
Mechanical	$52,000.00
Electrical	$21,100.00
Total Budget Opinion	**$260,600.00**

4. Cottage

Architectural	$289,500.00
Mechanical	$69,500.00
Electrical	$22,000.00
Total Budget Opinion	**$381,000.00**

5. Underground Shelter Storage Building

Architectural	$52,500.00
Mechanical	T.B.D.
Electrical	$19,000.00
Total Budget Opinion	**$71,500.00**

HORSE STABLE BARN



BUILDING DATA

- Unknown original building construction
- Possible 3 building additions

- 4,979 total approximate square feet

West maintenance shop	=	776 sqft
North barn	=	1,183 sqft
South bran	=	1,280 sqft
East open stables	=	1,735 sqft

- Use Group ‘U’ Utility – Barns

- Construction is 5-B combustible materials.

- Pre-engineered metal siding and roofing post-framed “pole barn” building type.

EXECUTIVE SUMMARY

The existing building is a typical pre-engineered “pole” barn structure and is currently being used as a barn for animals.

The building appears to have been built in possibly 4 different phases or additions. The age of the building is unknown, but it is assumed to be a minimum of 30 - 35 years in age, which would place this structure at the end of its anticipated usable life cycle.

Maintenance has been deferred and damaged areas of the building appear to have been left damaged without necessary repairs as needed during the past several years. The building appears to not be weather tight and has various areas of holes in the walls, and roof and leaks throughout the structure. There are areas of damaged structure which question the integrity of the building without immediate repairs and replacement of damaged post and beam construction.

The horse stable is limited to only two gravity relief vents located on the roof and one outdoor wall mounted circulating fan. The repair shop consists of two gravity relief vents located on the roof and one gas fired unit heater. The repair shop does not consist of any code required mechanical ventilation. The repair shop also consists of one air compressor, one ceiling mounted compressed air hose reel and trench drain. No fire protection systems exist in the horse stable/repair shop.

The electrical system in the stable part needs some updates. The shop area’s main panel has a number of items to address. There were no GFI receptacles noted in the building. The building had few exterior lights. The stable area interior lighting needs to be replaced with tight lighting with guards. Emergency egress lighting should be installed in the shop area.

The building is used as a barn for animals and a learning center for the public and students, the building does not appear to be currently code compliant for human occupants. Based on the preliminary rough estimates for necessary repairs in comparison with new construction cost of new “pole: barn pre-engineered structures it might be consider having this building planned for and schedule for replacement vs. making necessary repairs and improvements.

IMMEDIATE ACTION ITEMS

1. Repair the structural elements such as trusses, columns and framing that are required for structural integrity.
2. Repair the holes and leaks in the building and make the structure secure for human and animal occupants.
3. Provide code compliance with life safety elements with lighting, exits and power throughout the structures.
4. Provide ADA access and functionality.
5. Electrical lighting and power in the building needs repairs and replacement

MECHANICAL, PLUMBING and FIRE PROTECTION NOTES

Mechanical

The horse stable is limited to only two gravity relief vents located on the roof and one outdoor wall mounted circulating fan. The gravity relief vents simply provide air movement by natural means within the indoor portion of the horse stable. The outdoor circulating fan simply provides air movement by mechanical means within the outdoor portion of the horse stable.

The repair shop consists of two gravity relief vents located on the roof and one gas fired unit heater with intake and exhaust flues. The gravity relief vents simply provide air movement by natural means within the attic space of the repair shop. The unit heater is controlled by a wall mounted thermostat and cycles as necessary to maintain space temperature during the heating season. The repair shop does not consist of any code required mechanical ventilation.

Plumbing

The repair shop consists of one floor mounted air compressor and one ceiling mounted compressed air hose reel. Compressed air piping penetrates the ceiling and connects to the ceiling mounted hose reel.

Fire Protection

The horse stable/repair shop does not consist of any fire protection systems.

ELECTRICAL NOTES

Power

The Horse stable main panel (in the shop area) is fed with 100Amps from the wireway outside of the Cottage. This main panel had multiple issues that need to be corrected. There were items wired in the panels wire way, there was no evidence of a ground rod or a tie to the building water piping, and the panel had no dead front installed. All these issues need to be addressed.

The sub panel in the stable area is fed with 60Amps from the shop area main panel. This sub panel is in bad shape and needs to be replaced with a NEMA 3R panel due to its exposure to the outside.

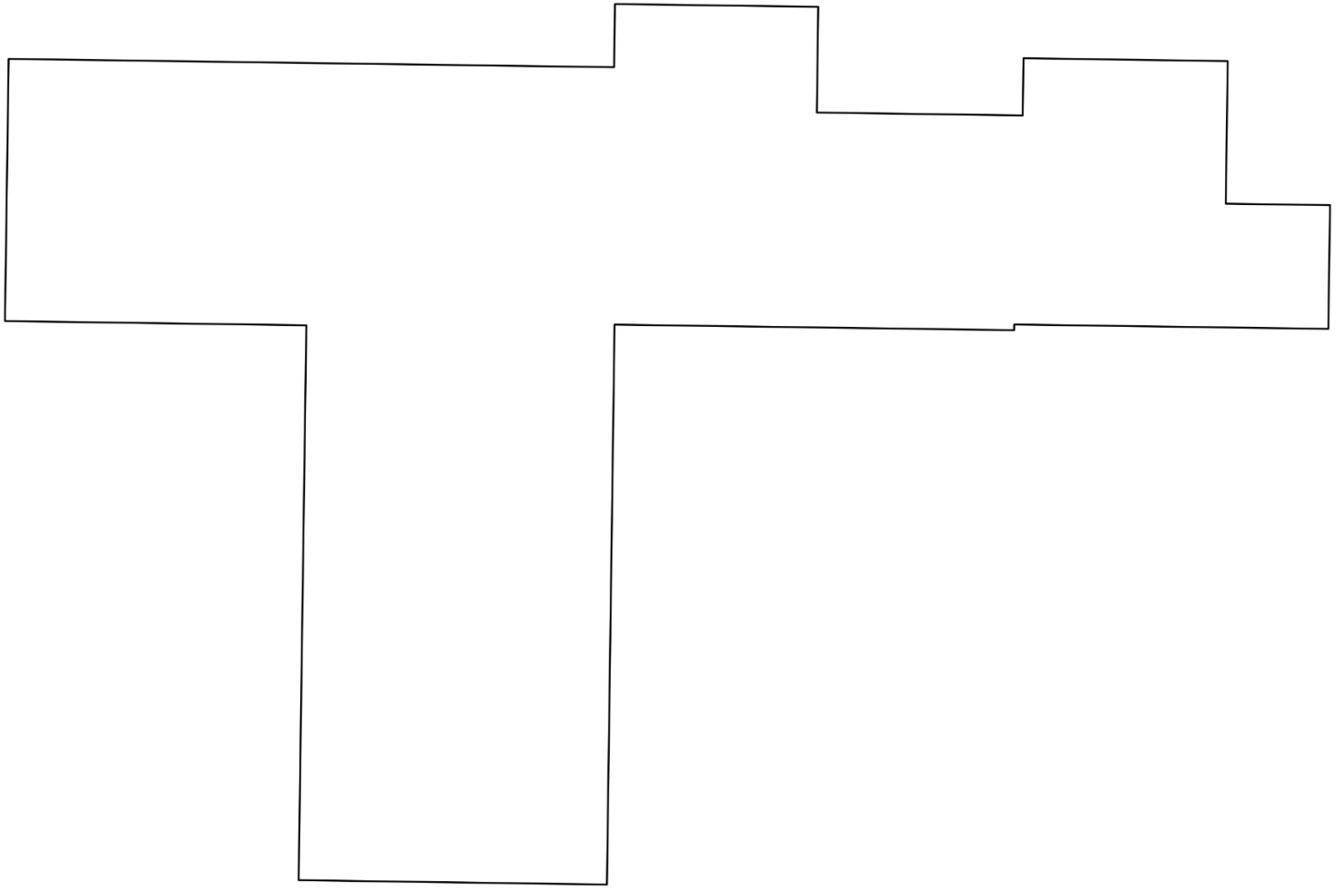
The panel and the sub panel's schedule were not complete. Loads should be traced and the panel schedules updated. Arc flash labels need to be installed on the panels.
The existing receptacles in the stables were not GFI type nor weatherproof. The receptacles in the stable area should be replaced with weatherproof GFI type.

Lighting

The exterior of the building lacked any exterior lighting on two sides of the building. The shop area and the main stable door had exterior lights. It is recommended to add more exterior lights at the back of the building for security reasons. It is recommended to add egress lighting (exit sign and EBUs) to the shop area.

Auxiliary systems

There was no fire alarm system in the building. It is not required by code, but it may want to be considered because of the shop area and the items that are stored.



BOWERS SCHOOL FARM
HORSE STABLE BARN

FLOOR PLAN

OCPR - BOWERS SCHOOL FARM - HORSE STABLE BARN (FCA) FACILITY CONDITION ASSESSMENT

ARCHITECTRUAL

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	QUANTITY	BUDGET ESTIMATE
1	1	maintenance room hollow metal entry door has signs of rusting along the bottom edge of the door at interior and exterior	3	C	remove and replace hollow metal door and frame	1 location	$2,500
2	2	exterior concrete outside man door entry does not appear to be a supported front slab construction, freeze / thaw heaving is possible	3	C	New painting interior and exterior of windows, provide new backer rod and sealant around all perimeters inside and out	1 location	$5,000
3	3	Interior garage area floor trench drain appears to not have an oil interceptor system connected	5	B	Any new work or renovation to the building may required code improvement s to the existing trench drain system	1 location	$10,000
4	4	Interior walls of the maintenance area are covered with plywood sheathing for shelves, hangs and casework, several areas appears to show sings of critters infestations, possible mice living in the walls	1	A	Repair holes and openings in walls and get pest control on site for regular inspections and maintenance program	1 room	$20,000
5	5	Gas fired unit heater wiring is not secured and connected	1	A / B	Electrician should repair and replace as required	1 location	$1,500
6	6	Hole / opening in roof from old exhaust vent needs to be properly sealed and weather tight	1	C	Provide new metal roof patch replacement on exterior and interior along with matching building insulation	1 location	$2,500
7	7	No exit signs and EBU located in the workshop room	1	A	Provide new exit signs and and lighting per code	1 location	$3,000
8		Hazardous (possible flammable) materials stored out in the open	1	A	Supplies and materials to be safely stored in fire proof cabinets	1 location	$2,500
9	8	Broken window glass	1	C	Replace window glass	1 Location	$1,500
10		ADA access to the building is not in compliance to current requirements	1	A / B	Provide new sidewalks and required clear spaces for the approach of and access of the building for public occupancy	multiple locations	$20,000
11	9, 10	Exterior metal trim and flashing above overhead / sliding doors damaged	3	C	General maintenance to repair and replace	multiple locations	$6,000

OCPR - BOWERS SCHOOL FARM - HORSE STABLE BARN (FCA) FACILITY CONDITION ASSESSMENT

ARCHITECTRUAL

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	QUANTITY	BUDGET ESTIMATE
12	11	Roof drains connected to underground , unknown storm management system	1	B	Documented in GMB architects 2024 report and infrastructure evaluation	multiple locations	T.B.D.
13	12	Base plate wood framing boards are rotted and damaged. Some wood post are showing signs of splitting	1	C	Remove and replace all base wood framing and trim boards	multiple locations	$8,000
14	13	Holes and damaged in metal siding / building exterior walls	2	C	Remove and replace all damaged siding	multiple locations	$15,000
15	14	Structural poles at base of wood to foundation / grade are damaged and deteriorated	1	A, B, C	Structural elements need to be repaired, replaced and provide temporary shoring	multiple locations	$7,500
16	15, 16	Damaged / missing bottom chord of roof truss and horizontal purlins framing	1	A, B, C	Structural elements need to be repaired, replaced and provide temporary shoring	multiple locations	$7,500
							$112,500.00

BOWER FARMS HORSE STABLE BUILDING FACILITY CONDITION ASSESSMENT (FCA) REPORT

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	COST
1HS	YES	TWO EXISTING GRAVITY RELIEF VENTS LOCATED ON ROOF. THE RELIEF VENTS SERVE THE INDOOR PORTION OF THE BARN.	3	NA	GRAVITY RELIEF VENTS PROVIDE AIR MOVEMENT BY NATURAL MEANS WITHIN THE INDOOR PORTION OF THE BARN.	TBD
2HS	YES	WALL MOUNTED CIRCULATING FAN.	3	NA	FAN SIMPLY MOVES AIR IN THE HORSE STABLE.	$6,000
3HS	NO	TWO EXISTING GRAVITY RELIEF VENTS LOCATED ON ROOF. THE RELIEF VENTS SERVE THE ATTIC SPACE ABOVE THE REPAIR SHOP. CODE REQUIRED VENTILATION AIR DOES NOT EXIST IN THE REPAIR SHOP.	1	B, C	GRAVITY RELIEF VENTS PROVIDE AIR MOVEMENT BY NATURAL MEANS WITHIN THE ATTIC SPACE OF THE REPAIR SHOP. EXTENT OF CODE REQURIED OUTDOOR VENTILATION AIR INSIDE THE REPAIR SHOP WILL BE DEPENDENT ON PROGRAMMING OF THE SPACE	TBD
4HS	YES	GAS FIRED UNIT HEATER APPEARS TO BE IN GOOD CONDITION.	4	C	GAS FIRED UNIT HEATER IS APPROXIMATELY FIVE YEARS OLD. TOTAL LIFE EXPECTANCY IS APPROXIMATELY FIFTEEN YEARS.	$10,000
5HS, 6HS	YES	AIR COMPRESSOR AND HOSE REEL.	3	C	ONE COMPRESSOR AND ONE HOSE REEL EXISTS IN THE REPAIR SHOP.	$5,000
					TOTAL MECHANICAL COST	**$21,000**

1	Critical condition that poses an immediate threat to the health, safety and welfare of user
2	Address within next year
3	Address witin 2 - 5 years
4	Address within 6 - 10 years
5	Does not meet current code(s) but grandfathered

BOWER FARMS HORSE STABLE BUILDING FACILITY CONDITION ASSESSMENT (FCA) REPORT

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	COST
1HS	YES	PANEL NEAR THE MAIN ENTRANCE IS BADLY CORRODED. THE INTERNAL BUSSING IS PROBABLY CORRODED.	2	B	REPLACE THE PANEL WITH A NEW NEMA 3R PANEL. VERIFY THAT THE NUETRAL AND GROUND ARE NOT BONDED. THERE IS AN UNCONNECTED GROUND ROD BELOW THE PANEL.	$7,000
2HS	YES	PANEL IN THE SHOP AREA HAS NO DEAD FRONT, THERE IS PLUG WITH A SMALL TRANSFORMER IN THE WIRE SPACE OF THE PANEL, THERE DOES NOT APPEAR TO BE A GROUND ROD FOR THIS PANEL, THERE APPEARS TO BE NO TIE TO THE BUILDING STEEL OR THE INCOMING WATER SERVICE.	1	A,B	PROVIDE A DEAD FRONT FOR THE PANEL- EXPOSED WIRES AND BUS. PROVIDE ANEW RECEPTACLE ON THE EXTERIOR OF THE PANEL AND REMOVE THE PLUG/ TRANSFORMER FROM INSIDE THE PANEL, PROVIDE A GROUND ROD AND PROVIDE THE CONNECTIONS TO THE ROD, BUILDING, AND WATER SERVICE	$2,500
3HS	NO	EXISTING RECEPTACLES ARE CORRODED	1	B	REPLACE EXISTING RECEPTACLES WITH WP/GFI RECEPTACLES (6)	$2,000
4HS	NO	A NUMBER OF EXISTING LIGHTS ARE NOT OF THE PROPER RATING FOR THE OPEN AREA	2	B	REPLACE THE EXISTING LIGHTS WITH WEATHER TIGHT JELLY JAR TYPE WITH GUARDS (8)	$4,200
5HS	NO	THERE ARE EXTERIOR LIGHTS ON ONLY TWO SIDES.	2	A	PROVIDE ADDITIONAL EXTERIOR LIGHTING FOR SECURITY ON THE BACK SIDE AND OPEN ANIMAL AREA. TOTAL OF 4 LIGHTS	$2,500
6HS	NO	PANELS DO NOT HAVE ARC FLASH WARNING LABELS	2	B	ALL PANELS PER NEC/OSHA SHOULD HAVE ARC FLASH WARNING LABELS.	TBD
7HS	NO	PANEL SCHEDULES ARE NOT UP TO DATE	2	B	BRANCH CIRCUITS SHOULD BE TRACED AND LOADS IDENTIFIED ON UPDATED TYPEWRITTEN SCHEDULES. THIS IS A NEC REQUIREMENT.	$5,000
8HS	NO	PANELS HAVE NOT BEEN THERMAL SCANNED	2	B	NFPA 70B REQUIRES ELECTRICAL EQUIPMENT MAINTENANCE. A KEY PART TO THAT IS YEARLY THERMAL SCANNING	TBD
					TOTAL ELECTRICAL COST	**$23,200**

1	Critical condition that poses an immediate threat to the health, safety and welfare of user
2	Address within next year
3	Address witin 2 - 5 years
4	Address within 6 - 10 years
5	Does not meet current code(s) but grandfathered

#1
Hollow metal entry door



#2
Exterior entry door frost slab



#3
Floor trench drain and missing oil interceptor



#4
Mice holes in plywood walls



#5
Gas unit heater wiring



#6
Old vent stack holes in ceiling/ roof



#7
Missing exit sign and EBU's



#8
Broken window glass



#9

Exterior metal trim and flashing damaged, to be replaced



#10

Exterior metal trim and flashing damaged, to be replaced



#11

Roof drains and underground storm water management



#12

Rotted and damaged wood base framing



#13

Holes and damaged exterior metal siding



#14

Damaged base of structural supporting poles



#15
Missing / damaged roof truss



#16
Missing / damaged wall purlins





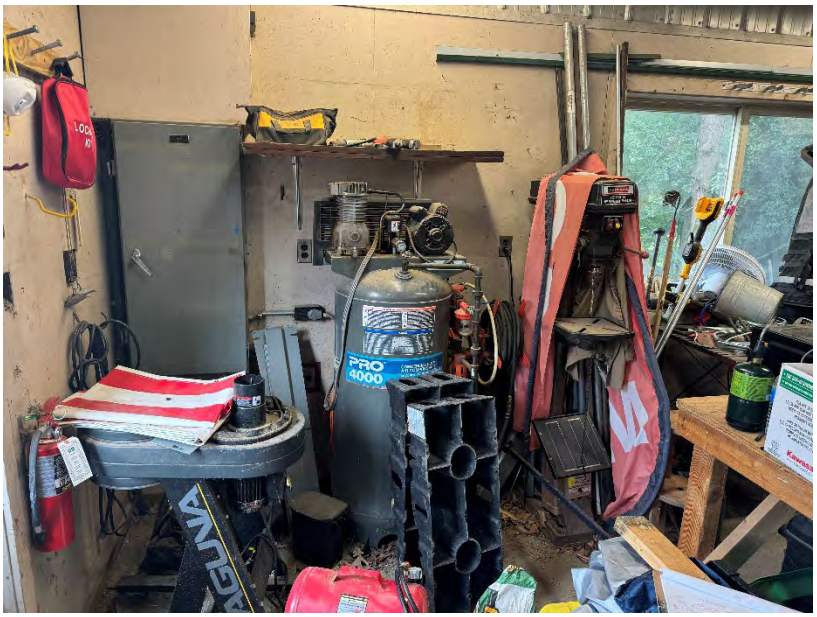
ITEM NO. 1HS



ITEM NO. 2HS



ITEM NO. 4HS



ITEM NO. 5HS

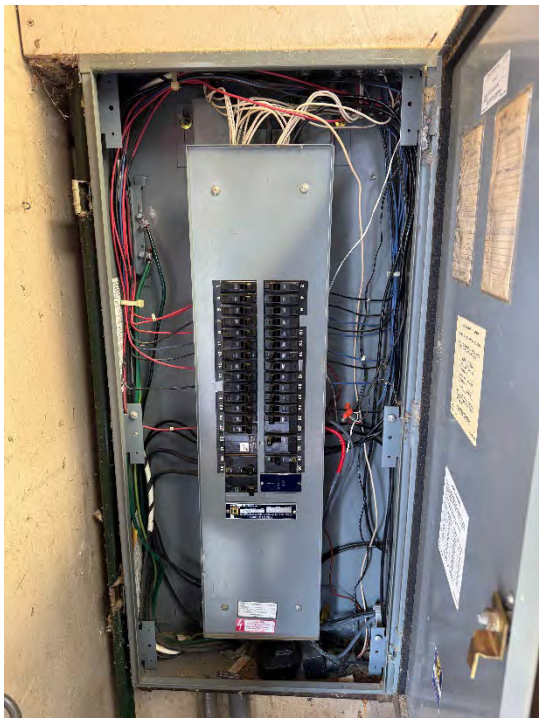


ITEM NO. 6HS





ITEM NO. 1HS





ITEM NO. 2HS

BARN and UNDERGROUND ANIMAL SHELTER



BUILDING DATA

- 1926 or older
- 6,079 total approximate square feet

Lower-level barn	=	3,229 sqft
Upper-level barn	=	2,309 sqft
Outdoor stable	=	541 sqft

- Use Group ‘U’ Utility – Barns
- Construction type is 5-B combustible materials
- Historical building type post-framed “pole barn”

EXECUTIVE SUMMARY

The existing building is a typical historical barn and currently needs to be programed for future use and events.

If the barn is to be used for assembly spaces on the upper level the structure will need several major improvements similar to the Ellis bran has undergone over the past 15 years.

If the lower level is to be used as an animal shelter and classroom for learning of visitors, these areas will need some minor improvements from egress and exit signs for the public.

Several areas are in need of attention for the exterior siding, painting, windows and doors and foundation repairs to provide general yearly maintenance and weather tightness to the structure for future preservations.

Electrically this facility needs a lot of work on the electrical distribution system. It is recommended that two of the panels be replaced and one relocated to get code required access. GFI receptacles should be installed thru out. The interior lighting needs to be replaced with appropriate lighting. Emergency egress lighting should be installed.

There is little mechanical system in the barn which is limited to only two gravity relief vents located on the roof. The underground animal shelter consists of one electric water heater and associated domestic hot and cold-water piping, two compartment sink, floor drain and trench drain. No fire protection system exists in the building.

The building future programming will dictate necessary improvements and requirements that will be needed for occupancy and use.

IMMEDIATE ACTION ITEMS

1. Repair the structural elements such as trusses, columns and framing that are required for structural integrity.
2. Repair the holes and leaks in the building and make the structure secure for human and animal occupants.
3. Provide code compliance with life safety elements with lighting, exits and power throughout the structures.
4. Provide ADA access and functionality.
5. Provide replacement and updates to all electrical systems in the building

MECHANICAL, PLUMBING and FIRE PROTECTION NOTES

Mechanical

The barn is limited to only two gravity relief vents located on the roof however it appears as though both gravity relief vents are blocked and are not currently operational. The gravity relief vents simply provide air movement by natural means within the indoor portion of the barn when they are not blocked and are operational.

Plumbing

The underground animal shelter consists of one electric water heater and associated domestic hot and cold-water piping, two compartment sink, floor drain and trench drain. The water heater capacity is 40 gallons and appears to be in fair condition. Domestic hot and cold-water piping is routed to the two-compartment sink and hose bibbs.

Fire Protection

The barn and underground animal shelter does not consist of any fire protection systems.

ELECTRICAL NOTES

Power

The building is fed from the wireway on the side of the cottage via a 100A fused disconnect to panel B. Panel B (120/240V single phase) then sub feeds two other panels in the lower level. The two sub panels are in bad shape and beyond their recommend life. It is recommended to replace these panels. Panel B is in a niche and does not have proper working clearances. It is recommended to relocate this panel.

The panel schedules were not complete. Loads should be traced and the panel schedules updated. Arc flash labels need to be installed on the panels.

None of the observed receptacles were GFI or weatherproof rated. With the open environment of the barn, it is recommended to replace the receptacles with weatherproof GFI receptacles with in use covers.

There were instances of permanently used extension cords that should be corrected. Additional receptacles should be installed to feed the required loads.

Lighting

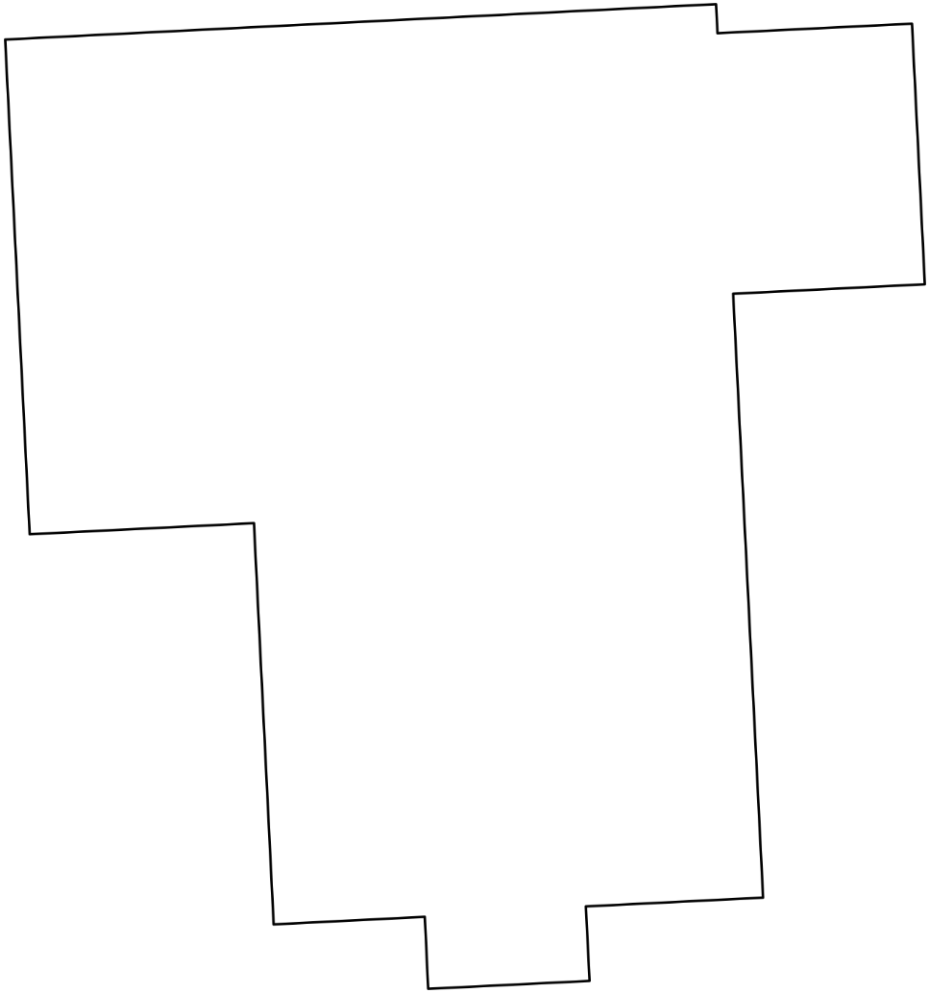
The exterior of the building lacked any exterior lighting on two sides of the building. It is recommended to install exterior lights for security purposes.

Proper egress lighting (EBUs and exit signs) needs to be installed at the lower level. No operational egress lighting is present.

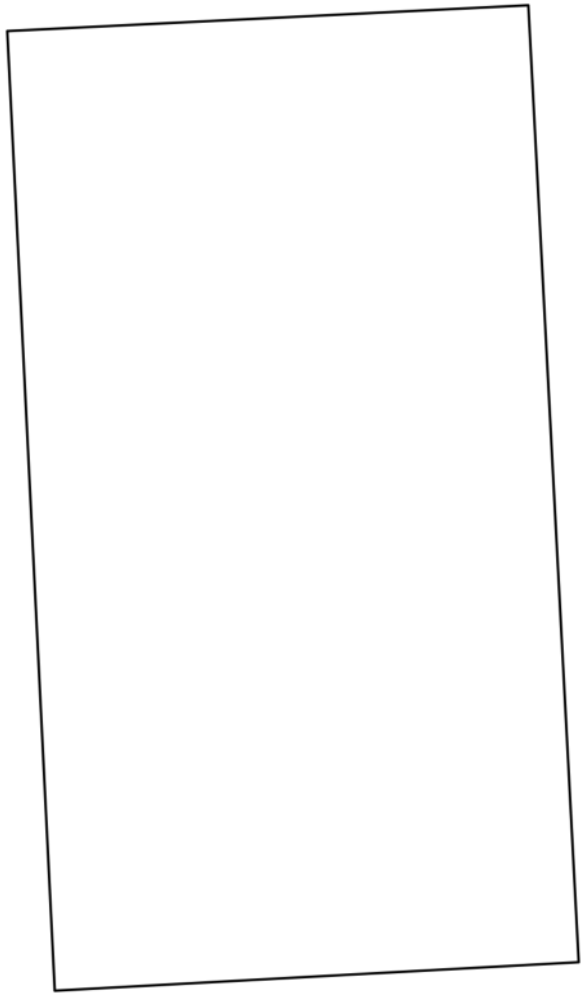
The existing interior lighting should be replaced with weather tight jelly jar type fixtures with guards.

Auxiliary systems

There was no fire alarm system in the building.



Lower Level



Upper Level

BOWERS SCHOOL FARM
BARN and UNDERGROUND ANIMAL SHELTER (BANK BARN)

FLOOR PLAN

OCPR - BOWERS SCHOOL FARM - BARN and UNDERGROUND ANIMAL SHELTER / BANK BARN (FCA) FACILITY CONDITION ASSESSMENT

ARCHITECTRUAL

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	QUANTITY	BUDGET ESTIMATE
1	1, 2	exterior painting on the barn is needed to be repainted	2	C	historical paint to be scarped and repainted, damaged or rotted boards will need to be removed and replaced as needed	full building	$40,000
2	3, 4	missing siding boards on exterior walls	3	C	replace wood boards (will required special historical milled wood siding size and wood type)	full building	$10,000
3	5	Asphalt shingles on the roofing are showing end of life signs and curling at edges	3	c	Remove and replace asphalt shingles / roofing (repair and replace damaged wood substrate)	full building	$50,000
4	6, 7	Roof appears to be uneven, "wavey" possible sinking from structural support	3	C	Repair and re-support the structural roofing framing, and wall framing as required	Southeast corner and West lower elevation	$10,000
5	8	Exterior steps at North elevation are not per code	2	A / B	Replace step and landing to meet current code requirements	1 location	$4,000
6	9	Entry door at West side is not ADA barrier free	2	A / B	Replace door threshold and exterior / interior landing	1 location	$2,500
7	10, 11, 12	Exterior windows in the building are wood framed and are rotted, moving with gaps or damaged, lintels bending	1	C	Replace existing damaged and broken window frames and glazing with new historical wood windows and	1 location	$15,000
8	13, 14	Southeast corner stone foundation is cracked and damaged, settling at exterior and interior	1	C	provide structural investigation to repair foundation and stop settling	1 location	T.B.D.
9	15	Upper interior floor support needs to be structurally verified for occupancy loading	1	C	provide analysis and reinforce structural floor supports	full building	T.B.D.
10	16	Upper interior balcony railing system to verify code compliance	1	A / B	Provide structural analysis and reinforce railing per code	1 location	T.B.D.
11	17	Birds and critters living inside barn	1	C	Seal gaps and holes and get a critter control program in place	full building	T.B.D.

OCPR - BOWERS SCHOOL FARM - BARN and UNDERGROUND ANIMAL SHELTER / BANK BARN (FCA) FACILITY CONDITION ASSESSMENT

ARCHITECTRUAL

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	QUANTITY	BUDGET ESTIMATE
12	18	Upper interior stage platform and stair to be code compliant	1	A / B	Provide lower platform less than 30" a.f.f.	1 location	T.B.D.
13	19, 20	Framing and post in the storage room areas appear to be bending, moving	1	A / C	Need to replace and rebuilding these framing elements of the storage room and ceiling deck	multiple locations	$5,000
14		Egress and exits from 2 directions at upper and lower level,	1	A / B	Both levels are public spaces which only one main means of egress, this may not be code compliant for larger occupancy limits	multiple locations	T.B.D.
15	21	Employees areas of the lowers level are not ADA accessible	1	B	The employee work room is much higher and requires steps or very steep ramp for access	1 location	T.B.D.
16	22	Health department requirements for food operation and sinks in the lower level kitchen	1	B	If being used for public Oakland County food service need to review health department requirements	1 location	T.B.D.
							$136,500.00

BOWER FARMS BARN UNDERGROUND ANIMAL SHELTER BUILDING FACILITY CONDITION ASSESSMENT (FCA) REPORT

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	COST
1BUS	YES	TWO EXISTING GRAVITY RELIEF VENTS LOCATED ON ROOF. AIR INTAKE OPENINGS ON UNDERSIDE OF ROOF ARE COVERED AND THE GRAVITY RELIEF VENTS ARE NOT OPERATIONAL.	1	A, B	GRAVITY RELIEF VENTS PROVIDE AIR MOVEMENT BY NATURAL MEANS WITHIN THE INDOOR PORTION OF THE BARN. THE EXISTING COVERS MAY BE REMOVED TO PROVIDE AIR MOVEMENT BY NATURAL MEANS. EXTENT OF CODE REQURIED OUTDOOR VENTILATION AIR WILL BE DEPENDENT ON PROGRAMMING OF THE SPACE.	TBD
2BUS	YES	EXISTING ELECTRIC WATER HEATER SERVES TWO COMPARTMENT SINK AND APPEARS TO BE IN FAIR CONDITION.	3	B	REPLACE EXISTING WATER HEATER WITH NEW WATER HEATER. WATER HEATER SIZE WILL BE DEPENDENT ON PROGRAMMING OF THE SPACE.	$6,500
3BUS	YES	EXISTING TWO COMPARTMENT SINK APPEARS TO BE IN FAIR CONDITION.	3	B	REPLACE EXISTING TWO COMPARTMENT SINK WITH NEW COMPARTMENT SINK. NUMBER OF COMPARTMENTS TO BE DEPENDENT ON PROGRAMMING OF THE SPACE.	$12,000
					TOTAL MECHANICAL COST	**$18,500**

1	Critical condition that poses an immediate threat to the health, safety and welfare of user
2	Address within next year
3	Address witin 2 - 5 years
4	Address within 6 - 10 years
5	Does not meet current code(s) but grandfathered

BOWER FARMS BARN UNDERGROUND ANIMAL SHELTER BUILDING FACILITY CONDITION ASSESSMENT (FCA) REPORT

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	COST
1BUS	YES	ALL OF THE EXIT SIGNS (3) ON THE LOWER LEVEL ARE NOT OPERATIONAL	1	A,B	REPLACE ALL THE EXISTING EXIT SIGNS WITH NEW COLD WEATHER BATTERY EXIT/EBU COMBO UNITS	$9,000
2BUS	NO	NEED TO ADD TWO ADDITIONAL EXIT/EBUS ON THE LOWER LEVEL TOWARDS THE CENTER STAIR	1	A,B	ADD BRANCH CIRCUIT FOR TWO EXIT/EBUS AND MOUNT EXIT/EBUs	$5,500
3BUS	NO	REPLACE ALL EXISTING RECEPTACLES WITH WP/GFI RATED RECEPTACLE ABOVE 4 FEET SINCE THEY ARE EXPOSED TO WEATHER AND ANIMALS	2	A,B	REPLACE ALL THE RECEPTACLES ABOVE 4 FEET WITH WP/ GFI RATED RECEPTACLES	$3,600
4BUS	YES	THE 2 SMALL SUB PANELS ON THE LOWER LEVEL ARE BADLY CORRODED AND ARE OF AN AGE THAT BREAKERS ARE NO LONGER AVAILABLE	2	B	THESE PANELS SHOULD BE REPLACED WITH NEMA 3R RATED PANELS	$10,000
5BUS	NO	ALL THE LIGHTING IN THE LOWER LEVEL IS NOT RATED FOR THE EXPOSURE TO THE WEATHER	2	B	REPLACE ALL THE EXISTING LIGHTING ON THE LOWER LEVEL WITH WEATHER TIGHT JELLY JAR TYPE FIXTURES WITH GUARDS	$12,000
6BUS	YES	PANEL B,IN THE RECESS NEAR THE BACK DOOR, SHOULD BE BROUGHT OUT OF THE ALCOVE. THE WORKING CLEARANCES DO NOT MEET THE NEC/OSHA REQUIREMENTS. THE PANEL ALSO NEEDS TO HAVE OPEN POLE POSITIONS FILLED, KNOCK OUTS FILLED, AND NEEDS ADDITIONAL SCREWS IN THE COVER.	2	B	USE THE EXISTING PANEL TUB AS A JUNCTION BOX. EXTEND THE FEEDER AND THE BRANCH CIRCUITS TO A NEW RELOCATED PANEL ON THE SAME EXTERIOR WALL.	$10,000
7BUS	NO	UPPER LEVEL BARN: EXTENSION CORD RAN TO PERMANENTLY MOUNTED STRING LIGHTS. STRING LIGHTS ARE NOT SUPPORTED BY AERIAL CABLE.	1	A,B	MOUNT A NEW WP/ GFI RECEPTACLE AT THE LOCATION OF THE STRING LIGHTS TO REMOVE THE EXTENSION CORD. PROVIDE AN AERIAL WIRE TO SUPPOST THE PERMANENTLY MOUNTED STRING LIGHTS	$3,000

8BUS	NO	UPPER LEVEL BARN: QUAD RECEPTACLE IS NOT GFI OR WP RATED	1	B	REPLACE THE QUAD RECEPTACLE WITH WP/GFI RECEPTACLES. PROVIDE AN IN USE WP COVER.	$1,200
9BUS	NO	UPPER LEVEL BARN, SMALL STORAGE CLOSET: THE EXISTING LIGHT NEEDS TO BE REPLACED	1	B	REPLACE THE EXISTING LIGHT WITH A WEATHER TIGHT JELLY JAR FIXTURE WITH A GUARD.	$1,200
10BUS	NO	SOME CONDUIT IS SHOWING SIGNS OF BEING BADLY RUSTED.	3	B	REPLACE THE EXISTING CONDUIT WITH NEW EMT OR PVC.	$3,000
11BUS	NO	PANELS DO NOT HAVE ARC FLASH WARNING LABELS	2	B	ALL PANELS PER NEC/OSHA SHOULD HAVE ARC FLASH WARNING LABELS.	TBD
12BUS	NO	PANEL SCHEDULES ARE NOT UP TO DATE	2	B	BRANCH CIRCUITS SHOULD BE TRACED AND LOADS IDENTIFIED ON UPDATED TYPEWRITTEN SCHEDULES. THIS IS A NEC REQUIREMENT.	$5,000
13BUS	NO	PANELS HAVE NOT BEEN THERMAL SCANNED	2	B	NFPA 70B REQUIRES ELECTRICAL EQUIPMENT MAINTENANCE. A KEY PART TO THAT IS YEARLY THERMAL SCANNING	TBD
14BUS	YES	NO EXTERIOR LIGHTING ON THREE SIDES OF THE BUILDING. ONLY LIGHT IS AT MAIN LOWER LEVEL ENTRANCE.	3	A	PROVIDE EXTERIOR LIGHT FIXTURES ON ALL SIDES OF THE BUILDING FOR SECURITY. ESTIMATING 8 LIGHT FIXTURES	$7,500
					TOTAL ELECTRICAL COST	$71,000

1	Critical condition that poses an immediate threat to the health, safety and welfare of user
2	Address within next year
3	Address witin 2 - 5 years
4	Address within 6 - 10 years
5	Does not meet current code(s) but grandfathered

#1

Repaint / repair exterior siding



#2

Repaint / repair exterior siding



#3

Replace / repair missing and damaged siding



#4

Replace / repair missing and damaged siding



#5
Replace asphalt shingle roofing



#6
Structural support “wave” in roof deck



#7
Structural support “wave” in roof deck



#8
Non code compliant exterior steps



#9
Non-ADA barrier free entrance door



#10
Exterior window replacement



#11
Exterior window replacement



#12
Exterior window replacement



#13
Exterior cracked foundation



#14
Exterior cracked foundation



#15

Structural floor support for occupancy loading



#16

Structural railing code compliance



#17
Birds and critters inside barn

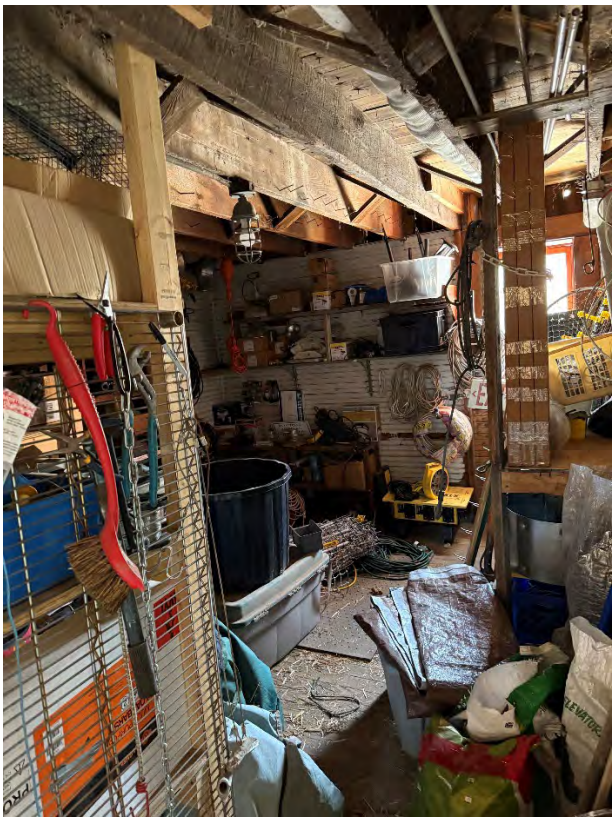


#18
Stage platform and stairs code compliance



#19

Frame of post and ceiling in storage rooms

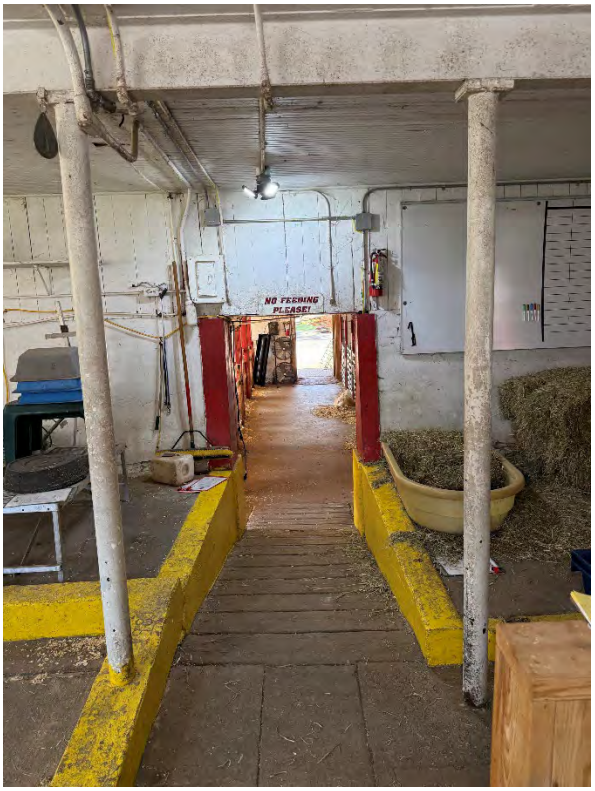


#20

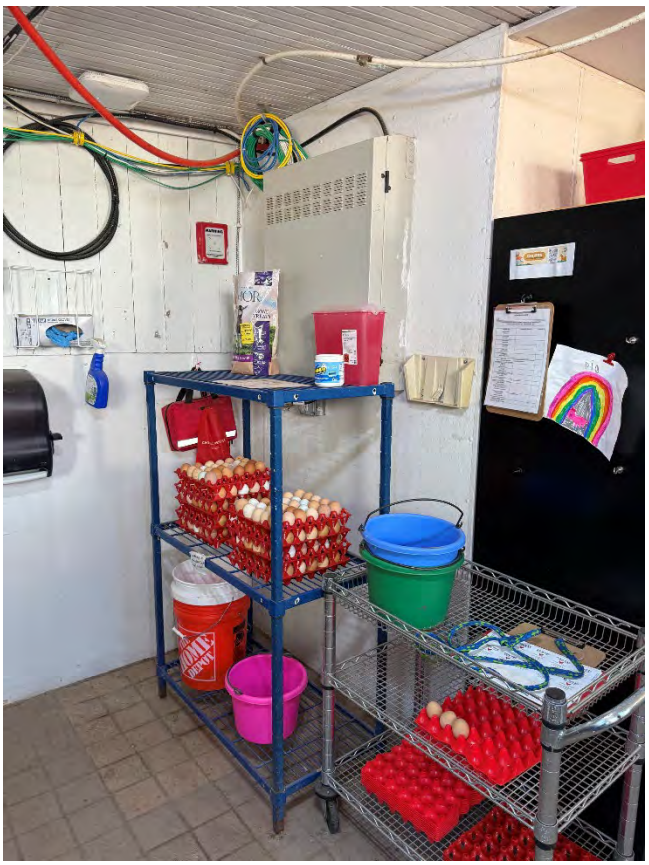
Farming of post and ceiling in storage rooms



#21
Lower-level ADA access



#22
Kitchen health department requirements





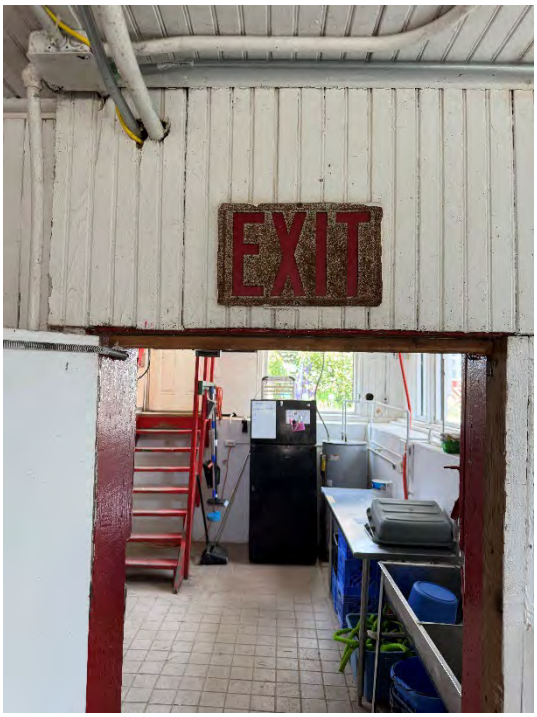
ITEM NO. 1BUS



ITEM NO. 2BUS

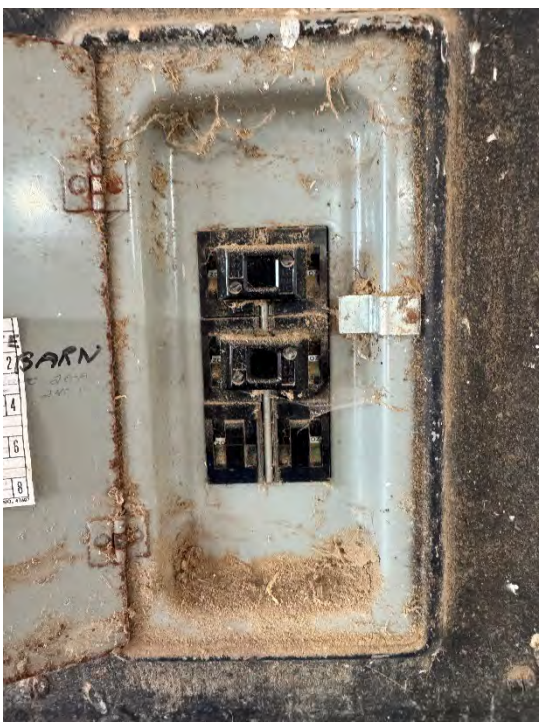


ITEM NO. 3BUS



ITEM NO. 1BUS





ITEM NO. 4BUS



ITEM NO. 6BUS





ITEM NO. 14BUS

TOILET ROOMS BARN



BUILDING DATA

- Unknown original building construction
- 572 total approximate square feet
  Second floor attic / storage / mechanical loft space
- Use Group ‘U’ Utility – Barns
- Construction type is 5-B combustible materials.
- Post-framed “pole barn” building type (possibly a prefabricated “shed” structure)

EXECUTIVE SUMMARY

The existing building appears to be a “shed” type of building that has been converted into the use of toilet rooms to service the various areas of the outdoor barns and park.

The use of this toilet building does not meet ADA barrier free requirements there forth are not to code or law for compliance. The health department requirements for septic and water of this building should be verified for approval as temporary use.

Maintenance has been deferred and damaged areas of the building appear to have been left damaged without necessary repairs as needed during the past several years or more. This structure and function have passed its useable life cycle by more than 10 – 15 years and should be consider for removal and replacement all together.

The bathrooms and barn building consist of one gas fired furnace, one roof mounted exhaust fan, one water heater, water closets, urinals, lavatories and floor drains. The existing gas service enters the back of the building. No fire protection system exists in the building.

The panel that feeds this facility should be replaced. The toilet room receptacles should be replaced with GFI type. The building has no exterior lighting on three sides of the building. The interior lighting needs to be replaced with LEDs with more lumens. Emergency egress lighting should be installed in each toilet.

An improved toilet room facility that increases the number of fixtures for Men’s and Women’s should be consider. The new restrooms can be designed with universal design and full accessibility for all public users.

IMMEDIATE ACTION ITEMS

1. There are no immediate architectural or structural action items recommended for this building as it should be considered for immediate removal and replacement to build larger ADA barrier free universal design restrooms.
2. The electrical panel, lighting and egress exits should be repaired or replaced immediately for safety reasons.

MECHANICAL, PLUMBING and FIRE PROTECTION NOTES

Mechanical

The bathrooms in the barn are divided up into one men's bathroom and one women's bathroom. The heating system serving the bathrooms consists of one ducted gas fired furnace located in the attic. The furnace provides heat for the bathrooms to allow for year-round use of the toilets. Ducted outdoor ventilation air passes through the furnace and is distributed to the bathrooms through a supply air ductwork distribution system.

The men's and women's toilet rooms also consist of one roof mounted exhaust fan. The exhaust fan, however, does not appear to be operational.

The overall mechanical system is recommended to be reviewed and re-engineered accordingly to comply with current typical industry design standards and codes for toilet rooms in the event of any significant upgrades to the toilet rooms.

Plumbing

Domestic cold water enters the bathrooms and barn building in an unknown location. The domestic cold-water service serves one water heater and plumbing fixtures in the building. The domestic cold-water system does not include a code required backflow preventer. Backflow preventers ensure that water flows only in one direction and prevents contaminated water from reversing flow and polluting clean, potable water supply in both the building and public water system.

The domestic cold water is distributed to plumbing fixtures located in men's and women's bathrooms consisting of manually operated water closets, urinals and lavatories. All plumbing fixtures appear to be in good working condition. The domestic cold water is also distributed to one shelf mounted electric water heater located in the boy's bathroom. Domestic hot water is distributed to lavatories in the men's and women's bathrooms. The lavatories do not consist of code required tempering valves. Tempering valves ensure that tempered water is delivered to the faucets to prevent potential scalding from hot water.

Floor drains exist in the men's and women's bathrooms.

The furnace utilizes natural gas as its fuel source. The existing gas service enters the building, is routed up to the attic and connects to the furnace. No gas meter is located in the bathrooms and barn building.

The overall plumbing system is recommended to be reviewed and re-engineered accordingly to comply with current typical industry design standards and codes for bathrooms in the event of any significant upgrades to the bathrooms.

Fire Protection

The bathrooms and barn building does not consist of a fire protection system.

ELECTRICAL NOTES

Power

The Barn toilet's panel is from the Cottage panel with 60Amps. The panel is very badly corroded and should be replaced. A main breaker should be included in the new panel.

The panel schedule was not complete. Loads should be traced and the panel schedule updated. Arc flash labels need to be installed on the panel. There was no evidence of a ground rod, bonding, or any tie to the building water pipe.

The existing receptacles in the toilet rooms are not GFI type and should be replaced.

The Silo was adjacent to the Barn toilets, and it was noted that an extension corn was tied to the stringer lights and one of the sockets had no bulb in it next to the Silo's ladder. A GFI receptacle should be added towards the top of the Silo for the stringer lights. A bulb or a cap should be installed in the empty socket.

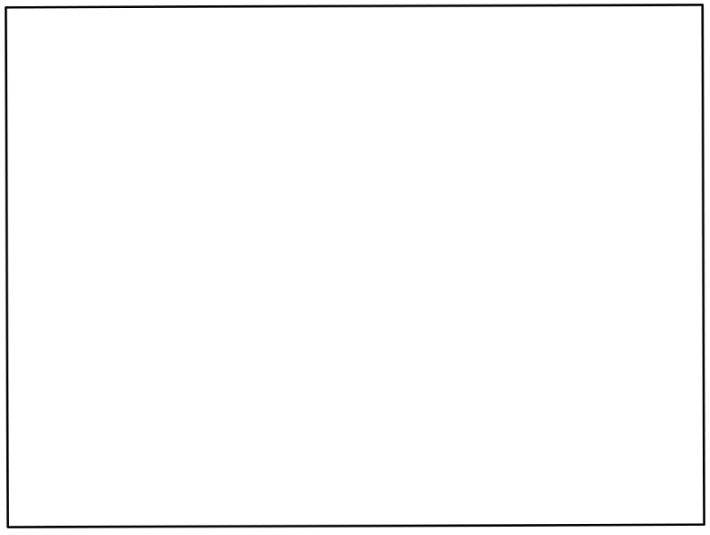
Lighting

The exterior of the building lacked any exterior lighting on three sides of the building. The only exterior light was the alcove entrance area of the toilets. It is recommended to install exterior lights for security purposes.

Proper egress lighting (EBUs) should be installed in the toilet rooms.

Auxiliary systems

There was no fire alarm system in the building.



BOWERS SCHOOL FARM
TOILET ROOMS BARN

FLOOR PLAN

OCPR - BOWERS SCHOOL FARM - TOILET RESTROOMS BARN (FCA) FACILITY CONDITION ASSESSMENT

ARCHITECTRUAL

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	QUANTITY	BUDGET ESTIMATE
1	1, 2, 3	required deferred maintenance to replaced exterior wood siding and trim that has rotted and to scrape and repaint the exterior of the building around all 4 elevations	1	C	remove and replace damaged wood and repaint structure	multiple locations	$18,000
2	4, 5	miscellaneous holes and missing pieces of exterior siding along the west elevation, there are signs of animals and birds getting access into the building spaces	1	C	patch and repair all openings, gaps and holes	multiple locations	$4,000
3	6	asphalt roofing shingles are showing starting signs of "curling" at some edges and corners	3	C	remove and replaced shingle roof with new asphalt shingles per code	1 location	$12,000
4	7	exposed foundation / concrete slab is starting to be washed away at Northwest corner	1	C	provide soil erosion control and additional landscaping / retaining wall , provide flowable fill under footing to support existing concrete slab and foundation	1 location	$7,500
5	8, 9	toilet rooms are not ADA barrier free. (entry doors and sidewalk approach does not have clear space, the concrete slab of the sidewalk to the gravel path is not accessible, the door threshold from exterior to interior is not accessible)	1	B	remove and replace exterior sidewalks, removed exterior window walls and replaced threshold at doors	2 locations	$25,000
6	10, 11, 12, 13, 14	toilet rooms interiors are not ADA barrier free. (the sink is not accessible, the larger toilet stalls are only 43" wide, there is no clear space turning radius in the open floor areas)	1	B	Creatre single occupancy "unisex" toilet rooms that meet current ADA barrier free design. (concern with reducing the number of fixtures that maybe required to accommodate the occupancy and activities of the facility it servers)	2 locations	$100,000
7		No exit signs and EBU located in the toilet rooms	1	A	Provide new exit signs and and lighting per code	1 location	$3,000
8	15	No drinking fountain is located near or around the restrooms	1	A	Provide drinking fountain per code	1 location	$3,500
9	16	water damage at ceiling	2	C	Repair and replace and refinish to match existing	men's room	$3,000
10	17	water damage at wood trim / base board	2	C	Repair and replace and refinish to match existing	women's room	$4,000
11	18	FRP wall panels are damaged , possibly from water	2	C	repair and replace and refinish to match existing	men's room	$7,500

OCPR - BOWERS SCHOOL FARM - TOILET RESTROOMS BARN (FCA) FACILITY CONDITION ASSESSMENT

ARCHITECTRUAL

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	QUANTITY	BUDGET ESTIMATE
							$187,500.00

BOWER FARMS BATHROOMS BARN FACILITY CONDITION ASSESSMENT (FCA) REPORT

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	COST
1BB	YES	GAS FIRED FURNACE APPEARS TO BE IN FAIR CONDITION.	3	B, C	FURNACE PROVIDES HEAT FOR YEAR ROUND USE OF THE BATHROOMS. TYPICAL LIFE EXPECTANCY OF A FURNACE IS APPROXIMATELY FIFTEEN YEARS. EXTENT OF CODE REQUIRED OUTDOOR VENTILATION AIR AND HEATING AND COOLING WILL BE DEPENDENT ON PROGRAMMING OF THE SPACE.	$10,000
2BB	YES	OPERATIONAL STATUS OF ROOF MOUNTED EXHAUST FAN UNKNOWN.	1	B, C	CODE REQUIREMENT FOR BATHROOM EXHAUST INCLUDES CONTINUOUS OPERATION DURING OCCUPIED TIMES AT A GIVEN AIRFLOW RATE. OPERATIONAL STATUS AND AIRFLOW RATE UNKNOWN AT THIS TIME. MAKEUP AIR EITHER THROUGH LOUVERS OR MECHANICAL MEANS REQUIRED DURING OPERATION OF EXHAUST FAN. NEITHER FORM OF MAKEUP AIR DOES NOT APPEAR TO EXIST. EXTENT OF CODE REQUIRED EXHAUST AND MAKEUP AIR WILL BE DEPENDENT ON PROGRAMMING OF THE SPACE.	$7,500
3BB	YES	EXISTING ELECTRIC WATER HEATER SERVES TWO BATHROOMS AND APPEARS TO BE IN FAIR CONDITION.	3	B, C	REPLACE EXISTING WATER HEATER WITH NEW WATER HEATER. WATER HEATER SIZE WILL BE DEPENDENT ON PROGRAMMING OF THE SPACE.	$6,500
4BB, 5BB, 6BB	YES	PLUMBING FIXTURES APPEAR TO BE IN GOOD CONDITION IN MENS AND WOMENS BATHROOMS. CODE REQUIRED TEMPERING VALVES NOT INSTALLED AT LAVATORIES.	3	B, C	REPLACE WITH NEW LOW FLOW FIXTURES IN MENS AND WOMENS TOILET ROOMS. EXTENT OF NUMBER OF FIXTURES WILL BE DEPENDENT ON PROGRAMMING. PROVIDE CODE REQUIRED TEMPERING VALVES.	$20,000
7BB	NO	LOCATION OF INCOMING DOMESTIC COLD WATER UNKNOWN. CODE REQUIRED BACKFLOW PREVENTER NOT INSTALLED ON INCOMING DOMESTIC COLD WATER SERVICE.	1	B	ADD NEW BACKFLOR PREVENTER.	$8,000
					TOTAL MECHANICAL COST	**$52,000**

1	Critical condition that poses an immediate threat to the health, safety and welfare of user
2	Address within next year
3	Address witin 2 - 5 years
4	Address within 6 - 10 years
5	Does not meet current code(s) but grandfathered

BOWER FARMS BATHROOMS BARN FACILITY CONDITION ASSESSMENT (FCA) REPORT

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	COST
1BB	YES	THE EXTERIOR TOILET ROOM PANEL IS IN POOR CONDITION AND SHOULD BE REPLACED. IT IS RUSTED AND THE BREAKERS LOOK LIKE THEY HAVE BEEN EXPOSED TO MOISTURE. THE PANEL DOES NOT HAVE A MAIN BREAKER/ DISCONNECT. THERE IS ALSO NO EVIDENCE THE PANEL HAS BEEN PROPERLY EARTHED.	2	B	REPLACE THE EXISTING 8 CIRCUIT PANEL WITH A NEW RECESSED PANEL WITH A MAIN CIRCUIT BREAKER. PROVIDE A GROUND ROD.	$7,000
2BB	NO	BOTH TOILET ROOMS DO NOT GFI RECEPTACLES	1	A,B	REPLACE THE RECEPTACLES WITH GFI RECEPTACLES	$1,600
3BB	NO	THERE WAS NO EMERGENCY LIGHTING IN EITHER TOILET ROOM	1	A,B	PROVIDE ZERO TEMPERATURE EBUS IN BOTH TOILETS	$4,000
4BB	NO	THERE ARE NO LIGHTS ON THE EXTERIOR OF THE BUILDING, EXCEPT AT THE ENTRANCE ALCOVE	2	A	ADD LIGHTING ON ALL 4 SIDES OF THE BUILDING FOR SECURITY	$2,000
5BB	YES	THE SILO: THE STRING LIGHTS FED FROM THE SILO ARE FED WITH AN EXTENSION CORD AND ONE OF THE SOCKETS HAD NO BULB-EXPOSING TO VOLTAGE	1	A,B	PROVIDE A NEW WP/GFI RECEPTACLE WITH AN IN USE WP COVER AT THE TOP OF THE SILO LADDER. PROVIDE A LIGHT FOR THE OPEN SOCKET	$1,500
6BB	NO	PANEL DOES NOT HAVE ARC FLASH WARNING LABELS	2	B	ALL PANELS PER NEC/OSHA SHOULD HAVE ARC FLASH WARNING LABELS.	TBD
7BB	NO	PANEL SCHEDULE ARE NOT UP TO DATE	2	B	BRANCH CIRCUITS SHOULD BE TRACED AND LOADS IDENTIFIED ON UPDATED TYPEWRITTEN SCHEDULES. THIS IS A NEC REQUIREMENT.	$5,000
8BB	NO	PANEL HAS NOT BEEN THERMAL SCANNED	2	B	NFPA 70B REQUIRES ELECTRICAL EQUIPMENT MAINTENANCE. A KEY PART TO THAT IS YEARLY THERMAL SCANNING	TBD
					TOTAL ELECTRICAL COST	**$21,100**

1	Critical condition that poses an immediate threat to the health, safety and welfare of user
2	Address within next year
3	Address witin 2 - 5 years
4	Address within 6 - 10 years
5	Does not meet current code(s) but grandfathered

#1
Exterior rotted wood and new painting



#2
Exterior rotted wood and new painting



#3
Exterior rotted wood and new painting



#4
Holes in board & batten / siding plywood walls



#5

Holes in board & batten / siding plywood walls



#6

Asphalt roof shingle replacement



#7

Undermining existing foundations, concrete slab and landscaping



#8

ADA approach and access to toilet room doors



#9
ADA approach and access to toilet room doors



#10
Interior ADA clearance



#11
Interior ADA clearance



#12
Interior ADA clearance



#13
Interior ADA clearance



#14
Interior ADA Clearance



#15
Missing drinking fountain



#16
Water damage at ceiling board



#17

Water damage to wood base board



#18

Water damaged / missing FRP wall siding board





ITEM NO. 1BB



ITEM NO. 2BB



ITEM NO. 3BB



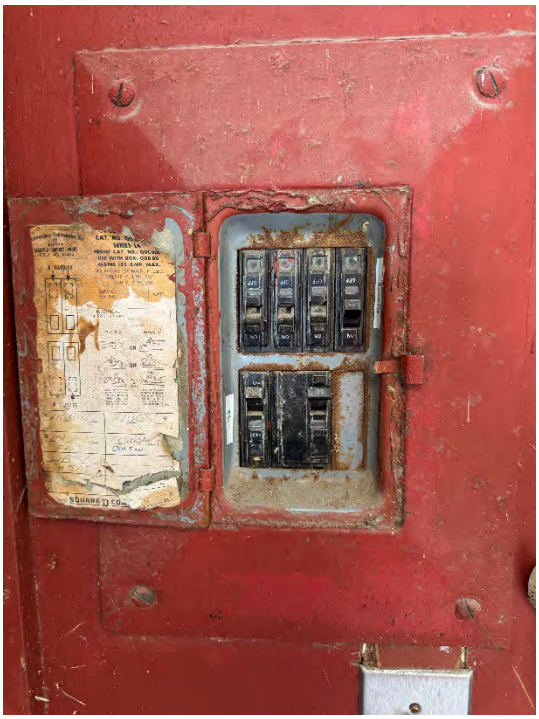
ITEM NO. 4BB



ITEM NO. 5BB



ITEM NO. 6BB



ITEM NO. 1BB



ITEM NO. 5BB

COTTAGE BUILDING



BUILDING DATA

- Unknown original building construction
- 932 total approximate square feet
  Possible cellar basement
  Under the North end room addition = t.b.d. sqft
- Use Group ‘B’ Office (small conference room with less than 50 occupants)
- Construction type is 5-B combustible materials.
- Stick / balloon framed building on stone and cement foundation / cellar.

EXECUTIVE SUMMARY

The existing cottage building has potential to be used a small group meeting center and conference rooms, although currently the building would not be considered occupiable for public use without complete renovations and updating.

There is a great deal of water damage on the exterior and interior of the building, which has been deferred maintenance and currently is in immediate need of repair and protection. The North addition of the building may be to the point beyond repair true to the eater damage, sloping interior floor, sloped roof decking and foundation exposure and damage.

The exterior doors and windows are to be replaced and updated to provide weather tight building envelope.

The building also is not ADA accessible and before use would by public would need to have entrance doors, flooring and toilet rooms upgraded for accessible accommodation.

The interior plumbing, lighting and mechanical systems are in need for removal and replacement.

The mechanical and plumbing systems in the cottage appear to be either in poor condition or abandoned. One original toilet room is not functional and appears to have been converted into a storage room and cat litter room. One wall mounted wall heater does not appear to be operational. One domestic water heater has likely been abandoned since there are no plumbing fixtures in the building requiring domestic hot water. One wall mounted air conditioning unit does not appear to be operational. The domestic cold-water service enters the building in a closet and appears to serve only one outdoor spigot. No fire protection system exists in the building.

This facility needs a lot of work on all of electrical systems. The main panel is relatively new and is in good shape. The electrical wiring in the building should all be replaced, along with replacing the receptacles with tamper proof receptacles The interior lighting needs to be replace with appropriate lighting. Emergency egress lighting should be installed.

The building depending on future programming has great potential, near complete historical renovation would be recommended to make the building safe for occupants and public use.

IMMEDIATE ACTION ITEMS

1. Repair the structural elements such as floors, roof deck, foundation walls.
2. Repair the leaking and water damage on interior and exterior of the building.
3. Update the MEP services and equipment in the building for commercial use and compliance.
4. Provide code compliance with life safety elements with lighting, exits and power throughout the structures.
5. Provide ADA access and functionality.
6. Plumbing replacement of everything

MECHANICAL, PLUMBING and FIRE PROTECTION NOTES

Mechanical

The cottage does not appear to consist of any mechanical heating, cooling and code required ventilating systems. Any heating, ventilating and air conditioning upgrades which may be considered in the future will likely not be efficient due to the age and construction of the building. Properly sealed buildings and proper wall and roof design and construction are critical for preventing outdoor air infiltration and indoor air exfiltration and maintaining acceptable indoor environmental control. The type of heating, ventilating and air conditioning system best suited for the building would be analyzed and determined in the future based on programming of the building.

Plumbing

The domestic cold-water service enters the building in a closet. The domestic cold-water system does not include a code required backflow preventer. Backflow preventers ensure that water flows only in one direction and prevents contaminated water from reversing flow and polluting clean, potable water supply in both the building and public water system.

Domestic cold water is distributed to one exterior spigot and one water heater which appears to be abandoned. Plumbing fixtures located in the toilet room have either been removed or are abandoned.

Fire Protection

The cottage does not consist of a fire protection system.

ELECTRICAL NOTES

Power

The building is fed from the wireway on the side of the cottage. This panel has a main breaker.

The panel schedules were not complete. Loads should be traced and the panel schedule updated. Arc flash labels need to be installed on the panel. There was no evidence of a ground rod, bonding, or any tie to the building water pipe.

The existing receptacles appear to be in poor shape and should be replaced with tamper proof receptacles since the Cottage is used as a classroom with children.

The back-room area in the cottage needs to have all of the electricity replaced due to possible water damage to wiring and devices.

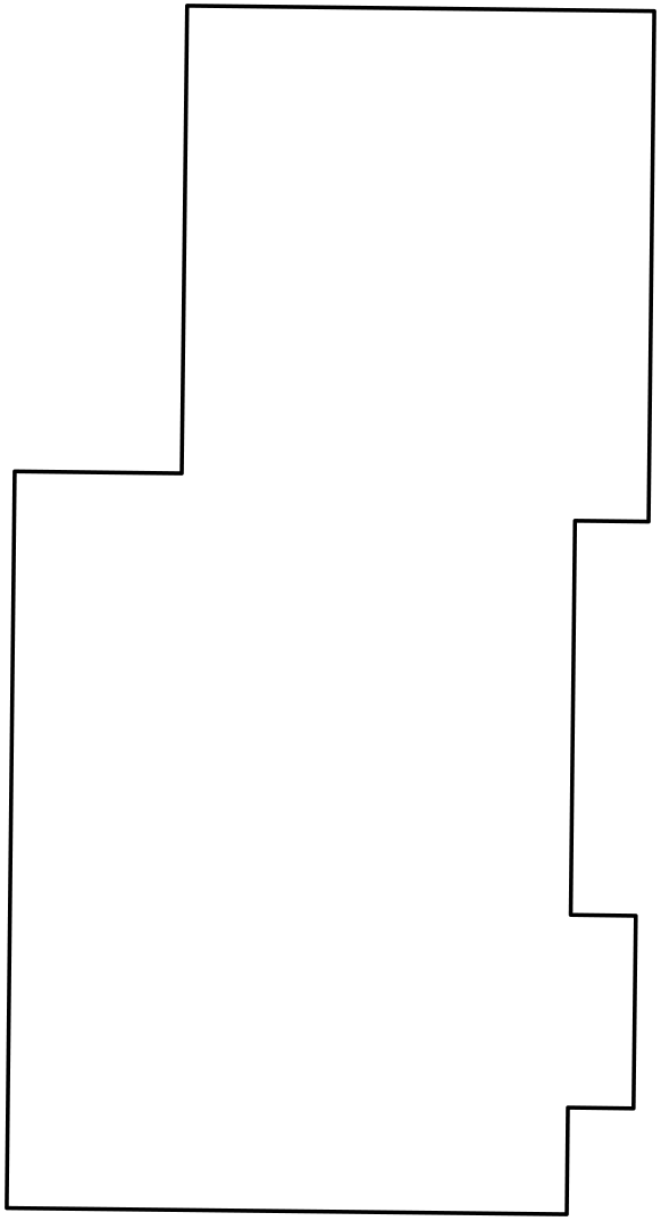
Lighting

The exterior of the building lacked any exterior lighting on three sides of the building. The only exterior light was near the main door. It is recommended to install exterior lights for security purposes.

Proper egress lighting (EBUs and exit signs) should be installed because of its classroom use with children.

Auxiliary systems

There was no fire alarm system in the building.



BOWERS SCHOOL FARM
COTTAGE BUILDING

FLOOR PLAN

OCPR - BOWERS SCHOOL FARM - COTTAGE BUILDING (FCA) FACILITY CONDITION ASSESSMENT

ARCHITECTRUAL

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	QUANTITY	BUDGET ESTIMATE
1	1, 2	both main entrance doors from the East elevation are not ADA accessible., clear space is not provided and threshold is too tall for access	2	A / B / D	provide new door entrance slabs and sidewalk and replace existing thresholds for ADA access	2 locations	$8,000
2	3, 4, 5	exterior wood trim and siding need to be repainted and repaired where damaged or rotted	2	C	exterior siding and trim has been deferred maintenance and needs to provide general painting, caulking and replacement where required.	full building	$20,000
3	6, 7	masonry brick near grade is damaged , broken and missing in many locations around the perimeter of the building exterior walls (brick appears to be "reclaimed" brick that is high in maintenance)	2	B / C	tuck pointing and masonry repairs required, repainting of exterior building walls	full building	$20,000
4	8	exterior chimney brick work and flashing needs general maintenance and repair (brick appears to be "reclaimed" brick that is high in maintenance)	2	B / C	provide new flashing, caps and caulking along with tuck pointing and masonry repairs required of exterior building walls	1 location	$7,500
5	9, 10	Mixture of existing window conditions, (original wood windows that need repair and painting and replacement steel windows that are outdated) glass is broken in many locations and non insulated	2	C	Provide all new window replacement around full building at all rooms	full building	$50,000
6	11	Sloped roofing on the West elevation has a "wave" in the shingles indicating some type of decking is starting to fail or settling between the main building and North addition	1	C	Additional structural investigation required, possible shoring and re-roofing may be needed	1 location	T.B.D.
7	12	Addition wall at North side where A/C/ located is rotted and failing from water damage, tree over growth	1	C	Remove and replace exterior wall siding from external and internal water damage	1 location	$20,000
8	13	Exposed CMU foundation wall around North and West lower elevation , has water damage, missing block and soils wash away	1	C	Repair CMU foundation wall and provide water proofing	1 location	$15,000
9	14, 15, 16, 17, 18	interior water damage in multiple areas , generally under the exterior windows and in the north building addition north and west exterior walls	1	A / B / C	Importance to water tight the building and remove and replace all interior damaged wall and finish construction, including framing, insulation and gypsum wall board.	multiple Location	$30,000
10	19	holes in the ceiling board to the attic, possible entry point for critters	1	A / C	patch, remove and replace damaged ceiling and attic insulation	multiple locations	$10,000
11	20	exposed cut wires and piping	1	A / B / C	patch, repair and properly disconnect unused MEP services	multiple locations	$6,000

OCPR - BOWERS SCHOOL FARM - COTTAGE BUILDING (FCA) FACILITY CONDITION ASSESSMENT

ARCHITECTRUAL

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	QUANTITY	BUDGET ESTIMATE
12	21	the north building addition floor feels and appears to be "sloping" possible framing damaged / failed / rotted or not properly supported framing below	1	A / C	re frame and repost existing floor framing , supports as required for code compliant support and occupancy	1 room	$20,000
13	22, 23, 24	Existing water heater and electrical panel closets are small and appears the MEP equipment is not installed completely to code for a public occupied building / space	1	A / C	Replace electrical service and water heater equipment in larger space and maintenance room	multiple locations	$8,000
14	25, 26	Non ADA barrier free access toilet room space	1	B /C	this is an old residential bathroom, that has been disconnect off line and used for an animal room, should be removed completely and made into unisex ADA toilet room	1 locations	$75,000
							$289,500.00

BOWER FARMS COTTAGE FACILITY CONDITION ASSESSMENT (FCA) REPORT

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	COST
1C, 2C	YES	NO HEATING, VENTILATING AND AIR CONDITIONING SYSTEM IN THE BUILDING. ONE WALL MOUNTED AC UNIT AND ONE WALL MOUNTED ELECTRIC HEATER DO NOT APPEAR TO BE OPERATIONAL.	1	B, C	CODE REQUIRED OUTDOOR VENTILATION AIR SHOULD BE PROVIDED FOR THE BUILDING. EXTENT OF OUTDOOR VENTILATION, HEATING AND COOLING WILL BE DEPENDENT ON PROGRAMMING OF THE SPACE.	$35,000
3C, 4C, 5C	YES	EXISTING TOILET ROOM IS NON FUNCTIONAL.	1	B, C	TOILET ROOM REQUIREMENTS WILL BE DEPENDENT ON PROGRAMMING OF THE SPACE.	$20,000
6C	YES	CODE REQUIRED BACKFLOW PREVENTER NOT INSTALLED ON INCOMING DOMESTIC COLD WATER SERVICE.	1	B	ADD NEW BACKFLOW PREVENTER.	$8,000
7C	YES	EXISTING WATER HEATER.	NA	NA	WATER HEATER CURRENTLY NOT REQUIRED SINCE NO PLUMBING FIXTURES EXIST WHICH REQUIRE DOMESTIC HOT WATER. EXTENT OF WATER HEATER WILL BE DEPENDENT ON PROGRAMMING OF THE SPACE.	$6,500
					TOTAL MECHANICAL COST	**$69,500**

1	Critical condition that poses an immediate threat to the health, safety and welfare of user
2	Address within next year
3	Address witin 2 - 5 years
4	Address within 6 - 10 years
5	Does not meet current code(s) but grandfathered

BOWER FARMS COTTAGE FACILITY CONDITION ASSESSMENT (FCA) REPORT

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	COST
1C	YES	POSSIBLE LIVE WIRE EXPOSED NEAR THE EXISTING PANEL	1	A,B	HAVE AN ELECTRICIAN TEST THE WIRE AND REMOVE FROM ORIGIN	$2,500
2C	YES	UNKNOWN EDISON BOX WITH COVER OFF, LOCATED NEXT TO THE PANEL, NEEDS TO BE INVESTIGATED AND POSSIBLY REMOVED. BOX MAY STILL HAVE LIVE WIRING	1	A,B	HAVE AN ELECTRICIAN TEST THE WIRE AND REMOVE FROM ORIGIN. REMOVE EDISION BOX IF NO LONGER USED.	$2,500
3C	NO	NO TAMPER PROOF RECEPTACLES IN THE CLASSROOM SPACE	1	A,B	RECEPTACLES SHOULD BE REPLACED WITH TAMPER PROOF RECEPTACLES IN THE CLASSROOM SPACE	$1,500
4C	YES	WIRING IN THE BACK SPACE HAS BEEN EXPOSED TO WATER AND APPEARS WATER DAMAGED.	2	B	ON SITE ELECTRICIAN NOTED THAT WIRING WAS DEAD, BUT ALL THE WIRING, WIREMOLD SHOULD BE REMOVED. WHEN SPACE IS RENOVATED, NEW BRANCH CIRCUITS SHOULD BE RAN IN THE WALLS. COST FOR REMOVAL ONLY	$6,000
5C	NO	PANELS DO NOT HAVE ARC FLASH WARNING LABELS	2	B	ALL PANELS PER NEC/OSHA SHOULD HAVE ARC FLASH WARNING LABELS.	TBD
6C	NO	PANEL SCHEDULES ARE NOT UP TO DATE	2	B	BRANCH CIRCUITS SHOULD BE TRACED AND LOADS IDENTIFIED ON UPDATED TYPEWRITTEN SCHEDULES. THIS IS A NEC REQUIREMENT.	$5,000
7C	NO	PANELS HAVE NOT BEEN THERMAL SCANNED	2	B	NFPA 70B REQUIRES ELECTRICAL EQUIPMENT MAINTENANCE. A KEY PART TO THAT IS YEARLY THERMAL SCANNING	TBD
8C	NO	NO EXTERIOR LIGHTING ON THREE SIDES OF THE BUILDING. ONLY LIGHT IS AT MAIN EXTERIOR DOOR.	3	A	PROVIDE EXTERIOR LIGHT FIXTURES ON ALL SIDES OF THE BUILDING FOR SECURITY. ESTIMATING 4 LIGHT FIXTURES	$4,500
					TOTAL ELECTRICAL COST	**$22,000**

1	Critical condition that poses an immediate threat to the health, safety and welfare of user
2	Address within next year
3	Address witin 2 - 5 years
4	Address within 6 - 10 years
5	Does not meet current code(s) but grandfathered

#1

Entrance door is non ADA accessible



#2

Entrance door is non ADA accessible



#3

General painting, caulking and replacement of wood siding and trim



#4

General painting, caulking and replacement of wood siding and trim



#5

General painting, caulking and replacement of wood siding and trim



#6

Tuck pointing, repair and painting of exterior brick veneer



#7

Tuck pointing, repair and painting of exterior brick veneer



#8

Chimney flashing, tuck pointing and repair of brick veneer



#9
Window replacement



#10
Window replacement



#11
Wave in sloped roof decking / support framing



#12
Exterior siding water damage and rotted wall



#13
Exterior foundation wall tuck pointing and repair



#14
Interior water wall and ceiling damage



#15
Interior water wall and ceiling damage



#16
Interior water wall and ceiling damage



#17
Interior water wall and ceiling damage



#18
Interior water wall and ceiling damage



#19
Holes in ceiling / attic



#20
Exposed cut wires and piping



#21
North addition sloped floor / structural support framing



#22
Non-compliant electrical and mechanical equipment spaces



#23

Non-compliant electrical and mechanical equipment spaces



#24

Non-compliant electrical and mechanical equipment spaces



#25
Non-ADA accessible toilet room



#26
Non-ADA accessible toilet room





ITEM NO. 1C



ITEM NO. 2C



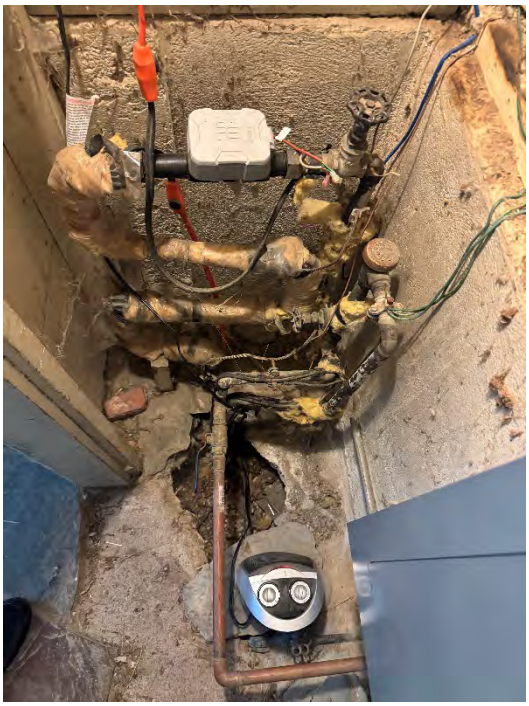
ITEM NO. 3C



ITEM NO. 4C



ITEM NO. 5C



ITEM NO. 6C



ITEM NO. 7C



ITEM NO. 1C



ITEM NO. 2C



ITEM NO. 4C

UNDERGROUND SHELTER STORAGE BUILDING



BUILDING DATA

- 1926 or older
- 1,036 total approximate square feet
- Use Group ‘S-2’ Low Hazard Storage
- Construction type is 2-B non-combustible materials
- Historical building poured in placed and stone cement concrete floors, walls and ceiling

EXECUTIVE SUMMARY

The building structure appears to be in solid condition as its build from poured in place concrete walls, ceiling and columns.

The water tightness of the structure is of concern as it appears the roof vents are leaking and allowing water to come inside and damage the stored materials and equipment.

Being used for an storage / maintenance building this structure is in acceptable condition. Electrical lighting and existing should be upgraded along with ventilation. The doors should be secured and tight to keep critters out. The entry foundation walls need to be secured.

The underground shelter storage area is limited to only two gravity relief vents located on the roof.

No plumbing or fire protection systems exist in the underground shelter storage area.

The electrical system in this building has only one or two circuits with newer non-corroded conduit. There are lights on the ceiling with LEDs lamps. There were two receptacles at the front, with one having an extension cord running outside and into the garden area dirt.

The main incoming service comes from a utility pole transformer (120/240V single phase) near the road. This feeds most of the buildings except the Learning Center.

IMMEDIATE ACTION ITEMS

1. Replace the entry doors that are rotting
2. Replace the ventilation stacks with tight weather fixtures
3. Provide secure storage of flammable materials
4. Provide improved lighting and existing signage.

MECHANICAL, PLUMBING and FIRE PROTECTION NOTES

Mechanical

The underground shelter storage area is limited to only two gravity relief vents located in the roof. The gravity relief vents simply provide air movement by natural means within the underground shelter.

Plumbing

The underground shelter storage area does not consist of any plumbing systems.

Fire Protection

The underground shelter storage area does not consist of any fire protection systems.

ELECTRICAL NOTES

Power

The Underground Storage area is believed to be fed out of the Barton Historic house. There are one or two circuits feeding the storage area. The conduit and wiring in the storage area appear to be newer and are in good shape.

There is an extension cord that comes out of the underground storage that runs into the garden dirt. This extension cord needs to be removed and be replace with properly buried conduit and wire with weather proof GFI receptacle mounted in a cast box.

The Main incoming service is in good shape. The main service splits into two. The one side has a 400A panelboard that feeds Barton historic house, the gray house, and a couple of receptacles. The other side is a 400A fusible switch. This switch feeds the wireway on the side of the Cottage. This fusible switch does not have matching fuses, one is 300A and the other is 400A. The 300A fuse should be removed and replaced with a 400A fuse.

The 400A panel board has one 50A plug that a large extension cord running along the fence and then into the dirt over the top of the underground storage and feeds temporary event receptacle box. This 50A extension cord needs to be replaced with conduit and wire buried in the ground. The existing 50A extension cord is a big hazard due to lawn mowers and digging in the garden area.

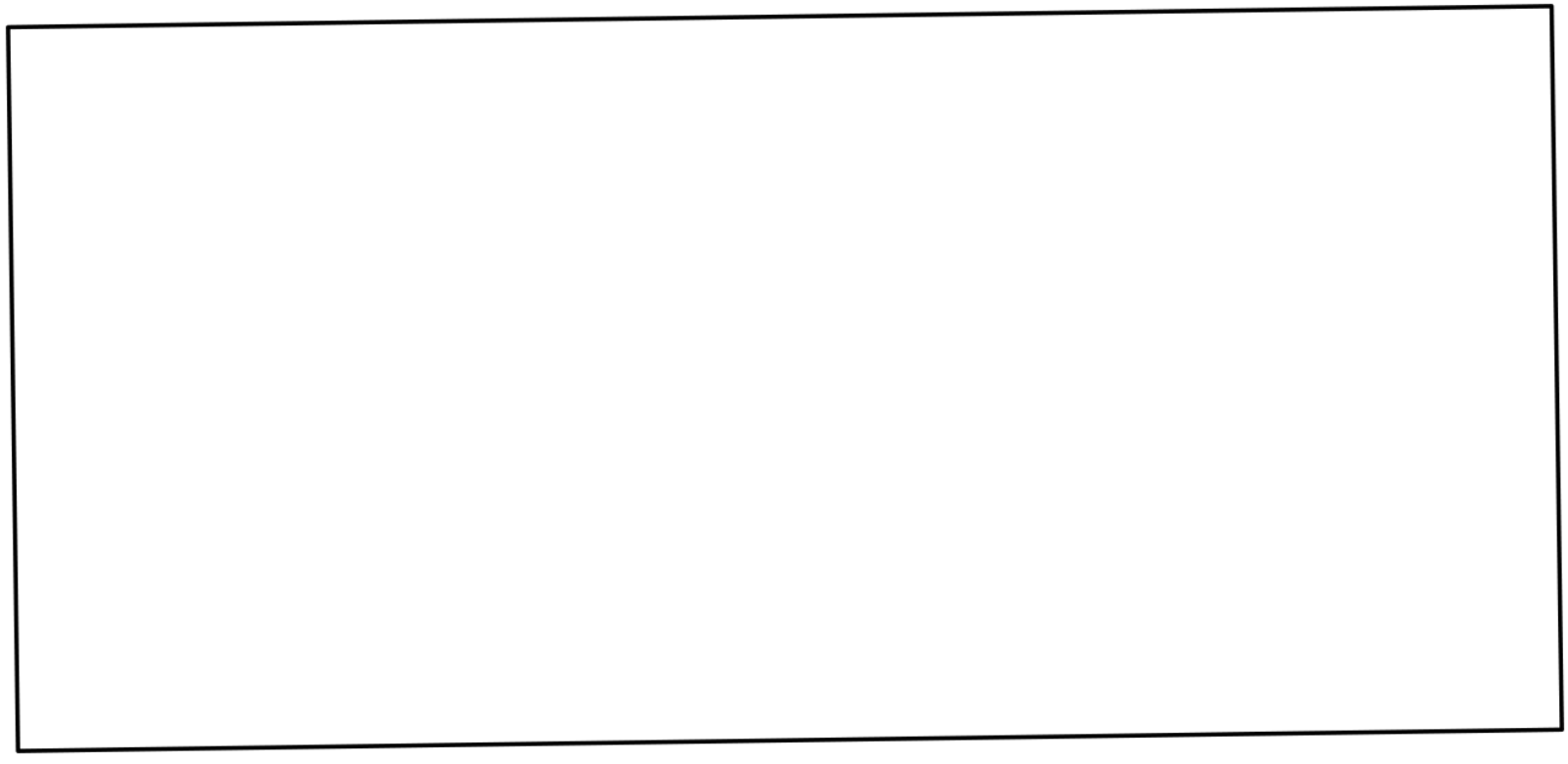
Lighting

The lighting in the building is adequate. It would be recommended to replace the existing fixtures with weather tight jelly jar fixtures with metal guard to prevent breakage.

There are no exterior lights outside the underground storage area. It is recommended to add one exterior light for security reasons.

Auxiliary systems

There was no fire alarm system in the building. It is not required by code.



BOWERS SCHOOL FARM
UNDERGROUND STORAGE BUILDING

FLOOR PLAN

OCPR - BOWERS SCHOOL FARM - UNDERGROUND SHELTER STORAGE BUILDING (FCA) FACILITY CONDITION ASSESSMENT

ARCHITECTRUAL

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	QUANTITY	BUDGET ESTIMATE
1	1, 2	the building main wood doors are rotted at the lower portion, the doors do not freely swing open easily or close securely. The frame of the doors are bent and gaps are visible	2	C	remove and replace existing service doors with new doors and frames	1 location	$10,000
2	3, 4, 5, 6	vertical air stacks through the roof are damaged, bent and do not have weather shields allowing for leaking into the building interior space	2	C	Replace these air vent stacks with new gravity fans for air ventilation, flashed and sealed for water tightness and provide weather proof hood on top of stack	2 locations	$12,000
3	7, 8	entry door wing foundation walls are damaged and need to be resecured	2	C	provide tuckpointing at the North and South wing wall, remove existing boulders at South wing wall and provide new concrete cap to match	2 locations	$8,000
4	9, 10, 11	water leakage in the building near the southwest end of the structure, likely coming from the floor slab and wall intersection and from the air vent above in this area. Floors are cracked concrete in this area	2	C	provide water tight floors and joints with sealant or concrete replacement	1 room	$20,000
5	12	Hazardous (possible flammable) materials stored out in the open	1	A / B	Supplies and materials to be safely stored in fire proof cabinets	1 location	$2,500

OCPR - BOWERS SCHOOL FARM - UNDERGROUND SHELTER STORAGE BUILDING (FCA) FACILITY CONDITION ASSESSMENT							
ARCHITECTRUAL							
ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	QUANTITY	BUDGET ESTIMATE
							$52,500.00

BOWER FARMS UNDERGROUND STORAGE AREA BUILDING FACILITY CONDITION ASSESSMENT (FCA) REPORT

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	COST
1USA	YES	TWO EXISTING GRAVITY RELIEF VENTS LOCATED ON ROOF.	2	A, B	GRAVITY RELIEF VENTS PROVIDE AIR MOVEMENT BY NATURAL MEANS WITHIN THE INDOOR PORTION OF THE UNDERGROUND STORAGE BUILDING. EXTENT OF CODE REQURIED OUTDOOR VENTILATION AIR WILL BE DEPENDENT ON PROGRAMMING OF THE SPACE.	TBD

BOWER FARMS UNDERGROUND STORAGE AREA BUILDING FACILITY CONDITION ASSESSMENT (FCA) REPORT

ITEM NO.	PHOTO NO.	DESCRIPTION	PRIORITY RANKING	WORK CATEGORY	CORRECTIVE ACTION	COST
1USA	YES	EXTENSION CORD RAN OUTSIDE FROM INTERNAL RECEPTACLE AND THEN INTO THE DIRT	1	A	PROVIDE A NEW CONDUIT RUN ON THE OUTSIDE OF THE UNDERGROUND BUILDING AND TRENCH IN TO FINAL LOCATION AND PROVIDE A DUPLEX GFI RECEPTACLE WITH WP COVER IN THE GARDEN AREA	$5,000
2USA	YES	THERE IS A 50 AMP EXTENSION CORD RAN FROM THE MAIN INCOMING PANEL. IT IS RAN PARTIALLY BURIED AND RAN FOR OVER 100 FEET TO A EVENT RECEPTACLE BOX. THIS CABLE IS LAYING IN THE GRASS AND SHALLOW IN THE GARDEN. THIS IS A SHOCK HAZARD	1	A,B	THIS CORD SHOULD BE REPLACE WITH A MORE PERMANENT SOLUTION. RUN PVC CONDUIT AND WIRE AT A PROPER DEPTH TO A NEW 50A RECEPTACLE NEAR THE EVENT RECEPTACLE BOX.	$10,000

#1

Entry service doors wood is rotted



#2

Entry service door wood frame is not secured



#3

Exterior view of damaged and leaking air vent stack



#4

Exterior view of damaged and leaking air vent stack



#5
Interior view of damaged and leaking air vent stack



#6
Interior view of damaged and leaking air vent stack



#7
North wing wall repairs



#8
South wing wall repairs



#9
Water leakage at ceiling air vent



#10
Water leakage at floor slab and wall



#11
Water leakage at floor slab and wall



#12
Storage for flammable containres





ITEM NO. 1USA

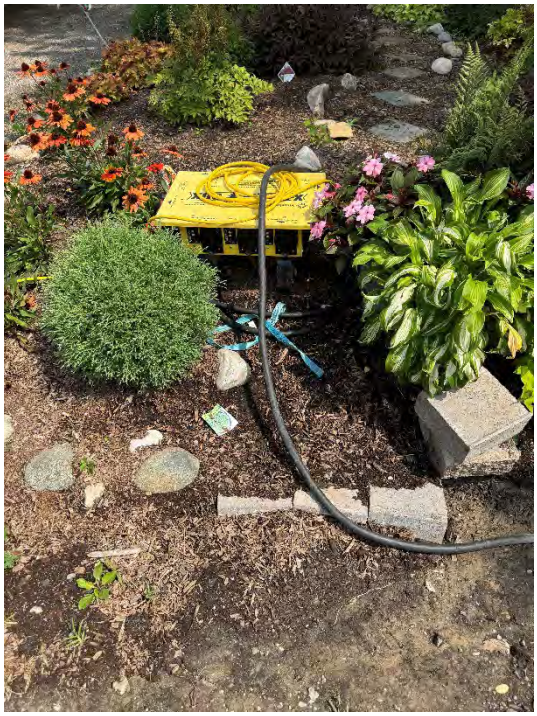




ITEM NO. 1USA

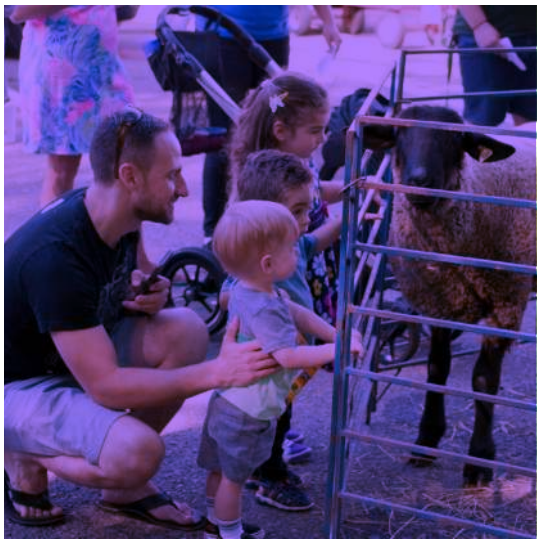






ITEM NO. 2USA

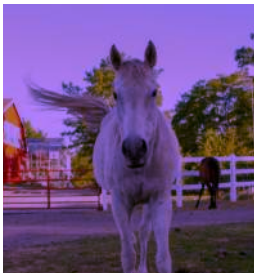
BOWERS SCHOOL FARM
BLOOMFIELD HILLS SCHOOLS















BLOOMFIELD HILLS SCHOOLS BOWERS SCHOOL FARM

Site Infrastructure Evaluation

August 30, 2024

gmb

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Executive Summary

The purposes of this study are to assess the existing infrastructure at Bloomfield Hills Schools Bowers School Farm along with associated upgrades to be made that would harmoniously be incorporated into the proposed Children's Garden and new Livestock Learning Lab. We have evaluated the information provided by the Owner during this study and have prepared the following Engineering Report and associated Appendices to describe the work that would be necessary to achieve the objectives of this study.

The growth and utilization of the Farm School for both educational and community use has grown significantly over the course of the past 15 years, resulting in the existing infrastructure being inadequate to reliably handle the demands of the facility. The Owner has discussed the inadequacies with the Township and learned that the public sanitary sewer system downstream of the site has reached capacity. Following our review of the completed Design Documentation, the Master Plan and Summary Documents that have been prepared and updated over the past several years, we have identified a phased approach to upgrade the infrastructure over time as the campus is developed.

Design drawings for the Children's Garden have been completed, as well as design studies related to the barrier free access route and the new entrance drive. We have reviewed the proposed location of the Children's Garden and have given consideration to the topographic constraints of the site. We have also assessed infrastructure upgrades that will serve future phases of work to reduce or eliminate conflicts and re-work that could otherwise be encountered as the site is built out. The Phasing of work described in the following Engineering Report identifies the Children's Garden as being the initial project based on the status of the design documents that have been prepared and the relatively small amount of infrastructure improvements required.

Our review of the Owner provided documentation affirmed the drainage related issues around the original farm buildings (The Farm) and near the Farm Activities Building (FAB). We have analyzed the sanitary sewer design documentation along with the attendance records to define conclusions related to the operational and maintenance issues with the sanitary lift station. We have also reviewed the Township plan review and entitlements procedures related to the project as well as those requirements of the other agencies having jurisdiction to conclude that the review and approval process will take upwards of 16 months from the start of the design phase. The current level of detail prepared for the Children's Garden is likely to save time on the initial phase of construction, however there are many factors affecting the construction start date that are subject to the review agencies and their interpretation of the phased approach presented in this report.

Bloomfield Hills School District has allocated approximately $3M of bond money for improvements to the Bowers Farm School. The estimate prepared in 2020 defined lump sum costs for various construction activities, however our review of this document has found that it does not define costs associated with the infrastructure improvements we have identified in this report. The Phasing recommendations provided in this report sequence the work in a way that seems logical from a construction activities perspective. Following the development of an updated budgeting by the Owner and Construction Manager, we should collectively review which improvements could be shifted to effectively utilize the available funds while continuing to meet the objectives for development of the site.

We recommend the Construction Manager provide an Opinion of Probable cost for each of the main phases of construction for further evaluation of which activities described in this report could be included in the initial phase of construction. In preparation for the initial phase of construction, the Owner should obtain soil borings, ground penetrating radar surveys of the geothermal field, drain fields and other buried cabling, as well as pipe inspections of the roof drains and floor drains in and around the Farm. Meanwhile, the Master Plan should be refined and updated to include the site and infrastructure improvements associated with each phase of work and further define the scope of construction to be performed in each phase. Understanding there is a strong desire to begin construction on the Children's Garden, the Construction Documents that the Owner has had developed should be further refined to include the additional engineering and site design components required for local permitting and submitted to the Township. In person meetings should be held with the Township to discuss phasing, logistics and permitting requirements associated with the multi-phase approach to the development of the site.

Site Infrastructure Evaluation Report

BOWERS SCHOOL FARM
1219 EAST SQUARE LAKE ROAD
BLOOMFIELD HILLS, MI 48304

Bowers School Farm is located on E. Square Lake Road, west of Adams Road in Bloomfield Hills Township, MI. The school campus consists of Bowers Academy and Visitor Center, original farm facilities as well as the historical Barton farmhouse, root cellar and log cabin. A single-family residence used as the caretakers residence (ranch style single family construction) is located west of the staff entrance and event space. The Farm Activities Building (FAB) is located at the easterly end of the site. Of note, the names used to identify each building or area of the Bowers School Farm may vary from how they are labelled in this report and how they are named in the appendices. The disparity in nomenclature is a function of the duration of the planning process as well as the array of individuals that have contributed to the documents that have been incorporated into the report.

Access to the site is provided through one of three distinct entrances from E. Square Lake Road. A gated entrance drive on E. Square Lake Road at the west end of the farm provides paved access for deliveries and barrier free access to the Farm. The majority of Visitors enter the site through Gate C and use the main gravel parking lot and walk to the building along the gravel drive separating the parking lot and building. A third entrance drive is located at the east end of the site. This gated entrance provides entry to the site for staff and deliveries to the FAB.

A topographic survey of the site is provided in *Appendix A1* and a Site Plan graphic is provided in *Appendix A2* for reference throughout the Preliminary Engineering Report. The Owner has performed an evaluation of the facilities on the site to identify areas of concern throughout the Farm and for use in prioritizing projects. A copy of the Facility Evaluation is located in *Appendix A3*.

Existing Conditions

Water Supply

The water supply to the existing educational buildings on the Farm School Campus are connected to the municipal water supply through an 8” main extension to the site from Kentmoor Road on the south side of E. Square Lake Road. A domestic water supply is connected to the 8” main. A fire hydrant is located in the circular drop-off loop. Based on our review of existing records, plans and conversations with the Owner, the public water supply has been adequate to meet the demands of the facility. The route of the water supply to the building is shown on the topographic survey (Appendix A1).

There are two wells of record on the School property. Well ID#63000067009, is a 210 foot deep well constructed in 2017, located near the existing greenhouse. Well ID#63000044480, is a 218 foot deep well, constructed in 2007, located north of the caretakers residence. Refer to Appendix B11 for the location and well logs for each of the wells on site.

Well ID##63000067009:



Well ID#63000044480:



Sanitary Sewer

There are two existing lift stations that collect and pump wastewater from the site to the public infrastructure in Square Lake Road.

- Lift Station 1 (LS#1) is located outside of the Bowers Academy, near the sidewalk adjacent to the circular drop off loop.
- Lift Station 2 (LS#2) is located near the northwest corner of the FAB. There are also undocumented onsite wastewater disposal systems on the property.

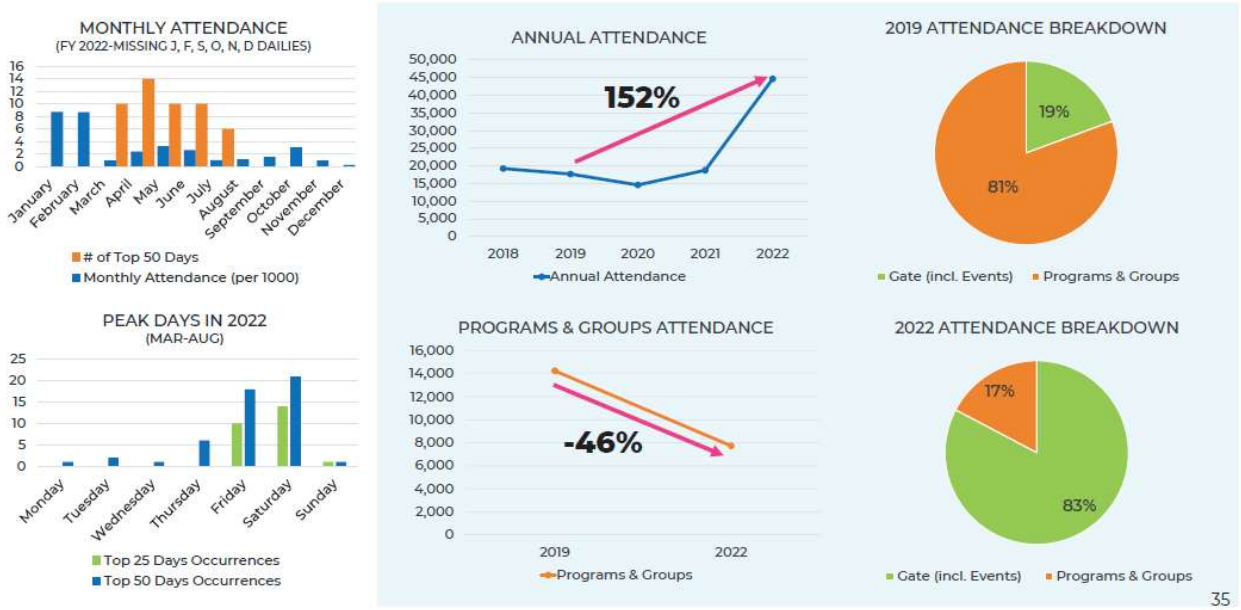
The Toilet Building, located between the Horse Barn and the Cottages is served by a drain field believed to be located north and west of the Academy.

The Caretakers Residence is also assumed to be served by a private on-site wastewater disposal system.

Refer to Appendix B6 for documentation related to the existing lift station and sanitary sewer service from the building.

The growth in attendance at the Farm has resulted in higher usage of the pumps within LS#1, leading to more frequent maintenance and increased need to replace pumps. Appendix B7 provides historical attendance and projected use of the site.

Attendance Trends:



Using the data provided, it can be estimated that the current maximum daily user population breaks down as follows:

Annual Attendance (est. based on "Attendance Trends" PDF)	
Year	**Annual**
2018	20,000
2019	18,000
2020	15,000
2021	19,000
2022	45,000

Monthly Attendance	
January	9,500
February	9,500
March	1,500
April	2,500
May	3,500
June	3,500
July	2,000
August	2,500
September	2,800
October	4,000
November	2,000
December	1,500
Total	**44,800**

Attendance Distribution Curve		
Day	**Value**	**%**
Monday	1	2.0%
Tuesday	2	3.9%
Wednesday	1	2.0%
Thursday	6	11.8%
Friday	18	35.3%
Saturday	22	**Max. @ 43.1%**
Sunday	1	2.0%
Total	**51**	**100.0%**

Estimated Max. Daily	
Weeks / Month	Saturday Peak (@ 50%)
5	950
4	1,188
4	188
5	250
4	438
4	438
5	200
4	313
4	350
5	400
4	250
4	188
Minimum	**188**
Maximum	**1,188**

What does the Lift Station Currently Experience?			
Daily Attendance:	Minimum	Maximum	
	200	1,200	visitors / day
Est. Design Flow:		15	gallons / day / visitor
	3,000	18,000	GPD
Daily Attendance Pattern:		10:00 AM - 4:00 PM	
Peak Hours		6	hours
Equivalent Design Flow:	12,000	72,000	GPD
	8.3	50.0	gpm
Peak Factor:		4	
Peak Flow:	**33.3**	**200.0**	**gpm**

With these projected current user assumptions, it could be reasoned that Lift Station #1 is beyond its capacity.

Furthermore, the Daily Attendance Patterns table shows that the Maximum Day users was 2,068. This would further strain the station's ability to maintain service.

Future State / Operations:

With continued growth anticipated and expansion at Bowers Farm, it should be anticipated that the conditions at Lift Station #1 will continue to degrade. During our review of the plans and documentation we have developed the following alternatives analysis for consideration and discussion during the design phase of the project.

Alternatives Analysis:

A. Status quo:
    - Add Equalization Tank and / or Port-a-Potties for "Peak Days" (pump & haul).
    - Master Plan for proposed grinder pumps / tanks for all future improvement projects.
B. Validate & improve existing Lift Station #1

- Validate capacity in existing 10-inch municipal gravity sewer
- Evaluate new / reconfigured pumps (this will potentially include a larger and/or deeper structure).

C. Build new Lift Station (located further west along E Square Lake Road) & Campus Gravity Sewer
   - Master Plan for new lift station that serves western / central portions of the campus
   - Master Plan for new gravity sanitary sewer that services western / central portions of campus

D. Connect to existing municipal system
   - Evaluate the potential to replace the existing 2-inch force main with gravity sewer service (connecting to 10-inch municipal sewer in Kentmoor Road.
     - Explore realignment of a portion of the 24-inch watermain in E Square Lake Road.

Refer to the Recommendations section of this report for additional information.

Geothermal System

An existing geothermal system is located north of the existing greenhouse. Our review of the record information indicates the geothermal system is potentially located within the footprint of the proposed Animal Barn. To confirm the location of the geothermal field, we recommend that the Owner or CM perform a Ground Penetrating Radar (GPR) survey of the area to define the limits of the system. The results of the GPR survey may impact the planned location of the new animal barn. Refer to Appendix B11 for a satellite image of the disturbed area taken following construction of the Geothermal Field.

Geothermal System Installation Photographs:





Stormwater Management

Runoff from the site drains in the northwesterly direction, with an ultimate discharge to the Rogue River. The farm field contains a number of retention ponds that capture and treat runoff prior to discharging excess runoff overland to the receiving waters at the west end of the site. The largest of the ponds was created by MDOT during construction of I-75 when a large portion of the property was used for construction staging and as a borrow and disposal pit.

The west end of the developed site (a.k.a. The Farm) contains a number of storm sewer inlets and pipes which are connected to four (4) holding tanks. One of the four tanks has a discharge pipe which is believed to be connected to the storm sewer system, however the point of connection is not known for certain. The other three tanks do not have a documented discharge pipe and are believed to infiltrate captured runoff back into the ground. During heavy rainfall events, the storm sewer system surcharges and floods the pavement, animal pens and occasionally inundates the floor of the animal barn. The approximate location of the Farm storm sewer system is shown in Appendix B1.

An abandoned cistern is located approximately 58’ west of the southwest corner of the Dowling House. The cistern was encountered during construction of the staff entrance, which took place in 2009 and was subsequently filled with aggregate and buried. The approximate location and size of the abandoned cistern are shown in Appendix B1 & B-2.

Drainage from the main building and the event/activity space is captured in stormwater collection system and conveyed to a small pond/forebay west of the Caretakers Residence. This forebay also captures runoff from the roadside ditch on the north side of East Square Lake Road., provide initial treatment of the runoff and dissipates energy before discharging the runoff to the Production Gardens and Community Gardens further west in the lower portion of the property adjacent to Squirrel Road.

Drainage from the FAB and easterly portion of the site flow in the northwesterly direction to the pond in the northern portion of the livestock pastures, west of the FAB. An existing storm sewer network of drainage structures and pipes collects conveys runoff from roadside ditch on the north side of Square Lake Road to the pond. This storm sewer pipe also collects runoff captured by a catch basin southwest of the FAB. The video inspection of the existing storm sewer system serving easterly portion of the site shows that the pipes are in poor condition and in need of replacement. Refer to Appendix B4 for a diagram of the storm sewer system west of the FAB and Appendix B5 for the video inspections reports prepared following the investigation.

The previous studies and master plan of the site indicate there are numerous low areas that hold water on the surface for extended periods of time. Some of the localized depressions may be the result of long-term settlement following construction of the original farm buildings and existing infrastructure while others are natural depressions found in the woods or other natural areas. One particular area is located along the pathways within the ropes course.

Wetlands

As documented on the publicly available records, there are wetlands present on the site. We recommend that no work be performed within wetland areas without first having a qualified professional perform a wetland delineation to determine the regulatory requirements

associated with performing work within and around the wetland areas. Wetland maps from EGLE and the U.S. Fish and Wildlife Services are included in Appendix C1 & C2, respectively.

EGLE Wetland Map:



U.S. Fish and Wildlife Service Wetland Map:



Natural Gas

A natural gas service is illustrated on the 2018 Topographical Survey (Appendix A1). The service originates on the south side of Square Lake Road, north of Kentmoor Road, and is routed to the north side of the Academy. There are no concerns with the existing service and it should be protected throughout any proposed construction to avoid any unnecessary cost or outages.

Electrical Power Supply

Primary power is available to the Farm through an underground service to the site from a power pole on the north side of E. Square Lake Road. There are no known concerns regarding the power supply to the site. Site electrical feed lines are located around the site, although there are no record plans showing the approximate route of the cabling. The Owner should have these lines surveyed using Ground Penetrating Radar (GPR) equipment to ensure future construction activities do not interfere with the existing electrical system. Refer to Appendix A1 for a topographical survey of the site, which shows the location of generator, shed and other facilities which are likely served by the site electrical feed lines.

Fiber Optics/Communications

On the north side of the Visitors Center, a buried fiber optics line is located north and west of the Academy and distributed to the various building and facilities through the direct bury fiber lines in conduits and located beneath the surface. The depth of bury on the fiber optics and communications cabling is not known. The Owner should have these lines surveyed using Ground Penetrating Radar (GPR) equipment to ensure future construction activities do not interfere with the fiber optics system. Refer to Appendix B9 for the approximate location of the Fiber Optics feed on the site.



Master Plan Improvements

In 2020, the District evaluated the priority projects at the Bowers School Farm and developed a purpose and general scope for the priority projects. The following summarizes the infrastructure upgrades we anticipate being required to accommodate the improvements to the site. The order of this information follows the order presented in the Owner's document, which is in no specific order of priority.

Accessibility Through Farm Public Spaces

The District has had a Preliminary Plan for the ADA Pathway prepared to provide an accessible route from the upper elevations of the Academy and Visitor Center to the lower elevations surrounding the historical farm house and current animal barn. The route defined on the plan will cross the gas service and be located above the gravity sanitary sewer discharge from the lift station. The Owner/CM should verify the location and depth of the existing gas service prior to final design of the accessible route to more fully understand the potential impacts to the utility. Once a schedule for construction has been established, the Utility Service Provider (DTE) should be notified to ensure that the reduced cover is not a concern. Additionally, the Owner should consider the future maintenance/replacement implications of leaving the utility beneath the accessible route.

Event Barn

The long term plan for the Event Barn space is to hold events with catering for large groups in addition to the educational programming in the updated space. The area of the site where this is planned will require additional sanitary sewer and potable water supply to accommodate the new restroom facilities required. The renovation of this portion of the site will also incorporate the storm water management improvements associated with the renovations to the Lower Barn described below.

Renovate Lower Barn

The highest priority design element related to the renovations to the Lower Barn is to address the stormwater management & drainage issues this portion of the farm currently experiences. A thorough investigation of the existing drainage system will be required. It is likely that this will uncover several 'illicit' connections to the storm sewer system, resulting in the need to provide new separate sanitary sewer service(s).

Separating storm sewer and sanitary sewer will be a well-received concept. There is adequate elevation to work with that would likely require the expansion of the existing forebay immediately west of the Caretakers Residence. The SWM System improvements will also require the design and installation of permanent and temporary control structures in accordance with Oakland County WRC rules.

The separation of the sanitary sewer would also result in the need to provide a separate pressure sewer system (Lift station and forcemain). We have identified the location of the campus lift station west of the Staff/Visitor entrance gate in front of the Caretakers Residence, with forcemain being installed up the hill along the route of the ADA Path identified in Item 1 above. At this time, the on-site septic system serving the Caretakers Residence would have to be abandoned and the sewer lateral from the residence would be tied into the lift station.

Livestock Learning Lab, housing small ruminants and hogs

Although programming for this building has not taken place yet, we can anticipate the need to provide minimal utility infrastructure to serve the building. Since the farmland applies the animal waste and assuming that restrooms will not be included in this structure, a sanitary sewer system connection would not be required. The infrastructure needed for construction and operation of the of the Livestock Learning Lab would be non-potable wash water supply, stormwater cisterns to manage roof runoff and electrical power supply. The water supply could be provided through the permitting and construction of a new agricultural water supply well, or by extending the potable water supply from the Academy and Visitors Center.

Construct an indoor equestrian pavilion

The construction of a new facility of this nature will require the full scope of utility infrastructure associated with an occupied building. Given the proposed location on the site, there will be a new lift station, stormwater management improvements to address flood control, channel protection and water quality concerns, potable water, electrical power supply, natural gas, communications and any other infrastructure required for the building that is deemed necessary once the programming exercise is complete.

Design And Create A Natural Children's Discovery Garden

The District has acquired grant funding that will be applied to the construction of the Children's Garden. The grant stipulates that the funds are to be used by July 2025. The District will confirm if work under contract constitutes 'use of funds ', or if work has to be performed and paid for by the stipulated time. Construction documents have been developed for the Children's Garden. Refer to Appendix E6.

The existing fiber optics service feed to the farm is located within the proposed footprint of the Children's Garden. The Owner should have the location of the fiber line surveyed using GPR technology and verify the location and depth of the utility through exploratory excavation (potholing) to fully understand the impacts the construction of the children garden would have on the utility. The depth and location of the utility may not be of concern with respect to the proposed improvements, we do recommend that the utility be placed in a conduit with appropriately located handholes for access and future maintenance. Installation of a spare conduit is also recommended and consideration should be given to concrete encasement of the conduits for protection of the infrastructure.

Drainage improvements related to the Children's Garden will be necessary to manage the increased runoff generated by the additional impervious surface materials and water quality treatment will be required for the area of disturbance for the project.

Sanitary Sewer system upgrades would be necessary to accommodate the projected increase in attendance following construction of the Children's Garden. Since the sanitary sewer upgrades are necessary throughout the Farm, this portion of the report will only acknowledge these improvements should be planned for.

Create A New Entry Way and Single Point Of Entrance and Replace Aging Fence Infrastructure.

Concept sketches for the improvements to the main entrance to the site have been developed and are located in Appendix E7a and E7b.

Plans for Fencing upgrades and repairs has developed bid documents for fencing repairs and the Owner is taking on small project repairs and minor modifications on their own. Bid Documents are available if desired.

Design and Build A Living Roof Pavilion

A pavilion of the sort described in Appendix E0 would require storm sewer infrastructure to capture and convey runoff from the roof to a nearby system and depending on the desires of the Owner, could result in the need for a potable water supply for a drinking fountain. If the location of the pavilion is known, the necessary infrastructure should be designed and installed during construction of the Children's Garden.

Additions to the Visitor Center and Bowers Academy Space

An addition to the Academy as envisioned on the Master Plan would impact the sanitary sewer service located outside the existing building. It is assumed that the utility services within the existing building could be extended from within to serve the addition. Since the Owner has visions of A grease interceptor would be necessary to manage discharge from the kitchen.

Walking Paths for Weekend Use

The walking paths around the Farm are currently worn pathways that have been developed over years of use, routine mowing and maintenance. The long term plan would be to more formally define the pathways using natural stone, mulch or other nature trail type surface treatments and extend the current pathways throughout the site to provide an interconnected network of paths and trails.

In addition to the surface improvements of the trail network, the work required to achieve the vision outlined in the Appendix E1 would include fence work to differentiate between animal and people spaces as well as an additional stairway leading to the ropes course for safety.

The infrastructure needs associated with these improvements are minor, however, wetland permitting through the Township and potentially EGLE will apply.

Re-organized Barn Parking Lot To Green "Park" Space

Conversion of the existing parking lot to a Park Space would be combined with the renovations to the Barn and Event Barn previously described in Item 2 & 3. In addition to the hardscape, landscape and signage referenced in Appendix E1, the infrastructure associated with this phase of the project would include modifications and improvements to the existing stormwater management, storm sewer and sanitary sewer infrastructure serving the west portion of the Farm.

Update Technology Infrastructure

Infrastructure required to complete this objective of the long-term vision plan may amount to minor trenching adjacent to the pathways. Since a good portion of the trail system is located in or near wetland limits, the construction activities will require wetland permitting through the Township and possibly through EGLE. Installation of cable and associated trenching to provide power to security cameras along with the minor drainage improvements would be performed along with the walking path improvements described in Item 10.

Entitlements & Permitting

Bloomfield Township

Engineering Review and Approval

Bloomfield Township maintains review authority related to the project as it relates to engineering design elements. While local zoning rules do not apply to the construction of School owned projects, the engineering related matters are subject to their review. Improvements to water supply, sanitary sewer systems, and storm sewer systems are subject to review and approval by the Township Engineer.

Engineering review fees are paid from an escrow account that is determined based on a construction cost estimate prepared by the design engineer. The Township Engineer will review the design engineer's estimate as part of the review process. Review timelines for engineering review and approval vary based on complexity of the project, however a good rule of thumb would be to expect comments within 4 weeks of submitting plans and specification. We anticipate no less than 3 rounds of review.

Wetlands

We recommend that a wetland assessment be performed to document the presence of wetlands on the property so that a formal evaluation of the regulatory status of the natural features on the site can be validated.

While there are no anticipated impacts to the existing wetlands on the site as part of the pending/future construction projects, project requirements related to the Township and other regulatory agencies may have more restrictive rules that apply to the protection of wetlands. The Township does have their own Wetland Ordinance, so construction activities that impact wetlands on the site will require approval from the Township.

Soil Erosion & Sediment Control

Projects disturbing more than 1-acre of land require a Soil Erosion and Sediment Control Permit from the Authority Having Jurisdiction (AHJ). Bloomfield Township administers the Local Soil Erosion and Sedimentation Control Program under the provisions of Part 91 of Act 451 of 1994. The Township engineer will review the plans, make comments and recommendations to approve the plans, then the applicant will be responsible for applying to the Water Resources Commissioner through the Citizen Self-Service Portal to obtain the permit.

Oakland County Department of Public Works

There are no proposed improvements that would call for a new water tap, water meter or a new sewer connection. Similarly, there are no proposed disconnections of water or sewer services. As such, permitting through the Department of Public Works should not be necessary. In the event the scope of work changes, the Citizen Self-Service Portal should be accessed to apply for related permits. The self-service portal can be accessed at the following internet address:

WRC Permitting & Soil Erosion Application Portal (tylerhost.net)

Oakland County Road Commission

A Commercial Driveway permit for the improvements to the main entrance will be required from the Oakland County Road Commission. The permit application will need to be signed by the Owner at the time of submittal along with applicable review fees. The current permit rules, specifications and guidelines can be found at the following web address:

Permits/Weighmaster | Road Commission for Oakland County (rcocweb.org)

A copy of the current application and fee structure have been included in *Appendix F3b*

The RCOC is typically capable of completing their review of the submitted applications within 3 weeks from the date they are received.

Oakland County Water Resources Commissioner

Stormwater management for the site must be designed and permitted according to the rules of the Oakland County Water Resources Commissioner. Current regulations dictate that any project disturbing more than 1-acre of land be brought into compliance with the current design standards of the OCWRC.

The application process for review and approval of stormwater management plans takes a significant amount of time and effort to complete. We recommend that the application be submitted early in the design process for discussions with the Water Resources Commissioner review engineer to ensure all the parameters that apply to the project are taken into account.

Recommendations

Update Master Plan to define project phasing and identify utility infrastructure improvements necessary to support the growth of the campus and provide for logical extensions and/or expansion of initial infrastructure upgrades for future phases of work. The phasing envisioned for the development of the Farm divides the campus into three areas (East, Central and West) with multiple projects taking place in each area. While the Master Plan is being updated, the plans and permitting associated with the initial phase of construction would take place in the north half of the central portion of the campus to include construction of Item 6 (Children's Garden). Phase 1 would also include sanitary sewer and technology infrastructure upgrades for Phase 2 & 3.

The second phase of construction would concentrate on Item 1, 4, & 7 (Livestock Learning Lab and Accessibility through Farm Public Spaces and New Entrance Drive) as described in the Master Plan Improvements section of this report. Phase 2 would also include sanitary sewer and technology infrastructure upgrades for Phase 3.

The third phase of construction would focus efforts on the renovations to the Farm and include the activities described in Items 2, 3 & 11 (Event Barn, Renovations to the Barn & Barn Parking Lot) as well as the westerly portion of the walking path improvements.

The fourth phase would include Items 5, 8, 9 (Indoor equestrian pavilion, Living roof pavilion, Additions to the Visitor Center & Bowers Academy Space) and complete the improvements to the Walking Path along with the Technology Infrastructure to tie the interactive visitor experience together in the final phase of work. As envisioned, Items 10 & 12 would be installed and operational for those portions of the project being served upon the conclusion of each phase of construction.

Note: Many of the fencing repairs described in Item 7 are being performed by the Owner on a small project basis. As such, this minor scope has been removed from the Phasing described in this report. Fencing could be included in one of the phases of work as deemed appropriate through the Master Planning and Phase specific Plan Development.

Phase 1

Children's Garden

The infrastructure necessary to support the construction of Phase 1 and install the infrastructure to support the future phase of work includes the following main elements:

A. Perform Ground Penetrating Radar Survey in the area of the Phase 1 and Phase 2 improvements with the objective of locating the following:
    1) Geothermal Field
    2) Sanitary Drainfield and piping serving the Toilet Rooms near the Silo
    3) Fiber Optics and Electrical feed lines, as well as any other utility located within 50' of the Children's Garden construction limits.
    4) Sanitary Drainfield for the Caretakers Residence
    5) Storm & Sanitary Sewer pipe located within and around the Farm, Silo and Horse Barn.

6) Natural gas service between the right of way and the Academy

B. Sanitary Sewer Improvements
   1) The initial step to address reliability and maintenance concerns related to existing Lift Station #1 is to upgrade the pumps in the existing lift station.
   2) Master Plan for a “campus-wide” lift station and gravity sewer system that will support your growth projections and future projects (Option C above).
   3) Validate capacity of existing sanitary sewer with the Township.
   4) Back calculate the pump capacity/duty and select new pump
   5) Provided that the initial study has positive results, and the Township is agreeable to the proposed improvements, design and construction of the Children’s Garden would include installation of manholes and sanitary sewer pipe through the footprint of the Children’s Garden to provide for conveyance of wastewater from Phase 3 to the campus wide lift station.

C. Drainage and Stormwater Management Improvements
   1) Re-grade the gravel drive/walkway from the east end of the gavel parking lot toward the FAB to address standing water issues and localized ponding of surface runoff near the bottom of the hill and along the side of the drive. Construction of a drainage swale or roadside ditch with a cross culvert or grading of the swales to divert runoff to the existing drainage structures will improve the conditions until further modifications and upgrades are necessitated during Phase 4.

D. Water Service Improvements
   1) Extend water service piping to the west side of the construction limits and cap the potable water supply for future service to the Event Barn that will be renovated/developed in Phase 3

Phase 2

Livestock Learning Lab and Accessibility through Farm Public Spaces & New Entrance

The infrastructure necessary to support the construction of Phase 2 and install the infrastructure to support the future phase of work includes the following main elements:

A. Design, permitting and Construction of a lift station near E. Square Lake Road with forcemain to deliver wastewater from the west area of the Campus (Event Barn, Renovated Barn, Caretakers Residence and Historical buildings) to the connect to the existing forcemain on the north side of E. Square Lake Road.
B. Install gravity sanitary sewer from east end of the Children’s Garden further East to a point beyond the Livestock Learning Lab construction limits.
   1) Gravity sewer should be extended as far east as possible to provide an opportunity to connect the Indoor Equestrian Pavilion
C. Construct gravity sewer through the existing garden using trenchless construction technology.
D. Open cut excavation of the sewer service between the garden and the lift station will be required to avoid conflicts with existing utilities in conflict with the gravity sewer installation and temporarily re-route those critical utilities that are in conflict.
E. Perform field investigations (dye testing, cleaning & televising) of the floor drains and existing drainage infrastructure serving the Phase 3 Improvements for use in planning the future improvements and modifications to those systems.

F. Drainage and Stormwater Management Improvements, including but not limited to low impact stormwater management infrastructure (rain cisterns, bio-swales, level spreaders and other similar LID SWM techniques.
G. Water Service Improvements
    1) Permit and construct a new non-potable water well to provide wash water for the Livestock Learning Lab.
H. The construction of the accessible route may have an impact on the existing natural gas service the Academy and Visitors Center. Construction contingency should be set aside for relocation of the gas service.

Phase 3

Event Barn, Renovations to the Barn & Barn Parking Lot

The infrastructure necessary to support the construction of Phase 3 and connection to the infrastructure completed in Phase 1 includes the following main elements:

A. Sanitary Sewer Improvements
    1) Implementation of the improvements and modifications to the existing floor drains serving the existing buildings identified in Phase 2.
B. Drainage and Stormwater Management Improvements
    1) Implementation of the improvements and modifications to the existing storm sewer system serving the existing buildings identified in Phase 2, including but not limited to removal or abandonment of tanks, re-configure of storm sewer system, re-connection of roof drainage to storm sewers (as applicable).
    2) Design, permitting and construction of stormwater management improvements associated with the drainage area affected by the proposed construction activities, including but not limited to:
        a. Expansion of existing forebay pond west of Caretakers Residence
        b. Installation of an outlet control structure and temporary control structure
C. Water Service Improvements
    1) Extend water service to the location of the Event Barn from the westerly limits of the Children's Garden described in Phase 1.

Phase 4

Indoor equestrian pavilion, Living roof pavilion, Additions to the Visitor Center & Bowers Academy Space

The infrastructure necessary to support the construction of Phase 3 and connection to the infrastructure completed in Phase 1 includes the following main elements:

A. Sanitary Sewer Improvements
    2) Install gravity sewer from the Indoor Equestrian Pavilion to the FAB lift station.
    3) Upgrade the FAB lift station to ensure adequate power is available to operate the pumps, replace pumps top handle current and future wastewater flows and install forcemain to gravity sewer at the east end of Phase 2 work.
    4) Re-evaluate pump selection and wastewater flows of campus lift station

a. Make necessary adjustments to campus lift station (swap pumps, adjust floats, etc…)

B. Drainage and Stormwater Management Improvements
   1) Expand stormwater management system for the project area to bring the project drainage area into compliance with Bloomfield Township and Oakland County rules.
      a. Provide water quality, channel protection and flood control

C. Water Service Improvements
   1) Extend water service from the FAB to the new Indoor Equestrian Pavilion.

Note: Phase 3 & 4 are largely independent of one another, and could be flipped.

Schedule

The schedule for the projects will be firmed up as the Master Plan is updated and the Phase 1 design and permitting process is initiated. Start dates for the future phases of construction will be discussed while the Master Plan is being updated. Construction of the Children's Garden is desired to begin in 2025 and the objective is to use the grant dollars that have been awarded and provide the private donors comfort that their donations are being effectively utilized. The Owner is in the process of clarifying the obligations of the grant funding that has been acquired so that we can work to develop design and construction schedules that take those requirements into account.

Budget

We have been informed that bond funds available for the initial project is roughly $3M. The School has also earmarked $50,000 towards construction that is to be used in 2025. The Owner is in the process of defining the terms related to the expenditure of the $50,000.

We recommend that Barton Malow provide updated budgets for the proposed improvements and review the scope of work with GMB as described in this report during the development of the project budgets.

APPENDICES

LEGEND

- MANHOLE
- CATCH BASIN
- SEWER CLEAN OUT
- GAS METER
- GAS SHUT OFF VALVE
- VALVE BOX
- GATE VALVE & WELL
- WATER SHUT OFF VALVE
- FIRE HYDRANT
- SPRINKLER VALVE BOX
- LAWN SPRINKLER HEAD
- HAND HOLE
- ELECTRIC RISER OR METER
- TELEPHONE RISER
- CABLE TV RISER
- AIR CONDITION UNIT
- UTILITY POLE
- UTILITY POLE W/ TRANSFORMER
- UTILITY POLE W/ LAMP EXTENSION (ARROW INDICATES DIRECTION OF ARM)
- LIGHT POLE
- LIGHT POLE WITH LAMP EXTENSION
- TRAFFIC SIGNAL
- POLE W/ TRAFFIC SIGNAL (OVER ROAD)
- GUY WIRE
- GUY POLE
- GROUND LEVEL / DECORATIVE LIGHTING
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- PHONE OR PHONE BOOTH
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- BILLBOARD OR LARGE SIGN
- BASKETBALL HOOP
- BOULDER
- STATUE OR SCULPTURE
- BENCH
- STUMP
- CONIFEROUS TREE
- DECIDUOUS TREE
- DECIDUOUS SHRUB
- CONIFEROUS SHRUB
- SECTION CORNER
- SDA#10 — TRAVERSE POINT
- STRUCTURE NUMBER
- 100 — SDA POINT No.
- 000.00 — SPOT ELEVATION

TC	TOP OF CURB ELEVATION
GU	GUTTER ELEVATION
TP	TOP OF PAVEMENT ELEVATION
EM	EDGE OF METAL ELEVATION
TW	TOP OF WALK ELEVATION
T/WALL	TOP OF WALL ELEVATION
B/WALL	BOTTOM OF WALL ELEVATION
GR	GROUND ELEVATION
UG	UNDERGROUND
FO	FIBER OPTIC
CONC	CONCRETE
ASPH	ASPHALT
FF	FINISH FLOOR ELEVATION
DL	DOOR LEDGE ELEVATION
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M	MEASURED
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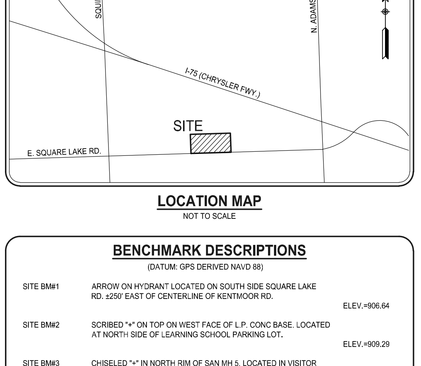


LOCATION MAP
NOT TO SCALE

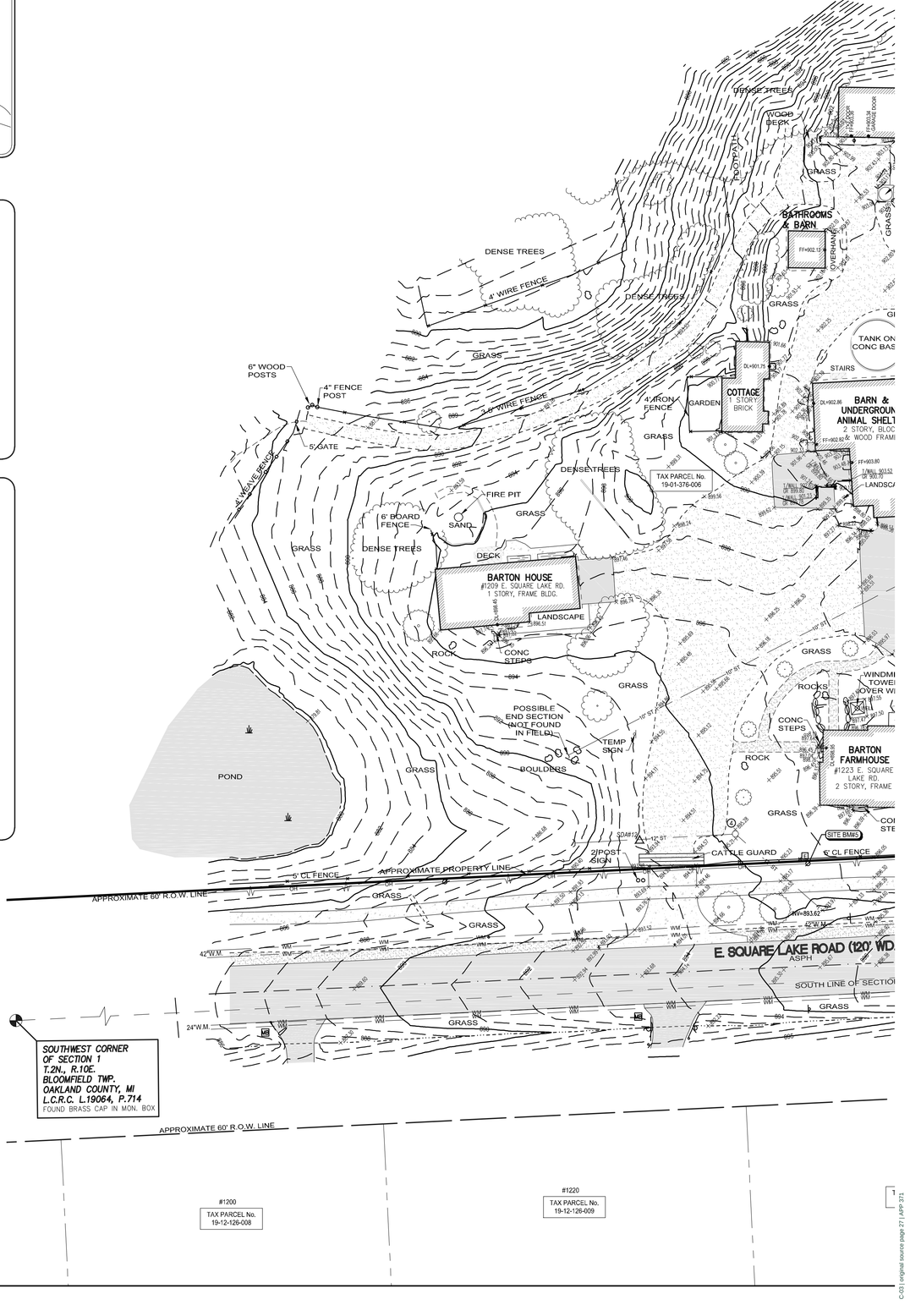
BENCHMARK DESCRIPTIONS

(DATUM: GPS DERIVED NAVD 88)

SITE BM#1	ARROW ON HYDRANT LOCATED ON SOUTH SIDE SQUARE LAKE RD. ±250' EAST OF CENTERLINE OF KENTMOOR RD.	ELEV.=906.64
SITE BM#2	SCRIBED "+" ON TOP ON WEST FACE OF L.P. CONC BASE. LOCATED AT NORTH SIDE OF LEARNING SCHOOL PARKING LOT.	ELEV.=909.29
SITE BM#3	CHISELED "+" IN NORTH RIM OF SAN MH 5, LOCATED IN VISITOR PARKING LOT ±13' SOUTH OF SOUTH FACE OF BOWERS FARM & ANIMAL SHELTER.	ELEV.=894.69
SITE BM#4	SET BENCH TIE W/SPIKE IN SOUTH FACE OF U.P. LOCATED AT THE NORTHWEST CORNER OF SQUARE LAKE RD. & EAST ENTRANCE OF BOWERS FARM SCHOOL.	ELEV.=902.56
SITE BM#5	SET BENCH TIE W/SPIKE IN SOUTH FACE OF U.P. LOCATED ON THE NORTH SIDE OF SQUARE LAKE RD. ±70' EAST OF CENTERLINE OF WEST ENTRANCE TO BOWERS FARM.	ELEV.=896.56
SITE BM#6	SET MAG NAIL IN SOUTH EDGE OF ASPH WALK @ WEST END WHERE ASPH MEETS WOODEN RAMP. JUST EAST OF THE CHICKEN FARM.	ELEV.=903.92

SURVEYOR'S COMMENTS

1. THIS TOPOGRAPHICAL MAP IS BASED UPON A FIELD SURVEY PERFORMED BY SPALDING DEDECKER DURING AUGUST 2018.
2. THE PROPERTY LINES/RIGHT-OF-WAY LINES SHOWN ON THIS TOPOGRAPHICAL SURVEY ARE INTENDED TO BE AN APPROXIMATE GRAPHICAL REPRESENTATION BASED UPON A COMBINATION OF A PROVIDED LEGAL DESCRIPTION, FOUND FIELD MONUMENTATION AND OCCUPATION. A COMPLETE PROPERTY LINE ANALYSIS HAS NOT BEEN PERFORMED AND PROPERTY CORNERS HAVE NOT BEEN SET IN THE FIELD PER THE AGREED TO SCOPE OF SERVICES.
3. THIS SURVEY HAS BEEN PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE SEARCH AND THEREFORE THIS PROPERTY MAY BE SUBJECT TO EASEMENTS, RIGHT-OF-WAY TAKINGS AND RESTRICTIVE COVENANTS THAT COULD ENCUMBER THIS PARCEL OF LAND.
4. THE BEARING BASE AND COORDINATES OF THIS DRAWING ARE BASED UPON THE MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83, INTERNATIONAL FEET, 2011 ADJUSTMENT. CONTROL WAS ESTABLISHED BY GPS OBSERVATION USING THE AVAILABLE MDOT CONTINUOUSLY OPERATING STATIONS (CORS).
5. THE VERTICAL DATUM OF THIS SURVEY IS BASED UPON NAVD 88. CONTROL WAS ESTABLISHED BY GPS OBSERVATION USING THE AVAILABLE MDOT CONTINUOUSLY OPERATING STATIONS (CORS).
6. THE UTILITY INFORMATION SHOWN ON THIS SURVEY IS BASED UPON A COMBINATION OF RECORD INFORMATION AND FIELD MEASUREMENTS. A MISS DIG DESIGN TICKET NUMBER OF A082180235-00A HAS BEEN REFERENCED TO THIS PROJECT AND A UTILITY PROVIDER CHART IS SHOWN ON THIS DRAWING. THERE ARE NO ASSURANCES THAT ALL PROVIDERS HAVE RESPONDED AND THE SURVEYOR DOES NOT GUARANTEE THAT ALL UNDERGROUND UTILITIES ARE SHOWN AND/OR POSITIONED PROPERLY ON THIS DRAWING DUE TO AMBIGUOUS PLANS AND RECORDS PROVIDED TO US. THE INFORMATION SHOWN ON THIS DRAWING IS INTENDED TO BE USED AS A GUIDE FOR POSSIBLE UNDERGROUND UTILITY CONFLICTS. IT IS THE RESPONSIBILITY OF OTHERS TO RESOLVE THE ACTUAL LOCATION OF ANY UNDERGROUND UTILITY THROUGH THE MISS DIG FIELD VERIFICATION SYSTEM PRIOR TO ANY SITE EXCAVATION. CALL 811 OR 800-482-7171.
7. FOR ADDITIONAL INFORMATION ON THIS SITE SDA JOB #NP09-120 CAN BE REFERENCED AS IT IS THE ORIGINAL SURVEY PERFORMED ON THIS PROPERTY BY SDA. THE VERTICAL DATUM ON THIS OLDER PROJECT IS DIFFERENT AND WAS BASED UPON SANITARY SEWER PLANS BY HUBBELL ROTH & CLARK, INC. HAVING A KNOWN JOB #20010782 DATED AUGUST 19, 2002 WITH A STATED DATUM BEING NGVD 1929.



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C001 original source page 27 / ARP 221

LEGEND

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- CONCRETE
- GRAVEL
- BRICK / PAVERS
- WATER

UTILITY CHART

UTILITY PROVIDER	MISS-DIG RESULTS	DATE	CONTACT	CONTACT #	CONTACT EMAIL
ATT (FORMERLY SBC)	PLANS	8/14/2018	LINDA DENNISUK	248-456-8256	id2154@att.com
BLOOMFIELD TOWNSHIP	NOT YET RECEIVED	8/10/2018	NOAH MEHALSKI	248-594-2800	MISSDIG@BLOOMFIELDTWP.ORG
CONSUMERS ENERGY	NOT YET RECEIVED	8/10/2018	KURT GOLDING	999-999-9999	MISSDIGDESIGNTICKETS@CMSENERGY.COM
CHARTER COMMUNICATIONS	NOT YET RECEIVED	8/10/2018	DAN BIELACZYC	231-941-3819	dan.bielaczyc@charter.com
DETROIT EDISON	NOT YET RECEIVED	8/13/2018	N/A	313-235-5632	Design_MissDig@DTEenergy.com
DETROIT WATER & SEWER	PLANS	8/15/2018	DALE ECHOLS	313-267-4857	DALE.ECHOLS@GLWATER.ORG
GREAT LAKES WATER AUTHORITY	PLANS	8/15/2018	DALE ECHOLS	313-267-4857	DALE.ECHOLS@GLWATER.ORG
SUNOCO PIPELINE L.P.	NOT YET RECEIVED	8/16/2018	MOLLY LOU CARRIERE	713-989-7079	MOLLY.CARRIERE@ENERGYTRANSFER.COM

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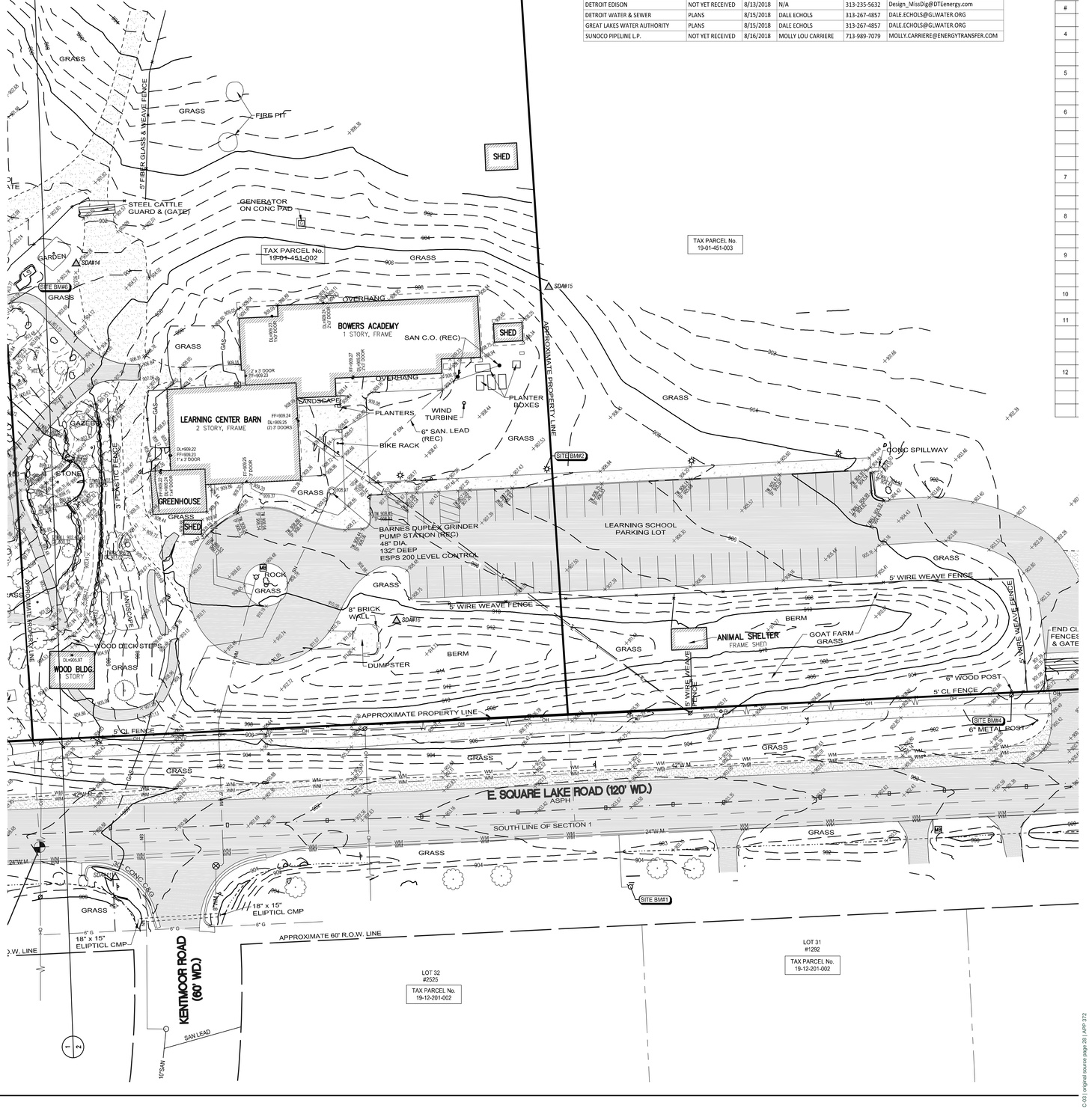

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Existing Site Plan

~93 total acres



- GUEST PATH
- ROADS & PARKING
- GUEST ACCESS BUILDINGS
- BACK OF HOUSE BUILDINGS
- ANIMAL HABITATS
- POINTS OF INTEREST
- TREES & VEGETATION
- ANIMAL SHELTER
- WATER

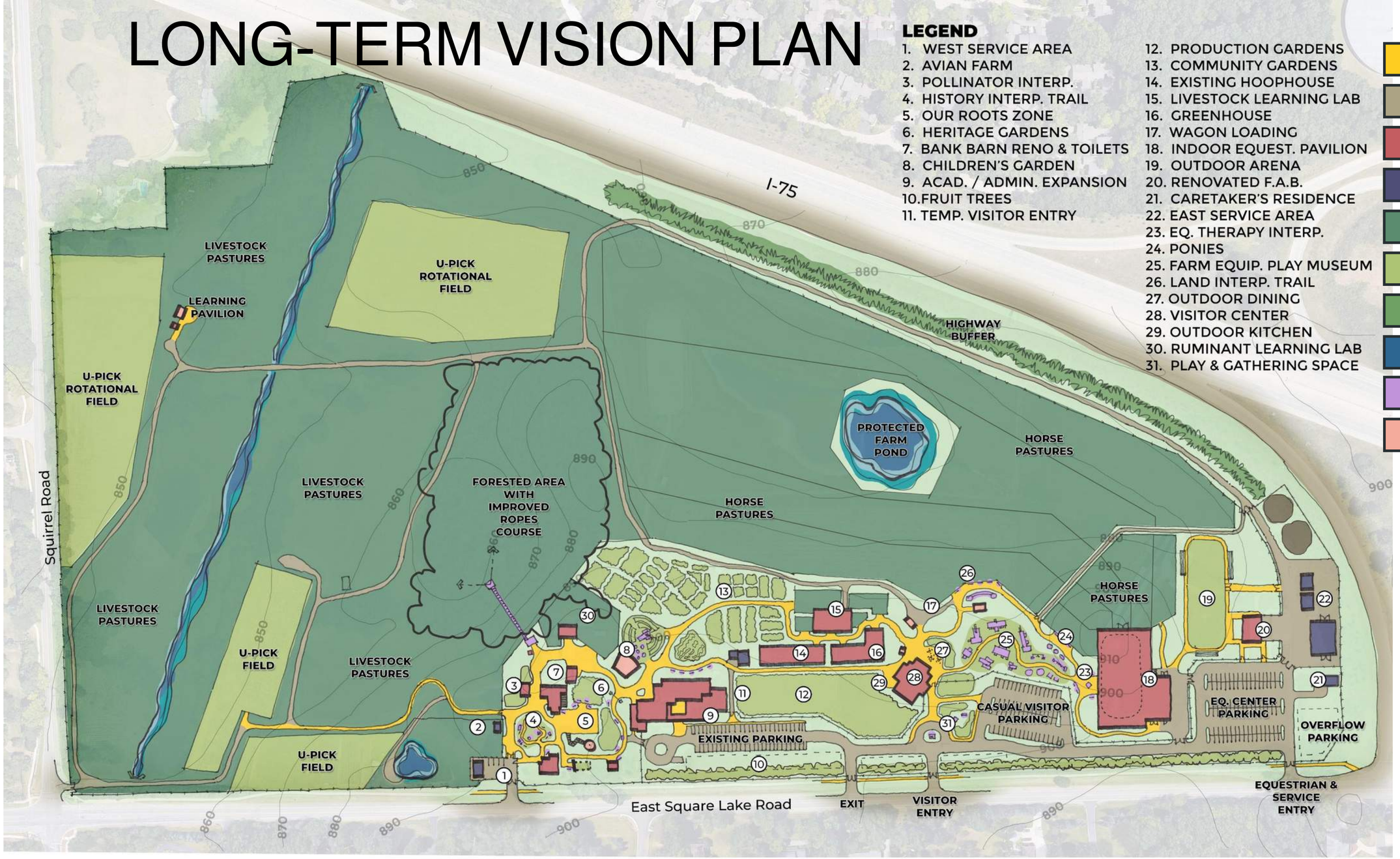
FACILITY EVALUATION

	Ave / Priority	Age / Cond.	/ Efficienc	Guest Exp.	Known Improvements Needed
Hoop House / New Field Wash Pack	0.0	N/A	N/A	N/A	Needs to be created.
Academy Café	1.0	1	1	1	Café used as social work office space now; Carpeted floor; Storage for food; Too many uses and too small.
Root Cellar	1.0	1	1	1	Leaks. Needs a full space review - needs to be rodent proof. Historic structure.
Horse & Goat Barn	1.0	1	1	1	It's time to replace. Not ideal for any animal. We have made many modifications to work current needs.
Bowers Cottage	1.0	1	1	1	It is a space that has potential. Needs total overhaul.
Toilet Building	1.0	1	1	1	Needs to be replaced.
Laundry Room	1.3	2	1	1	Beat up, older stuff. Not enough lockers or space. Office supplies in there. Need additional washer and dryer for kitchen vs animal stuff. Need biosecure entry for all from Farm.
Toilets Entry / Academy	1.3	2	1	1	All people use the same toilet...need additional and separate areas. Bad toilet, gaps in doors, etc.
Produce Display (in store)	1.3	2	1	1	Since we are growing produce, we need to be able to get it to the customer. Closed coolers, not have to move it back and forth.
Store	1.3	2	1	1	Not intended for retail. Was originally a lunchroom. No secure inventory storage. Lack of power. No wall for display. No water line for ice cream. Sound issues.
Ticketing	1.3	1	1	2	
Livestock Pastures	1.3	1	1	2	Poor ground, poor drainage, and lack of guest experience access.
Event Storage Barn: FAB Garage	1.3	2	1	1	Needs to be organized.
Outdoor Flex Space "parking lot area"	1.3	1	1	2	Use for show ring - use for teaching space - not a parking lot. Used for events - more entertainment vs parking lot. Needs better water management.
Hillside Pasture	1.3	1	1	2	Poor soil. Lack of water access. Fences are patched together. Guests love to say hello. Concern of biosecurity with animals nose to nose with dogs on walks. Too far from core of animal care.
Residence	1.3	1	1	2	Needs major improvements (roof, soffits)
Production Gardens	1.3	1	2	1	Needs new shed roof, ok for growing - hard to get to, lack of consistent management for optimal weed and pest management. Back part is on a big hill - erosion issues. No electricity. Far from everything - especially the store and the cooler. Will benefit with full site deer fencing. Groundhog issues. NO equipment storage.
Wash Pack (area where produce is prepped)	1.3	2	1	1	Currently a car port - no electricity. No rodent proof storage space. One season use. Drainage issues.
I-75 Pond	1.3	1	1	2	When there is water, it is pretty. Water is mostly all run off. Not ideal for animals. Very shallow - attracts unwanted water birds. Not ideal for pasture animals.
Ropes Course	1.3	1	2	1	Was built in 1991 - 4 out of 6 elements will have to be retired by spring and needs a complete rework. Accessibility is a challenge. No site maps. No signage. No electricity. Lots of room for improvements and opportunities.
Staff Break Room (Hall)	1.5	2	1	N/A	Not really a room, old equipment.
Admin 1st Floor Offices	1.5	2	1	N/A	Lacking HVAC, too small.
Loft Offices	1.5	2	1	N/A	HVAC...intended to be guest experience space but is used as offices; No storage; No storage for personal items; Break out space in the open space; Copy and office supplies located here.
Gazebo	1.7	1	2	2	Starting to show age. Needs power. ADA concerns. Slippery when wet.

FACILITY EVALUATION (cont.)

	Ave / Priority	Age / Cond.	Function/ Efficiency	Guest Exp.	Known Improvements Needed
Academy Staff Office	1.7	3	1	1	Student workspace and staff workspace, storage and copy all together--too small. Storage and copy pulled out as separate.
Academy Common Space (Hall)	1.7	3	1	1	Too many things happening here--lunchroom, storage, office, kitchen, hallway, ticket window.
Academy Library	1.7	3	1	1	Needs to be much bigger--holds 2 kids right now; would like seating, study space, more book storage; 25 kids max.
Academy Science Classroom	1.7	3	1	1	Not designed for science lab (needs plumbing for sinks; overhead electric; lab tables). Furniture change. Needs more storage. Need chemical storage. Eye wash station. Need Exterior access.
Greenhouse	1.7	2	1	2	Mechanics for the temperature controls are unreliable. Too hot in the summer. Control of systems needs a reboot. Too small for current needs.
Kitchen	1.7	3	1	1	Too small right now for teaching... equipment is wrong for use for teaching or for bulk production; Like concession and pizza oven. Storage lacking.
Chicken Mobile Coop	1.7	2	1	2	Needs to be reworked in areas. Water and feed challenges. Inside parts have started to come apart. Animal husbandry? Would like to look at an improved space for care.
Bank Barn	1.7	1	2	2	Needs historical correct repairs. Wood rot. Water drain issues. electrical issues - not enough power. Hard to clean. Functionality is not designed for current methods of use.
Outside Lower Barn (bank barn)	1.7	2	2	1	Could be improved by leveling the concrete and finding a way for a skid steer to enter for cleaning. LOVE the outside animal space.
Community Gardens	1.7	1	2	2	Will benefit with full site deer fencing. Concern of hydrant reliability. Some areas are too wet and should not be used for growing. Needs a dedicated, enclosed compost area.
Chicken / Bee Classrooms	2.0	2	2	2	
Riding Arena	2.0	2	2	2	Does the job - needs shade shelter - look at shade. All cattle shades not adjacent to a horse barn.
Academy Classroom 1	2.3	3	2	2	Too many functions...needs exterior door. Needs storage. Add spaces for gym and office.
Academy Classroom 2	2.3	3	2	2	Connected to #1
Hoop House	2.3	3	2	2	Excited to use this! Still under construction. Need interior tables for production support. Being used as a supplemental space to the existing greenhouse -> this is not ideal but working with what we have.
Farm Activities Building	2.3	3	2	2	Deck needs to be covered to increase space to accommodate a group of 100. Tent is not a permanent solution.
Barton Farmhouse	2.3	2	2	3	Wonderful old home. Needs a care plan for continuing to maintain not owned by BHS.
Horticulture "Master" Gardens	2.3	2	2	3	Beautiful and great community connection with the Master Gardeners.
Pumpkin Patch	2.3	2	2	3	Working on plans for improvement. need a deer perimeter fence around full property. Fun destination for guests. Great for field trips. Use of a porta potty helps each season. Site wide crop rotation plan. Weed issues are great. Groundhog damage.
Tubing / Winter Park Facilities	2.3	2	2	3	People love it - drain on staff. Need to increase capacity, change operational model to reduce staff inputs. Auto snow maker and snow carpet would help.
Cooler (not the freezer)	2.5	3	2	N/A	At times it is not large enough for kitchen and garden use.
Craig Log Cabin	2.7	2	3	3	Love it! Aware of ADA accessibility. What is the plan for long term maintenance not owned by BHS?
Academy Admin Office	3.0	3	3	3	

LONG-TERM VISION PLAN



LEGEND

1. WEST SERVICE AREA
2. AVIAN FARM
3. POLLINATOR INTERP.
4. HISTORY INTERP. TRAIL
5. OUR ROOTS ZONE
6. HERITAGE GARDENS
7. BANK BARN RENO & TOILETS
8. CHILDREN'S GARDEN
9. ACAD. / ADMIN. EXPANSION
10. FRUIT TREES
11. TEMP. VISITOR ENTRY
12. PRODUCTION GARDENS
13. COMMUNITY GARDENS
14. EXISTING HOOPHOUSE
15. LIVESTOCK LEARNING LAB
16. GREENHOUSE
17. WAGON LOADING
18. INDOOR EQUEST. PAVILION
19. OUTDOOR ARENA
20. RENOVATED F.A.B.
21. CARETAKER'S RESIDENCE
22. EAST SERVICE AREA
23. EQ. THERAPY INTERP.
24. PONIES
25. FARM EQUIP. PLAY MUSEUM
26. LAND INTERP. TRAIL
27. OUTDOOR DINING
28. VISITOR CENTER
29. OUTDOOR KITCHEN
30. RUMINANT LEARNING LAB
31. PLAY & GATHERING SPACE

- GUEST PATH
- ROADS & PARKING
- GUEST ACCESS BUILDINGS
- BACK OF HOUSE BUILDINGS
- ANIMAL HABITATS
- NON-ANIMAL PTS OF INTEREST
- TREES & VEGETATION
- WATER
- PLAY / INTERP. ELEMENT
- SHELTER / PAVILION

BOWERS SCHOOL FARM
OPERATED BY BLOOMFIELD HILLS SCHOOLS

BOWERS SCHOOL FARM LONG-TERM VISION PLAN

Published July 2023

Scale: 1"=100'-0"

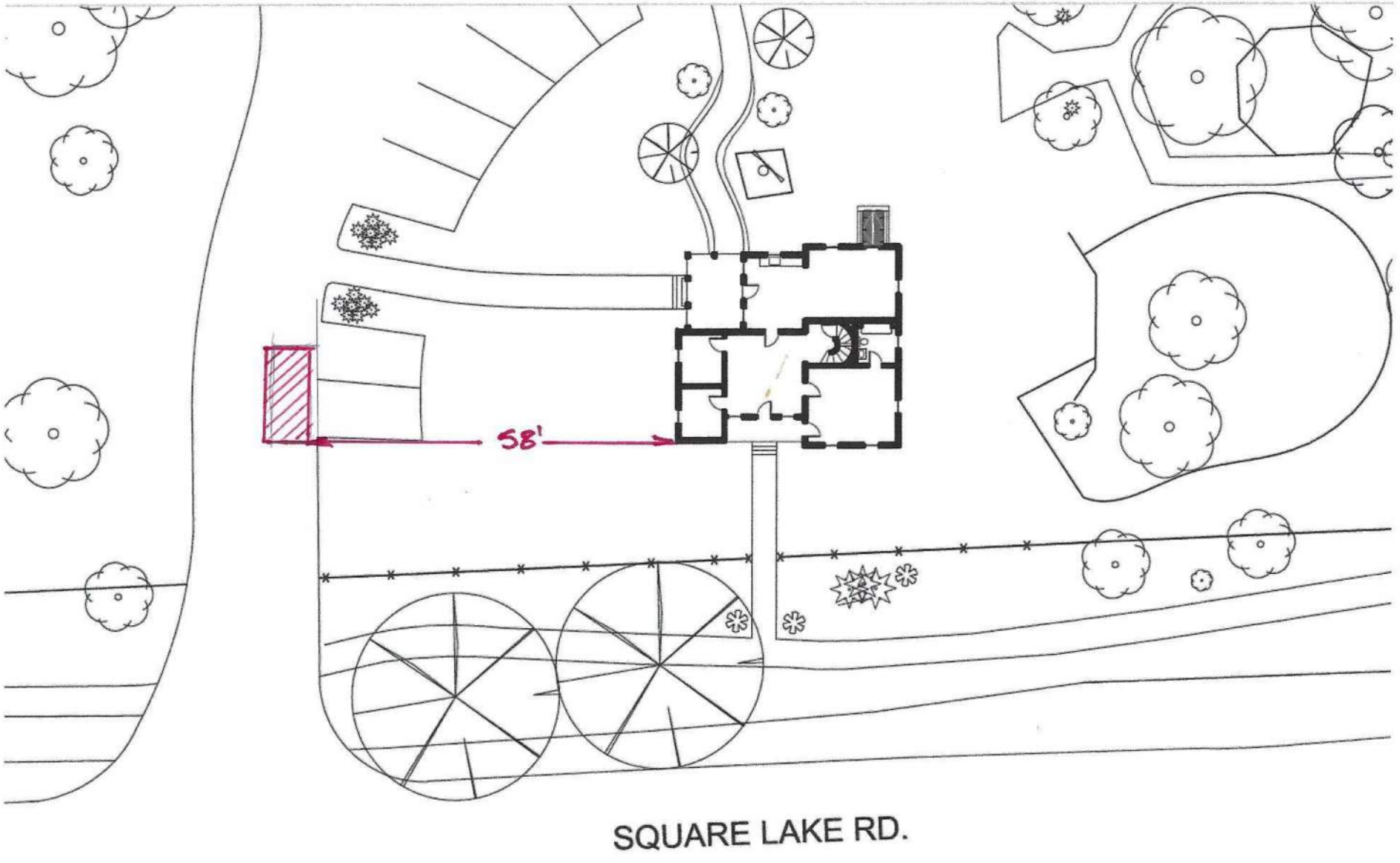
0 10 50 100 200

FELIS consulting

Monumental Strides



Location of Old (Dowling House) CISTERN



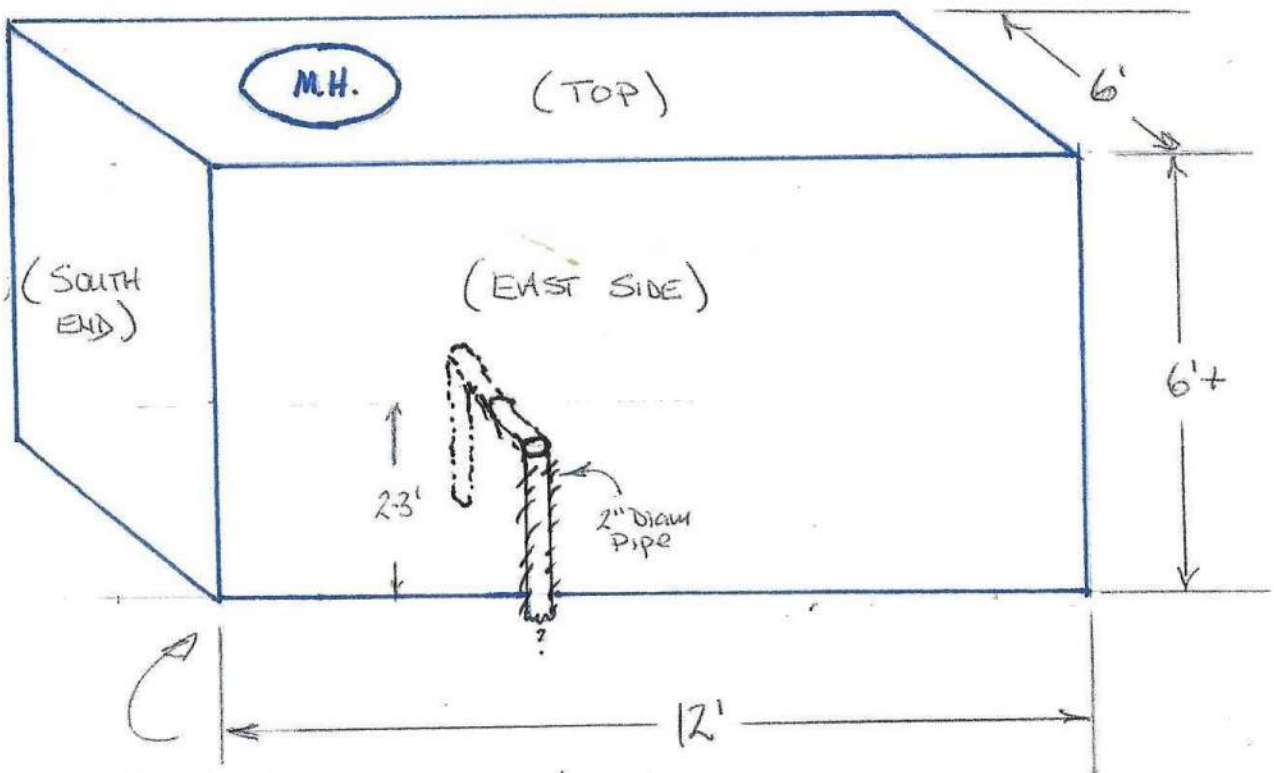
C:\Area Hist\BOWERS Farm\CISTERN for Dowling House\Location of CISTERN.docx

25 October 2023 jfm

CONCRETE VAULT (or CISTERN)

Unearthed while excavating for New Entrance Road to Bowers SCHOOL FARM - 11 AUGUST 2009

Top was broken down, then filled with aggregate and left in place under the east edge of new Entrance Road.



NOTE: This SE corner of Vault is Located ~ 58' from S.W. Corner of Farmhouse - on Line parallel to Square Lake Road. R.O.W.

Rev 18 AUG 2009 by Frank Favara

SCALE 3/8" = 1'

14 AUG 2009 JFM



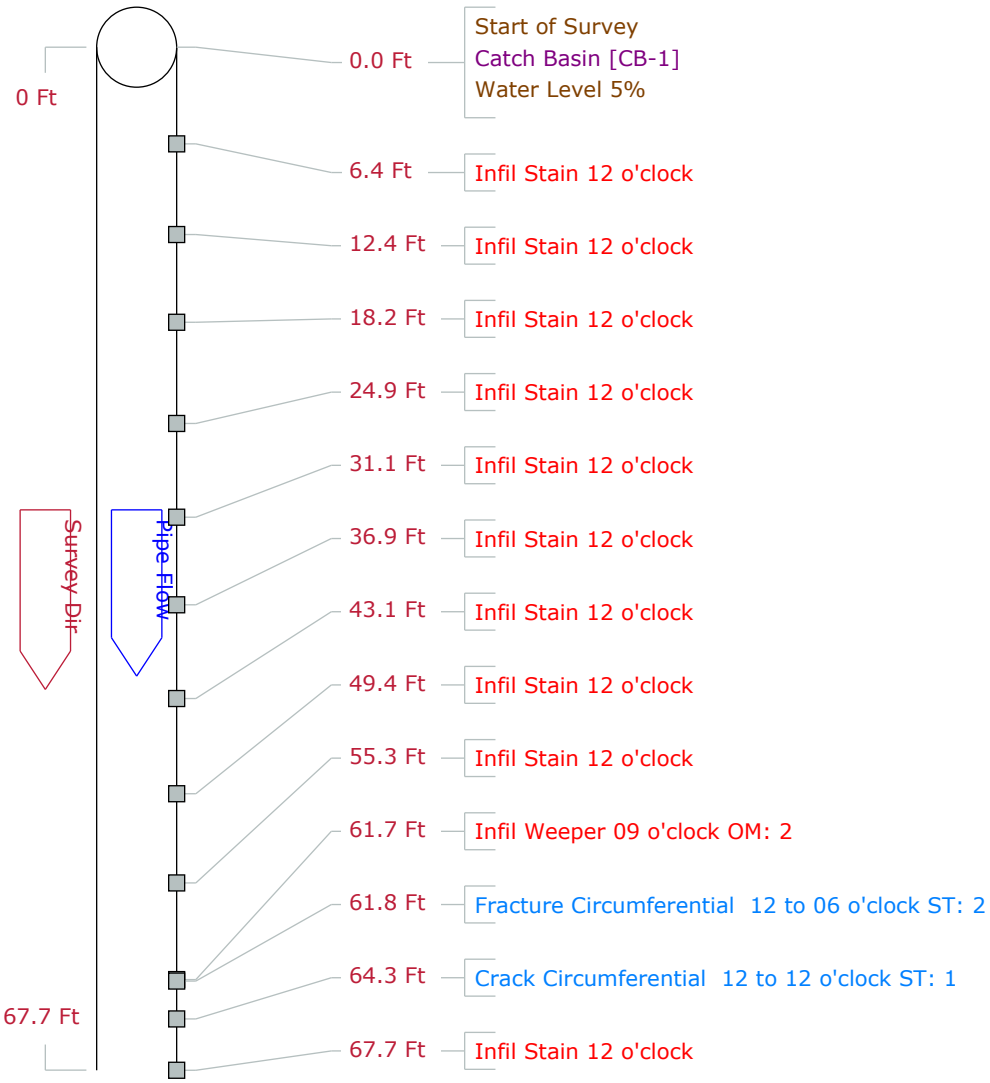
Pipe Graphic Report of PSR CB-1 Y **for** BLOOMFIELD HILLS SCHOOLS

Setup	2	**Surveyor**	SP	**Certificate #**	U-406-2939	**System Owner**	BLOOMFIELD HILLS SCH(
Drainage		**Survey Customer**	BLOOMFIELD HILLS SCHOOLS				
P/O #		**Date**	2021/07/21	**Time**	11:24	**Street**	FAB
City	BLOOMFIELD HILLS	**Further location details**					

Up	CB-1	**Rim to invert**		**Grade to invert**		**Rim to grade**	**Ft**
Down	CB-2	**Rim to invert**		**Grade to invert**		**Rim to grade**	**Ft**

Use	Stormwater	**Direction**	Downstream	**Flow control**			**Media No**		
Shape	Circular	**Height**	12	**Width**	**ins**	**Preclean**	J	**Date Cleaned**	2021/07/21
Material	Reinforced Concrete Pipe	**Joint length**	**Ft**	**Total length**	75.1 **Ft**			**Length Surveyed**	75.10 **Ft**
Lining		**Year laid**		**Year rehabilitated**			**Weather**	Saturated	
Purpose	Maintenance Related	**Cat**							

Additional info		Structural	O & M Constructional
Location	Yard	Miscellaneous	Hydraulic
Project	FAB -7/21/2021	**Work Order**	
Northing	**Easting**	**Elevation**	
Coordinate System		**GPS Accuracy**	





Michigan Pipe Inspection, Inc.
Phone:810-982-6878

Pipe Graphic Report of PSR CB-1 Y **for** BLOOMFIELD HILLS SCHOOLS

Setup	2	**Surveyor**	SP	**Certificate #**	U-406-2939	**System Owner**	BLOOMFIELD HILLS SCH(
Drainage		**Survey Customer**	BLOOMFIELD HILLS SCHOOLS				
P/O #		**Date**	2021/07/21	**Time**	11:24	**Street**	FAB
City	BLOOMFIELD HILLS	**Further location details**					

Up	CB-1	**Rim to invert**		**Grade to invert**		**Rim to grade**		**Ft**
Down	CB-2	**Rim to invert**		**Grade to invert**		**Rim to grade**		**Ft**
Use	Stormwater	**Direction**	Downstream	**Flow control**		**Media No**		
Shape	Circular	**Height**	12	**Width**	**ins**	**Preclean**	J	**Date Cleaned** 2021/07/21
Material	Reinforced Concrete Pipe	**Joint length**	**Ft**	**Total length**	75.1 **Ft**	**Length Surveyed**	75.10	**Ft**
Lining		**Year laid**		**Year rehabilitated**		**Weather**	Saturated	
Purpose	Maintenance Related	**Cat**						

Additional info

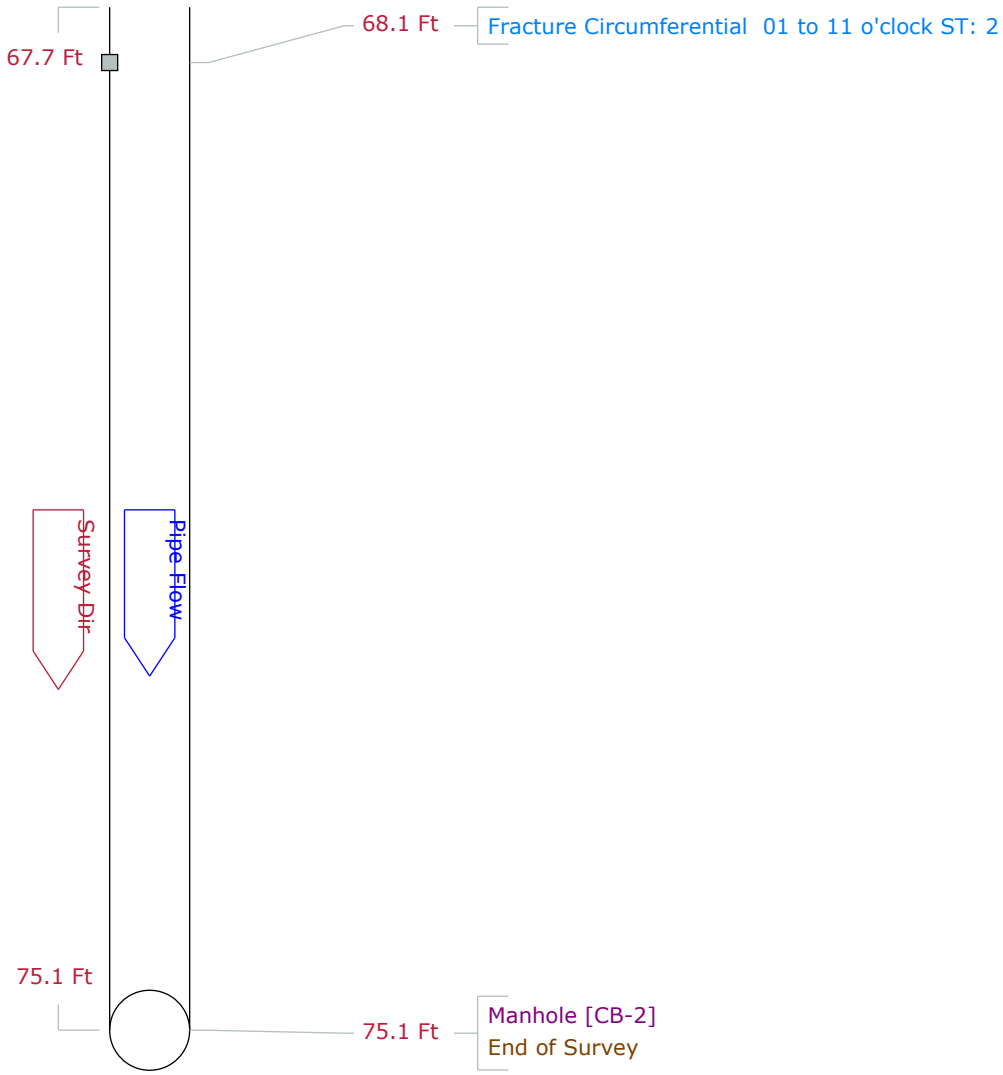
Structural O & M Constructional
Miscellaneous Hydraulic

Location Yard

Project FAB -7/21/2021 **Work Order**

Northing **Easting** **Elevation**

Coordinate System **GPS Accuracy**





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CCTV Picture List of CB-1 Y **for** BLOOMFIELD HILLS SCHOOLS

Work Order		**Setup** 2
Video	**Survey Date**	2021/07/21
Path to picture files	F:\2021\Snaps\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	
Path to video files	F:\2021\Movies\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	
Path to media files	F:\2021\Media\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	



Video Index **Count** 6.4 Ft
Code Infil Stain
Remarks
File Name 4.jpg



Video Index **Count** 12.4 Ft
Code Infil Stain
Remarks
File Name 5.jpg



Video Index **Count** 18.2 Ft
Code Infil Stain
Remarks
File Name 6.jpg



Video Index **Count** 24.9 Ft
Code Infil Stain
Remarks
File Name 7.jpg



Video Index **Count** 31.1 Ft
Code Infil Stain
Remarks
File Name 8.jpg



Video Index **Count** 36.9 Ft
Code Infil Stain
Remarks
File Name 9.jpg



Video Index **Count** 43.1 Ft
Code Infil Stain
Remarks
File Name 10.jpg



Video Index **Count** 49.4 Ft
Code Infil Stain
Remarks
File Name 11.jpg



Michigan Pipe Inspection, Inc.
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CCTV Picture List of CB-1 Y **for** BLOOMFIELD HILLS SCHOOLS

Work Order		**Setup** 2
Video	**Survey Date**	2021/07/21
Path to picture files	F:\2021\Snaps\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	
Path to video files	F:\2021\Movies\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	
Path to media files	F:\2021\Media\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	



Video Index **Count** 55.3 Ft
Code Infil Stain
Remarks
File Name 12.jpg



Video Index **Count** 61.7 Ft
Code Infil Weeper
Remarks
File Name 13.jpg



Video Index **Count** 61.8 Ft
Code Fracture Circumferential
Remarks
File Name 14.jpg



Video Index **Count** 61.8 Ft
Code Fracture Circumferential
Remarks
File Name 15.jpg



Video Index **Count** 61.8 Ft
Code Fracture Circumferential
Remarks
File Name 16.jpg



Video Index **Count** 64.3 Ft
Code Crack Circumferential
Remarks
File Name 17.jpg



Video Index **Count** 67.7 Ft
Code Infil Stain
Remarks
File Name 18.jpg



Video Index **Count** 68.1 Ft
Code Fracture Circumferential
Remarks
File Name 19.jpg



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CCTV Picture List of CB-1 Y **for** BLOOMFIELD HILLS SCHOOLS

Work Order		**Setup** 2
Video	**Survey Date**	2021/07/21
Path to picture files	F:\2021\Snaps\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	
Path to video files	F:\2021\Movies\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	
Path to media files	F:\2021\Media\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	



Video Index **Count** 68.1 Ft
Code Fracture Circumferential
Remarks
File Name 20.jpg



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Tabular Report of PSR CB-1 Y **for** **BLOOMFIELD HILLS SCHOOLS**

Setup	2	**Surveyor**	SP	**Certificate #**	U-406-2939	**System Owner**	BLOOMFIELD HILLS SCHO
Drainage		**Survey Customer**	BLOOMFIELD HILLS SCHOOLS				
P/O #		**Date**	2021/07/21	**Time**	11:24	**Street**	FAB
City	BLOOMFIELD HILLS	**Further location details**					

Up	CB-1	**Rim to invert**		**Grade to invert**		**Rim to grade**	Ft
Down	CB-2	**Rim to invert**		**Grade to invert**		**Rim to grade**	Ft

Use	Stormwater	**Direction**	Down	**Flow control**				**Media No**	
Shape	Circular	**Height**	12	**Width**	ins	**Preclean**	J	**Date Cleaned**	2021/07/21
Material	Reinforced Concrete Pipe	**Joint length**	Ft	**Total length**	75.1 Ft			**Length Surveyed**	75.1 Ft
Lining		**Year laid**		**Year rehabilitated**				**Weather**	Saturated
Purpose	Maintenance Related	**Cat**						**Pressure**	

Additional info		Structural	O & M Constructional
Location	Yard	Miscellaneous	
Project	FAB -7/21/2021		**Work Order**
Northing		**Easting**	**Elevation**
Coordinate System			**GPS Accuracy**

Count	Video		CD	Code		In1	In2	%	Jnt	Fr	To	ImRef	Remarks
0.0				ST	Start of Survey								
0.0				ACB	Catch Basin								CB-1
0.0				MWL	Water Level			5					
6.4				IS	Infil Stain				J	12			
12.4				IS	Infil Stain				J	12			
18.2				IS	Infil Stain				J	12			
24.9				IS	Infil Stain				J	12			
31.1				IS	Infil Stain				J	12			
36.9				IS	Infil Stain				J	12			
43.1				IS	Infil Stain				J	12			
49.4				IS	Infil Stain				J	12			
55.3				IS	Infil Stain				J	12			
61.7				IW	Infil Weeper				J	09			
61.8				FC	Fracture Circumferential				J	12	06		
64.3				CC	Crack Circumferential					12	12		
67.7				IS	Infil Stain				J	12			
68.1				FC	Fracture Circumferential				J	01	11		
75.1				AMH	Manhole								CB-2
75.1				FH	End of Survey								

75.1 **Ft** **Total Length Surveyed**

Scores

Structural:	**Pipe Rating**	5	**Pipe Ratings Index**	1.7	**Quick Rating**	2211
O&M:	**Pipe Rating**	2	**Pipe Ratings Index**	2	**Quick Rating**	2100
Overall	**Pipe Rating**	7	**Pipe Ratings Index**	3.7	**Quick Rating**	2311



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Pipe Graphic Report of PSR CB-1 X **for** BLOOMFIELD HILLS SCHOOLS

Setup	1	**Surveyor**	SP	**Certificate #**	U-406-2939	**System Owner**	BLOOMFIELD HILLS SCH(
Drainage		**Survey Customer**	BLOOMFIELD HILLS SCHOOLS				
P/O #		**Date**	2021/07/21	**Time**	10:43	**Street**	FAB
City	BLOOMFIELD HILLS	**Further location details**					

Up	CB-1	**Rim to invert**		**Grade to invert**		**Rim to grade**		**Ft**
Down	WEST PIPE	**Rim to invert**		**Grade to invert**		**Rim to grade**		**Ft**
Use	Stormwater	**Direction**	Downstream	**Flow control**		**Media No**		
Shape	Circular	**Height**	12	**Width**	**ins**	**Preclean**	J	**Date Cleaned** 2021/07/21
Material	Reinforced Concrete Pipe	**Joint length**	**Ft**	**Total length**	**Ft**	**Length Surveyed**	75.20	**Ft**
Lining		**Year laid**		**Year rehabilitated**		**Weather**	Saturated	
Purpose	Maintenance Related	**Cat**						

Additional info

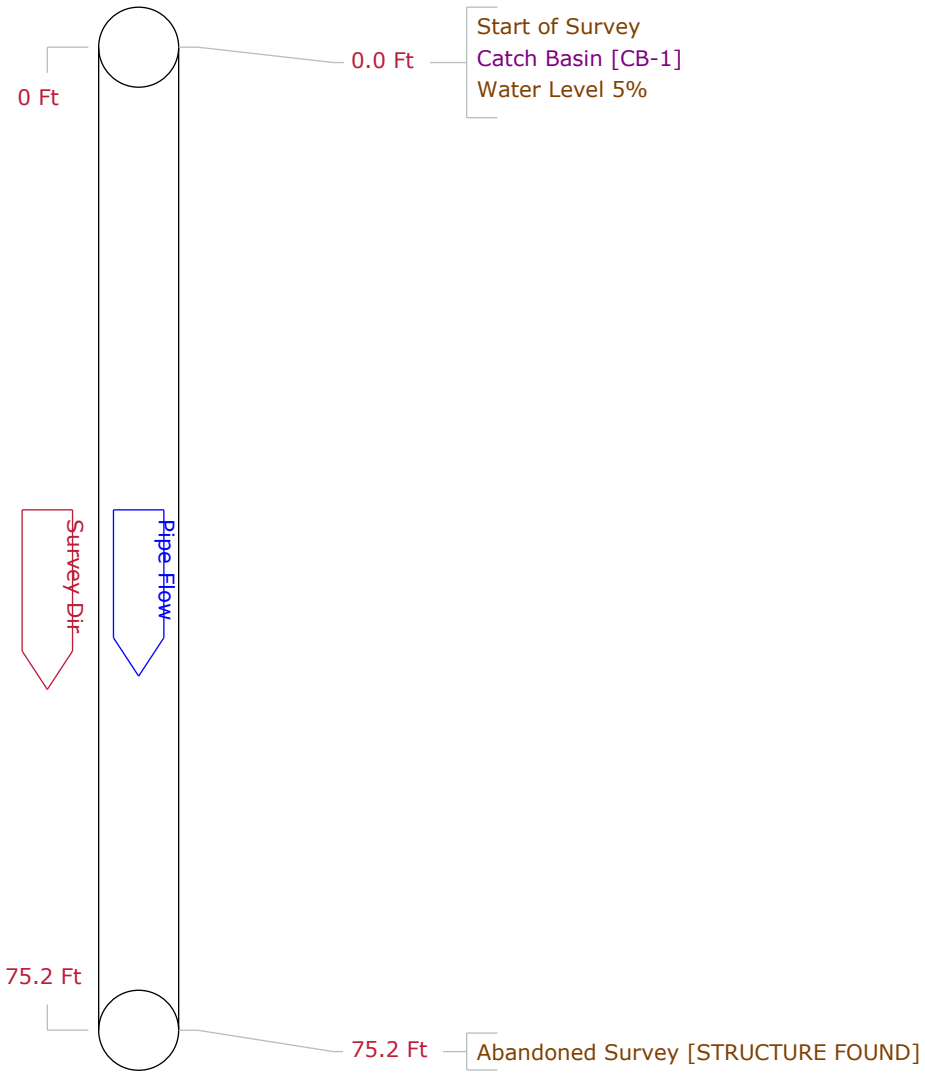
Structural O & M Constructional
Miscellaneous Hydraulic

Location Yard

Project FAB -7/21/2021 **Work Order**

Northing **Easting** **Elevation**

Coordinate System **GPS Accuracy**





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Tabular Report of PSR CB-1 X **for** **BLOOMFIELD HILLS SCHOOLS**

Setup	1	**Surveyor**	SP	**Certificate #**	U-406-2939	**System Owner**	BLOOMFIELD HILLS SCH(
Drainage		**Survey Customer**	BLOOMFIELD HILLS SCHOOLS				
P/O #		**Date**	2021/07/21	**Time**	10:43	**Street**	FAB
City	BLOOMFIELD HILLS	**Further location details**					

Up	CB-1	**Rim to invert**		**Grade to invert**		**Rim to grade**		**Ft**
Down	WEST PIPE	**Rim to invert**		**Grade to invert**		**Rim to grade**		**Ft**
Use	Stormwater	**Direction**	Down	**Flow control**		**Media No**		
Shape	Circular	**Height**	12	**Width**	**ins**	**Preclean**	J	**Date Cleaned**	2021/07/21
Material	Reinforced Concrete Pipe	**Joint length**	**Ft**	**Total length**	**Ft**	**Length Surveyed**	75.2	**Ft**
Lining		**Year laid**		**Year rehabilitated**		**Weather**	Saturated	
Purpose	Maintenance Related	**Cat**				**Pressure**		

Additional info

Structural O & M Constructional Miscellaneous

Location Yard

Project FAB -7/21/2021 **Work Order**

Northing **Easting** **Elevation**

Coordinate System **GPS Accuracy**

Count	Video	CD	Code		In1	In2	%	Jnt	Fr	To	ImRef	Remarks
0.0			ST	Start of Survey								
0.0			ACB	Catch Basin								CB-1
0.0			MWL	Water Level			5					
75.2			MSA	Abandoned Survey								STRUCTURE FOUND

75.2 **Ft** **Total Length Surveyed**

Scores

Structural:	**Pipe Rating**	0	**Pipe Ratings Index**	0	**Quick Rating**	0000
O&M:	**Pipe Rating**	0	**Pipe Ratings Index**	0	**Quick Rating**	0000
Overall	**Pipe Rating**	0	**Pipe Ratings Index**	0	**Quick Rating**	0000



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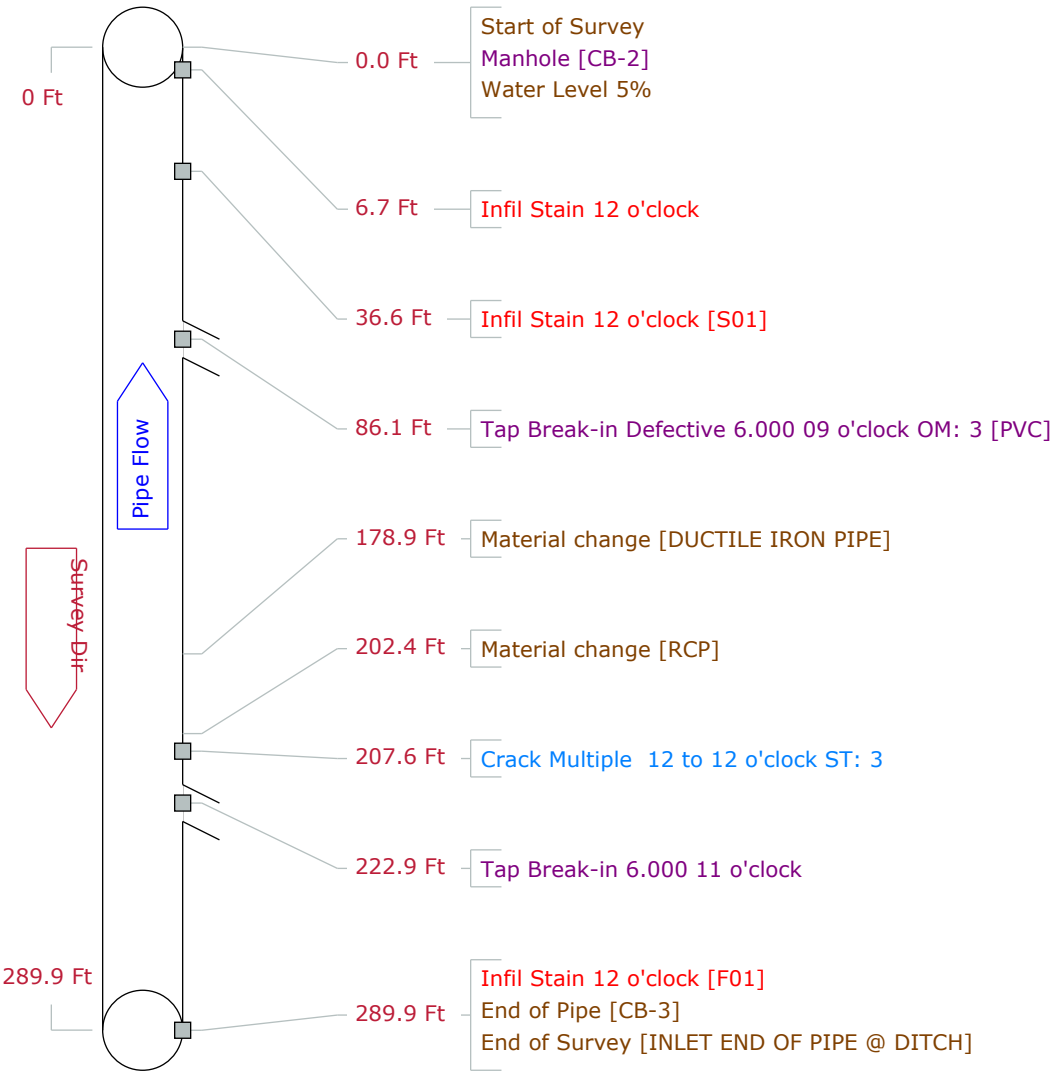
Pipe Graphic Report of PSR CB-3 Y **for** BLOOMFIELD HILLS SCHOOLS

Setup	3	**Surveyor**	SP	**Certificate #**	U-406-2939
System Owner	BLOOMFIELD HILLS SCH(				
Drainage		**Survey Customer**	BLOOMFIELD HILLS SCHOOLS		
P/O #		**Date**	2021/07/21	**Time**	11:59
Street	FAB				
City	BLOOMFIELD HILLS	**Further location details**			

Up	CB-3	**Rim to invert**		**Grade to invert**		**Rim to grade**	**Ft**
Down	CB-2	**Rim to invert**		**Grade to invert**		**Rim to grade**	**Ft**

Use	Stormwater	**Direction**	Upstream	**Flow control**		**Media No**	
Shape	Circular	**Height**	12	**Width**	**ins**	**Preclean**	J
Date Cleaned	2021/07/21						
Material	Reinforced Concrete Pipe	**Joint length**	**Ft**	**Total length**	289.9 **Ft**	**Length Surveyed**	289.90 **Ft**
Lining		**Year laid**		**Year rehabilitated**		**Weather**	Saturated
Purpose	Maintenance Related	**Cat**					

Additional info		Structural	O & M
Constructional			
Location	Yard	Miscellaneous	Hydraulic
Project	FAB -7/21/2021	**Work Order**	
Northing	**Easting**	**Elevation**	
Coordinate System		**GPS Accuracy**	





Michigan Pipe Inspection, Inc.
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CCTV Picture List of CB-3 Y **for** BLOOMFIELD HILLS SCHOOLS

Work Order		**Setup** 3
Video	**Survey Date**	2021/07/21
Path to picture files	F:\2021\Snaps\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	
Path to video files	F:\2021\Movies\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	
Path to media files	F:\2021\Media\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	



Video Index **Count** 6.7 Ft
Code Infil Stain
Remarks
File Name 22.jpg



Video Index **Count** 36.6 Ft
Code Infil Stain
Remarks
File Name 23.jpg



Video Index **Count** 86.1 Ft
Code Tap Break-in Defective
Remarks PVC
File Name 24.jpg



Video Index **Count** 86.1 Ft
Code Tap Break-in Defective
Remarks PVC
File Name 25.jpg



Video Index **Count** 86.1 Ft
Code Tap Break-in Defective
Remarks PVC
File Name 26.jpg



Video Index **Count** 178.9 Ft
Code Material change
Remarks DUCTILE IRON PIPE
File Name 27.jpg



Video Index **Count** 202.4 Ft
Code Material change
Remarks RCP
File Name 28.jpg



Video Index **Count** 207.6 Ft
Code Crack Multiple
Remarks
File Name 29.jpg



Michigan Pipe Inspection, Inc.
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CCTV Picture List of CB-3 Y **for** BLOOMFIELD HILLS SCHOOLS

Work Order			**Setup** 3
Video	**Survey Date**	2021/07/21	
Path to picture files	F:\2021\Snaps\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\		
Path to video files	F:\2021\Movies\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\		
Path to media files	F:\2021\Media\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\		



Video Index **Count** 222.9 Ft
Code Tap Break-in
Remarks
File Name 30.jpg



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Tabular Report of PSR CB-3 Y for BLOOMFIELD HILLS SCHOOLS

Setup 3	**Surveyor** SP	**Certificate #** U-406-2939	**System Owner** BLOOMFIELD HILLS SCH(		
Drainage	**Survey Customer** BLOOMFIELD HILLS SCHOOLS				
P/O #	**Date** 2021/07/21	**Time** 11:59	**Street** FAB		
City BLOOMFIELD HILLS	**Further location details**				
Up CB-3	**Rim to invert**	**Grade to invert**	**Rim to grade**	**Ft**	
Down CB-2	**Rim to invert**	**Grade to invert**	**Rim to grade**	**Ft**	
Use Stormwater	**Direction** Up	**Flow control**	**Media No**		
Shape Circular	**Height** 12 **Width**	**ins**	**Preclean** J	**Date Cleaned** 2021/07/21	
Material Reinforced Concrete Pipe	**Joint length**	**Ft**	**Total length** 289.9 **Ft**	**Length Surveyed** 289.9 **Ft**	
Lining	**Year laid**	**Year rehabilitated**	**Weather** Saturated		
Purpose Maintenance Related	**Cat**		**Pressure**		
Additional info			Structural O & M Constructional Miscellaneous		
Location Yard					
Project FAB -7/21/2021			**Work Order**		
Northing	**Easting**		**Elevation**		
Coordinate System			**GPS Accuracy**		

Count	Video	CD	Code		In1	In2	%	Jnt	Fr	To	ImRef	Remarks
0.0			ST	Start of Survey								
0.0			AMH	Manhole								CB-2
0.0			MWL	Water Level			5					
6.7			IS	Infil Stain				J	12			
36.6		S01	IS	Infil Stain				J	12			
86.1			TBD	Tap Break-in Defective	6.000				09			PVC
178.9			MMC	Material change								DUCTILE IRON PIPE
202.4			MMC	Material change								RCP
207.6			CM	Crack Multiple					12	12		
222.9			TB	Tap Break-in	6.000				11			
289.9		F01	IS	Infil Stain				J	12			
289.9			AEP	End of Pipe								CB-3
289.9			FH	End of Survey								INLET END OF PIPE @ DITCH

289.9 **Ft** **Total Length Surveyed**

Scores

Structural:	**Pipe Rating** 3	**Pipe Ratings Index** 3	**Quick Rating** 3100
O&M:	**Pipe Rating** 3	**Pipe Ratings Index** 3	**Quick Rating** 3100
Overall	**Pipe Rating** 6	**Pipe Ratings Index** 6	**Quick Rating** 3200



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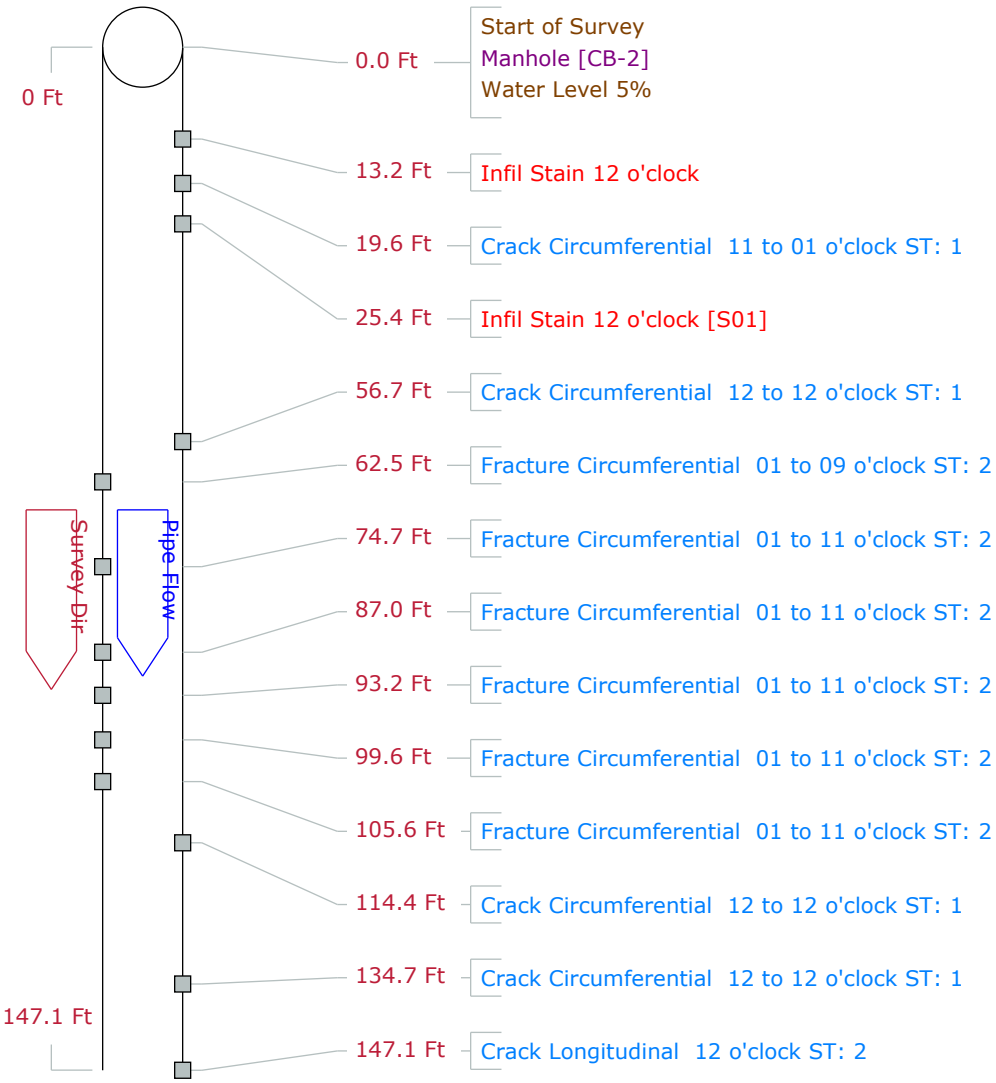
Pipe Graphic Report of PSR CB-2 Y **for** BLOOMFIELD HILLS SCHOOLS

Setup	4	**Surveyor**	SP	**Certificate #**	U-406-2939
System Owner	BLOOMFIELD HILLS SCH(				
Drainage		**Survey Customer**	BLOOMFIELD HILLS SCHOOLS		
P/O #		**Date**	2021/07/21	**Time**	13:27
Street	FAB				
City	BLOOMFIELD HILLS	**Further location details**			

Up	CB-2	**Rim to invert**		**Grade to invert**	**Rim to grade**	**Ft**
Down	OUT FALL	**Rim to invert**		**Grade to invert**	**Rim to grade**	**Ft**

Use	Stormwater	**Direction**	Downstream	**Flow control**		**Media No**	
Shape	Circular	**Height**	12	**Width**	**ins**	**Preclean** J	**Date Cleaned** 2021/07/21
Material	Reinforced Concrete Pipe	**Joint length**	**Ft**	**Total length**	193.0 **Ft**	**Length Surveyed**	193.00 **Ft**
Lining		**Year laid**		**Year rehabilitated**		**Weather**	Saturated
Purpose	Maintenance Related	**Cat**					

Additional info	Structural	O & M	Constructional
Location Yard	Miscellaneous	Hydraulic	
Project FAB -7/21/2021	**Work Order**		
Northing	**Easting**	**Elevation**	
Coordinate System	**GPS Accuracy**		





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Pipe Graphic Report of PSR CB-2 Y **for** BLOOMFIELD HILLS SCHOOLS

Setup	4	**Surveyor**	SP	**Certificate #**	U-406-2939	**System Owner**	BLOOMFIELD HILLS SCH(
Drainage		**Survey Customer**	BLOOMFIELD HILLS SCHOOLS				
P/O #		**Date**	2021/07/21	**Time**	13:27	**Street**	FAB
City	BLOOMFIELD HILLS	**Further location details**					

Up	CB-2	**Rim to invert**		**Grade to invert**		**Rim to grade**	**Ft**
Down	OUT FALL	**Rim to invert**		**Grade to invert**		**Rim to grade**	**Ft**

Use	Stormwater	**Direction**	Downstream	**Flow control**		**Media No**	
Shape	Circular	**Height**	12	**Width**	**ins**	**Preclean** J	**Date Cleaned** 2021/07/21
Material	Reinforced Concrete Pipe	**Joint length**	**Ft**	**Total length**	193.0 **Ft**	**Length Surveyed**	193.00 **Ft**
Lining		**Year laid**		**Year rehabilitated**		**Weather**	Saturated
Purpose	Maintenance Related	**Cat**					

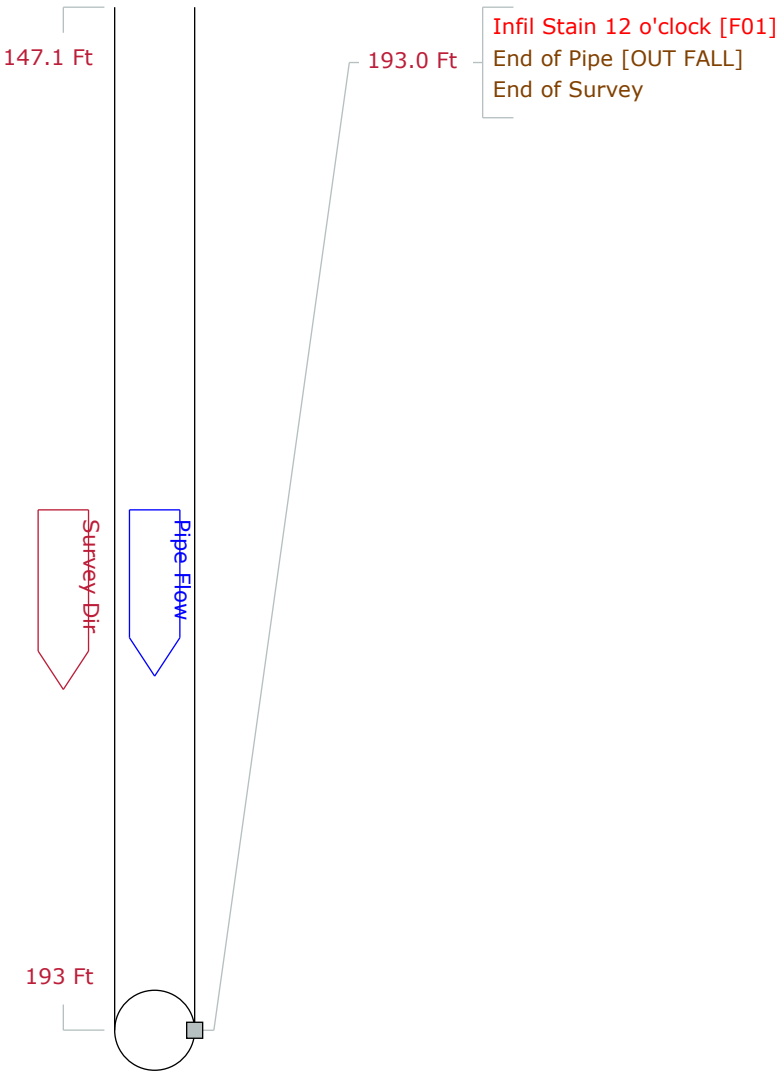
Additional info		Structural	O & M
Location	Yard	Miscellaneous	Hydraulic
Project	FAB -7/21/2021		
Northing		**Easting**	
Coordinate System			

Constructional

Work Order

Elevation

GPS Accuracy





Michigan Pipe Inspection, Inc.
Phone:810-982-6878

CCTV Picture List of CB-2 Y **for** BLOOMFIELD HILLS SCHOOLS

Work Order		**Setup** 4
Video	**Survey Date**	2021/07/21
Path to picture files	F:\2021\Snaps\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	
Path to video files	F:\2021\Movies\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	
Path to media files	F:\2021\Media\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	



Video Index **Count** 19.6 Ft
Code Crack Circumferential
Remarks
File Name 33.jpg



Video Index **Count** 25.4 Ft
Code Infil Stain
Remarks
File Name 34.jpg



Video Index **Count** 56.7 Ft
Code Crack Circumferential
Remarks
File Name 35.jpg



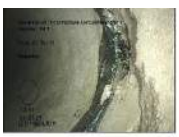
Video Index **Count** 62.5 Ft
Code Fracture Circumferential
Remarks
File Name 36.jpg



Video Index **Count** 62.5 Ft
Code Fracture Circumferential
Remarks
File Name 37.jpg



Video Index **Count** 62.5 Ft
Code Fracture Circumferential
Remarks
File Name 38.jpg



Video Index **Count** 74.7 Ft
Code Fracture Circumferential
Remarks
File Name 39.jpg



Video Index **Count** 74.7 Ft
Code Fracture Circumferential
Remarks
File Name 40.jpg



Michigan Pipe Inspection, Inc.
Phone:810-982-6878

CCTV Picture List of CB-2 Y **for** BLOOMFIELD HILLS SCHOOLS

Work Order		**Setup** 4
Video	**Survey Date**	2021/07/21
Path to picture files	F:\2021\Snaps\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	
Path to video files	F:\2021\Movies\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	
Path to media files	F:\2021\Media\BLOOMFIELD HILLS SCHOOLS 2021 VER 1\	



Video Index **Count** 74.7 Ft
Code Fracture Circumferential
Remarks
File Name 41.jpg



Video Index **Count** 87.0 Ft
Code Fracture Circumferential
Remarks
File Name 42.jpg



Video Index **Count** 93.2 Ft
Code Fracture Circumferential
Remarks
File Name 43.jpg



Video Index **Count** 99.6 Ft
Code Fracture Circumferential
Remarks
File Name 44.jpg



Video Index **Count** 105.6 Ft
Code Fracture Circumferential
Remarks
File Name 45.jpg



Video Index **Count** 114.4 Ft
Code Crack Circumferential
Remarks
File Name 46.jpg



Video Index **Count** 134.7 Ft
Code Crack Circumferential
Remarks
File Name 47.jpg



Video Index **Count** 147.1 Ft
Code Crack Longitudinal
Remarks
File Name 48.jpg



Michigan Pipe Inspection, Inc.
Phone:810-982-6878

Tabular Report of PSR CB-2 Y **for** **BLOOMFIELD HILLS SCHOOLS**

Setup	4	**Surveyor**	SP	**Certificate #**	U-406-2939	**System Owner**	BLOOMFIELD HILLS SCHO
Drainage		**Survey Customer**	BLOOMFIELD HILLS SCHOOLS				
P/O #		**Date**	2021/07/21	**Time**	13:27	**Street**	FAB
City	BLOOMFIELD HILLS	**Further location details**					

Up	CB-2	**Rim to invert**		**Grade to invert**		**Rim to grade**	**Ft**
Down	OUT FALL	**Rim to invert**		**Grade to invert**		**Rim to grade**	**Ft**

Use	Stormwater	**Direction**	Down	**Flow control**		**Media No**	
Shape	Circular	**Height**	12	**Width**	**ins**	**Preclean**	J	**Date Cleaned**	2021/07/21
Material	Reinforced Concrete Pipe	**Joint length**	**Ft**	**Total length**	193.0 **Ft**	**Length Surveyed**	193.0 **Ft**
Lining		**Year laid**		**Year rehabilitated**		**Weather**	Saturated
Purpose	Maintenance Related	**Cat**				**Pressure**	

Additional info				Structural	O & M	Constructional
Location	Yard			Miscellaneous		
Project	FAB -7/21/2021			**Work Order**		
Northing		**Easting**		**Elevation**		
Coordinate System				**GPS Accuracy**		

Count	Video	CD	Code		In1	In2	%	Jnt	Fr	To	ImRef	Remarks
0.0			ST	Start of Survey								
0.0			AMH	Manhole								CB-2
0.0			MWL	Water Level			5					
13.2			IS	Infil Stain					12			
19.6			CC	Crack Circumferential				J	11	01		
25.4		S01	IS	Infil Stain				J	12			
56.7			CC	Crack Circumferential				J	12	12		
62.5			FC	Fracture Circumferential				J	01	09		
74.7			FC	Fracture Circumferential				J	01	11		
87.0			FC	Fracture Circumferential				J	01	11		
93.2			FC	Fracture Circumferential				J	01	11		
99.6			FC	Fracture Circumferential				J	01	11		
105.6			FC	Fracture Circumferential				J	01	11		
114.4			CC	Crack Circumferential					12	12		
134.7			CC	Crack Circumferential					12	12		
147.1			CL	Crack Longitudinal					12			
193.0		F01	IS	Infil Stain				J	12			
193.0			AEP	End of Pipe								OUT FALL
193.0			FH	End of Survey								

193.0 **Ft** **Total Length Surveyed**

Scores

Structural:	**Pipe Rating**	18	**Pipe Ratings Index**	1.6	**Quick Rating**	2714
O&M:	**Pipe Rating**	0	**Pipe Ratings Index**	0	**Quick Rating**	0000
Overall	**Pipe Rating**	18	**Pipe Ratings Index**	1.6	**Quick Rating**	2714



Michigan Pipe Inspection, Inc.
Phone:810-982-6878

TMP ARCHITECTURE

ARCHITECTURE

TMP ARCHITECTURE INC
1191 WEST SQUARE LAKE ROAD · BLOOMFIELD HILLS · MICHIGAN · 48302
PH · 248.338.4561 FX · 248.338.0223 EM · INFO@TMP-ARCHITECTURE.COM

BOWERS FARM SCHOOL HOUSE

BLOOMFIELD HILLS SCHOOLS

BLOOMFIELD HILLS, MI

PROJECT NUMBER 07169B

BID PACKAGE 750 - BIDS

CONSULTANTS:

MECHANICAL ENGINEER

PETER BASSO ASSOCIATES INC.
CONSULTING ENGINEERS
5145 LIVERNOIS ROAD, SUITE 100
TROY, MICHIGAN 48098-3276
PHONE: (248) 879-5666
FAX: (248) 879-0007

FOOD SERVICE

E. F. WHITNEY, INC.
FOOD SERVICE CONSULTANT
568 ANN STREET
BIRMINGHAM, MICHIGAN 48009
PHONE: (248) 644-0990
FAX: (248) 644-0177

ELECTRICAL ENGINEER

PETER BASSO ASSOCIATES INC.
CONSULTING ENGINEERS
5145 LIVERNOIS ROAD, SUITE 100
TROY, MICHIGAN 48098-3276
PHONE: (248) 879-5666
FAX: (248) 879-0007

CONSULTANT

CIVIL ENGINEER

SPALDING, DeDECKER ASSOCIATES, INC.
CIVIL ENGINEERS
905 SOUTH BOULEVARD EAST
ROCHESTER HILLS, MICHIGAN 48307
PHONE: (248) 844-5400
FAX: (248) 844-5404

CONSULTANT

STRUCTURAL ENGINEER

PENHALE & YATES, INC.
CONSULTING STRUCTURAL ENGINEERS
29200 SOUTHFIELD RD., SUITE 207
SOUTHFIELD, MICHIGAN 48076
PHONE: (248) 569-4446
FAX: (248) 569-5155

CONSULTANT

LIST OF DRAWINGS

GENERAL INFORMATION

TS.1 COVER SHEET
TG.1 GENERAL INFORMATION

CIVIL

C1.0 SITE PLAN
C1.1 TOPOGRAPHICAL SURVEY
C1.2 DEMOLITION PLAN
C1.3 UTILITY PLAN
C1.3A SEPTIC FIELD DETAILS (1 OF 2)
C1.3B SEPTIC FIELD DETAILS (2 OF 2)
C1.3C SANITARY LIFT STATION DETAILS (1 OF 2)
C1.3D SANITARY LIFT STATION DETAILS (2 OF 2)
C1.4 PAVING PLAN AND DETAILS
C1.5 GRADING PLAN
C1.6 SOIL EROSION AND SEDIMENTATION CONTROL PLAN
C1.7 WATER MAIN STANDARD DETAILS AND NOTES
C1.8 STORM SEWER STANDARD DETAILS AND NOTES
C1.9 SANITARY SEWER STANDARD DETAILS AND NOTES
C1.10 OCDC SOIL EROSION AND SEDIMENTATION CONTROL DETAILS

MECHANICAL

M1.1 MECHANICAL SITE PLAN

LICENSEE'S STATEMENT:

This Document has been prepared under the supervision of the Architect, Stephen E. Smith, AIA, as the person in Responsible Charge with the firm of TMP ARCHITECTURE, INC. An original embossed or rubber stamp seal and original signature of the Architect is required and shall be affixed to any copy of this Document submitted to a governmental agency for approval or record. This is in conformance with the State of Michigan's PA 299, Article 20 and the General Rules of the Board of Architects.

The Architect's seal provided hereon does not take responsibility for certain portions of the Documentation or project requiring the services of a licensed Professional Engineer or other design professional. An original embossed or rubber stamp seal and original signature of the Professional Engineer is required and shall be affixed to any copy of this or other Document submitted to a governmental agency for approval or record. The engineering firms associated with this document are listed above as Consultants.

REGISTRATION SEALS

ARCHITECT

Stephen E. Smith, AIA

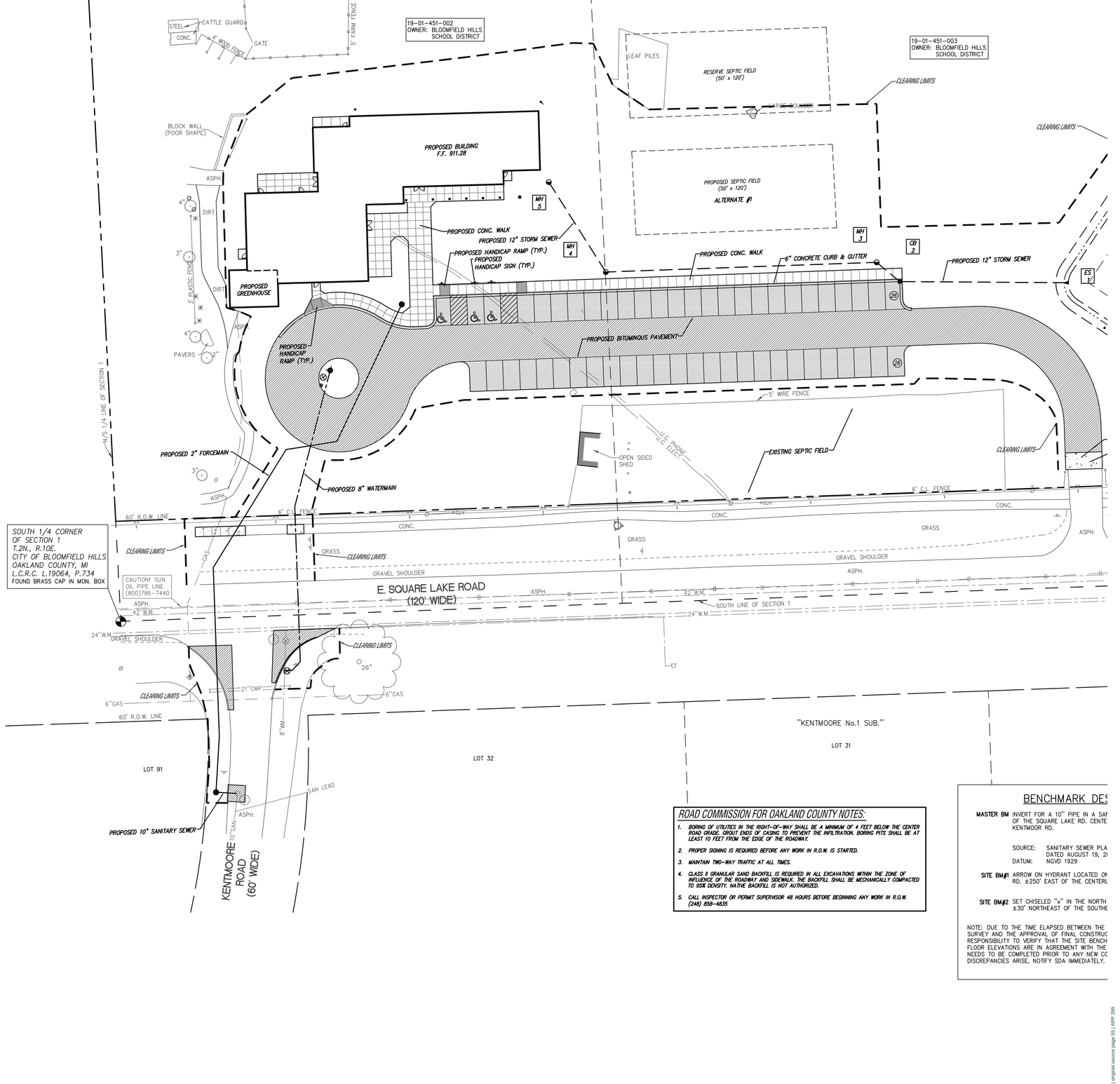
Registered Architect No. 31181

CONSULTANT

CONSULTANT

Plotted: Thu, 13 Jun 2013 7:14:47pm | P:\TMP\Projects\07169b\Drawings\Arch\07169b_TS1.dgn | Apr 13, 2012 - 10:00am

C-03 | original source page 54 | APP 398



ROAD COMMISSION FOR OAKLAND COUNTY NOTES:

1. BORING OF UTILITIES IN THE RIGHT-OF-WAY SHALL BE A MINIMUM OF 4 FEET BELOW THE CENTER ROAD GRADE. GROUT ENDS OF CASING TO PREVENT THE INFILTRATION. BORING PITS SHALL BE AT LEAST 10 FEET FROM THE EDGE OF THE ROADWAY.
2. PROPER SIGNING IS REQUIRED BEFORE ANY WORK IN R.O.W. IS STARTED.
3. MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES.
4. CLASS II GRANULAR SAND BACKFILL IS REQUIRED IN ALL EXCAVATIONS WITHIN THE ZONE OF INFLUENCE OF THE ROADWAY AND SIDEWALK. THE BACKFILL SHALL BE MECHANICALLY COMPACTED TO 95% DENSITY. NATIVE BACKFILL IS NOT AUTHORIZED.
5. CALL INSPECTOR OR PERMIT SUPERVISOR 48 HOURS BEFORE BEGINNING ANY WORK IN R.O.W. (248) 858-4835

BENCHMARK DES

MASTER BM INVERT FOR A 10" PIPE IN A SAN
OF THE SQUARE LAKE RD. CENTE
KENTMOOR RD.

SOURCE: SANITARY SEWER PLA
DATUM: NGVD 1929
DATED AUGUST 19, 20

SITE BM#1 ARROW ON HYDRANT LOCATED ON
RD. ±250' EAST OF THE CENTERL

SITE BM#2 SET CHISELED "X" IN THE NORTH
±30' NORTHEAST OF THE SOUTHE

NOTE: DUE TO THE TIME ELAPSED BETWEEN THE
SURVEY AND THE APPROVAL OF FINAL CONSTRUC
RESPONSIBILITY TO VERIFY THAT THE SITE BENCH
FLOOR ELEVATIONS ARE IN AGREEMENT WITH THE
NEEDS TO BE COMPLETED PRIOR TO ANY NEW CO
DISCREPANCIES ARISE, NOTIFY SDA IMMEDIATELY.

N:\MP\NLD Projects\MP09120\DC - Bloomfield Hills Schools-Bowers Farm\Dwg\MP09120SP.dwg 3-02-10 2:30:14 pm EST

C-03 (original source page 50 | ASP 359

LEGEND

- GAS
- SANITARY SEWER (SAN)
- STORM SEWER (STM)
- WATERMAIN (WM)
- OVERHEAD WIRE
- UNDERGROUND ELECTRIC (ELEC.)
- UNDERGROUND PHONE (PH)
- UNDERGROUND CABLE (CBL)
- MANHOLE
- CATCH BASIN
- SEWER CLEAN OUT
- GAS METER
- GAS SHUT OFF VALVE
- VALVE BOX
- GATE VALVE & WELL
- WATER SHUT OFF VALVE
- FIRE HYDRANT
- SPRINKLER VALVE BOX
- LAWN SPRINKLER HEAD
- HAND HOLE
- ELECTRIC RISER OR METER
- TELEPHONE RISER
- CABLE TV RISER
- AIR CONDITION UNIT
- UTILITY POLE
- UTILITY POLE WITH TRANSFORMER
- UTILITY POLE W/ LAMP EXTENSION (ARROW INDICATES DIRECTION OF ARM)
- LIGHT POLE
- LIGHT POLE WITH LAMP EXTENSION
- TRAFFIC SIGNAL
- POLE WITH TRAFFIC SIGNAL (OVER ROAD)
- GUY WIRE
- GP GUY POLE
- GROUND LEVEL OR DECORATIVE LIGHTING
- FLAG POLE
- PHONE OR PHONE BOOTH
- CHAIN LINK FENCE (C.L.)
- WOOD FENCE
- WOVEN WIRE FENCE (W.W.)
- GUARD RAIL
- METAL OR CONC. POST
- MAILBOX
- SIGN
- WATER FOUNTAIN
- PARKING METER
- BILLBOARD OR LARGE SIGN
- BASKETBALL HOOP
- BOULDER
- STATUE OR SCULPTURE
- BENCH
- INV. INVERT ELEVATION
- CMP CORRUGATED METAL PIPE
- CENTERLINE OF DITCH
- CULVERT
- DITCH BANK/TOP OF SLOPE
- PROPERTY LINES
- STUMP
- CONIFEROUS TREE
- DECIDUOUS TREE
- DECIDUOUS SHRUB
- CONIFEROUS SHRUB
- SECTION CORNER
- △SDA#10 TRAVERSE POINT
- (1) STRUCTURE NUMBER
- (10) SDA POINT No.
- 900.00 SPOT ELEVATION
- TC TOP OF CURB ELEVATION
- G GUTTER ELEVATION
- TP TOP OF PAVEMENT ELEVATION
- EM EDGE OF METAL ELEVATION
- TW TOP OF WALK ELEVATION
- WALL TOP OF WALL ELEVATION
- GR GROUND ELEVATION
- U.G. UNDERGROUND
- F.O. FIBER OPTIC
- CONC. CONCRETE
- ASPH. ASPHALT
- L.S. LANDSCAPED
- F.F. FINISH FLOOR ELEVATION
- D.L. DOOR LEDGE ELEVATION
- • F.I. FOUND IRON
- • F.M. FOUND MONUMENT
- • F.P.K. FOUND P.K. NAIL
- • S.I. SET IRON W/SDA CAP
- • S.P.K. SET P.K. NAIL
- • S.P.K./TAG SET P.K. NAIL W/SDA TAG
- • MAG SET MAGNETIC NAIL
- • MAG/TAG SET MAGNETIC NAIL W/SDA TAG
- M MEASURED
- R RECORD
- C CALCULATED

BENCHMARK DESCRIPTIONS

MASTER BM INVERT FOR A 10" PIPE IN A SANITARY MANHOLE LOCATED ±111 SOUTH OF THE SQUARE LAKE RD. CENTERLINE AND IN THE MIDDLE OF KENTMOOR RD.
ELEV.=894.66

SOURCE: SANITARY SEWER PLANS BY HRC JOB #20010782 DATED AUGUST 19, 2002
DATUM: NGVD 1929

SITE BM#1 ARROW ON HYDRANT LOCATED ON THE SOUTH SIDE OF SQUARE LAKE RD. ±250' EAST OF THE CENTERLINE OF KENTMOOR RD.
ELEV.=908.65

SITE BM#2 SET CHISELED "x" IN THE NORTH RIM OF SEPTIC MANHOLE LOCATED ±30' NORTHEAST OF THE SOUTHEAST CORNER OF THE ALUMINUM BARN.
ELEV.=910.84

NOTE: DUE TO THE TIME ELAPSED BETWEEN THE COMPLETION OF THE TOPOGRAPHIC SURVEY AND THE APPROVAL OF FINAL CONSTRUCTION PLANS, IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT THE SITE BENCHMARKS, RIMS, INVERTS AND FINISH FLOOR ELEVATIONS ARE IN AGREEMENT WITH THE CONSTRUCTION PLANS. THIS CHECKING NEEDS TO BE COMPLETED PRIOR TO ANY NEW CONSTRUCTION TAKING PLACE. IF DISCREPANCIES ARISE, NOTIFY SDA IMMEDIATELY.

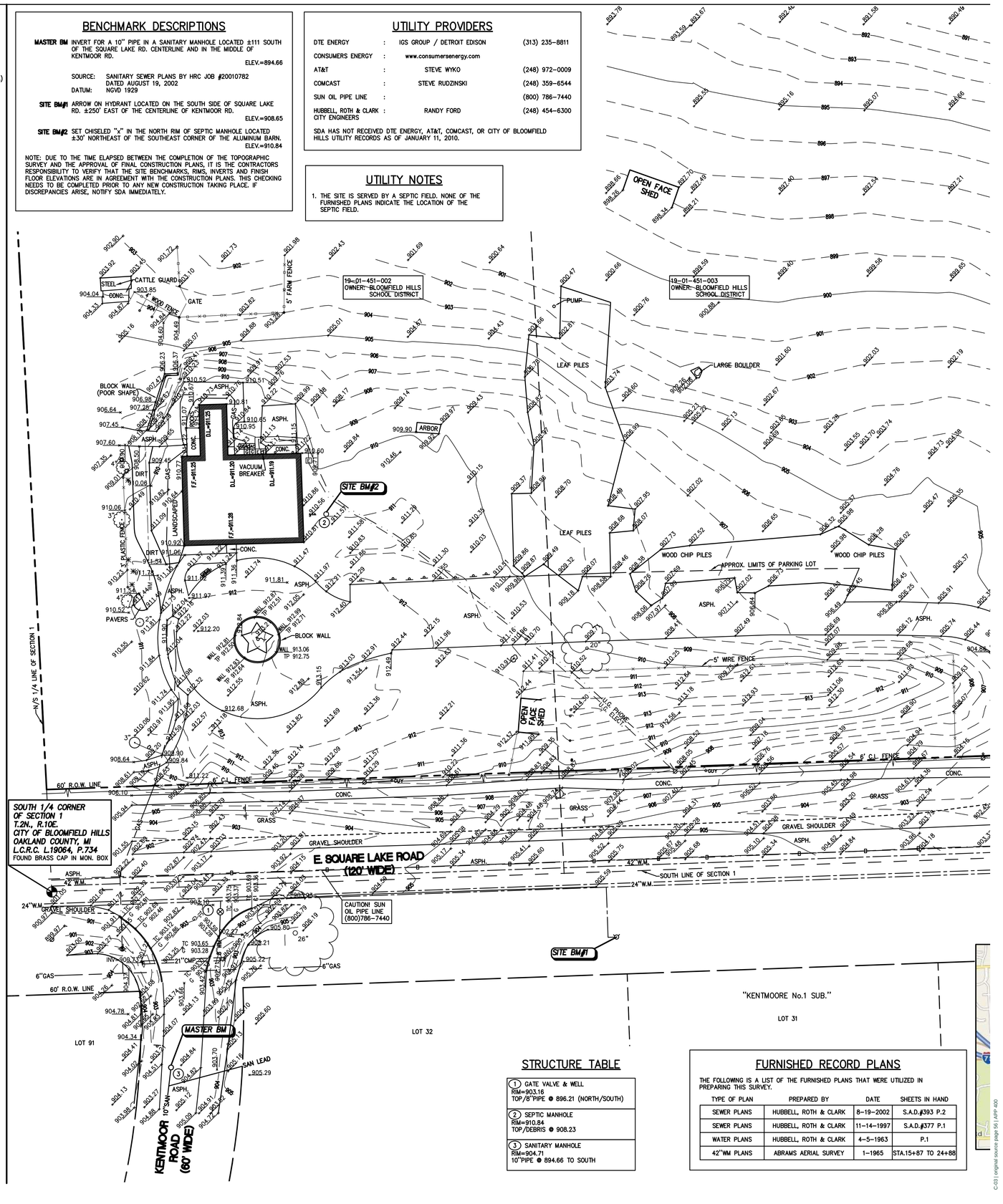
UTILITY PROVIDERS

DTE ENERGY	:	IGS GROUP / DETROIT EDISON	(313) 235-8811
CONSUMERS ENERGY	:	www.consumersenergy.com	
AT&T	:	STEVE WYKO	(248) 972-0009
COMCAST	:	STEVE RUDZINSKI	(248) 359-6544
SUN OIL PIPE LINE	:		(800) 786-7440
HUBBELL, ROTH & CLARK CITY ENGINEERS	:	RANDY FORD	(248) 454-6300

SDA HAS NOT RECEIVED DTE ENERGY, AT&T, COMCAST, OR CITY OF BLOOMFIELD HILLS UTILITY RECORDS AS OF JANUARY 11, 2010.

UTILITY NOTES

1. THE SITE IS SERVED BY A SEPTIC FIELD. NONE OF THE FURNISHED PLANS INDICATE THE LOCATION OF THE SEPTIC FIELD.



STRUCTURE TABLE

(1) GATE VALVE & WELL	RIM=903.16 TOP/8"PIPE @ 896.21 (NORTH/SOUTH)
(2) SEPTIC MANHOLE	RIM=910.84 TOP/DEBRIS @ 908.23
(3) SANITARY MANHOLE	RIM=904.71 10"PIPE @ 894.66 TO SOUTH

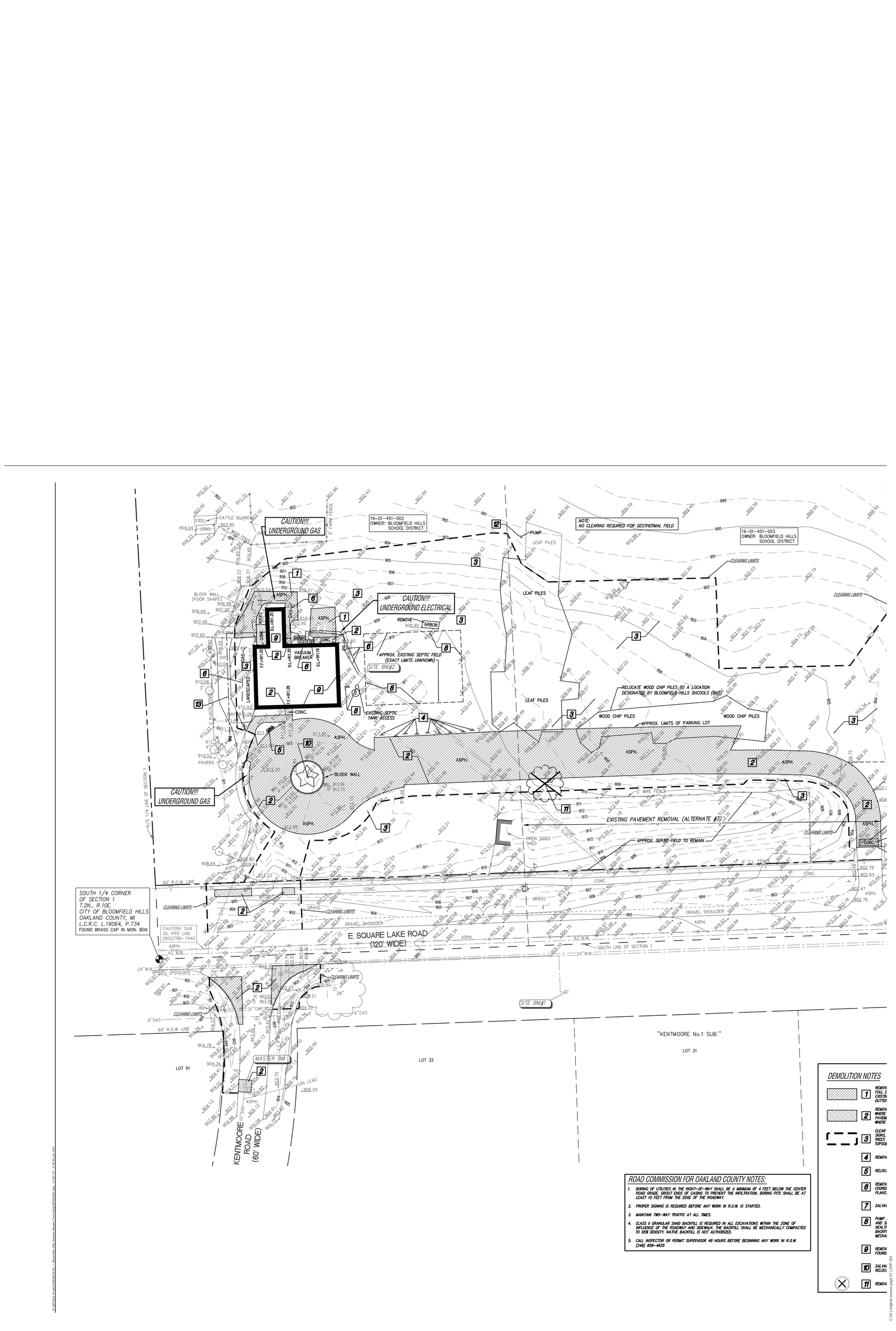
FURNISHED RECORD PLANS

THE FOLLOWING IS A LIST OF THE FURNISHED PLANS THAT WERE UTILIZED IN PREPARING THIS SURVEY.

TYPE OF PLAN	PREPARED BY	DATE	SHEETS IN HAND
SEWER PLANS	HUBBELL, ROTH & CLARK	8-19-2002	S.A.D.#393 P.2
SEWER PLANS	HUBBELL, ROTH & CLARK	11-14-1997	S.A.D.#377 P.1
WATER PLANS	HUBBELL, ROTH & CLARK	4-5-1963	P.1
42"WM PLANS	ABRAMS AERIAL SURVEY	1-1965	STA.15+87 TO 24+88

SCALE 1" = 30'
0 30 60

C:\Projects\2009\09-0130 - Bloomfield Hills Schools-Boone Farm\Dwg\09-0130 Plan & Profile.dwg, 3/25/10 8:37:51 AM, Adobe PDF


CAUTION!!! UNDERGROUND GAS
CAUTION!!! UNDERGROUND ELECTRICAL
CAUTION!!! UNDERGROUND GAS
19-01-451-002 OWNER: BLOOMFIELD HILLS SCHOOL DISTRICT
19-01-451-003 OWNER: BLOOMFIELD HILLS SCHOOL DISTRICT
NOTE: NO CLEARING REQUIRED FOR GEOTHERMAL FIELD
APPROX. EXISTING SEPTIC FIELD (EXACT LIMITS UNKNOWN)
EXISTING SEPTIC TANK ACCESS
APPROX. SEPTIC FIELD TO REMAIN
EXISTING PAVEMENT REMOVAL (ALTERNATE #3)
RELOCATE WOOD CHIP PILES TO A LOCATION DESIGNATED BY BLOOMFIELD HILLS SHCOOLS (BHS)
APPROX. LIMITS OF PARKING LOT
WOOD CHIP PILES
LEAF PILES
REMOVE ARBOR
BLOCK WALL
5' WIRE FENCE
6' CL. FENCE
CLEARING LIMITS
E. SQUARE LAKE ROAD (120' WIDE)
KENTMOORE ROAD (60' WIDE)
SOUTH 1/4 CORNER OF SECTION 1 T.2N., R.10E. CITY OF BLOOMFIELD HILLS OAKLAND COUNTY, MI L.C.R.C. L.19064, P.734 FOUND BRASS CAP IN MON. BOX
CAUTION! SUN OIL PIPE LINE (800)786-7440
SOUTH LINE OF SECTION 1
N/S 1/4 LINE OF SECTION 1
"KENTMOORE No.1 SUB."
LOT 91
LOT 32
LOT 31
SITE BM#1
SITE BM#2
MASTER BM
DEMOLITION NOTES
ROAD COMMISSION FOR OAKLAND COUNTY NOTES:
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ROAD COMMISSION FOR OAKLAND COUNTY NOTES:

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UTILITY NOTES

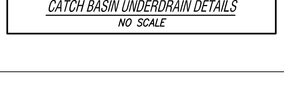
1. STORM SEWER 12" AND LARGER SHALL BE C76 CL IV (PREM.JT.) UNLESS OTHERWISE NOTED ON THE PLAN.
2. STORM SEWER 8" AND SMALLER SHALL BE PVC SDR 23.5. STORM SEWER GREATER THAN 6" THROUGH 10" SHALL BE PVC SDR 26.
3. WATER MAIN SHALL BE CLASS 54 DUCTILE IRON. WATER MAINS SHALL BE LEAKAGE AND PRESSURE TESTED IN ACCORDANCE WITH AWWA STANDARD C600. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651 PRIOR TO BEING PUT INTO SERVICE.
4. SANITARY SEWER SHALL BE PVC TRUSS PIPE. LEADS SHALL BE SOLID WALL, PVC, SDR 23.5.
5. ALL UTILITY TRENCHES THAT FALL WITHIN A 1-ON-1 INFLUENCE OF PAVEMENT AREAS SHALL BE BACKFILLED WITH CLASS 2 SAND AND COMPACTED TO 95% OF MAXIMUM DENSITY.
6. ALL WATER MAIN SHALL BE BURIED WITH 5' OF COVER FROM PROPOSED GRADES. USE 22.5° BENDS TO LOWER WATER MAIN WHERE NOTED AT UTILITY CROSSING.
7. WHERE HYDRANTS ARE INDICATED ON THE PLAN, COMPLETE HYDRANT ASSEMBLIES ARE REQUIRED, INCLUDING SHUT-OFF VALVE AND BOX (REFER TO THE STANDARD DETAIL SHEET FOR DETAILED REQUIREMENTS) THE ELEVATION OF THE VALVE BOX SHALL BE EQUAL TO THE FINISH GRADE (FG) ELEVATION OF THE HYDRANT UNLESS OTHERWISE NOTED.
8. ALL UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE TOWNSHIP OF BLOOMFIELD.
9. ALL UTILITIES SHALL BE INSTALLED ON CLASS "B" BEDDING OR BETTER.
10. ALL HYDRANTS MUST BE AT LEAST 5' FROM THE BACK OF CURB OR EDGE OF PAVEMENT.
11. ALL UTILITIES SHALL BE PLACED AT LEAST 10' FROM OTHER UTILITIES, SIGNIFICANT TREES, AND FIXED STRUCTURES.
12. UNLESS OTHERWISE NOTED, ALL STORM SEWER STRUCTURES SHALL BE 4' DIAMETER (INLETS SHALL BE 3' DIAMETER). UNLESS OTHERWISE INDICATED ON THE STANDARD DETAIL SHEETS CASTINGS SHALL BE:
   PIMT. CATCH BASINS - EJIW 5105 - "M1" (FRAMES WITH CURB BOXES WILL NOT BE ALLOWED)
   YARD CATCH BASINS - EJIW 1040 - "S"
   MANHOLES - EJIW 1040 - "A"
13. PLACEMENT OF EDGE DRAINS AND FINGER DRAINS AT ALL CATCH BASINS IS REQUIRED. SEE DETAIL THIS SHEET.
14. FOR CURB CATCH BASINS, SEE BASIN LOCATION DETAIL FOR BASIN STAKING RELATIVE TO THE CURB.

LOT 32 UTILITY CROSSING INFORMATION

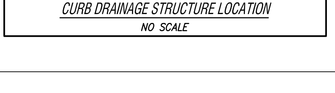
(1) WM/EX. WM X-ING 8" WM T/P 889.5± EX. 24" WM B/P 895.0± CLEARANCE = 5.5± (FIELD VERIFY)	(2) WM/EX. WM X-ING 8" WM T/P 889.5± EX. 42" WM B/P 891.5± CLEARANCE = 2.0± (FIELD VERIFY)	(3) WM/OIL X-ING 8" WM T/P 889.5± EX. 8" OIL B/P 897.8± CLEARANCE = 8.3± (FIELD VERIFY)
(4) SAN/OIL X-ING 2" FORCEMAIN T/P 888.8± EX. 8" OIL B/P 897.8± CLEARANCE = 9.0± (FIELD VERIFY)	(5) SAN/EX. WM X-ING 2" FORCEMAIN T/P 888.8± EX. 42" WM B/P 890.8± CLEARANCE = 2.0± (FIELD VERIFY)	(6) SAN/EX. WM X-ING 2" FORCEMAIN T/P 888.8± EX. 24" WM B/P 893.0± CLEARANCE = 4.2± (FIELD VERIFY)
(7) SAN/WM X-ING 2" FORCEMAIN T/P 905.5± 8" WM B/P 897.0± CLEARANCE = 1.5± (FIELD VERIFY)		

SUNOCO PIPELINE NOTES:

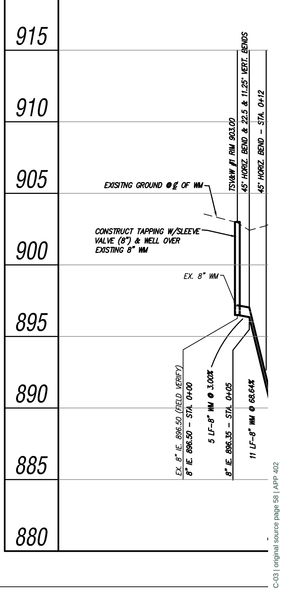
1. ALL UNDERGROUND FACILITIES CROSSING THE RIGHT-OF-WAY SHALL MAINTAIN A ONE FOOT MINIMUM VERTICAL CLEARANCE BETWEEN THE OUTER DIAMETER OF THE PIPELINE AND THE PROPOSED UTILITY.
2. A SUNOCO L.P. INSPECTOR MUST BE PRESENT AT THE TIME THAT ANY WORK IS DONE WITHIN SUNOCO PIPELINE L.P.'S RIGHT OF WAY. CALL (313) 292-8850 TO ARRANGE FOR INSPECTOR.
3. CONTACT MICHIGAN MISS DIG SYSTEM AT (800)482-7171 SEVENTY TWO HOURS PRIOR TO CONSTRUCTION ACTIVITY NEAR THE PIPELINE.
4. PROPOSED CROSSINGS BY UTILITIES OR UNDERGROUND STRUCTURES SHALL BE DESIGNED TO PASS UNDER THE PIPELINE AND AS PERPENDICULAR TO THE PIPELINE AS POSSIBLE.
5. SUNOCO'S ONECALL REFERENCE NUMBER IS 20100193.



CATCH BASIN UNDERDRAIN DETAILS
NO SCALE



CURB DRAINAGE STRUCTURE LOCATION
NO SCALE



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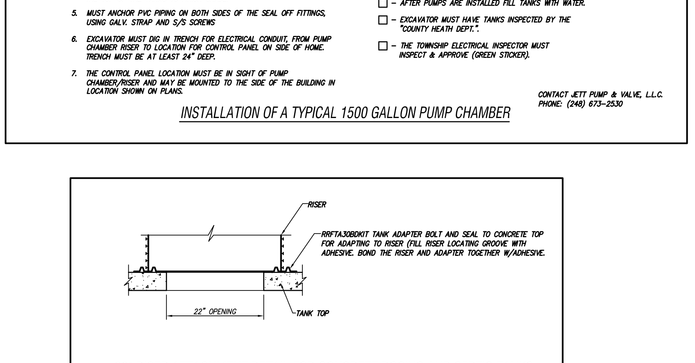


NOTES:

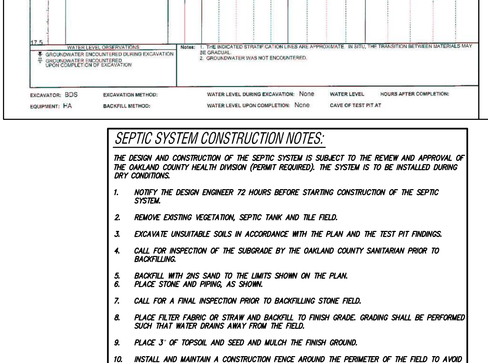
1. FLOATS TO BE MERCURY TYPE – FLOAT SWITCH DIFFERENTIAL "A" = 9"
2. ALL PVC PIPE AND FITTINGS IN PUMP CHAMBER TO BE 2" PVC SCH. 40
3. EXCAVATOR MUST BACK FILL AROUND TANKS & RISERS W/SAND AND COMPACT.
4. THE SEPTIC AND PUMP TANKS MAY NOT BE INSTALLED BELOW 24" FROM THE TOP OF THE TANKS TO FINISH GRADE.
5. MUST ANCHOR PVC PIPING ON BOTH SIDES OF THE SEAL OFF FITTINGS, USING GALV. STRAP AND S/S SCREWS
6. EXCAVATOR MUST DIG IN TRENCH FOR ELECTRICAL CONDUIT, FROM PUMP CHAMBER RISER TO LOCATION FOR CONTROL PANEL ON SIDE OF HOME. TRENCH MUST BE AT LEAST 24" DEEP.
7. THE CONTROL PANEL LOCATION MUST BE IN SIGHT OF PUMP CHAMBER/RISER AND MAY BE MOUNTED TO THE SIDE OF THE BUILDING IN LOCATION SHOWN ON PLANS.

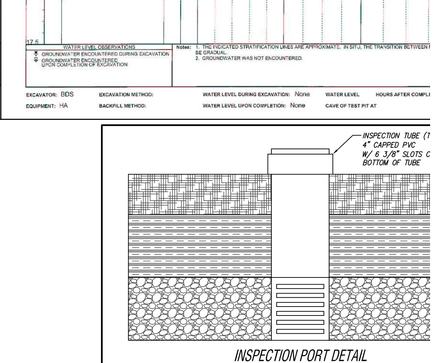
CHECK LIST:

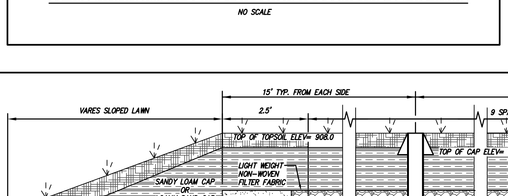
- ☐ – SET PUMP & SEPTIC TANKS, BACK FILLED W/SAND.
- ☐ – CONNECT TO PROVIDED LEAD, CONFIRM USE OF BRASS CORP STOP AND METAL ACCESS BOX (CONFIRM CORP STOP IS OPEN).
- ☐ – SET PUMP SYSTEM AND CONTROL PANEL.
- ☐ – CONNECT ELECTRICAL CIRCUIT TO CONTROL PANEL.
- ☐ – AFTER PUMPS ARE INSTALLED FILL TANKS WITH WATER.
- ☐ – EXCAVATOR MUST HAVE TANKS INSPECTED BY THE "COUNTY HEATH DEPT.".
- ☐ – THE TOWNSHIP ELECTRICAL INSPECTOR MUST INSPECT & APPROVE (GREEN STICKER).

CONTACT JETT PUMP & VALVE, L.L.C.
PHONE: (248) 673-2530

INSTALLATION OF A TYPICAL 1500 GALLON PUMP CHAMBER







30" RISER ATTACHMENT DETAIL FOR CONCRETE DOSING AND SEPTIC TANKS

NO SCALE

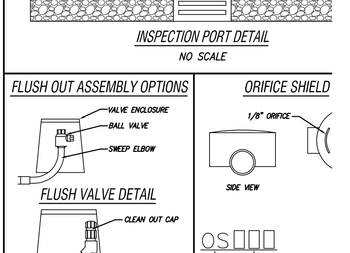
SEPTIC SYSTEM CONSTRUCTION NOTES:

THE DESIGN AND CONSTRUCTION OF THE SEPTIC SYSTEM IS SUBJECT TO THE REVIEW AND APPROVAL OF THE OAKLAND COUNTY HEALTH DIVISION (PERMIT REQUIRED). THE SYSTEM IS TO BE INSTALLED DURING DRY CONDITIONS.

1. NOTIFY THE DESIGN ENGINEER 72 HOURS BEFORE STARTING CONSTRUCTION OF THE SEPTIC SYSTEM.
2. REMOVE EXISTING VEGETATION, SEPTIC TANK AND TILE FIELD.
3. EXCAVATE UNSUITABLE SOILS IN ACCORDANCE WITH THE PLAN AND THE TEST PIT FINDINGS.
4. CALL FOR INSPECTION OF THE SUBGRADE BY THE OAKLAND COUNTY SANITARIAN PRIOR TO BACKFILLING.
5. BACKFILL WITH 2NS SAND TO THE LIMITS SHOWN ON THE PLAN.
6. PLACE STONE AND PIPING, AS SHOWN.
7. CALL FOR A FINAL INSPECTION PRIOR TO BACKFILLING STONE FIELD.
8. PLACE FILTER FABRIC OR STRAW AND BACKFILL TO FINISH GRADE. GRADING SHALL BE PERFORMED SUCH THAT WATER DRAINS AWAY FROM THE FIELD.
9. PLACE 3" OF TOPSOIL AND SEED AND MULCH THE FINISH GROUND.
10. INSTALL AND MAINTAIN A CONSTRUCTION FENCE AROUND THE PERIMETER OF THE FIELD TO AVOID DAMAGE DURING CONSTRUCTION ON OTHER AREAS OF THE SITE.

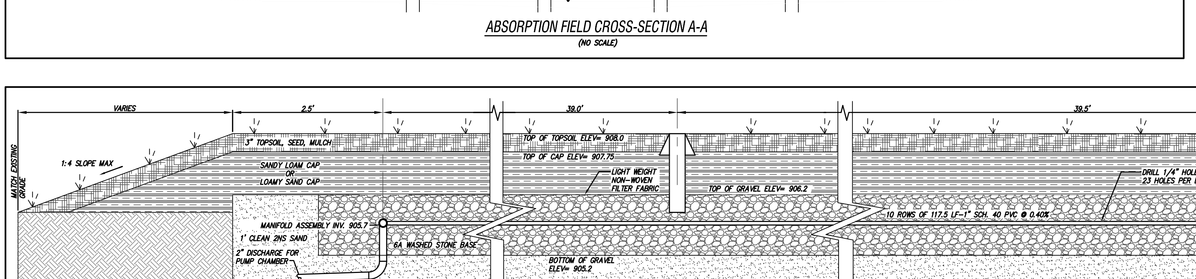
BASIS OF DESIGN:

DESIGN FLOW: 200 STUDENTS X 15 GAL/STUDENT/DAY = 3000 GPD
APPLICATION RATE: 0.5 GAL/SF PER OCHD BASED ON RESULTS OF PERC TESTS



INSPECTION PORT DETAIL

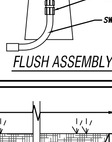
NO SCALE



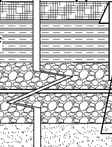
ABSORPTION FIELD CROSS-SECTION A-A

(NO SCALE)

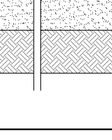
FLUSH OUT ASSEMBLY OPTIONS



FLUSH VALVE DETAIL

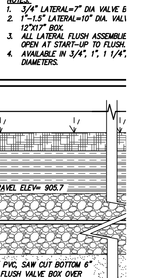


FLUSH VALVE DETAIL



FLUSH ASSEMBLY DETAIL

ORIFICE SHIELD



NOTES:

1. 3/4" LATERAL=7" DIA VALVE B
2. 1"–1.5" LATERAL=10" DIA. VALV 12"X17" BOX.
3. ALL LATERAL FLUSH ASSEMBLIE OPEN AT START-UP TO FLUSH.
4. AVAILABLE IN 3/4", 1", 1 1/4", DIAMETERS.

ABSORPTION FIELD CROSS-SECTION B-B

(NO SCALE)

CAD original source page 59 | AHP-803

Control Panels	
DATE	9/02
REPLACES	1/01

Stealth™ Control Panels
Duplex
Wall Mount Series

BARNES PRESSURE SYSTEMS

STEALTH
CONTROL PANELS

Specifications:

R & O Series

Listed by Underwriters Laboratories, duplex pump control panels provide reliable grinder pump station operation and potential malfunction warning.

STANDARD FEATURES:

- UL 508 Listed
- NEMA 4X Fiberglass Enclosure
- Padlockable Latch
- Pump/Panel Circuit Breaker
- IEC Rated Motor Contactor
- Ambient Compensated Current Overload (R Panels Only, except for SGVF2022L, and SGVH2022L. Overload for SGPC, OGVF2022, OGVH2022, SGVF2022L and SGVH2022L. Pumps located internally in the pump)
- Pump Start Pushbuton
- Individually Fused Circuits for Alarm and Control Components
- 25 Watt High Water Alarm Light with NEMA 4X Lens
- Pre-Installed Capacitor Kit (R Panels Only, Capacitor for OGVF, OGVH & SGPC Pumps located Internally in the pump)
- Terminal Strip and Ground Lug for Incoming Connections
- Pump Alternator (200 Series Duplex Panels Only)
- Separate Alarm Circuit Breaker

OPTIONAL FEATURES:

- 90 db alarm horn with NEMA 4X silence pushbuton.
- 7 Digit Elapsed Time Meter with meter running indicator.
- Transfer Switch with easy access reverse pin portable generator receptacle and weatherproof cover.
- Seal Leak Indication with 120 volt indicator lamp and terminals for 2 leak probe wires. (R Series only)

Series: **Wall Mount**
Stealth-R-200
Stealth-O-200

Underwriters Laboratories Inc. ®
File No. E142177

PS-0/-0/-0AC

CRANE PUMPS & SYSTEMS
A Crane Co. Company

1485 Lexington Ave.
Mansfield, Ohio 44907-2674
Ph: (937) 778-8947
Fax: (419) 774-1530
www.Barnes-PS.com

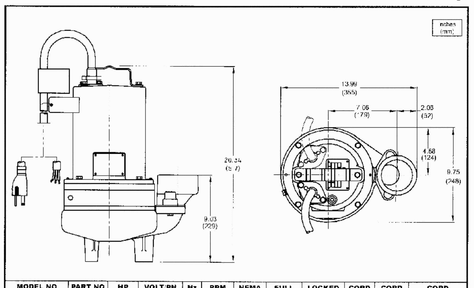
420 Third Street
Piqua, Ohio 45356-0803
Ph: (937) 778-8947
Fax: (937)773-3238
www.cranepumps.com

Submersible Wastewater Pump Association SWPA MEMBER

BARNES
www.cranepumps.com

Series 3SE-DS
2" Spherical Solids Handling
Double Seal

1½", 2" & 3" Discharge



MODEL NO	PART NO	HP	VOLT/PH	Hz	RPM (Nom)	NEMA START CODE	FULL LOAD AMPS	LOCKED ROTOR AMPS	CORD SIZE	CORD TYPE	CORD O.D inch (mm)
3SE514DS	194887	0.5	120/1	60	1750	F	11.6	21.3	14/3	SJTOW	0.375 (9.5)
3SE524DS	194898	0.5	240/1	50	1710	J	5.9	14.9	14/3	SOW	0.530 (13.5)
3SE594DS	194899	0.5	200-240/3	60	1750	4R	3.2-3.0	9.8-11.0	14/4	SOW	0.570 (14.5)
3SF544DS	194900	0.5	480/3	60	1710	K	1.5	5.2	14/4	SOW	0.570 (14.5)
3SE554DS	194901	0.5	600/3	60	1710	H	1.0	3.4	14/4	SOW	0.570 (14.5)
3SE724DS	194906	0.75	200-240/1	60	1710	GR	7.4-7.0	21.5-25.8	14/3	SOW	0.530 (13.5)
3SE794DS	194907	0.75	200-240/3	50	1710	HK	4.0-4.5	13.7-15.4	14/4	SOW	0.570 (14.5)
3SE744DS	194908	0.75	480/3	60	1710	K	2.2	7.7	14/4	SOW	0.570 (14.5)
3SE754DS	194909	0.75	600/3	60	1710	L	1.5	7.2	14/4	SOW	0.570 (14.5)
3SE934DS	194914	1.0	200-240/1	60	1750	D/3	8.8-8.3	21.5-25.8	14/3	SOW	0.530 (13.5)
3SE994JS	194915	1.0	200-240/3	60	1710	EH	5.1-4.9	12.7-15.4	14/3	SOW	0.570 (14.5)
3SK934JS	194916	1.0	480/3	60	1750	H	2.4	7.7	14/4	SOW	0.570 (14.5)
3SK934DS	194917	1.0	600/3	60	1750	J	1.9	7.2	14/4	SOW	0.570 (14.5)

OPTIONAL - Temperature sensor cord for 3 phase models is 14/3 SOW, 0.530 (13.5mm) O.D.
OPTIONAL - Moisture sensor cord is 18/5 SOW, 0.470 (11.9mm) O.D.
OPTIONAL - Moisture & temperature sensor cord for 3 phase models is 18/5 SOW, 0.473 (11.9mm) O.D.

IMPORTANT !
1) PUMP MAY BE OPERATED BY THE FOLLOWING METHODS ONLY. ANY OTHER METHOD MAY CAUSE DAMAGE TO THE PUMP AND VOID THE WARRANTY:
a) CONTINUOUSLY SUBMERGED.
b) CONTROLLED BY A CRANE BARNES SYSTEMS PANEL WITH A MINIMUM RUN TIME OF 1 MINUTE.
c) MANUALLY FOR SHORT PERIODS OF TIME FOR MAINTENANCE PURPOSES.
2) THIS PUMP IS APPROPRIATE FOR THOSE APPLICATIONS SPECIFIED AS CLASS I, DIVISION 1 HAZARDOUS LOCATIONS.
3) THIS PUMP IS NOT APPROPRIATE FOR THOSE APPLICATIONS SPECIFIED AS CLASS I, DIVISION 1 HAZARDOUS LOCATIONS.
4) INSTALLATIONS SUCH AS TEMPORARY OR PORTABLE FIXTURES PROVIDED FOR VISUAL EQUIPMENT MUST BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AS AMENDED, AND/OR THE AUTHORITY HAVING JURISDICTION. THIS PUMP IS NOT INTENDED FOR USE IN SWIMMING POOLS, RECREATIONAL WATER PARKS, OR INSTALLATIONS IN WHICH HUMAN CONTACT WITH PUMPED MEDIA IS A COMMON OCCURRENCE.

CRANE PUMPS & SYSTEMS
A Crane Co. Company
USA: (937) 778-8947 • Canada: (905) 457-9223 • International: (937) 615-3598

SECTION 1B
PAGE 41
DATE 1/05

Pump Data Sheet - Crane/Barnes

Company: Spalding Dedicker
Name: Boers Farm
Date: 2/22/2010

BARNES

Pump:
Size: 3SE1074DS
Type: Sewage Eject 2 3/1 1B
Synch speed: 1800 rpm
Curve:
Specific Specos:
Dimensions:

Pump Limits:
Temperature: ---
Pressure: ---
Sphere size: 2 in

Speed: 1750 rpm
Dia: 6.62 in

Impeller:
No.: ---
Nos: ---
Suction: ---
Discharge: 3 in

Power: ---
Eye area: ---

Search Criteria:
Flow: 46 US gpm
Head: 22 ft

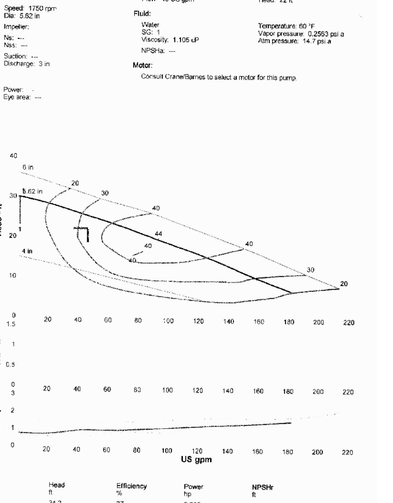
Fluid:
Water
SG: 1
Viscosity: 1.105 uP
NPSHa: ---

Temperature: 60 °F
Vapor pressure: 0.2563 psi a
Atm pressure: 14.7 psi a

Motor:
Consult Crane/Barnes to select a motor for this pump

---- Data Point ----
Flow: 46 US gpm
Head: 25.3 ft
Eff: 32%
Power: 0.912 hp
NPSHr: ---

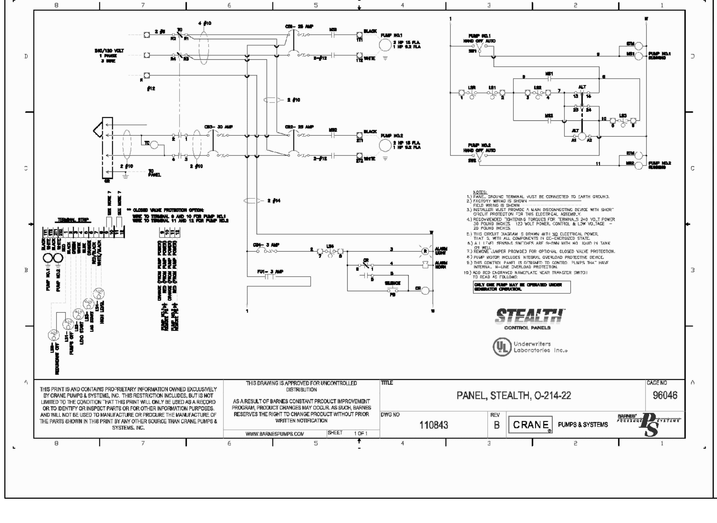
---- Design Curve ----
Shutoff head: 30 ft
Shutoff dP: 13 psi
Min flow: ---
BEP: 44% @ 80 US gpm
NOL power:
1.46 hp @ 182 US gpm
-- Max Curve --
Max power:
2.03 hp @ 213 US gpm



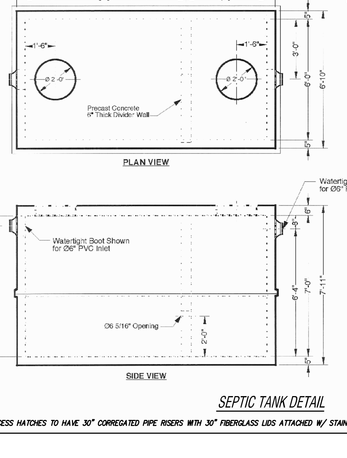
Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
55.2	1750	24.2	37	0.915	---
46	1750	25.3	32	0.912	---
36.8	1750	26.4	28	0.864	---
27.6	1750	27.4	23	0.782	---
18.4	1750	28.4	18	0.716	---

Selected from catalog: Crane Barnes.60 Vers: 10-0



3150 Gallon Interceptor - 12' x 6' x 7'
Advance Concrete Products Company
(800) 824-8351 (248) 887-4173 Fax: (248) 887-2755



All Concrete Shall Have A 28 Day Compressive Strength Of 4500 PSI.

Reinforcing Steel Shall Comply With ASTM A615 Grade 60 Heber. Bar Bending And Placement Shall Comply With The Latest ACI Standards.

Standard Structural Design Based On AASHTO HS-20 Wheel Loading.

1" O Butyl Rubber Rope Mastic Is Provided For Placement Between Top And Bottom Sections Of Vault.

If Function Of Interceptor Is Oil, Gas, or Water Separation, Fuel Resistant Rope Mastic Is Recommended & Can Be Provided.

Available Options -
Grade Adjustment Rings
Cast Iron Frames & Covers
Custom Opening Locations
Watertight Boots in Variety of Sizes
Double, Triple or Quadruple Compartments

Approximate Weight Total: ± 31,600 Lbs.
Bottom Section: ± 14,250 Lbs. Top Section: ± 14,250 Lbs.
Divider Wall: ± 3,100

SEPTIC TANK DETAIL

NOTE:
SEPTIC TANK ACCESS HATCHES TO HAVE 30" CORREGATED PIPE RISERS WITH 30" FIBERGLASS LIDS ATTACHED W/ STAINLESS STEEL SCREWS. SEE PUMP CHAMBER DETAIL ON SHEET C1.3A

Location

Design In-Flow=

Allowable Loading

Forcemain Length

Forcemain Dia

Volume Required to fill lir

2.0" Forcemain
1.5" Manifold
1.0" Laterals

Gals req'd to fill lines

EPA suggest 5 times inte

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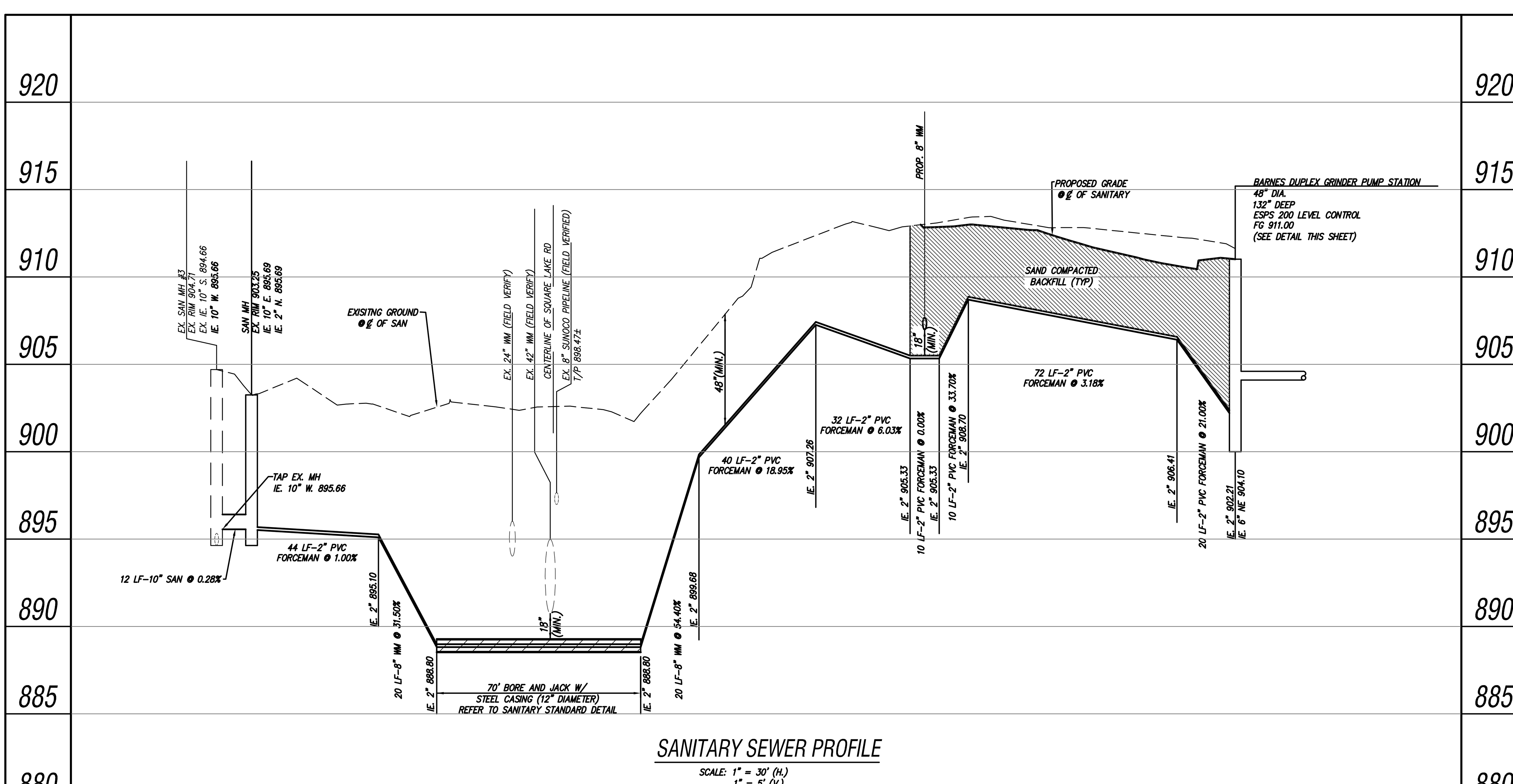
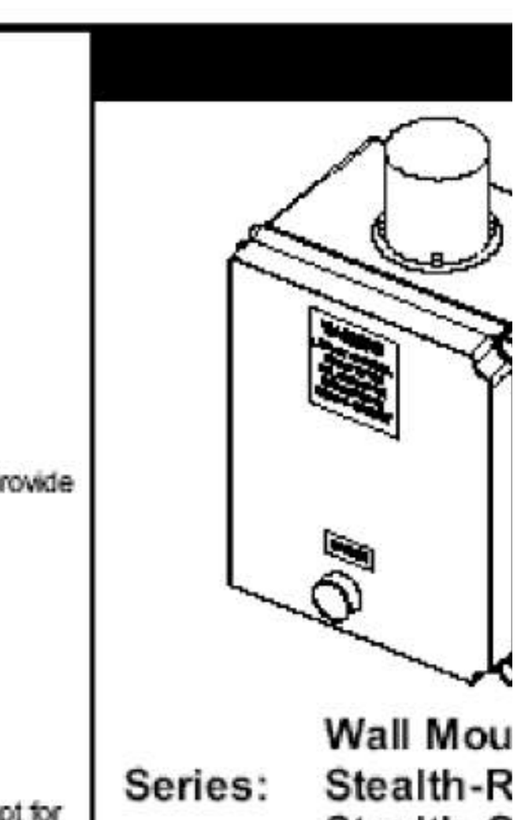


Control Panels
DATE 9/02
REPLACES 1/01

Stealth™ Control Panels
Duplex
Wall Mount Series

BARNES PRESSURE

STEALTH™ CONTROL PANELS



Series: Wall Mou
Stealth-R
Stealth-O

Specifications:

R & O Series

Listed by Underwriters Laboratories, duplex pump control panels provide reliable grinder pump station operation and potential malfunction warning.

STANDARD FEATURES:
- UL 508 Listed
- NEMA 4X Fiberglass Enclosure
- Padlockable Latch
- Pump/Panel Circuit Breaker
- IEC Rated Motor Contactor
- Ambient Compensated Current Overload (R Panels Only, except for SGVF2022L and SGVH2022L, Overload for SGPC, OGVF2022, OGVH2022, SGVF2022L and SGVH2022L Pumps located internally in the pump)
- Pump Start Pushbutton
- Individually Fused Circuits for Alarm and Control Components
- 25 Watt High Water Alarm Light with NEMA 4X Lens
- Pre-Installed Capacitor Kit (R Panels Only, Capacitor for OGVF, OGVH & SGPC Pumps located internally in the pump)
- Terminal Strip and Ground Lug for Incoming Connections
- Pump Alternator (200 Series Duplex Panels Only)
- Separate Alarm Circuit Breaker

OPTIONAL FEATURES:
- 90 db alarm horn with NEMA 4X silence pushbutton.
- 7 Digit Elapsed Time Meter with meter running indicator.
- Transfer Switch with easy access reverse pin portable generator receptacle and weatherproof cover.
- Seal Leak Indication with 120 volt indicator lamp and terminals for 2 leak probe wires. (R Series only)

Underwriters Laboratories
File No. E142177

CRANE. A Crane Co. Company

PUMPS & SYSTEMS

1485 Lexington Ave.
Mansfield, Ohio 44907-2674
Ph: (937) 778-8947
Fax: (419) 774-1530
www.Barnes-PS.com

420 Third Street
Piqua, Ohio 45356-0603
Ph: (937) 778-8947
Fax: (937) 773-2238
www.cranepumps.com

Sanitary System Design Spreadsheet Head Calc

Constants

Expected incoming inflow	5000	GPD School hours
Centerline of Pump	896.02	ft
Bottom of Tank	895.52	ft
Off Water Level	896.35	ft
Lead pump on	897.02	ft
Lag Pump On	897.35	ft
High Water Level	897.85	ft
Discharge Height	897.81	ft
System Flow-Peak	60.00	GPM
System Flow-Peak	0.134	CFS
H & W Factor - C	120	PVC
Inlet Pipe Invert	904.00	ft
Pipe ID Actual-Tank	2.1	inches Sch 40
Pipe ID Actual-Forcemain	1.9	inches SDR 11

Static Head

Off Level to CL of Pump	0.33	ft
On Level to CL of Pump	1	ft
Average	0.67	ft

Static Discharge Off to Discharge 1.46 ft

In Tank Friction Discharge

Qty	Description	Equivalent	Total Loss	
5	Linear Length	1	5	ft
1	Check Valve-2"	14	14	ft
1	Ball Valve - 2"	1.1	1.1	ft
3	90° Elbow - 2"	5.2	15.6	ft
	Total Equivalent Length		35.7	ft

Out of Tank Friction Discharge 2"

Qty	Description	Equivalent	Total Loss	
350	Linear Length	1	350	ft
2	22.5° Elbow-2"	2	4	ft
4	45° Elbow - 2"	2.4	9.6	ft
	Total Equivalent Length		363.6	ft

Friction Discharge
Friction Discharge-Tank 2.00 ft
Friction Discharge-Forcemain 27.51 ft
System Friction Discharge **29.51 ft**

Total Dynamic Discharge
Static Discharge plus Friction Discharge 30.97 ft

Total Dynamic Head Discharge-Static 30.30 ft

Pump Design for 60 Gals @ 31.0' TDH minimum

Page 1 of 1 4/5/2010

Pump Data Sheet - Crane/Barnes

BARNES

Company: Spalding Dedecker
Name: Bowers Farm
Date: 4/5/2010

Pump:
Size: XSGV3002L
Type: Grinder XP - 3C
Synch speed: 3600 rpm
Curve:
Specific Speeds:
Dimensions:
Speed: 3450 rpm
Dia: 4.12 in
Impeller:
Ns: ---
Nss: ---
Suction: ---
Discharge: 2 in

Pump Limits:
Temperature: ---
Pressure: ---
Sphere size: ---
Power: ---
Eye area: ---

Search Criteria:
Flow: 60 US gpm Head: 31 ft

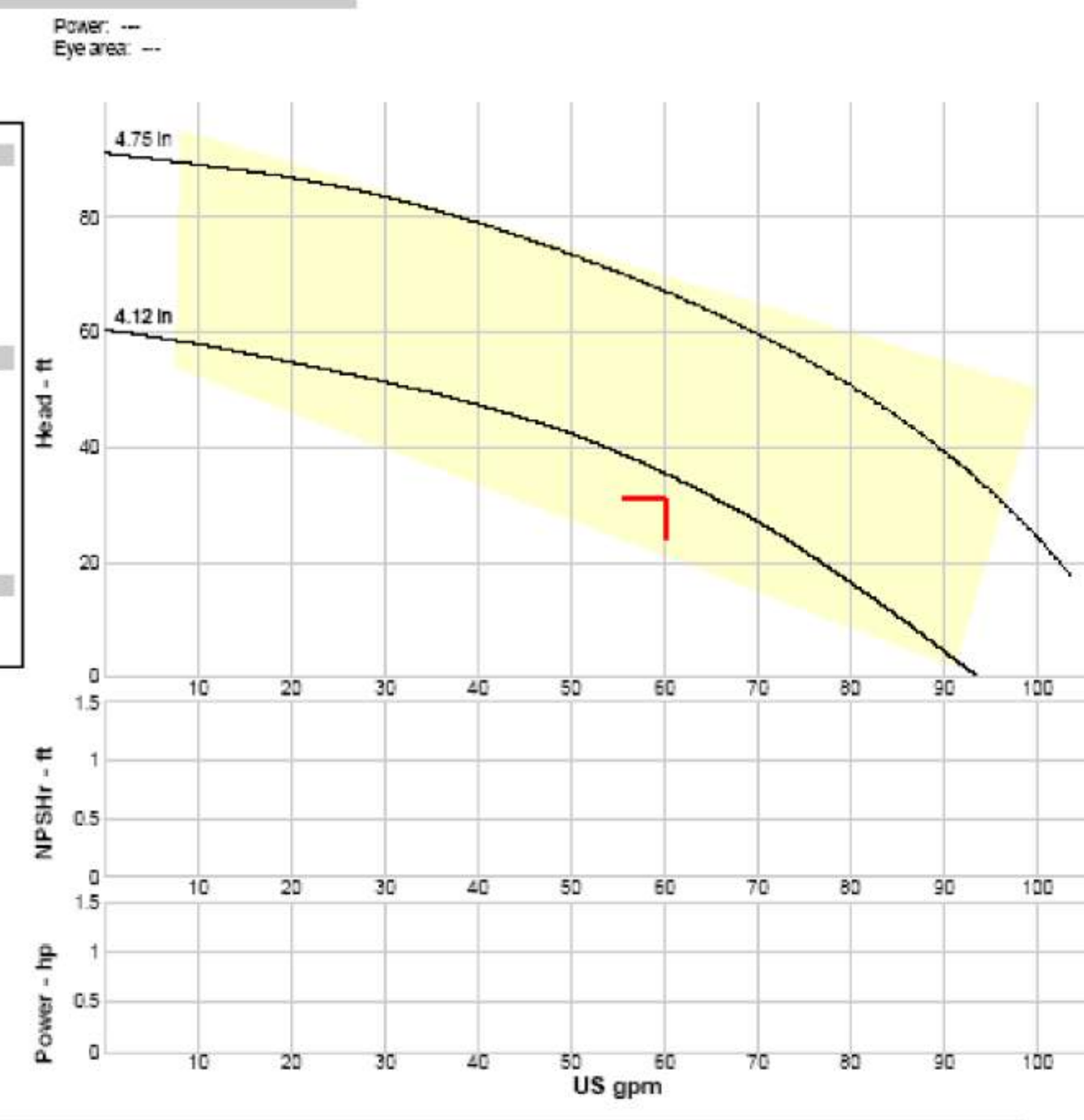
Fluid:
Water Temperature: 60 °F
SG: 1 Vapor pressure: 0.2563 psi a
Viscosity: 1.105 cP Atm pressure: 14.7 psi a
NPSHa: ---

Motor:
Consult Crane/Barnes to select a motor for this pump.

---- Data Point ----
Flow: 60 US gpm
Head: 35.4 ft
Eff: --- %
Power: ---
NPSHr: ---

---- Design Curve ----
Shutoff head: 60.6 ft
Shutoff dP: 26.2 psi
Min flow: ---
BEP: --- %
NOL power: ---

-- Max Curve --
Max power: ---



Performance Evaluation:

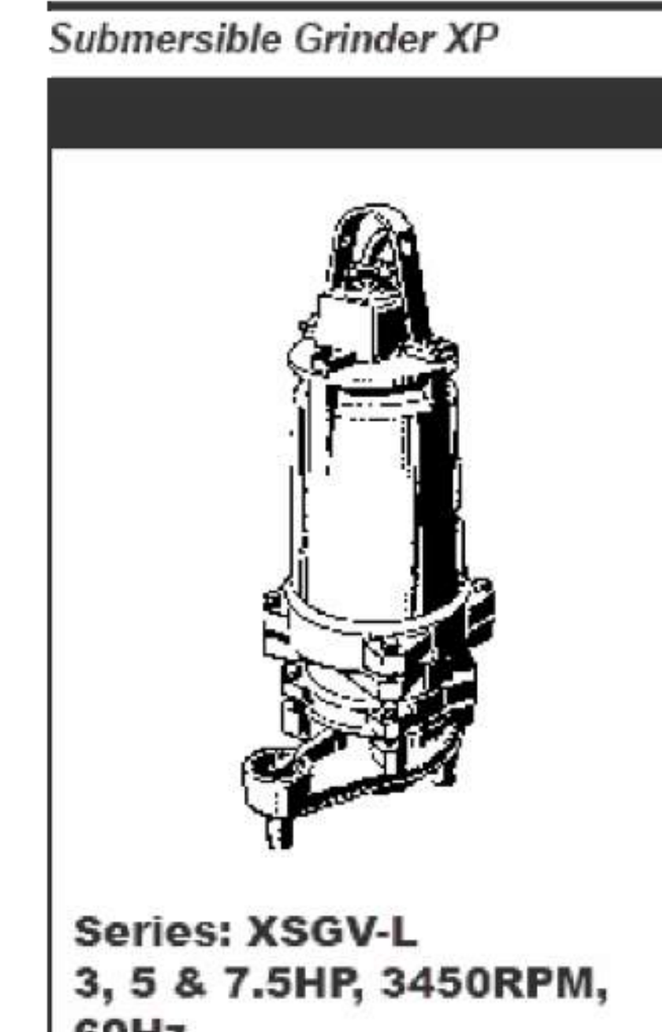
Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
72	3450	24.8	---	---	---
60	3450	35.4	---	---	---
48	3450	43.3	---	---	---
36	3450	49	---	---	---
24	3450	53.4	---	---	---

Selected from catalog: Crane Barnes.60 Vers: 10-09

Series XSGV-L
Class I, Group D, Division 1

BARNES® www.cranepumps.com

Submersible Grinder XP



Series: XSGV-L
3, 5 & 7.5HP, 3450RPM, 60Hz

SWPCO MEMBER

Underwriters Laboratories Inc.® File No. E73842

Sample Specifications: Section 3 Page 14.

DESCRIPTION:
THE GRINDER PUMP IS FOR USE IN HAZARDOUS LOCATIONS AND IS DESIGNED TO REDUCE DOMESTIC, COMERCIAL, INSTITUTIONAL AND LIGHT INDUSTRIAL SEWAGE TO A FINELY GROUND SLURRY.

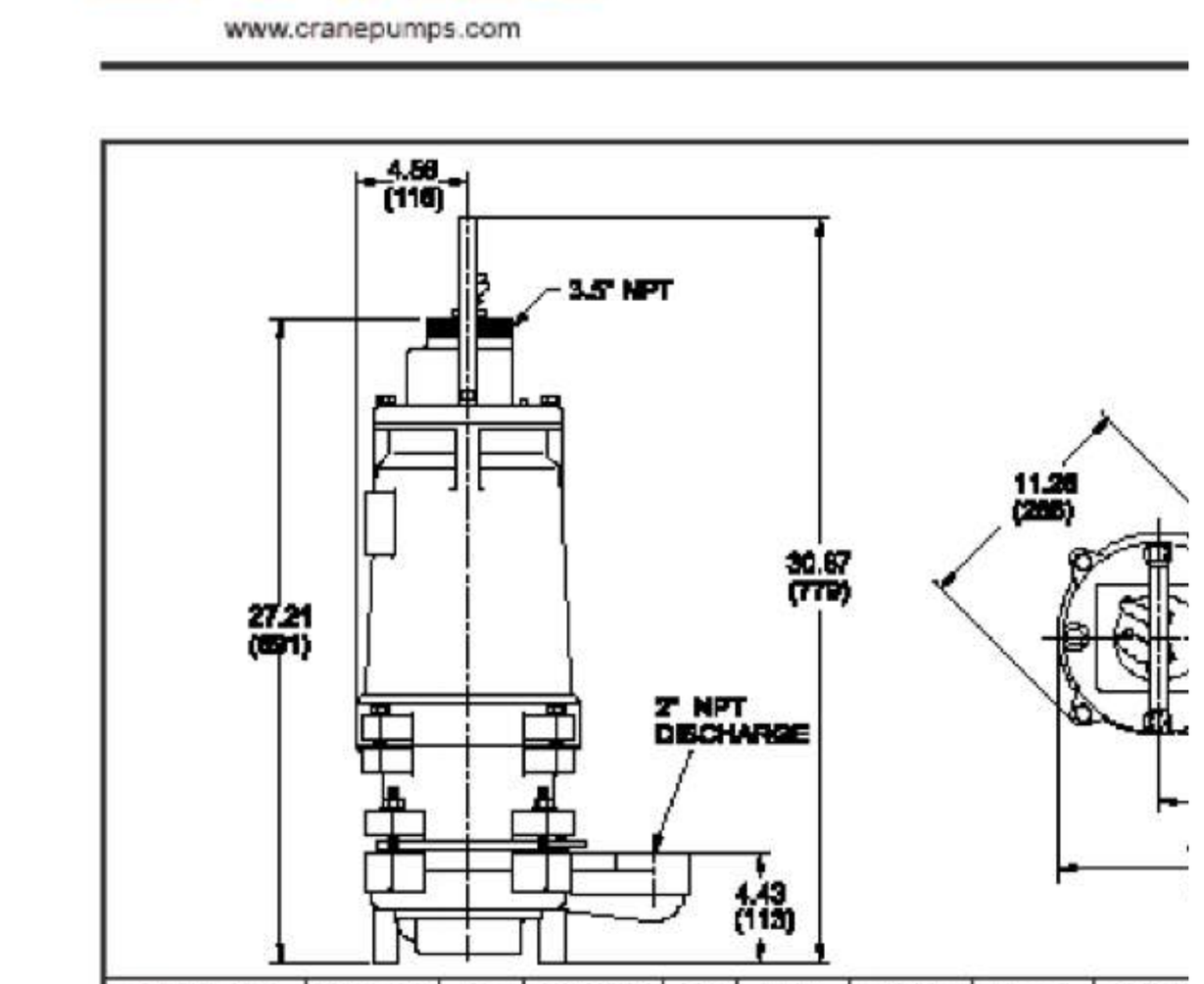
Specifications:

DISCHARGE .... 2" NPT, Vertical
LIQUID TEMPERATURE .... 104°F (40°C) Continuous
VOLUTE .... Cast Iron ASTM A-48, Class 30.
MOTOR HOUSING .... Cast Iron ASTM A-48, Class 30.
SEAL PLATE .... Cast Iron ASTM A-48, Class 30.
IMPELLER: *Design* .... 12 Vane,Vortex, With Pump Out Vanes On Back Side. Dynamically Balanced.
ISO G6.3.
Material .... 85-5-5-5 Bronze
SHREDDING RING .... Hardened 440C Stainless Steel Rockwell® C-55.
CUTTER .... Hardened 440CStainless Steel, Rockwell® C-55.
SHAFT .... 416 Stainless Steel
SQUARE RINGS .... Buna-N
HARDWARE .... 300 Series Stainless Steel
PAINT .... Air Dry Enamel.
SEAL: *Design* .... Tandem Mechanical, Oil Filled Reservoir.
Material .... Rotating Faces - Carbon Stationary Faces - Ceramic Elastomer - Buna-N Hardware -300 Series Stainless
CORD ENTRY .... 30 ft. (9.1 m) Std. Cord. Epoxy Sealed Housing with Secondary Pressure Grommet for Sealing and Strain Relief.
UPPER BEARING: *Design* .... Single Row, Ball, Oil Lubricated
Load .... Radial
LOWER BEARING: *Design* .... Single Row, Ball, Oil Lubrication
Load .... Radial & Thrust
MOTOR: *Design* .... NEMA L-Single Phase, NEMA B-Three Phase Torque Curve. Oil-Filled, Squirrel Cage Induction.
Insulation .... Class F.
SINGLE PHASE: Capacitor Start/Capacitor Run. Requires Overload Protection to be included In control panel. Requires Barnes® Starter or Control Panel which includes Capacitors, or Capacitor pack.
THREE PHASE: Dual Voltage 230/460; Requires Overload Protection to be Included in control panel.
MOISTURE SENSORS .... Normally Open (N/O), Requires relay in control panel
TEMPERATURE SENSORS .... Normally Closed (N/C), Requires relay in control panel
OPTIONAL EQUIPMENT .... Seal Material, Impeller Trims, Cord Length

SECTION 3C
PAGE 4
DATE 3/07

CRANE. A Crane Co. Company PUMPS & SYSTEMS
USA: (937) 778-8947 · Canada: (905) 457-6223 · International: (937) 615-3598

BARNES® www.cranepumps.com



MODEL NO	PART NO	HP	VOLT/PH	Hz	RPM (Nom)	NEMA START CODE	FULL LOAD AMPS	LOCKED ROTOR AMPS
XSGV3002L	127330	3	200/1	60	3450	G	25.2	86.0
XSGV3022L	127331	3	230/1	60	3450	G	21.7	75.0
XSGV3062L	127332	3	200/3	60	3450	J	17.0	65.0
XSGV3032L	127333	3	230/3	60	3450	K	14.5	62.0
XSGV3042L	127334	3	460/3	60	3450	K	7.2	31.0
XSGV3052L	127335	3	575/3	60	3450	J	5.6	22.6
XSGV5002L	127336	5	200/1	60	3450	F	42.0	134.0
XSGV5022L	127337	5	230/1	60	3450	H	39.0	136.0
XSGV5062L	127338	5	200/3	60	3450	K	25.0	122.0
XSGV5032L	127339	5	230/3	60	3450	L	21.9	120.0
XSGV5042L	127340	5	460/3	60	3450	L	11.0	60.0
XSGV5052L	127341	5	575/3	60	3450	L	8.8	46.0
XSGV7532L	127342	7.5	230/3	60	3450	J	22.3	136.0
XSGV7542L	127343	7.5	460/3	60	3450	J	11.2	68.0
XSGV7552L	127344	7.5	575/3	60	3450	G	9.2	45.0

Moisture and Temperature sensor cord for all models is 18/6 SOW, 0.476 (12mm) O.D.

IMPORTANT !
1.) MOISTURE AND TEMPERATURE SENSORS MUST BE CONNECTED TO VALIDATE THE UL LISTING.
2.) A NON-SPARKING BREAK AWAY FITTING MUST BE USED TO VALIDATE THE UL LISTING.
3.) A SPECIAL MOISTURE SENSOR RELAY IS REQUIRED IN THE CONTROL PANEL FOR PROPER OPERATIO CONTACT BARNES PUMPS FOR INFORMATION CONCERNING MOISTURE SENSING RELAYS FOR CUSTO
4.) THESE PUMPS ARE UL LISTED FOR PUMPING WATER AND WASTEWATER. DO NOT USE TO PUMP FLAM
5.) INSTALLATIONS SUCH AS DECORATIVE FOUNTAINS OR WATER FEATURES PROVIDED FOR VISUAL ENJ WITH THE NATIONAL ELECTRIC CODE ANSI/NFPA 70 AND/OR THE AUTHORITY HAVING JURISDICTION. T SWIMMING POOLS, RECREATIONAL WATER PARKS, OR INSTALLATIONS IN WHICH HUMAN CONTACT WI

CRANE. A Crane Co. Company PUMPS & SYSTEMS
USA: (937) 778-8947 · Canada: (905) 457-6223 · Internation

GENERAL

1) REFER TO S
FOR CORREC
2) ALL FITTINGS
AND THE S/
3) FLEX DISCH
MUST BE ST
4) 6 SETS PF
FOR APPRO
5) DURING THE
THE STATION
TO ADVISE A
6) IF THE STAT
BOLLARDS M
MUST BE AP
PROCESS AL
7) ALL LIFT ST
PHYSICAL D
8) WITH THE AB
9) EACH PUMP
1/8" STAINLE
10) ALL FLOAT S
USED AS LEV
11) DURING THE
REPRESENTATIV
PUMP PERFORMA
DURING THE
OWNERS PERS
12) CONTRACTOR/
OWNER WITH
MAINTENACE I
PUMP AND C
13) SERVICE LOOP
SERVICE AVAI
ELECTRICAL C
14) WEATER PROC
15) THE CONTROL
TOP OF IT (F
16) CONTROL PAN
17) SERVICE DISC
TO ALLOW SE
18) THE CONTROL
TO BE PAD L
19) THIS LIFT STA
BRANKES & IT

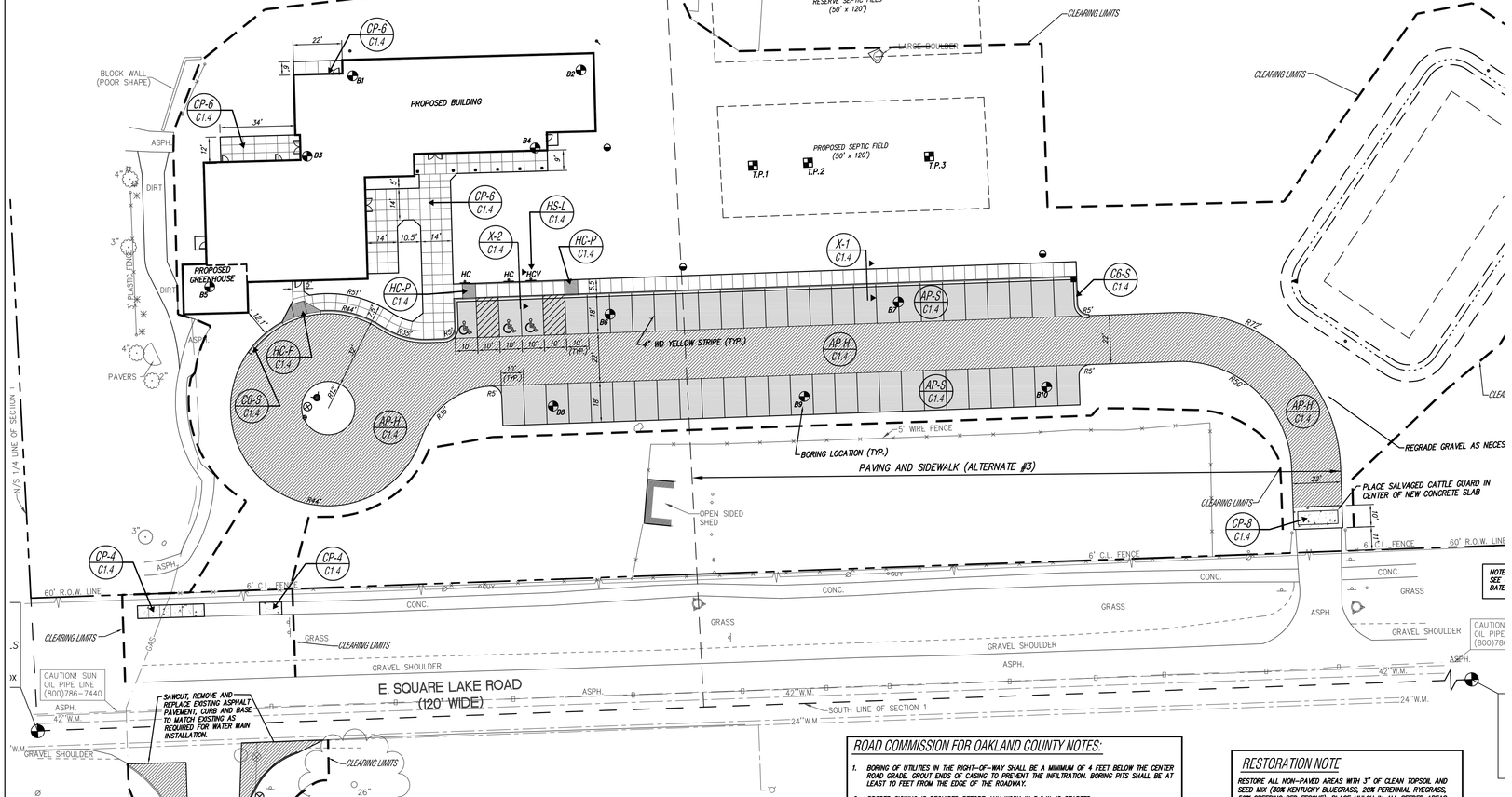
REV NO.	REVISON NOTE:	DATE
1	STATION DESIGN & DRAWINGS	4-04-10

Design Eng.:

Project:

SANITARY GRINDER PUMP STATION

Client



PROPOSED SIGN LEGE

"HC" – RESERVED PARKING HAND
"HCV" – RESERVED PARKING HAND

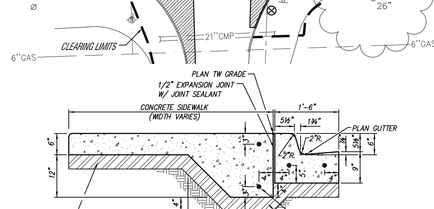
ALL SIGNAGE SHALL BE IN ACCORDAN
MDOT TRAFFIC AND SAFETY SIGN SUF

ROAD COMMISSION FOR OAKLAND COUNTY NOTES:

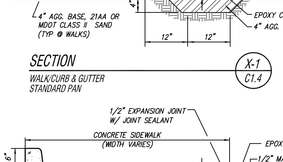
1. BORING OF UTILITIES IN THE RIGHT-OF-WAY SHALL BE A MINIMUM OF 4 FEET BELOW THE CENTER ROAD GRADE. GROUT ENDS OF CASING TO PREVENT THE INFILTRATION. BORING PITS SHALL BE AT LEAST 10 FEET FROM THE EDGE OF THE ROADWAY.
2. PROPER SIGNING IS REQUIRED BEFORE ANY WORK IN R.O.W. IS STARTED.
3. MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES.
4. CLASS II GRANULAR SAND BACKFILL IS REQUIRED IN ALL EXCAVATIONS WITHIN THE ZONE OF INFLUENCE OF THE ROADWAY AND SIDEWALK. THE BACKFILL SHALL BE MECHANICALLY COMPACTED TO 95% DENSITY. NATIVE BACKFILL IS NOT AUTHORIZED.
5. CALL INSPECTOR OR PERMIT SUPERVISOR 48 HOURS BEFORE BEGINNING ANY WORK IN R.O.W. (248) 858-4835

RESTORATION NOTE

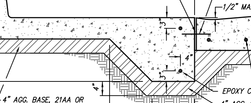
RESTORE ALL NON-PAVED AREAS WITH 3" OF CLEAN TOPSOIL AND SEED MIX (30% KENTUCKY BLUEGRASS, 20% PERENNIAL RYEGRASS, 50% CREEPING RED FESCUE). PLACE MULCH IN ALL SEEDED AREAS. ON SLOPES IN EXCESS OF 10 HORIZONTAL TO 1 VERTICAL PLACE NORTH AMERICAN GREEN DS150 MULCH BLANKET IMMEDIATELY AFTER SEEDING. USE METAL STAPLES PER MANUFACTURERS RECOMMENDATIONS TO HOLD MATTING IN PLACE.



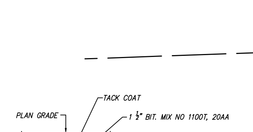
SECTION — WALK/CURB & GUTTER STANDARD PAN — X-1 C1.4



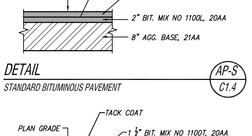
SECTION — INTEGRAL WALK/CURB — X-2 C1.4



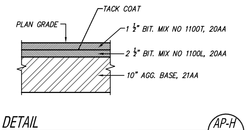
DETAIL — 8" CONCRETE PAVEMENT — CP-8 C1.4



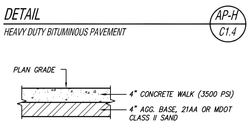
DETAIL — STANDARD BITUMINOUS PAVEMENT — AP-S C1.4



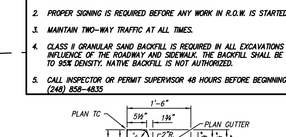
DETAIL — HEAVY DUTY BITUMINOUS PAVEMENT — AP-H C1.4



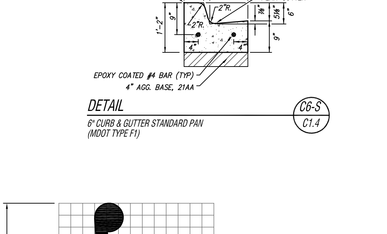
DETAIL — 4" CONCRETE WALK — CP-4 C1.4



DETAIL — 6" CONCRETE WALK — CP-6 C1.4



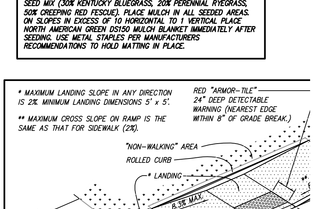
DETAIL — 6" CURB & GUTTER STANDARD PAN (MDOT TYPE F1) — C6-S C1.4



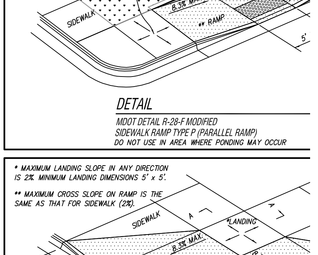
USE OF PAVEMENT SYMBOL IN ACCESSIBLE PARKING SPACES IS OPTIONAL, WHEN USED THE SYMBOL SHALL BE 3" OR 5" HIGH AND BLUE IN COLOR

UNIVERSAL SYMBOL OF ACCESSIBILITY DETAILS

NO SCALE



DETAIL
MDOT DETAIL R-29-F MODIFIED
SIDEWALK RAMP TYPE P (PARALLEL RAMP)
DO NOT USE IN AREA WHERE PONDING MAY OCCUR



DETAIL
MDOT DETAIL R-29-F MODIFIED
SIDEWALK RAMP TYPE F (FLARED SIDES, TWO RAMPS SHOW

C3D1 original source page 63 | ASFP-607

19-01-451-002
OWNER: BLOOMFIELD HILLS SCHOOL DISTRICT
19-01-451-003
OWNER: BLOOMFIELD HILLS SCHOOL DISTRICT
LEAF PILES
RESERVE SEPTIC FIELD (50' x 120')
ALTERNATE #1 PROPOSED SEPTIC FIELD (50' x 120')
T.P.1
T.P.2
T.P.3
PROPOSED BUILDING F.F. 911.28
BLOCK WALL (POOR SHAPE)
CATTLE GUARD
GATE
5' FARM FENCE
6' WIRE FENCE
OPEN SIDED SHED
CLEARING LIMITS
MH 1 RIM 910.20
MH 2 RIM 909.00
MH 3 RIM 906.50
CB 1 RIM 906.45
CB 2 RIM 906.45
BM#2
SITE BM#1
MASTER BM
SOUTH 1/4 CORNER OF SECTION 1 T.2N., R.10E. CITY OF BLOOMFIELD HILLS OAKLAND COUNTY, MI L.C.R.C. L.19064, P.734 FOUND BRASS CAP IN MON. BOX
CAUTION! SUN OIL PIPE LINE (800)786-7440
E. SQUARE LAKE ROAD (120' WIDE)
60' R.O.W. LINE
GRAVEL SHOULDER
ASPH.
CONC.
GRASS
MATCH EXISTING GRADES (TYP.)
W/S 1/4 LINE OF SECTION 1
SOUTH LINE OF SECTION 1
KENTMOOR ROAD (60' WIDE)
LOT 91
LOT 32
6"GAS
24"W.M.
42"W.M.
8"SAN LEAD
21"CMP
INV=897.22
INV=897.37
INV=897.70
INV=897.91
INV=898.13
INV=898.37
INV=898.86
INV=899.09
INV=899.32
INV=899.55
INV=899.78
INV=900.01
INV=900.24
INV=900.47
INV=900.70
INV=900.93
INV=901.16
INV=901.39
INV=901.62
INV=901.85
INV=902.08
INV=902.31
INV=902.54
INV=902.77
INV=903.00
INV=903.23
INV=903.46
INV=903.69
INV=903.92
INV=904.15
INV=904.38
INV=904.61
INV=904.84
INV=905.07
INV=905.30
INV=905.53
INV=905.76
INV=905.99
INV=906.22
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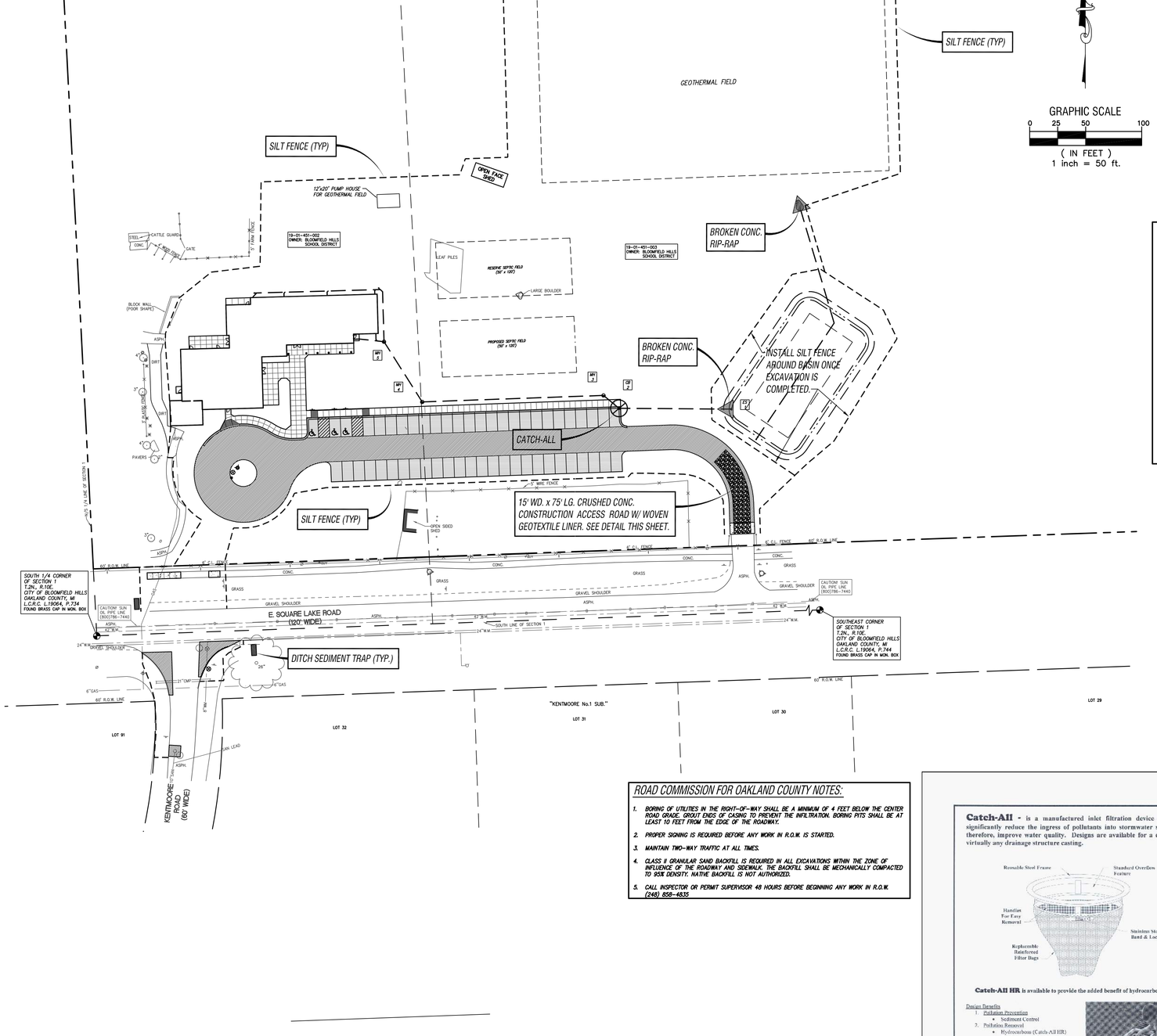
INV=907.60
INV=907.83



ROAD COMMISSION FOR OAKLAND COUNTY NOTES:

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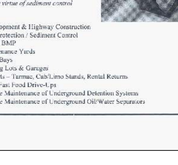
5. CALL INSPECTOR OR PERMIT SUPERVISOR 48 HOURS BEFORE BEGINNING ANY WORK IN R.O.W. (248) 858-4835

Catch-All - is a manufactured inlet filtration device designed to significantly reduce the ingress of pollutants into stormwater systems, and therefore, improve water quality. Designs are available for a custom fit in virtually any drainage structure casting.



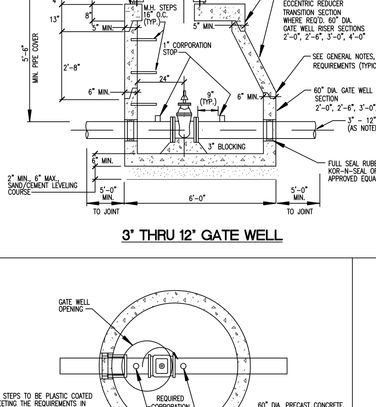
Catch-All HR is available to provide the added benefit of hydrocarbon removal.

Design Benefits
1. Pollution Prevention
   - Sediment Control
2. Pollution Removal
   - Hydrocarbons (Catch-All HR)
   - Total Suspended Sediment
   - Phosphorus*
   - Nitrogen*
   - Heavy Metals*
   - *By virtue of sediment control

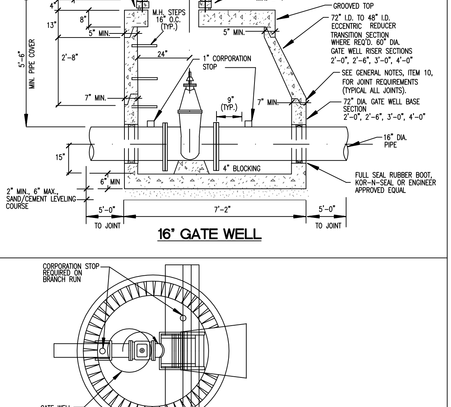
Applications
1. Site Development & Highway Construction
   - Inlet Protection / Sediment Control
2. Permanent BMP
   - Maintenance Yards
   - Wash Bays
   - Parking Lots & Garages
   - Airports – Tarmac, Catch Lime Stands, Rental Returns
   - Bank/Fast Food Drive-Ups
   - Reduce Maintenance of Underground Detention Systems
   - Reduce Maintenance of Underground Oil/Water Separators

C-001 (original source page 80) | APP-809

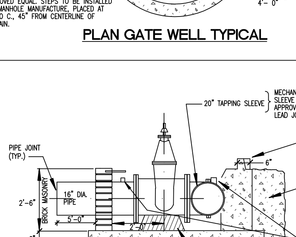
GATE VALVE AND WELL DETAILS



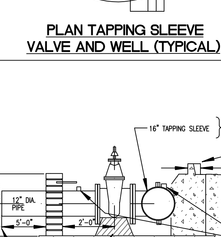
3' THRU 12' GATE WELL



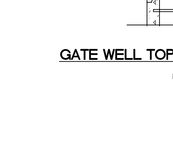
16" GATE WELL



PLAN GATE WELL TYPICAL

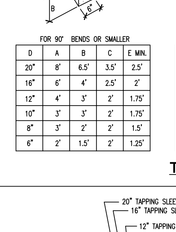


PLAN TAPPING SLEEVE VALVE AND WELL (TYPICAL)



GATE WELL TOPS WITHIN PAVEMENT AREAS

RUBBER O'RINGS SHALL NOT BE USED IN PAVEMENT



FOR 90° BENDS OR SMALLER

D	A	B	C	E MIN.
20"	6"	6.5"	3.5"	2.5"
16"	6"	4"	2.5"	2"
12"	4"	3"	2"	1.75"
10"	3"	3"	2"	1.75"
8"	3"	2"	2"	1.5"
6"	2"	1.5"	2"	1.25"

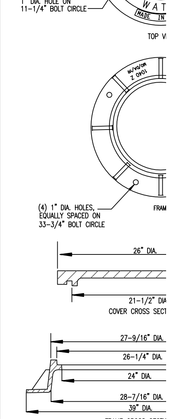
FOR PLUGS

D	A	B	C MIN.
20"	7"	5"	2.5"
16"	4'-10"	4'-10"	2"
12"	4'-4"	3"	1'-9"
10"	3"	2"	1'-6"
8"	2'-10"	2'-4"	1'-6"
6"	1'-6"	1'-6"	3"

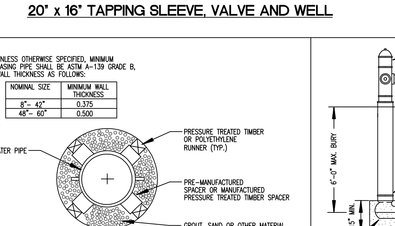
FOR TEES

D	A	B	C	E MIN.
20"	6.5"	4.5"	3.5"	3"
16"	4'-8"	4'-8"	2.5"	2.75"
12"	4"	3"	2.5"	2.5"
10"	3"	2"	2"	2.25"
8"	2'-8"	2"	2"	2.25"
6"	2"	2"	2"	2.25"

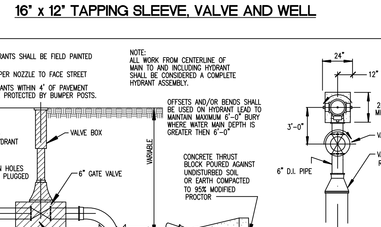
THRUST BLOCK DETAILS



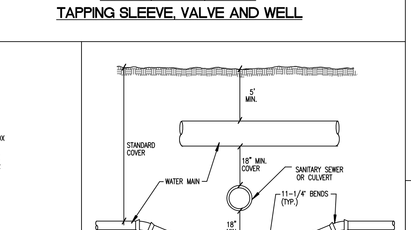
FRAME & CO



20" x 16" TAPPING SLEEVE, VALVE AND WELL



16" x 12" TAPPING SLEEVE, VALVE AND WELL



20" x 8", 16" x 8", 12" x 8"
TAPPING SLEEVE, VALVE AND WELL



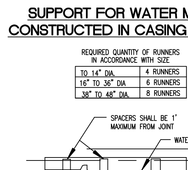
PRIVATE FIRE PROTECTION WATER MAIN – TESTING & INSPECTION

1. ALL WATER MAIN SHALL BE INSTALLED UNDER THE INSPECTION OF THE TOWNSHIP I
2. ALL WATER MAIN SHALL BE PRESSURE TESTED AND DISINFECTED ACCORDING TO BL
3. THIS WATER MAIN SHALL NOT BE CONNECTED TO THE EXISTING MAIN UNTIL SATISFA OBTAINED AND REPORTED.
4. ALL WATER MAIN SHALL BE DUCTILE IRON PIPE CLASS 54.
5. THIS WATER MAIN IS A PRIVATE LINE FOR FIRE PROTECTION ONLY AND NO DOMESTI FROM THIS LINE, WITH ALL MAINTENANCE BEING THE PROPERTY OWNER'S RESPONSI MAY BE TAPPED OFF OF THE FIRE PROTECTION LINE BEFORE THE VALVE AND BOX RIGHT-OF-WAY OR A DEDICATED EASEMENT.

PRIVATE FIRE PROTECTION
DOMESTIC WATER SUPPLY D

UNLESS OTHERWISE SPECIFIED, MINIMUM CASING PIPE SHALL BE ASTM A-139 GRADE B, WALL THICKNESS AS FOLLOWS:

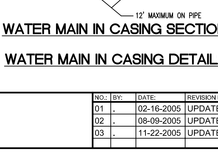
NOMINAL SIZE	MINIMUM WALL THICKNESS
8"– 42"	0.375
48"– 60"	0.500



SUPPORT FOR WATER MAIN CONSTRUCTED IN CASING PIPE

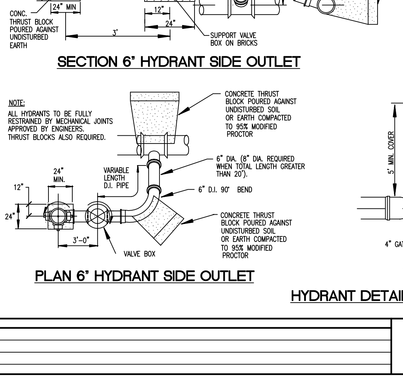
REQUIRED QUANTITY OF RUNNERS IN ACCORDANCE WITH SIZE

TO 14" DIA.	4 RUNNERS
16" TO 36" DIA.	6 RUNNERS
36" TO 48" DIA.	8 RUNNERS



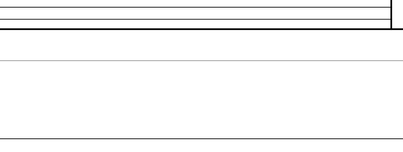
WATER MAIN IN CASING SECTION

WATER MAIN IN CASING DETAILS

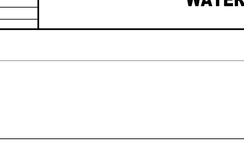


SECTION 6" HYDRANT SIDE OUTLET

PLAN 6" HYDRANT WATER MAIN END

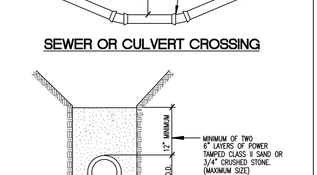


PLAN 6" HYDRANT SIDE OUTLET



DEAD END HYDRANT

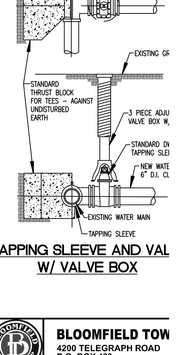
HYDRANT DETAILS



SEWER OR CULVERT CROSSING



STANDARD BEDDING FOR WATER MAIN



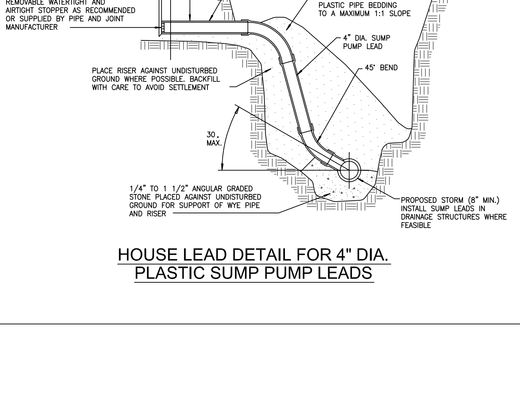
TAPPING SLEEVE AND VAL
W/ VALVE BOX

NO.:	BY:	DATE	REVISION DESCRIPTION:
01	.	02-16-2005	UPDATED DETAIL SHEET
02	.	08-09-2005	UPDATED PER BTEES
03	.	11-22-2005	UPDATED PER BTEES

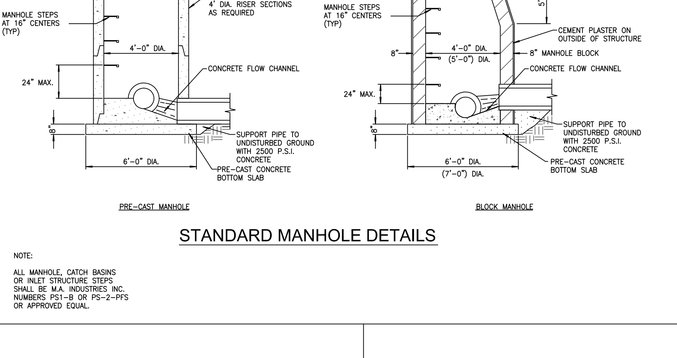
WATER MAIN STANDARD DETAILS AND NOTES

BLOOMFIELD TOWNSHIP
4200 TELEGRAPH ROAD
P.O. BOX 489
BLOOMFIELD HILLS, MI 48

C-501 original source page 60 | ANP-210



HOUSE LEAD DETAIL FOR 4" DIA. PLASTIC SUMP PUMP LEADS

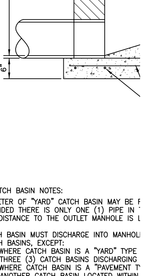


STANDARD MANHOLE DETAILS

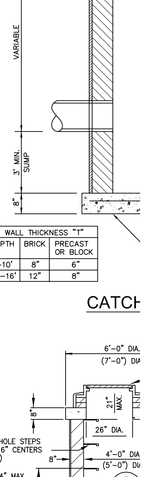
NOTE:

ALL MANHOLE, CATCH BASINS OR INLET STRUCTURE STEPS SHALL BE M.A. INDUSTRIES INC. NUMBERS PS1-B OR PS-2-PFS OR APPROVED EQUAL.

SPECIAL INLET NOTES:
1. INLET SHALL NOT BE USED FOR YARD DR
2. INLET SHALL NOT BE USED IN COUNTY R
3. OTHER THAN ABOVE, INLET MAY NOT BE
   A. THE INLET DISCHARGES INTO CATCH
   B. NOT MORE THAN ONE INLET DISCHARG

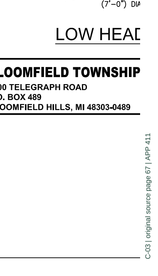


SPECIAL CATCH BASIN NOTES:
1. DIAMETER OF "YARD" CATCH BASIN MAY BE R PROVIDED THERE IS ONLY ONE (1) PIPE IN THE DISTANCE TO THE OUTLET MANHOLE IS L
2. CATCH BASIN MUST DISCHARGE INTO MANHOL CATCH BASINS, EXCEPT:
   A. WHERE CATCH BASIN IS A "YARD" TYPE THREE (3) CATCH BASINS DISCHARGING
   B. WHERE CATCH BASIN IS A "PAVEMENT T ANOTHER CATCH BASIN LOCATED WITHIN
3. STEPS SHALL BE PLACED IN ALL 48" DIAMETI THAN 4' DEEP.
4. ALL BACKFILL AROUND THE STRUCTURE SHALL THE SPRINGLINE OF THE HIGHEST PIPE. THE BE SAND COMPACTED IN 12" LIFTS.

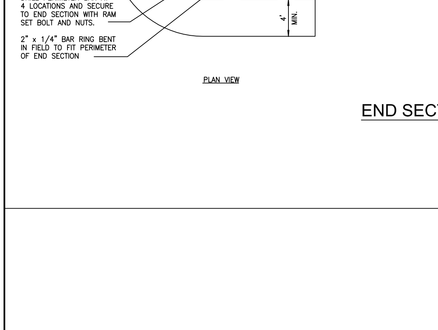


WALL THICKNESS "T"		
DEPTH	BRICK	PRECAST OR BLOCK
0'-10"	8"	6"
10'-16"	12"	8"

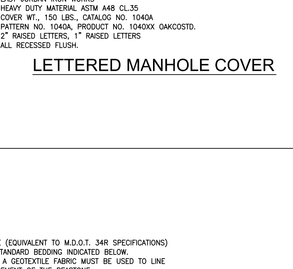
CATCH



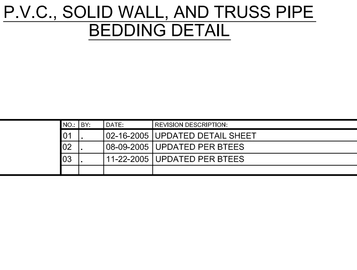
LOW HEAD



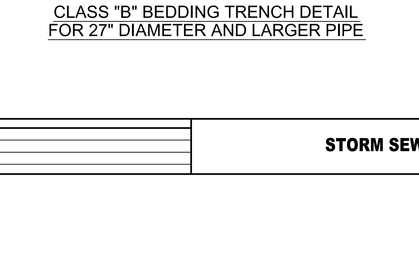
END SECTION AND BAR SCREEN DETAIL



LETTERED MANHOLE COVER

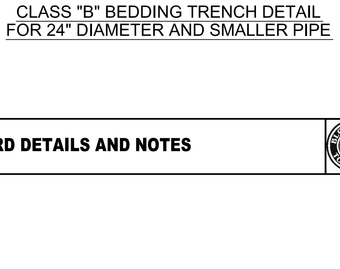


P.V.C., SOLID WALL, AND TRUSS PIPE BEDDING DETAIL



CLASS "B" BEDDING TRENCH DETAIL FOR 27" DIAMETER AND LARGER PIPE

* NOTE
IN DRY, STABLE SOILS, PEASTONE (EQUIVALENT TO M.D.O.T. 34R SPECIFICATIONS) MAY BE SUBSTITUTED FOR THE STANDARD BEDDING INDICATED BELOW. IF TRENCH IS WET OR UNSTABLE A GEOTEXTILE FABRIC MUST BE USED TO LINE THE TRENCH PRIOR TO THE PLACEMENT OF THE PEASTONE.



CLASS "B" BEDDING TRENCH DETAIL FOR 24" DIAMETER AND SMALLER PIPE

NO.	BY:	DATE:	REVISION DESCRIPTION:
01	.	02-16-2005	UPDATED DETAIL SHEET
02	.	08-09-2005	UPDATED PER BTEES
03	.	11-22-2005	UPDATED PER BTEES

STORM SEWER STANDARD DETAILS AND NOTES

BLOOMFIELD TOWNSHIP
4200 TELEGRAPH ROAD
P.O. BOX 469
BLOOMFIELD HILLS, MI 48303-0489

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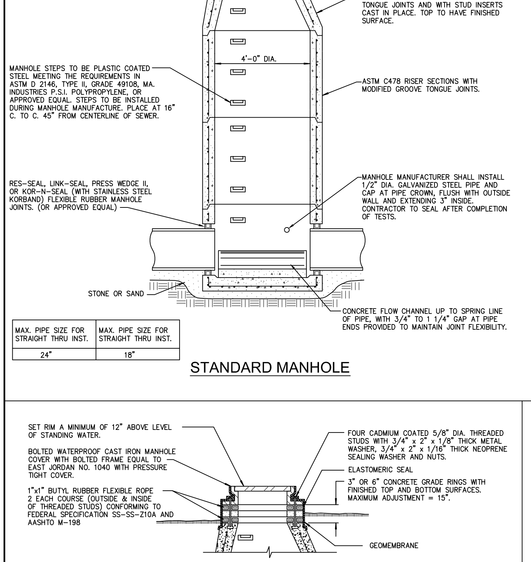
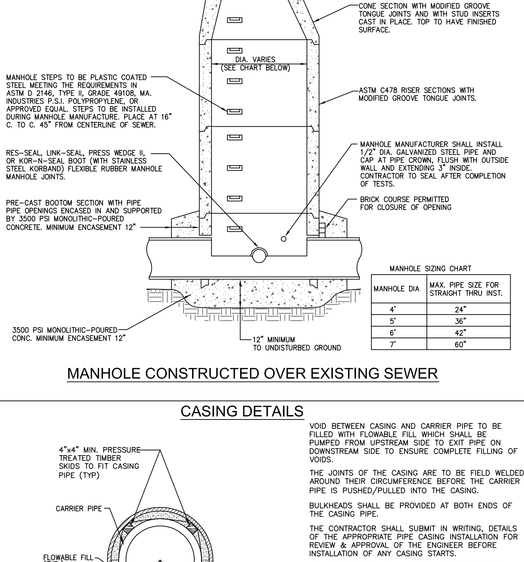


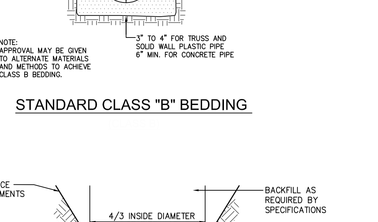
MAX. PIPE SIZE FOR STRAIGHT THRU INST.	MAX. PIPE SIZE FOR STRAIGHT THRU INST.
24"	18"

STANDARD MANHOLE

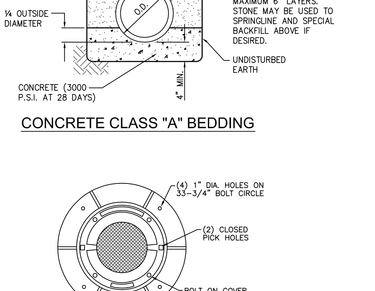


MANHOLE SIZING CHART	
MANHOLE DIA	MAX. PIPE SIZE FOR STRAIGHT THRU INST.
4'	24"
5'	36"
6'	42"
7'	60"

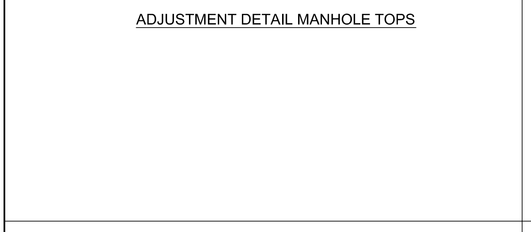
MANHOLE CONSTRUCTED OVER EXISTING SEWER



STANDARD CLASS "B" BEDDING

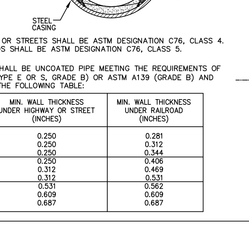


CONCRETE CLASS "A" BEDDING



ADJUSTMENT DETAIL MANHOLE TOPS

CASING DETAILS



RCP UNDER HIGHWAY OR STREETS SHALL BE ASTM DESIGNATION C76, CLASS 4. RCP UNDER RAILROADS SHALL BE ASTM DESIGNATION C76, CLASS 5.

STEEL CASING PIPE SHALL BE UNCOATED PIPE MEETING THE REQUIREMENTS OF EITHER ASTM A53, (TYPE E OR S, GRADE B) OR ASTM A139 (GRADE B) AND SHALL CONFORM TO THE FOLLOWING TABLE:

NOMINAL SIZE OF CASING PIPE (INCHES)	MIN. WALL THICKNESS UNDER HIGHWAY OR STREET (INCHES)	MIN. WALL THICKNESS UNDER RAILROAD (INCHES)
12	0.250	0.281
18	0.250	0.312
20	0.250	0.344
24	0.250	0.406
30	0.312	0.469
36	0.312	0.531
42	0.531	0.562
48	0.609	0.609
54	0.687	0.687

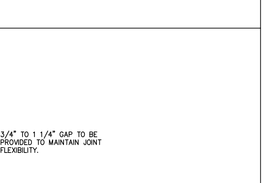
VOID BETWEEN CASING AND CARRIER PIPE TO BE FILLED WITH FLOWABLE FILL WHICH SHALL BE PUMPED FROM UPSTREAM SIDE TO EXIT PIPE ON DOWNSTREAM SIDE TO ENSURE COMPLETE FILLING OF VOIDS.

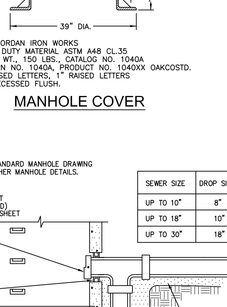
THE JOINTS OF THE CASING ARE TO BE FIELD WELDED AROUND THEIR CIRCUMFERENCE BEFORE THE CARRIER PIPE IS PUSHED/PULLED INTO THE CASING.

BULKHEADS SHALL BE PROVIDED AT BOTH ENDS OF THE CASING PIPE.

THE CONTRACTOR SHALL SUBMIT IN WRITING, DETAILS OF THE APPROPRIATE PIPE CASING INSTALLATION FOR REVIEW & APPROVAL OF THE ENGINEER BEFORE INSTALLATION OF ANY CASING STARTS.

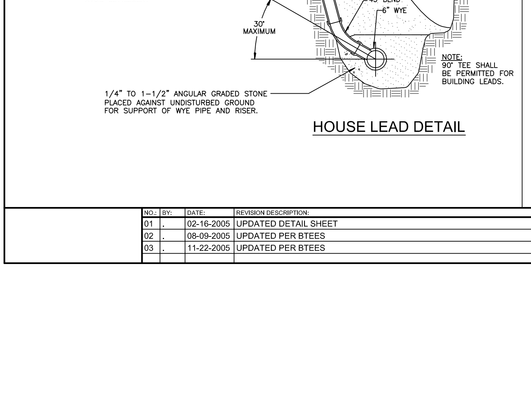
THE CONTRACTOR SHALL CHECK LINE AND GRADE AFTER EACH AUGER CHANGE, INSIDE OF CASING PIPE, AND USE LASER IF MINING AND LINING IS USED.



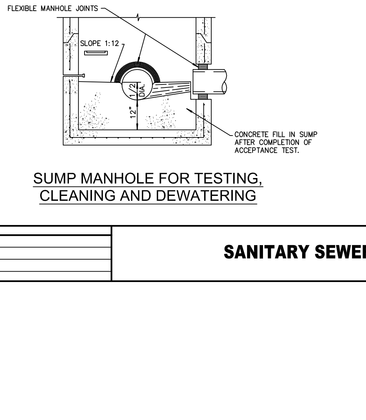


EAST JORDAN IRON WORKS
HEAVY DUTY MATERIAL ASTM A48 CL.35
COVER WT., 150 LBS., CATALOG NO. 1040A
PATTERN NO. 1040A, PRODUCT NO. 1040XX OAKCOSTD.
2" RAISED LETTERS, 1" RAISED LETTERS
ALL RECESSED FLUSH.

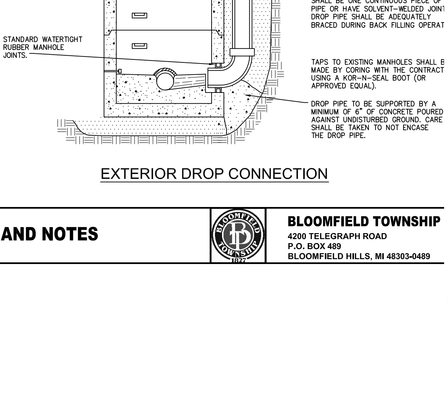
MANHOLE COVER



HOUSE LEAD DETAIL



SUMP MANHOLE FOR TESTING, CLEANING AND DEWATERING



SEWER SIZE	DROP SIZE	MH SIZE
UP TO 10"	8"	4'
UP TO 18"	10"	4'
UP TO 30"	18"	5'

EXTERIOR DROP CONNECTION

NO.	BY:	DATE:	REVISION DESCRIPTION:
01	,	02-16-2005	UPDATED DETAIL SHEET
02	,	08-09-2005	UPDATED PER BTEES
03	,	11-22-2005	UPDATED PER BTEES

SANITARY SEWER STANDARD DETAILS AND NOTES

BLOOMFIELD TOWNSHIP
4200 TELEGRAPH ROAD
P.O. BOX 489
BLOOMFIELD HILLS, MI 48303-0489

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EROSION CONTROL BLANKETS AND TURF MAT LINING (E-9)

SURFACE ROUGHENING AND SCARIFICATION (E-8)

EARTH DIVERSION BERM WITH STONE OUTLET FILTER (SP-4)

CURB AND GUTTER INLET FILTER (SI-4)

RIP-RAP; CHANNELS AND SLOPES (E-10)

VEGETATIVE BUFFER ZONE (SP-1)

EARTH DIVERSION BERM (E-8)

CURB AND GUTTER INLET FILTER ALTERNATIVE "A" (SI-4A)

CHECK DAMS (E-3)

CHECK DAMS ALTERNATIVE "A" (E-3A)

CHECK DAMS ALTERNATIVE "B" (E-3B)

SILT FENCE (SF-2)

WINTER/FROZEN GROUND SILT FENCE (SF-2W)

LOW POINT INLET FILTER (SI-2)

RYCB INLET FILTER (SI-3)

GRAVEL INTERCEPTOR DIKE (SP-6)

CURB AND GUTTER INLET FILTER ALTERNATIVE "A" (SI-4A)

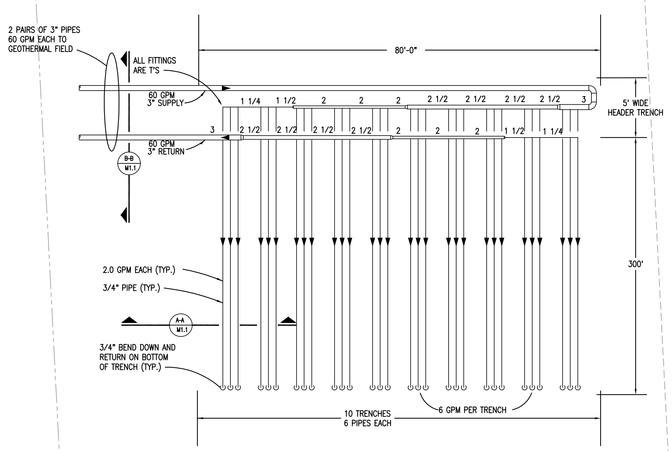
SOD INLET FILTER (SI-1)

TEMPORARY DETENTION BASIN OUTLET STONE FILTER (SD-2)

LOW POINT INLET FILTER ALT. "A" (SI-2A)

RYCB INLET FILTER (SI-3)

TEMPORARY STONE ACCESS DRIVE (SP-9)



GEOTHERMAL LOOP FIELD PIPING CIRCUIT DETAIL

NO SCALE

MECHANICAL SITE PLAN

SCALE: 1" = 30'

0 10 20 30

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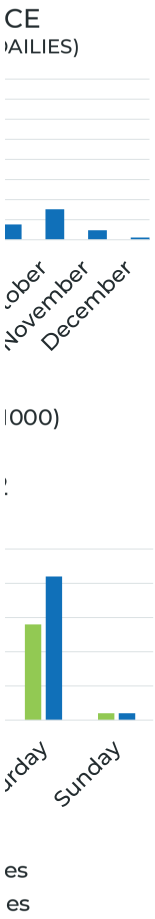
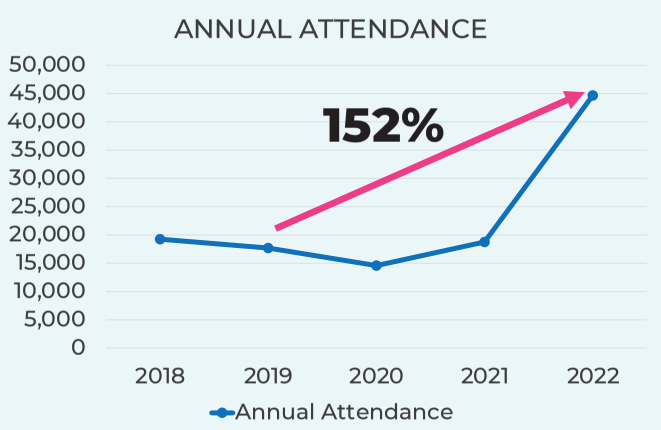
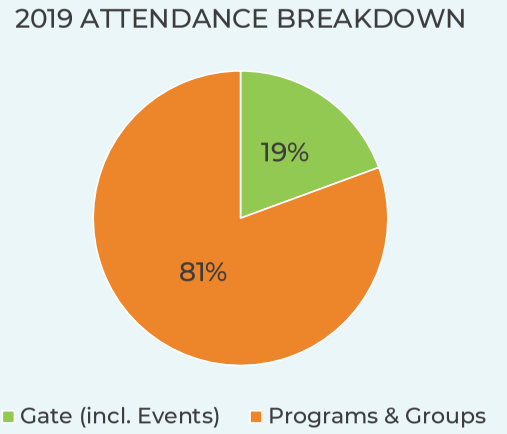
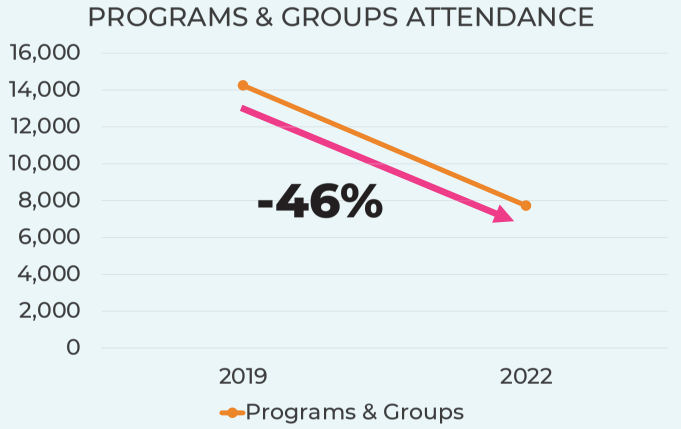
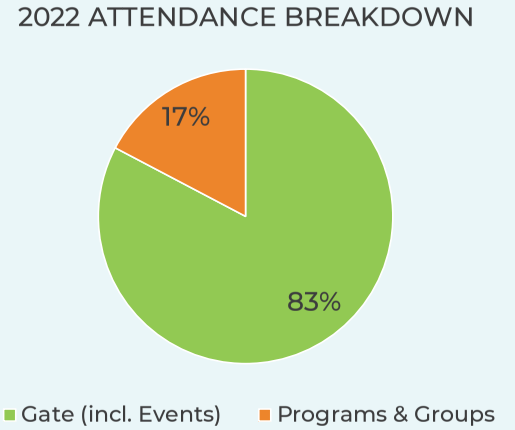
ATTENDANCE TRENDS











AILY ATTENDANCE PATTERNS

Design Day

Arrival		Departure		In Park	
0%	0	0%	0	0%	0
0%	0	0%	0	0%	0
0%	0	0%	0	0%	0
31%	117	14%	53	17%	64
23%	87	20%	75	20%	75
10%	38	9%	34	21%	79
19%	72	9%	34	31%	117
12%	45	21%	79	22%	83
3%	11	15%	57	10%	38
2%	8	8%	30	4%	15
0%	0	4%	15	0%	0
0%	0	0%	0	0%	0
100%		100%			
31%	117	21%	79	31%	117
				Length of Stay	**1.25**

Annual Attendance:	44,660	FY 2022 (programs & gate)
Ave Peak Day:	512	Average of top 10 days
Maximum Day:	2068	Fall Fest day 2021: 2580 total
Design Day:	436	Average of top 15 - 25 days (NOT EVENTS)
Design Day, Peak in Park:	117	
Length of Stay:	1.25	

Max Day = Absolute busiest day of the year; example is Fall Fest or Winter Park day

Peak Day = Average of top 10 busiest days of the year—example is Friday in May or October; busy beautiful summer Saturday

Design Day = Average of non-event top 15-25 days of the year—example is a regular Saturday in Summer

AILY ATTENDANCE PATTERNS

Friday Program (Field Trip) Day

Arrival		Departure		In Park	
0%	0	0%	0	0%	0
10%	35	0%	0	10%	35
30%	105	0%	0	40%	140
1%	4	1%	4	40%	140
26%	91	28%	98	38%	133
1%	4	1%	4	38%	133
1%	4	1%	4	38%	133
9%	32	15%	53	32%	112
9%	32	15%	53	26%	91
9%	32	15%	53	20%	70
4%	14	15%	53	9%	32
0%	0	9%	32	0%	0
100%		100%			
30%	105	28%	98	40%	140

nts arrive for Pre-K and field trips
of those students depart and afternoon field trips arrive
the afternoon students depart and Open Barn begins
t of the students depart

Annual Attendance:	44,660	FY 2022 (programs & gate)
Ave Peak Day:	512	Average of top 10 days
Maximum Day:	2068	Fall Fest day 2021: 2580 total
Design Day:	350	Average Friday in May
Design Day, Peak in Park:	140	
Length of Stay:	N/A	

Although these busy days are limited to the month of May, due to the morning influx of Pre-K and field trips alongside Academy students, the highest peak in park for the Farm is experienced on these days. These peaks mostly inform the parking lot, traffic flow, and entry design as most of these visitors are participating in specific formal programs.

A secondary PIP occurs when Open Barn opens in the afternoon.

AILY ATTENDANCE PATTERNS

Friday Camp & Open Barn

Arrival		Departure		In Park	
0%	0	0%	0	0%	0
25%	84	0%	0	25%	84
5%	17	0%	0	30%	101
0%	0	0%	0	30%	101
0%	0	0%	0	30%	101
0%	0	0%	0	30%	101
0%	0	0%	0	30%	101
10%	34	0%	0	40%	134
40%	134	38%	128	42%	141
12%	40	40%	134	14%	47
8%	27	15%	50	7%	24
0%	0	7%	24	0%	0
100%		100%			
40%	134	40%	134	42%	141

Annual Attendance:	**44,660**	FY 2022 (programs & gate)
Ave Peak Day:	**459**	Average of top 10 days
Maximum Day:	**2068**	Fall Fest day 2021: 2580 total
Ave Day:	**336**	2022 Average Friday in June / July
Design Day, Peak in Park:	**141**	
Length of Stay:	**N/A**	

Peak Arrival is at 3-4pm when peak Open Barn meets Camp pick-up. Peak Departure and Peak in Park aligns with this rush.

Sanitary Sewer

There are two existing lift stations that collect and pump wastewater from the site to the public infrastructure in Square Lake Road.

- Lift Station 1 (LS#1) is located outside of the Bowers Academy, near the sidewalk adjacent to the circular drop off loop.
- Lift Station 2 (LS#2) is located near the northwest corner of the FAB. There are also undocumented onsite wastewater disposal systems on the property.

The Toilet Building, located between the Horse Barn and the Cottages is served by a drain field believed to be located north and west of the Academy.

The Caretakers Residence is also assumed to be served by a private on-site wastewater disposal system.

Refer to *Appendix B6* for documentation related to the existing lift station and sanitary sewer service from the building.

Sanitary Sewerage Analysis:

Original Design Intent:

In reviewing Lift Station #1 within the 2010 Bowers Farms School House contract documents, it appears that:

- The design was to support an estimated daily user population of 335 people.
- The average daily design flow was estimated to be 5,000 gallons per day (335 people * 15 gallons per day per person).
- The pump selection (60 gallons per minute) was sized to address peak flow conditions (more than 4 times greater than average flows).
- Intrinsic to situations that are experienced (low design flows with relatively higher head conditions within a smaller force main), one can anticipate higher operating and maintenance concerns.

A couple items to further review within this lift station design are:

- Did the assumption that the average daily flow was spread out over a 24-hour period meet the actual conditions of the facility (being a smaller facility that primarily operated for a small portion of the day).
- Did the design assumptions for the force main match the conditions of the final design.

Both concerns could be contributors to increased pump maintenance and/or failures.

Current Operations:

In reviewing the current Attendance Trends, it appears that the estimated daily user population has significantly increased.

Appendix B7 provides historical attendance and projected use of the site.

Using the data provided, it can be estimated that the current maximum daily user population breaks down as follows:

Annual Attendance (est. based on "Attendance Trends" PDF)	
Year	**Annual**
2018	20,000
2019	18,000
2020	15,000
2021	19,000
2022	45,000

Monthly Attendance	
January	9,500
February	9,500
March	1,500
April	2,500
May	3,500
June	3,500
July	2,000
August	2,500
September	2,800
October	4,000
November	2,000
December	1,500
Total	**44,800**

Attendance Distribution Curve		
Day	**Value**	**%**
Monday	1	2.0%
Tuesday	2	3.9%
Wednesday	1	2.0%
Thursday	6	11.8%
Friday	18	35.3%
Saturday	22	**Max. @ 43.1%**
Sunday	1	2.0%
Total	**51**	**100.0%**

Estimated Max. Daily	
Weeks / Month	**Saturday Peak (@ 50%)**
5	950
4	**1,188**
4	188
5	250
4	438
4	438
5	200
4	313
4	350
5	400
4	250
4	**188**
Minimum	**188**
Maximum	**1,188**

What does the Lift Station Currently Experience?			
Daily Attendance:	Minimum	Maximum	
	200	**1,200**	visitors / day
Est. Design Flow:		**15**	gallons / day / visitor
	3,000	18,000	GPD
Daily Attendance Pattern:		**10:00 AM - 4:00 PM**	
Peak Hours		**6**	hours
Equivalent Design Flow:	**12,000**	**72,000**	GPD
	8.3	**50.0**	gpm
Peak Factor:		**4**	
Peak Flow:	**33.3**	**200.0**	**gpm**

With these projected current user assumptions, it could be reasoned that Lift Station #1 is beyond its capacity.

Furthermore, the Daily Attendance Patterns table shows that the Maximum Day users was 2,068. This would further strain the station's ability to maintain service.

Future State / Operations:

With continued growth anticipated and expansion at Bowers Farm, it should be anticipated that the conditions at Lift Station #1 continue to degrade.

Alternatives Analysis:

A. Status quo:
   - Add Equalization Tank and / or Port-a-Potties for "Peak Days" (pump & haul).
   - Master Plan for proposed grinder pumps / tanks for all future improvement projects.

B. Validate & improve existing Lift Station #1
   - Validate capacity in existing 10-inch municipal gravity sewer

- Evaluate new / reconfigured pumps (this will potentially include a larger and/or deeper structure).

C. Build new Lift Station (located further west along E Square Lake Road) & Campus Gravity Sewer
   - Master Plan for new lift station that serves western / central portions of the campus
   - Master Plan for new gravity sanitary sewer that services western / central portions of campus

D. Connect to existing municipal system
   - Evaluate the potential to replace the existing 2-inch force main with gravity sewer service (connecting to 10-inch municipal sewer in Kentmoor Road.
     - Explore realignment of a portion of the 24-inch watermain in E Square Lake Road.

Recommendations:

While further study & costing is required to complete our analysis, we recommend the Owner explores:

- Potential to upgrade the pumps within the current lift station (Option B above).
- Master Plan for a "campus-wide" lift station and gravity sewer system that will support your growth projections and future projects (Option C above).

Scheduling & Permitting:

Depending on which option is selected, the next phase would be to develop the engineered design, approach the Utility Authority, and secure the appropriate permits.

Permits may be required from:

- Bloomfield Township (Zoning, Engineering, Sewer & Water, Soil Erosion, Environmental, Storm)
- Road Commission of Oakland County (RCOC) (Right of Way, Grading Easements, Road Crossing)
- Oakland County Water Resources Commission (Stormwater, Soil Erosion)
- EGLE (Utility Construction permits)

As with all permit submittals, ultimate approvals and authorization are dependent on reviewing agencies.

<u>Option B:</u>

This option should be a little more streamlined for the owner.

Schedule should include:

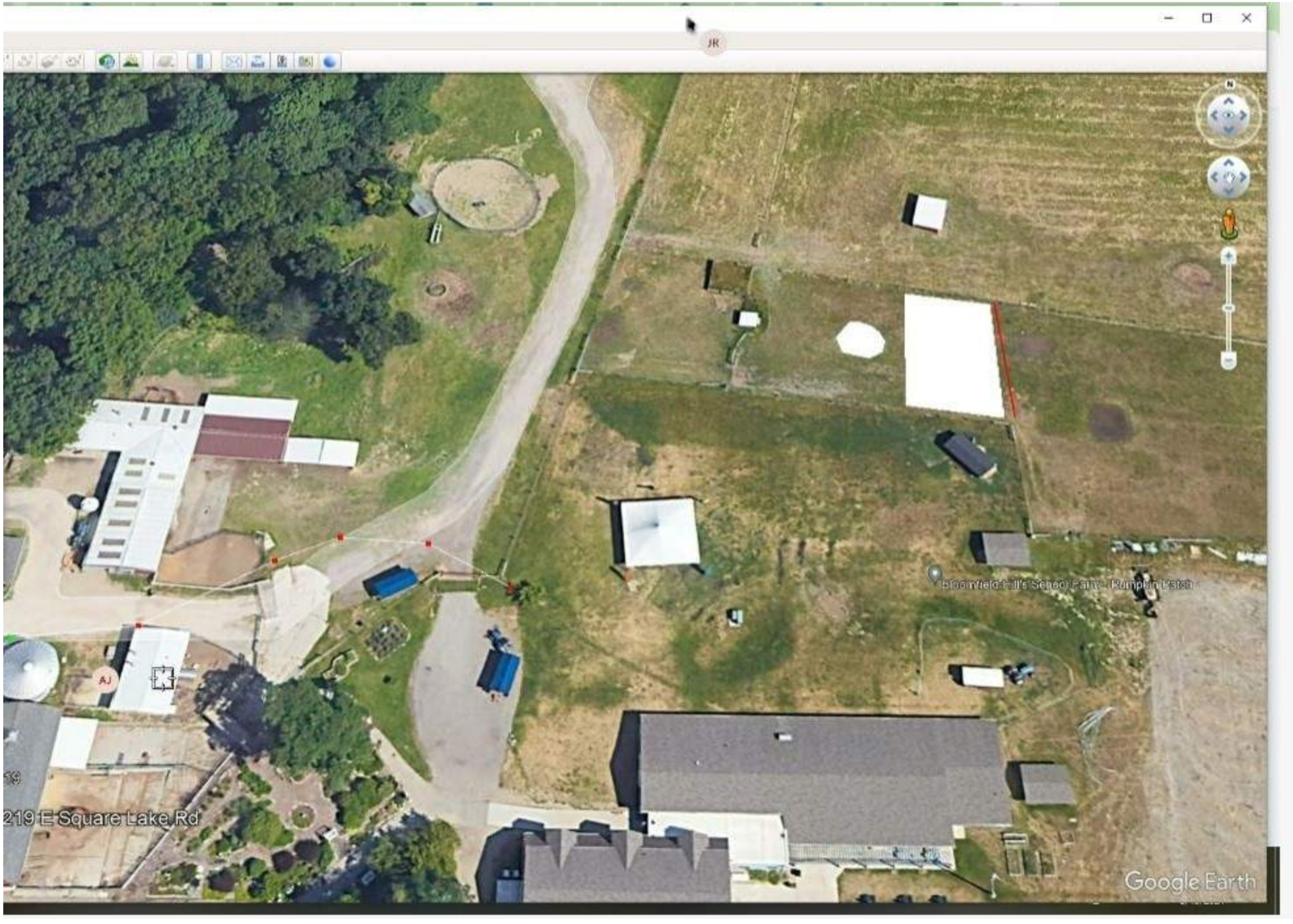
- Confirmation of intended design parameters.
- Development of engineered plans.
- Engagement with Township & Utility Authority.
- Acquisition of necessary permits.
- Bidding, Construction & Commissioning.

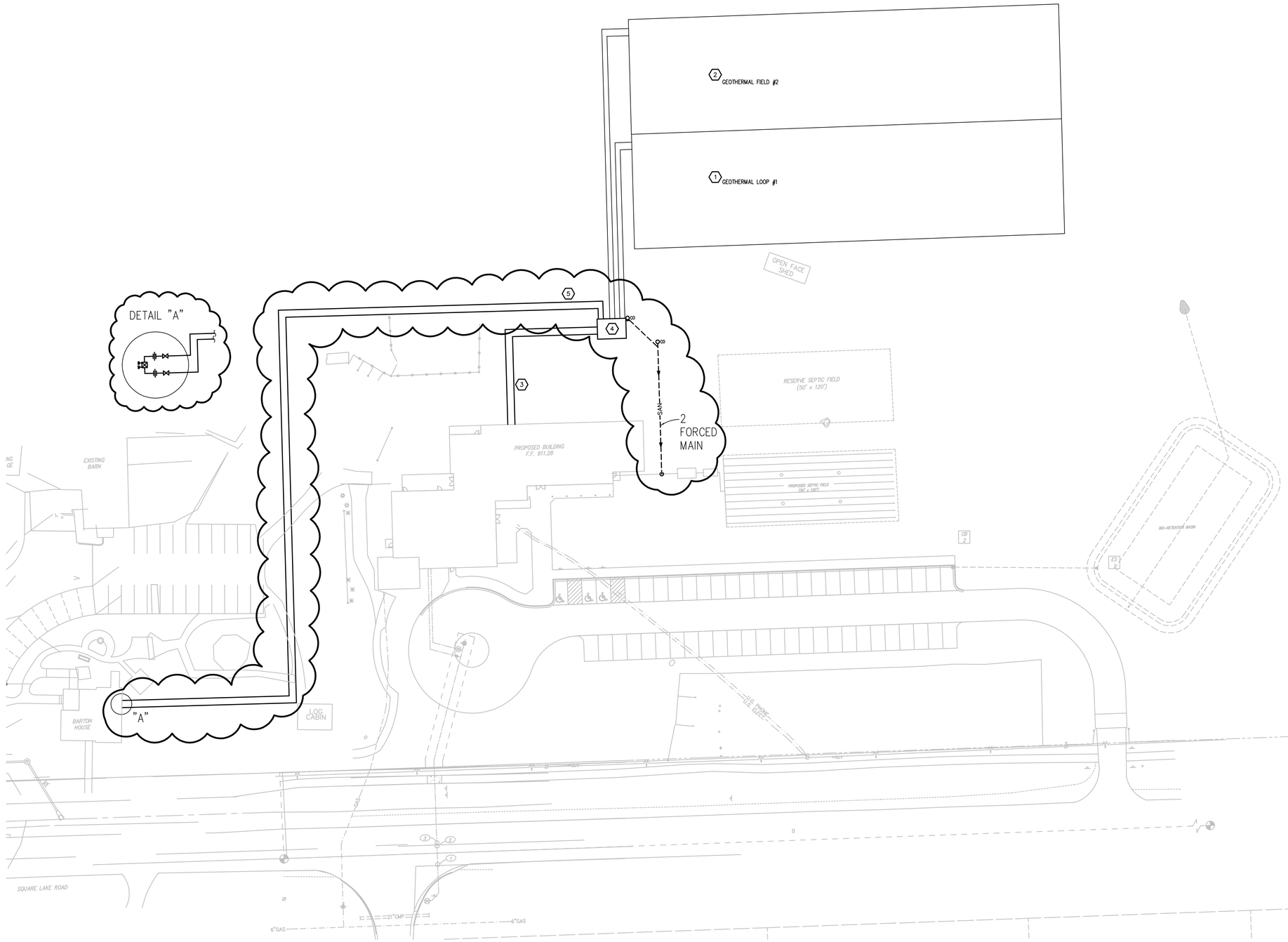
<u>Option C:</u>

This option will provide greater flexibility for Bowers Farm long-term but will also require a more intentional design process.

Anticipated schedule should include:

- Development of Master Plan
- Coordination with Township (partially concurrent with MP development)
- Development of engineered plans.
- Engagement & Approvals from Township & Utility Authority.
- Acquisition of necessary permits.
- Bidding, Construction & Commissioning.


219 E Square Lake Rd
Google Earth



SITE PLAN GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC & INDICATE THE GENERAL EXTENT OF THE WORK. PROVIDE SYSTEMS COMPLETE AND PER APPLICABLE CODES INCLUDING REQUIRED COMPONENTS, OFFSETS REQUIRED TO AVOID STRUCTURES AND OTHER UTILITIES, ETC.
2. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR PIPING SYSTEM TO THE PUMP HOUSE AND IN THE PUMP HOUSE. GEOTHERMAL CONTRACTOR SHALL BE RESPONSIBLE FOR GEOTHERMAL FIELD PIPING SYSTEM FROM THE PUMP HOUSE.
3. CONTRACTORS SHALL COORDINATE THE INSTALLATION OF SYSTEMS WITH THE WORK OF ALL OTHER TRADES.
4. ALL GEOTHERMAL FIELD PIPE SHALL BE A MINIMUM OF 4 FEET TO THE TOP OF PIPE. CONTRACTOR SHALL INSTALL PIPING DEEPER AT LOCATIONS TO AVOID INTERFERENCE FROM FOUNDATIONS, UTILITIES, ETC. AS NECESSARY.
5. GEOTHERMAL PIPING FIELD BASED ON 340 MBH HEATING, 380 MBH COOLING, 90 °F SUMMER EWT, 34 °F WINTER EWT AND 30% PROPYLENE GLYCOL SOLUTION.

MECHANICAL SITE PLAN

SCALE: 1" = 30'

0 10 20 30

SITE PLAN CONSTRUCTION NOTES:

1. GEOTHERMAL PIPING FIELD #1 – 300'x80' LOOP FIELD WITH 5'x80' HEADER AREA. (FOR REFERENCE ONLY)
2. GEOTHERMAL PIPING FIELD #2 – 300'x80' LOOP FIELD WITH 5'x80' HEADER AREA. (FOR REFERENCE ONLY)
3. 4" HEAT PUMP LOOP SUPPLY AND 4" HEAT PUMP LOOP RETURN FROM BUILDING TO THE PUMP HOUSE BY MECHANICAL CONTRACTOR.
4. PUMP HOUSE BUILDING. PIPING MANIFOLD TO BE PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR.
5. ALTERNATE NO. 8: 1 1/2" HEAT PUMP LOOP SUPPLY AND 1 1/2" HEAT PUMP LOOP RETURN FROM THE PUMP HOUSE TO BARTON HOUSE BY MECHANICAL CONTRACTOR. PIPING WILL TERMINATE IN THE BASEMENT OF THE HOUSE WITH UNIONS, A SET OF ISOLATION VALVES AND A BALANCING VALVE SET TO 12 GPM FOR FUTURE CONNECTION TO THE GEOTHERMAL SYSTEM.

TMP ARCHITECTURE

TMP ASSOCIATES INC
1191 WEST SQUARE LAKE ROAD · BOX 289
BLOOMFIELD HILLS · MICHIGAN · 48303
PH · 248.338.4561 FX · 248.338.0223
EM · INFO@TMP-ARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT

Peter Basso Associates Inc
CONSULTING ENGINEERS
5145 Livernois, Suite 100
Troy, Michigan 48098-3276
Tel: 248-879-5666
Fax: 248-879-0007
www.PeterBassoAssociates.com
PBA Project No. 2009030000

PROJECT TITLE

Bowers Farm School House

Bloomfield Hills Schools
Bloomfield Hills, Michigan

DRAWING TITLE

MECHANICAL SITE PLAN

ISSUE DATES

5-03-10	ADDENDUM NO. 1
4-14-10	C.D. – BIDS
DATE:	ISSUED FOR:

DRAWN	GRN
CHECKED	RNR
APPROVED	DJE

PROJECT NO.

07169B

DRAWING NO.

M1.1

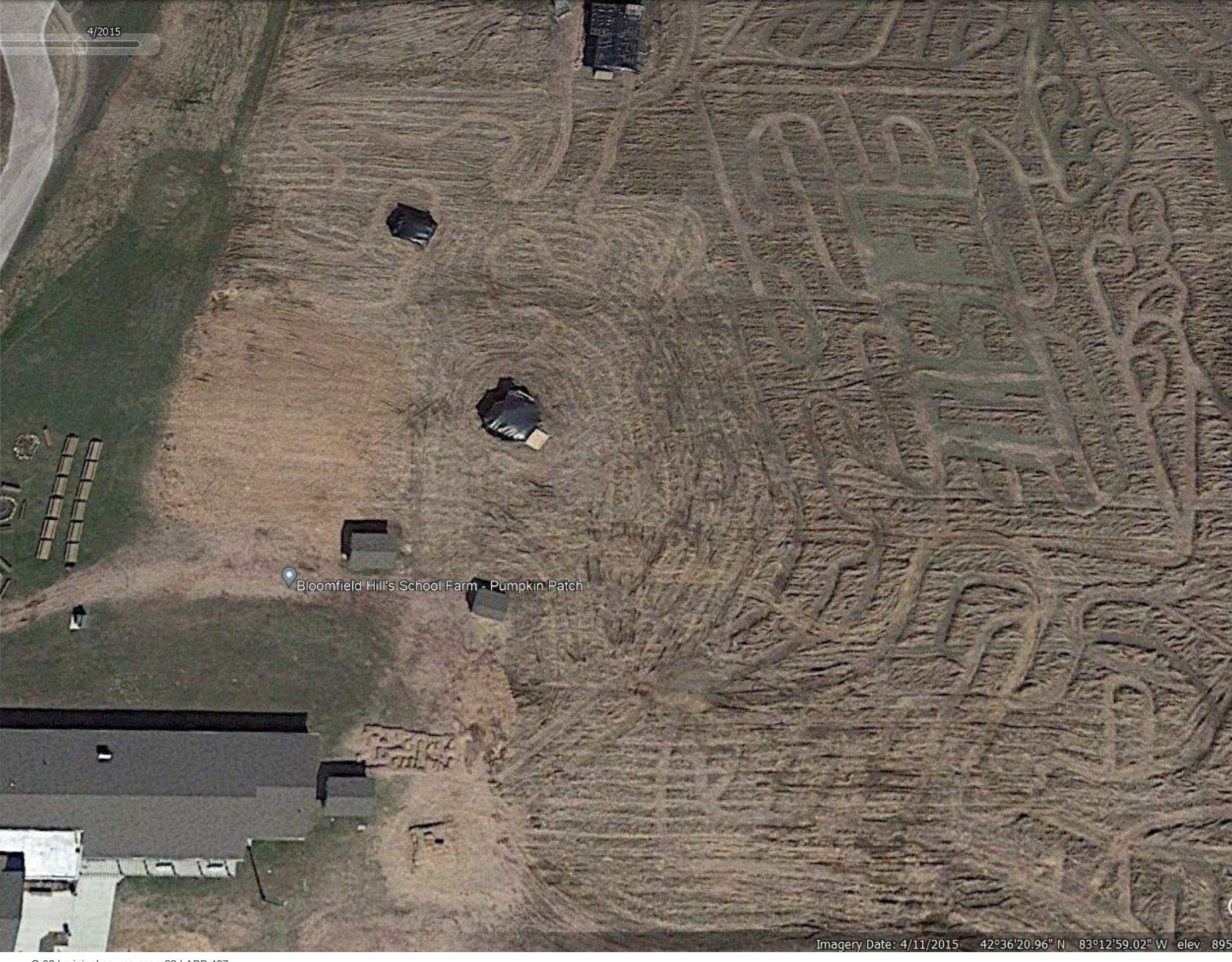
G:\2009\2009-0300-00\Cad\2009-0300-M0-SP.dwg, M1.1, 5/3/2010 3:14:53 PM, Roxsana Nae, I:\PC2 Files\ADT3\plotters\Xerox Bond.pc3 ,1, Peter Basso Associates Inc.

Appendix B10b

Geothermal Field Construction Photos



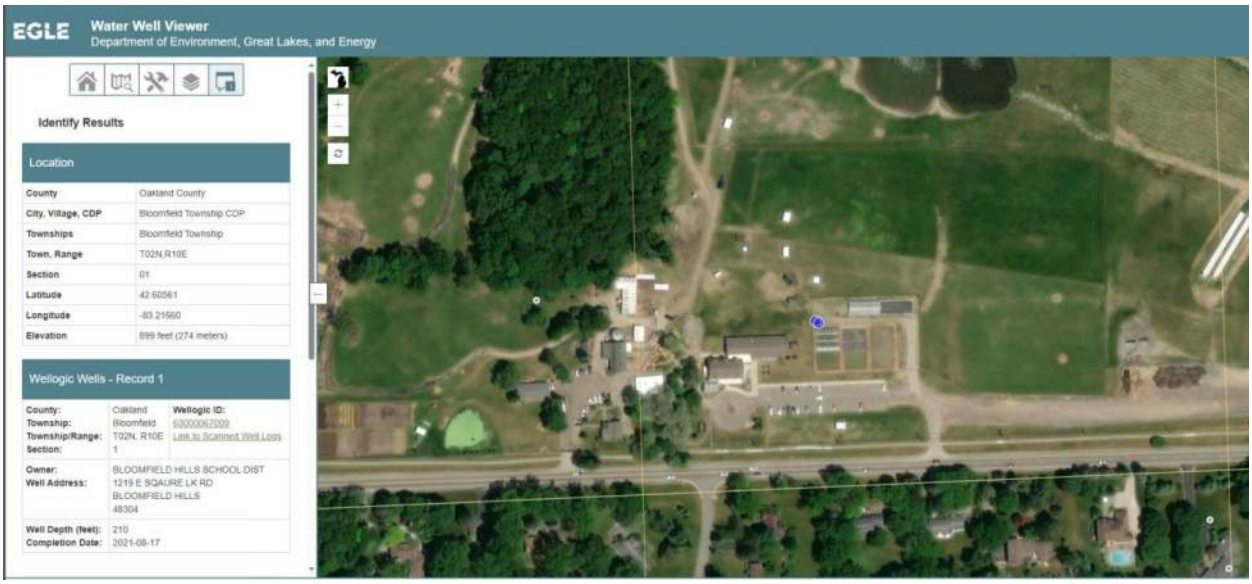



4/2015
Bloomfield Hill's School Farm - Pumpkin Patch
Imagery Date: 4/11/2015 42°36'20.96" N 83°12'59.02" W elev 895

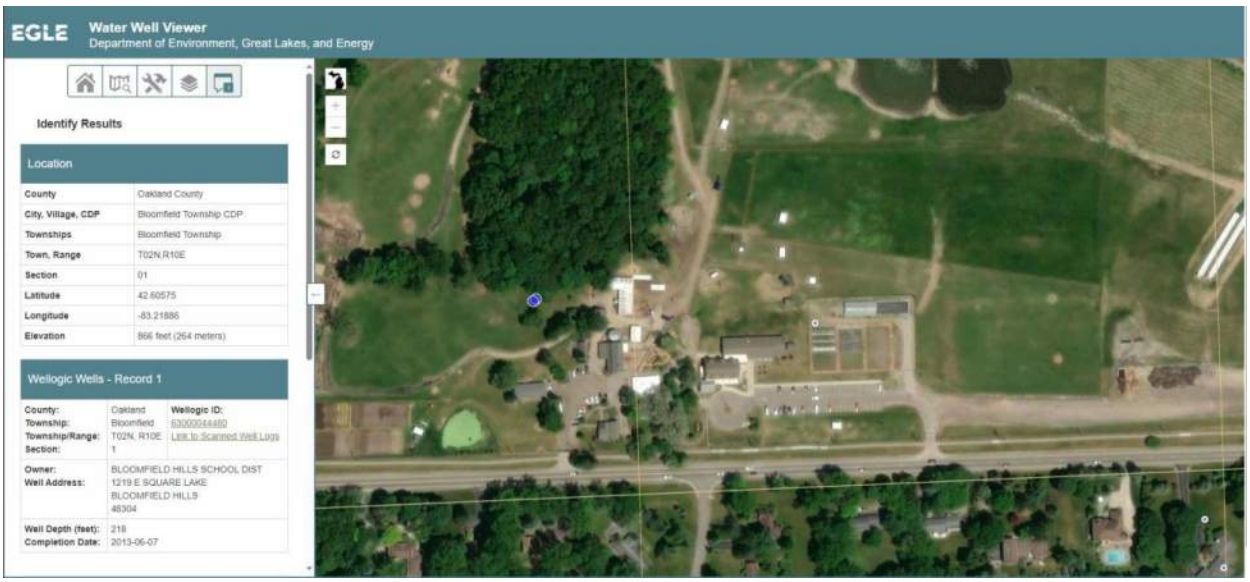
Appendix B11

EGLE Water Well Records

Well #1



Well #2



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No: 19-01-376-006	**Permit No:** 108-21-000023	**County:** Oakland		**Township:** Bloomfield
Town/Range: 02N 10E	**Section:** 1	**Well Status:** Active	**WSSN:**	**Source ID/Well No:**

Well ID: 63000067009

Elevation:

Latitude: 42.605602

Longitude: -83.216572

Method of Collection: GPS Differential (DGPS)

Distance and Direction from Road Intersection:
WEST OF ADAMS RD. NORTH SIDE OF SQUARE LK RD

Well Owner: BLOOMFIELD HILLS SCHOOL DIST

Well Address:	**Owner Address:**
1219 E SQAURE LK RD BLOOMFIELD HILLS, MI 48304	4175 ANDOVER RD BLOOMFIELD, MI 48302

Drilling Method: Rotary
Well Depth: 210.00 ft. **Well Use:** Irrigation
Well Type: New **Date Completed:** 8/17/2021

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting:

Diameter: 5.00 in. to 185.00 ft. depth SDR: 21.00

Borehole: 8.75 in. to 210.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 8/17/2021 **HP:** 1.50
Manufacturer: Franklin Electric **Pump Type:** Submersible
Model Number: 255DAP15P4 **Pump Capacity:** 25 GPM
Drop Pipe Length: 80.00 ft. **Pump Voltage:** 230
Drop Pipe Diameter: 1.25 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Well-Mate
Model Number: WM6 **Tank Capacity:** 19.8 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 65.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 210.00 ft. after 2.00 hrs. at 100 GPM

Screen Installed: Yes **Filter Packed:** Yes
Screen Diameter: 5.00 in. **Blank:**
Screen Material Type: PVC-wire wrapped
Screen Installation Type: Attached

Slot	Length	Set Between
25.00	25.00 ft.	185.00 ft. and 210.00 ft.

Fittings: Bottom plug

Formation Description	Thickness	Depth to Bottom
Brown Silt & Gravel	18.00	18.00
Gray Clay & Gravel	13.00	31.00
Gray Sand Coarse	14.00	45.00
Sand & Gravel Coarse	30.00	75.00
Gray Clay & Gravel	87.00	162.00
Gravel & Clay	8.00	170.00
Sand Fine	12.00	182.00
Sand Fine W/Clay	3.00	185.00
Sand & Gravel Medium	25.00	210.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	20.00	None	0.00 ft. to 185.00 ft.

Wellhead Completion: Pitless adapter, 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Animal yard/Feedlot	55 ft.	North

Geology Remarks:

Drilling Machine Operator Name: DAVID CAMERON
Employment: Employee

Contractor Type: Water Well Drilling Contractor **Reg No:** 63-0414
Business Name: JOHN CAMERON & SON WELL DRILLING INC
Business Address: 2996 METAMORA, OXFORD, MI, 48371

Water Well Contractor's Certification

This well and/or pump installation was performed under my registration.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID: 63100033019

Tax No:	Permit No: 10813000038	County: Oakland	Township: Bloomfield

Well ID: 63000044480

Elevation:
Latitude: 42.60573556
Longitude: -83.2188837
Method of Collection: GPS Differential (DGPS)

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
02N 10E	1	Active		

Distance and Direction from Road Intersection:
NORTHEAST CORNER OF SQUIRREL AND SQUARE LAKE ROAD

Well Owner: BLOOMFIELD HILLS SCHOOL DIST

Well Address:
1219 E SQUARE LAKE
BLOOMFIELD HILLS, MI 48304

Owner Address:
4175 ANDOVER RD
BLOOMFIELD HILLS, MI 48304

Drilling Method: Rotary
Well Depth: 218.00 ft. **Well Use:** Irrigation
Well Type: New **Date Completed:** 6/7/2013

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting: Unknown

Diameter: 5.00 in. to 206.00 ft. depth
5.00 in. to 218.00 ft. depth SDR: 0.00

Borehole: 9.00 in. to 218.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 6/10/2013 **HP:** 1.50
Manufacturer: Franklin Electric **Pump Type:** Submersible
Model Number: 25SDAP15P4 **Pump Capacity:** 25 GPM
Drop Pipe Length: 88.00 ft. **Pump Voltage:**
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Flex-Lite-Flexcon
Model Number: FL7 **Tank Capacity:** 20.0 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 30.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 218.00 ft. after 2.00 hrs. at 100 GPM

Formation Description	Thickness	Depth to Bottom
Brown Clay	23.00	23.00
Brown Sand & Gravel	30.00	53.00
Gray Sand	5.00	58.00
Gray Clay & Gravel	132.00	190.00
Gray Sand Fine	28.00	218.00

Screen Installed: Yes **Filter Packed:** Yes
Screen Diameter: 5.00 in. **Blank:**
Screen Material Type: PVC-slotted
Screen Installation Type: Telescoped

Slot	Length	Set Between
12.00	13.00 ft.	205.00 ft. and 218.00 ft.

Fittings: None

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	21.00	Other	0.00 ft. to 200.00 ft.

Wellhead Completion: 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Septic tank	200 ft.	East

Geology Remarks:

Drilling Machine Operator Name: BRIAN KELLER
Employment: Employee
Pump Installer: JON KELLER

Contractor Type: Water Well Drilling Contractor **Reg No:** 47-1924
Business Name: Keller Well Drilling Inc
Business Address: 5615 Chilson, Howell, MI, 48843

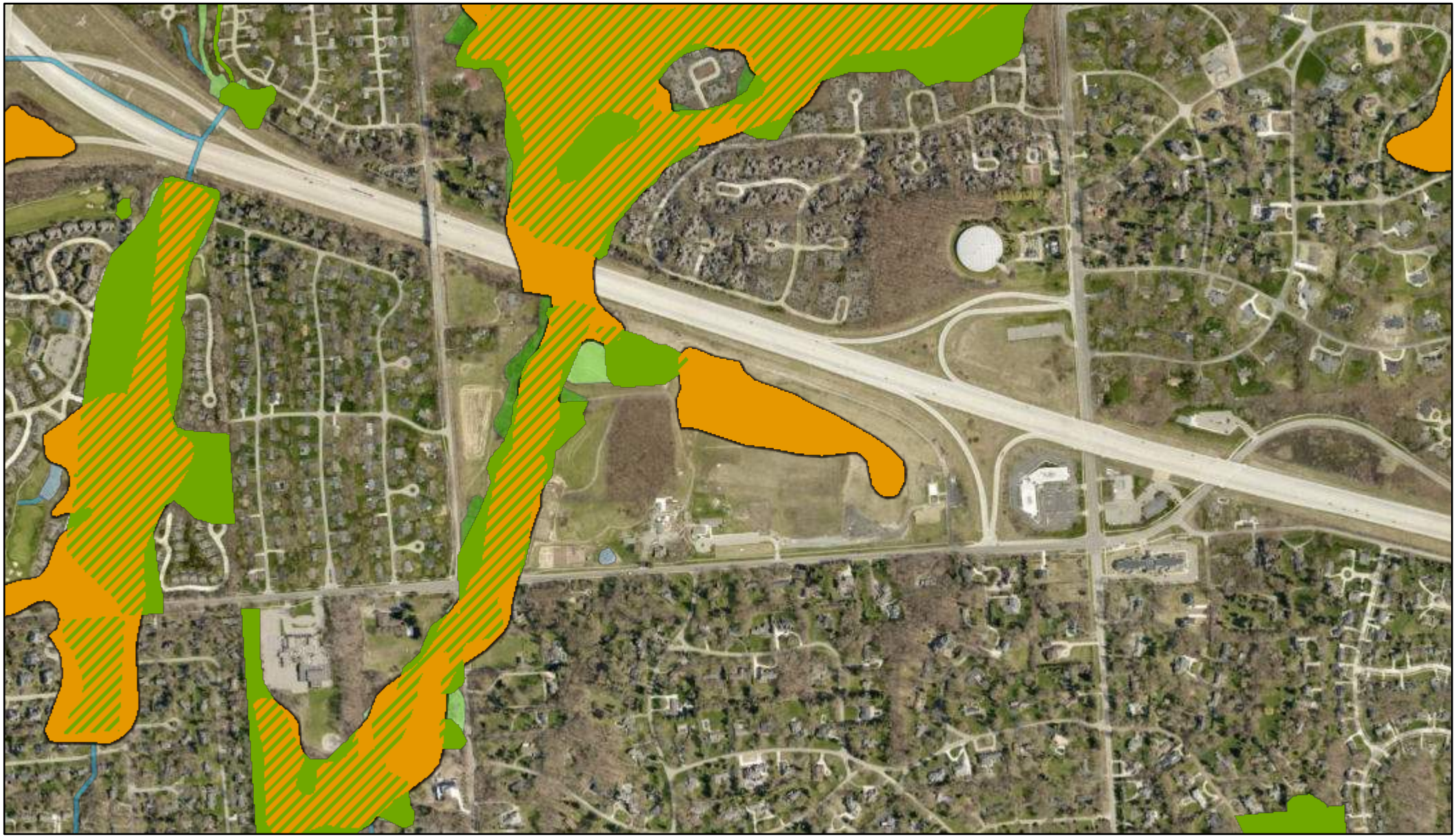
Water Well Contractor's Certification

This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.

Signature of Registered Contractor **Date**

General Remarks: SDR 17 casing from 206 to 218 ft depth. Retarder added to bentonite for grout.
Other Remarks: Grouting Additive 1:OTHER

:HWODQGV 0DS 9LHZHU



-XQH

3DUW)LQDO :HWODQGV ,QYHQWRU\

:HWODQGV DV LGHQWLILHG RQ 1:, DQG 0,5,6 PDSV

6RLO DUHDV ZKLFK LQFOXGH ZHWODQG VRLOV

:HWODQGV DV LGHQWLILHG RQ 1:, DQG 0,5,6 PDSV DQG VRLOV

:HWODQG +\GULF 6RLOV

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)UHVKZDWHU (PHUJHQW :HWODQG

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6RXUFHV (VUL +(5(*DUPLQ 86*6 ,QWHUPDS ,1&5

-DSDQ 0(7, (VUL &KLQD +RQJ .RQJ (VUL .RUHD (

2SHQ6WUHHW0DS FRQWULEXWRUV DQG WKH *,6 8VHU

'LVFODLPHU 7KLV PDS LV QRW LQWHQGHG WR EH

U.S. Fish and Wildlife Service
National Wetlands Inventory

Bowers Farm



June 21, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Site Changes to Support Further Development of the Strategic Plan
Bowers School Farm & Johnson Nature Center

October, 2019 (updated March 2020)

Items listed in no particular order

Bowers School Farm

1219 E. Square Lake Road
Bloomfield Twp., MI 48304

1. **Accessibility throughout Farm public spaces**
   Purpose: All learners and all guests should be able to access the buildings and demonstrations throughout the farm.
   a. Including the barns, Barton Farm House, Craig Log Cabin, lower area, Children's Discovery Garden, pavilion, veterinary science building, livestock learning lab, etc.
2. **Event Barn**
   Purpose: Support large events such as weddings, parties, and community events. This also gives a large flexible space to host early childhood programs, educational activities, and high school courses.
   a. Move hay storage to a central location that can house round-bales, square bales, and straw
      i. Construct a clear-span hay storage building that can serve a place to keep hay and area to preserve straw for fall activities (straw fun zone)
   b. Move the storage room A, B, and C from the barn area and relocate.
      i. Storeroom A which houses educational supplies and materials can be consolidated and moved to the back end of the Farm Activity Building loft which is climate controlled.
      ii. Storeroom B has farm supplies such as shovels, rakes, etc. Temporarily, these items will need to find a place, though long-term this can be stored in the future animal barn.
      iii. Storeroom C houses electrical cords, irrigation supplies, and farm supplies.
   c. Add restrooms and concession food area to host catering service

3. **Renovate Lower Barn area**
   Purpose: Provide additional space for activities, historical display and interpretation, and an updated milking area.
   a. **High Priority:** Remove animals from feedlot to provide a higher level of animal care while solving drainage challenges from stormwater runoff.
      i. Investigate drainage system for storm water and waste water from the milk room
      ii. Remove lower barn pens "jugs" and feedlot pens to be repurposed in the new barn area
      iii. Construct a new facility for horses

4. **Livestock Learning Lab, housing small ruminants and hogs**
   Purpose: Moving the livestock from the historic bank barn built for production to an updated facility allows us to demonstrate 21st century principles of sustainable agriculture and use the
   a. Renovate current horse barn into learning lab
   b. Make the paths accessible and large enough to accomodate large groups

5. **Construct an indoor equestrian pavilion**
   Purpose: Expand equestrian offerings year-round with a covered arena and horse stalls to support

equestrian activities such as the community horse program, hippo therapy, high school equestrian team, lesson program, and summer camp.

a. Construct a structure for indoor riding and connect a 30’ 60’ pole structure for a viewing area, tack storage, and horse stalls.
b. Add an outdoor riding area that accommodates guests with physical limitations
c. Connect a pole structure to store equipment, supplies, etc.

6. **Design and create a natural Children’s Discovery Garden**

Purpose: fulfill a need in our community for a safe and inclusive outdoor place for youth and families to explore and grow together. Explore agriculture and horticulture casually in a safe and exploratory environment. Staff at the farm will be able to enrich and expand educational offerings, such as to better include and engage youth with special needs. Casual visitors can use the garden as a place to experience the joys and wonder of the natural world without a pre scheduled appointment

a. Construct an area 80’ X 80’ behind the learning center that will grow in phases with the support of the community
b. Additionally, a pavilion approx. 60’ X 40’ will be constructed where the current wagon circle is located
c. The wagon circle is moved between the cottage and farm residence. This provides greater accessibility for farm programs. The earth will need to be shaped to provide a natural slope

7. **Create a new entry way and single point of entrance for the farm and academy and replace the aging fence infrastructure on the property**

Purpose: As part of the necessary safety and security upgrades

a. Improve the driveway, creating a central entrance wide enough for two-way car and bus traffic, with addition of turn-around area for bus traffic
b. Increase parking for guests and students. Asphalt existing lot
c. Add a simple main entrance sign (digital to match the BHHS installation) with a secondary wayfinding sign to signify the location of Bowers Academy, Barton Farmhouse, Craig Log cabin, and Farm Activity Building
d. Replace the deteriorating Square Lake Road chain link fence with an updated white vinyl 5-post fence (mirroring the W. Square Lake Road fence from Woodward to Telegraph)
e. Update and replace interior fence line that currently poses a safety hazard for animals and future guests

8. **Design and build a living roof pavilion**

Purpose: A living roof pavilion becomes a place to demonstrate principles of sustainable design and becomes a gathering space for students, groups, and community members to casually enjoy the farm or as part of an offered community/special event

a. Focus on best practice applications
b. Connect with local stakeholders such as Universities and businesses, allowing current students a “design/built” experience with experts in the field
c. Sited near to the Children's Discovery Garden for maximum casual use on weekends and during evenings

9. **Additions to the Visitor Center and Bowers Academy Space**
   Purpose: The current shared building structure is approx. 11,000 sq. feet and lacks the necessary features to be a comprehensive outdoor teaching and learning facility
   a. Create a large flexible space behind the visitor center, to be used as a lunch area, meeting room, or teaching space
   b. Additional academic & meeting space for Bowers Academy, etc.
   c. Expansion and future addition of Farm Store and Visitor Center with farm-fresh foods and products
   d. Flexible space for casual visitation
   e. Teaching kitchen for student interaction, afterschool, and adult enrichment

10. **Walking Paths for Weekend Use**
   Purpose: Promoting health and wellness, includes eating local fruits and vegetables, physical fitness, and social/emotional wellbeing. A holistic approach to community outreach requires pathways for visitors to use casually.
   a. Reorganize pathway entrances and exits, connecting to existing sidewalks
   b. Restructure interior fence lines to differentiate between animal and people spaces
   c. Additional stairway leading to ropes course area for safety

11. **Re-organize Barn Parking Lot to Green "Park" Space**
   Purpose: Create an area where people can come enjoy the beautifully maintained Master Gardener Horticultural Demonstration Gardens with seating areas and accessible walking paths.
   a. Additional signage to highlight themes of horticultural gardens
   b. Brick paver pathway with sponsored (named) bricks for legacy donors
   c. Connection to the historic structures maintained by Preservation Bloomfield
   d. Preserve large green space for community and private events

12. **Update Technology Infrastructure**
   Purpose: Increase footprint of wifi to support measures to connect the contextual environment to the classroom
   a. Use "beacons" technology that gives visitors a self-guided tour using a smartphone or other portable device, replacing the antiquated interpretive static signage
   b. Connect the Barton house historical building with wi-fi to bring history to life
   c. Use the ipads to collect data and make pre-experience/post-experience follow-up visits virtually
   d. Increase the number of security cameras to protect the assets

Johnson Nature Center

3325 Franklin Road
Bloomfield Hills, MI 48302

1. **Accessibility throughout Nature Center public spaces**
   Purpose: All learners and all guests should be able to access the buildings and demonstrations throughout the site.
   a. Including the Log Cabin, Visitor Center, Sugar Shack, Pond Boardwalk, animal demonstrations, etc.
   b. Create a sensory demonstration area
   c. Create wheelchair accessible trail to key features of nature center property

2. **Update Technology Infrastructure**
   Purpose: Increase footprint of wifi to support measures to connect the contextual environment to the classroom
   a. Use “beacons” technology that gives visitors a self-guided tour using a smartphone or other portable device, replacing the antiquated interpretive static signage
   b. Connect the Barton house historical building with wi-fi to bring history to life
   c. Use the ipads to collect data and make pre-experience/post-experience follow-up visits virtually
   d. Increase the number of security cameras to protect the assets

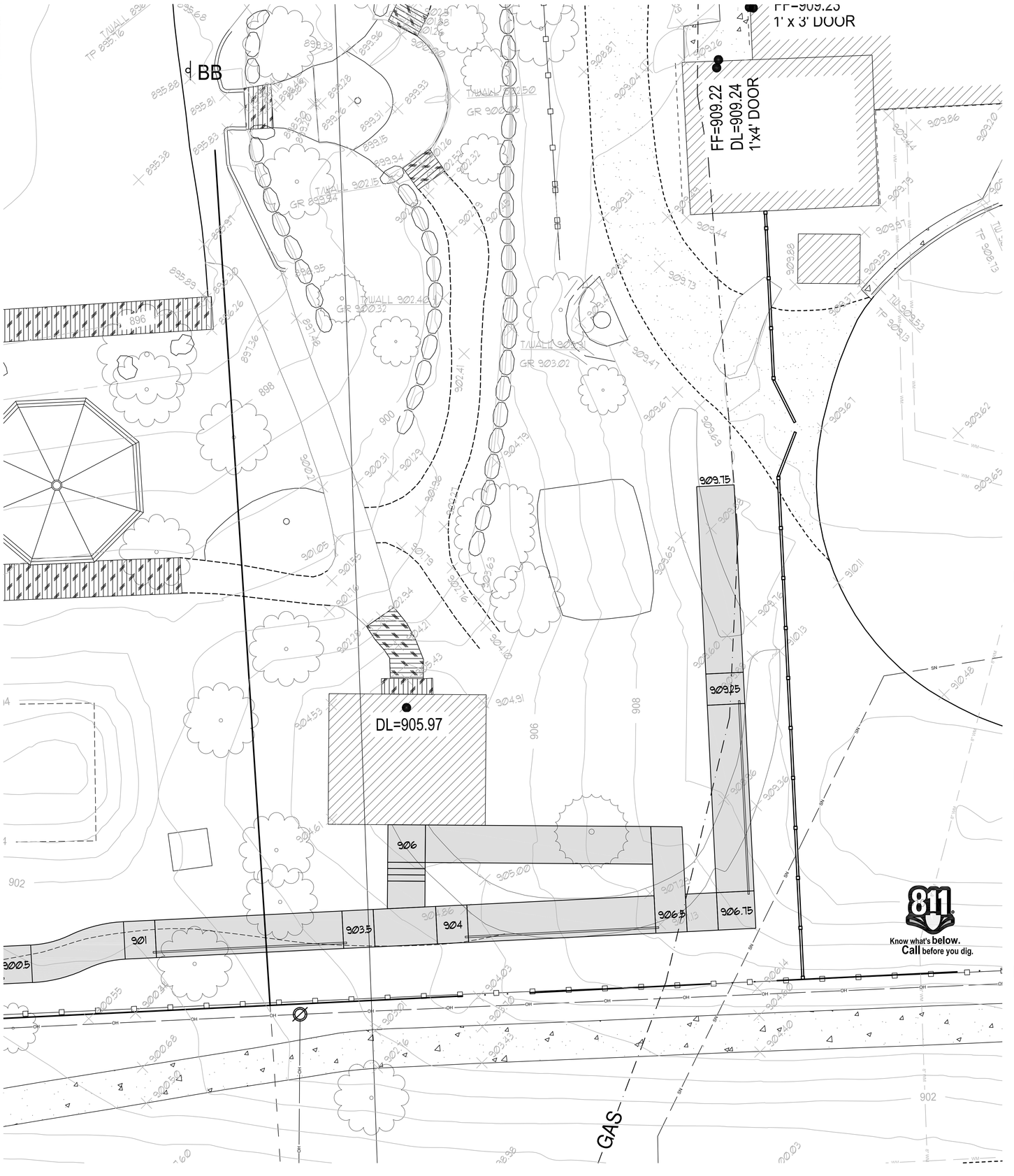
3. **Increase size of deck connected to visitor center**
   Purpose: In order to hold larger community and special events, a larger outdoor flexible use deck would accommodate more guests
   a. Cover the deck with an overhang, either from the roof line or awning
   b. Use the area below the deck as a pavilion covered structure
   c. Connect to the walking trails below and to the adjacent bathroom above

4. **Expand Walking Paths for Weekend Use**
   Purpose: Promoting health and wellness, includes eating local fruits and vegetables, physical fitness, and social/emotional wellbeing. A holistic approach to community outreach requires pathways for visitors to use casually.
   a. Reorganize pathway entrances and exits, connecting to existing sidewalks
   b. Theme current trails and expand entry points, where possible
   c. Design sensory pathways to meet the needs of all learners

5. **Explore Nature Based Early Childhood Program**
   Purpose: To provide a rich early learning experience that meets children’s developmental needs while fostering meaningful relationships with the outdoor world and community.
   a. Fence in area outside visitor center for natural play area
   b. Renovate space to bring the site up to regulatory code for early learners
   c. Add signage and space encouragement guidelines to give permission for learning and exploration

6. **Update current captive wildlife habitat**
   Purpose: To assure proper welfare standards based on best practices for the injured and orphaned animals

7. **Expand Visitor Center exhibits with interactive elements**
   Purpose: Community engagement through inquiry requires access to exhibits that come to life rather than static displays



LANDSCAPE
ARCHITECTURE

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info @ mjdul.com

Bower's Farm School
Bloomfield Hills Schools
Bloomfield Hills, MI

PROJECT

Landscape Development

Preliminary Plan
ADA Pathway

SHEET TITLE

Know what's **below.**
Call before you dig.

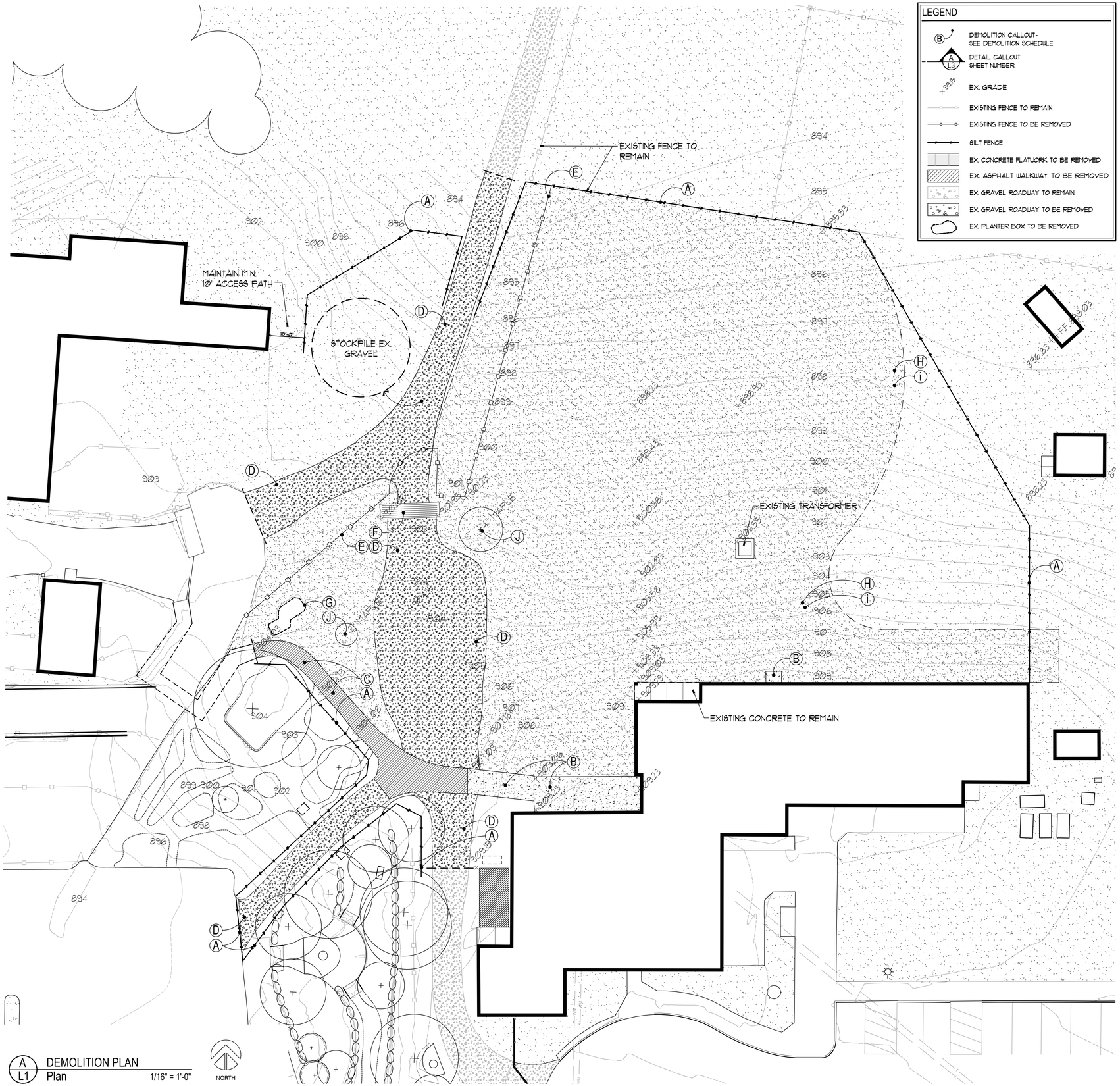
1/8"=1'-0"

NORTH

SCALE

PROJECT NUMBER:	18116
DRAWN:	T. Shoemaker
CHECKED:	M. Dul
DATE:	May 21, 2019
REVISIONS:	

L1



A L1 DEMOLITION PLAN
Plan 1/16" = 1'-0"

LEGEND

- B — DEMOLITION CALLOUT- SEE DEMOLITION SCHEDULE
- A / L3 — DETAIL CALLOUT SHEET NUMBER
- +935 — EX. GRADE
- EXISTING FENCE TO REMAIN
- EXISTING FENCE TO BE REMOVED
- SILT FENCE
- EX. CONCRETE FLATWORK TO BE REMOVED
- EX. ASPHALT WALKWAY TO BE REMOVED
- EX. GRAVEL ROADWAY TO REMAIN
- EX. GRAVEL ROADWAY TO BE REMOVED
- EX. PLANTER BOX TO BE REMOVED

GENERAL NOTES

GENERAL CONDITIONS:
1.) CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT PRIOR TO SUBMITTING BID PROPOSAL OR BEGINNING ANY WORK.
2.) EXCEPT AS OTHERWISE SHOWN OR STIPULATED, THIS CONTRACT SHALL INCLUDE THE DEMOLITION OF EVERY DESCRIPTION NECESSARY TO SUCCESSFULLY COMPLETE THE WORK UNDER THIS CONTRACT TO THE LINES AND GRADES SHOWN ON THESE PLANS WITHIN THE LIMIT OF WORK.
3.) THE CONTRACTOR SHALL LEGALLY DISPOSE OF ALL ITEMS TO BE REMOVED THAT ARE NOT TURNED OVER TO THE OWNER OR STOCKPILED FOR REUSE.
4.) THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE INSIDE AND OUTSIDE LIMIT OF WORK DUE TO CONTRACT OPERATIONS.
5.) DO NOT DISTURB EXISTING UTILITIES THAT SERVE AREAS SURROUNDING LIMIT OF WORK. IF SUCH UTILITIES ARE ENCOUNTERED NOTIFY PROPER UTILITY COMPANY BEFORE PROCEEDING.
6.) THE CONTRACTOR SHALL CONTACT THE PROPER LOCAL AUTHORITIES TO CONFIRM THE LOCATION OF EXISTING UTILITIES BEFORE COMMENCING WORK. ANY DAMAGE DUE TO FAILURE TO CONTACT THE PROPER AUTHORITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7.) THE CONTRACTOR SHALL THOROUGHLY REVIEW ALL THE DRAWINGS AND SPECIFICATIONS FOR SPECIFIC COORDINATION REQUIREMENTS PRIOR TO COMMENCING CONSTRUCTION.
8.) CONTRACTOR SHALL PROVIDE UNIT PRICING FOR ALL AREAS OF WORK.
9.) CONTRACTOR SHALL PROTECT EXISTING BUILDING FACADE, DOORS, WINDOWS, AND ALL EXISTING SITE AMENITIES & PLANT MATERIALS SCHEDULED TO BE RETAINED.

DEMOLITION SCHEDULE

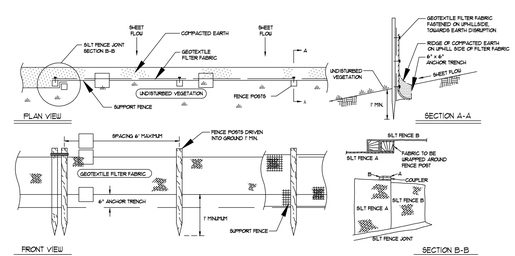
SYMBOL	QTY.	ITEM/DESCRIPTION
DEMOLITION NOTES:		ALL REMOVED MATERIAL MUST BE DISPOSED OF LEGALLY OFF-SITE.
A	680 L.F.	SUPPLY AND INSTALL 24" SILT FENCE PER OCDC SPECIFICATION. REMOVE AT COMPLETION OF PROJECT.
B	640 S.F.	SAWCUT FULL DEPTH, REMOVE AND DISPOSE (OFF SITE) EXISTING CONCRETE FLATWORK.
C	705 S.F.	SAWCUT FULL DEPTH, REMOVE AND DISPOSE (OFF SITE) EXISTING ASPHALT WALKWAY.
D	6,800 S.F.	REMOVE AND STORE (ON SITE) EXISTING GRAVEL ROADWAY MATERIAL AND SUBGRADE (FULL DEPTH), MIN. 12" BELOW FINISH GRADE.
E	210 L.F.	REMOVE AND STORE (ON SITE) EXISTING CATTLE FENCING, INCLUDE WOODEN POSTS, FOOTINGS, WIRE MESH AND (16'-WIDE) METAL GATE PANEL.
F	1 L.S.	REMOVE AND STORE (ON SITE) EXISTING METAL CATTLE GRATE STRUCTURE, 5' WIDE X 20' LONG X FULL DEPTH. LOCATION ON-SITE TO BE DETERMINED BY OWNER.
G	1 L.S.	REMOVE AND DISPOSE (OFF SITE) EXISTING CONCRETE UNIT BLOCK RAISED PLANTER BOX STRUCTURE, 40 L.F. X 24" HIGH.
H	1 L.S.	STRIP, REMOVE AND DISPOSE (ON SITE) EXISTING LAWN (27,590 S.F.). LOCATION ON-SITE TO BE DETERMINED BY OWNER.
I	1 L.S.	ROUGH GRADE SITE PER DRAWINGS WITHIN 0.10' OF PROPOSED ELEVATIONS, INCLUDE REQUIRED EXCAVATION, REMOVAL AND DISPOSAL (OFF SITE) OF THE ESTIMATED 1,750-2,000 C.Y. OF EARTH CUT (WHICH INCLUDES 30% FLUFF FACTOR).
J	2 E.A.	TRANSPLANT EXISTING 2" & 4" MAPLE TREES. LOCATION ON-SITE TO BE DETERMINED BY OWNER.

SESC-SEQUENCE OF OPERATIONS

COMMENCING SUMMER 2024
COMPLETION BY FALL 2024
1.) INSTALL SILT FENCE AND CONSTRUCTION FENCE.
2.) SAVE EXISTING CONCRETE SIDEWALK OUTSIDE OF WORK AREA THROUGHOUT DURATION OF CONSTRUCTION.
3.) PERFORM DEMOLITION AND SITE PREPARATION OPERATIONS TO ESTABLISH ROUGH GRADE.
4.) PERFORM AND INSTALL HARDSCAPE CONSTRUCTION OPERATIONS.
5.) PERFORM AND INSTALL LANDSCAPE CONSTRUCTION OPERATIONS
6.) CLEAN PAVEMENT AND STORM SEWERS. REMOVE SILT FENCE AND INLET FILTERS ONCE VEGETATION HAS BEEN ESTABLISHED.
7.) ALL DIRT AND MUD TRACKED ONTO PUBLIC AND PRIVATE ROADS SHALL BE REMOVED DAILY & PROMPTLY.

SESC MAINTENANCE SCHEDULE/NOTES

1.) THE CONTRACTOR SHALL INSPECT THE SOIL EROSION/ SEDIMENTATION DEVICES EACH DAYAND/ OR WITHIN 24 HOURS OF A RAINFALL EVENT WHICH RESULTS IN A STORM WATER DISCHARGE FROM THE SITE. ALL TEMPORARRY SESC MEASURES MUST REMAIN IN PLACE UNTIL PERMENENT SOIL EROSION MEASURES ARE INSTALLED. THE FOLLOWING STEPS SHALL BE IMPLEMENTED IF ANY DAMAGE HAS OCCURRED:
A.) ANY DEBRIS OR DIRT ON ANY ROADWAY RESULTING FROM CONSTRUCTION TRAFFIC SHALL BE CLEANED IN A PROMPT MANNER BY THE CONTRACTOR. THE CONSTRUCTION DRIVE SHALL BE CLEANED AT THE END OF EACH DAY.
B.) SILT FENCE MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY BUILT-UP SEDIMENT WHEN THE SEDIMENT HEIGHT ACCUMULATES TO 1/3 TO 1/2 OF THE HEIGHT OF THE FENCE. THE CONTRACTOR IS RESPONSIBLE TO REMOVE, REPLACE, RE-TRENCH, OR RE-BACKFILL THE SILT FENCE SHOULD IT FALL OR BE DAMAGED DURING CONSTRUCTION.
C.) INLET FILTERS MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY ACCUMULATED SILT OR OTHER DEBRIS. THE REMOVAL OF SILT SHOULD BE WITH THE USE OF A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL. IF INLET FILTERS CANNOT BE CLEANED, OR ARE DAMAGED, THEN THE FABRIC MUST BE REPLACED.
D.) A WATER TRUCK SHALL BE AVAILABLE TO WATER DOWN THE SITE ON A DAILY BASIS AS REQUIRED TO MAINTAIN DUST CONTROL.



B L1 SEDIMENT CONTROL FENCING (TYP.)
Plan / Elevation / Section No Scale

LANDSCAPE ARCHITECTURE

MICHAEL J. DUL
& ASSOCIATES, INC

212 DAINES STREET
BIRMINGHAM
MICHIGAN 48009

P 248 644 3410

www.mjdul.com

STATE OF MICHIGAN — MICHAEL J. DUL — LANDSCAPE ARCHITECT — NO. 781 — REGISTERED LANDSCAPE ARCHITECT

Bowers School Farm
Bloomfield Hills Schools
1219 East Square Lake Road
Bloomfield Hills, Michigan 48304

PROJECT

Landscape Development

DEMOLITION PLAN

SHEET TITLE

811 Know what's **below.** **Call** before you dig.

SEE DETAILS

SCALE

PROJECT NUMBER:	24100
DRAWN:	M. Jacobs
CHECKED:	T. Shoemaker
DATE:	July 23, 2024
REVISIONS:	

L1



D
L2
CONSTRUCTION SITE PLAN
Plan
Scale: 1/16" = 1'-0"

HARDSCAPE SCHEDULE

SYM.	QTY.	ITEM/DESCRIPTION	PATTERN	COLOR
		CONCRETE: ALL FLATWORK & STEPS SHALL BE A MIN. 4,000 P.S.I. AFTER 28 DAYS, WITH 5-8% AIR ENTRAINMENT, REINFORCED WITH 6"x6" W2.9 X W2.9 WWF. INSTALLED ON A MIN. 6" COMPACTED 21AA LIMESTONE AGGREGATE. SAWCUT CONTROL JOINTS PER PLAN.		
(A)	6,840 SF.	MIN. 5" THICK REIN. CONCRETE FLATWORK, MEDIUM BROOM FINISH, ON A MIN. 6" COMPACTED 21AA LIMESTONE AGGREGATE BASE. (MAX. 5% SLOPE).		
(B)	420 L.F.	½" WIDE PRE-MOLDED EXPANSION JOINT COMPLETE WITH SNAP CAP AND DOW CORNING 790 CAULK.		GRAY
(S)	400 L.F.	4" SCH. 40 P.V.C. SLEEVES-BURY MIN. 12", EXTEND A MIN. 12" BEYOND PAVING EDGES, CAP ENDS, STAKE LOCATIONS.		
		CONCRETE STAIRCASE: ALL CONCRETE STAIRCASE WORK SHALL BE A MIN. 4,000 P.S.I. AFTER 28 DAYS, WITH 5-8% AIR ENTRAINMENT, REINFORCED WITH 6"x6" W2.9 X W2.9 WWF. INSTALLED ON A MIN. 6" COMPACTED 21AA LIMESTONE AGGREGATE. SAWCUT CONTROL JOINTS PER PLAN.		
(C)	500 SF. 130 L.F. TREAD	MIN. 6" THICK REIN. MONOLITHIC POUR CONCRETE STAIRCASE (INCL. STEPS & LANDINGS), MEDIUM BROOM FINISH, ON A MIN. 6" COMPACTED 21AA LIMESTONE AGGREGATE BASE. INCLUDE MIN. 42" DEEP REIN. CONCRETE FOOTING WITH CONT. NO. 4 HOR. REBAR & NO. 4 VERT. REBAR (12" O.C.) SEE DETAIL.		
(D)	72 L.F.	½" WIDE PRE-MOLDED EXPANSION JOINT COMPLETE WITH SNAP CAP AND DOW CORNING 790 CAULK.		GRAY
(S)	80 L.F.	4" SCH. 40 P.V.C. SLEEVES-BURY MIN. 12", EXTEND A MIN. 12" BEYOND PAVING EDGES, CAP ENDS, STAKE LOCATIONS.		
		DRYLAID CONCRETE UNIT PAVERS: ALL CONCRETE UNIT PAVERS SHALL BE INSTALLED ON MIN. 6" DEEP COMPACTED 21AA LIMESTONE AGGREGATE, 1" COMPACTED 2NS SAND SETTING BED, POLYMERIC (GREY) SAND JOINTS.		
(E)	150 SF.	CONCRETE UNIT 'DONOR' PAVERS (PER OWNER SPECIFICATIONS) ON A MIN. 6" COMPACTED 21AA LIMESTONE AGGREGATE & 1" COMPACTED 2NS SAND SETTING BED, POLYMERIC JOINT SAND.	PER OWNER	PER OWNER SPEC'S
		BOULDER RETAINING WALL: BOULDERS SHALL BE INSTALLED ON A MIN. 6" COMPACTED 21AA, EMBED BASE COURSE A MIN. ⅓ DEPTH INTO GRADE. STACK AND BATTER ROCK TO FORM WALL. BOULDER RETAINING WALL SHALL BE SET WITH LANDSCAPE ARCHITECT ON-SITE APPROVING FINAL GRADES AND LOCATIONS.		
(F)	900 FF. 360 L.F.	NATIVE MICHIGAN FIELDSTONE BOULDERS (24-48" DIA)-COMPLETE WITH MIN. 6" COMPACTED 21AA LIMESTONE BASE, 18" WIDE X FULL WALL HEIGHT (AVG. 30") 6A LIMESTONE BACKFILL WRAPPED IN 8 OZ. NON-WOVEN FILTER FABRIC.		
(S)	50 L.F.	4" SCH. 40 PVC SLEEVES, EXTEND TO TOP OF WALL, CAP ENDS, STAKE LOCATIONS.		
		GRAVEL ROADWAY: CONTRACTOR SHALL REUSE EXISTING STOCKPILED GRAVEL AGGREGATE AND SUPPLEMENT WITH IMPORTED MATERIAL AS NECCESSARY.		
(G)	4,940 SF.	MIN. 4" THICK COMPACTED CRUSHED ASPHALT AGGREGATE ROADWAY. MATCH AND BLEND WITH EXISTING ROADWAY AT CONNECTION POINTS.		
(S)	60 L.F.	4" SCH. 40 P.V.C. SLEEVES-BURY MIN. 12", EXTEND A MIN. 12" BEYOND PAVING EDGES, CAP ENDS, STAKE LOCATIONS.		
		FENCING: CONTRACTOR SHALL REUSE EXISTING STOCKPILED CATTLE FENCING, INCLUDING WOOD POSTS AND WIRE MESH. SUPPLEMENT WITH NEW MATERIAL AS NECCESSARY.		
(H)	210 L.F.	CATTLE FENCING W/ WOOD POSTS & WIRE MESH.		

CONCRETE CONSTRUCTION:

1.) THE CONTRACTOR SHALL LAY OUT PROPOSED EXPANSION FOR THE LANDSCAPE ARCHITECT'S APPROVAL PRIOR TO INSTALLATION.
2.) THE LANDSCAPE ARCHITECT SHALL APPROVE FINAL CONTRACTOR FORM WORK IN THE FIELD PRIOR TO POURING CONCRETE.
3.) ALL EXPANSION JOINTS SHALL BE PRE-MOULDED ½" WIDE AND INCLUDE EXPANSION JOINT MATERIAL. INCLUDE PREFABRICATED SNAP CAP. PROVIDE EXPANSION JOINTS EVERY 400 S.F. MAX., SEE DRAWINGS FOR LAYOUT.
4.) EXPANSION JOINT MATERIAL: RESILIENT, NON-EXTRUDING TYPE PREMOLDED BITUMINOUS IMPREGNATED FIBERBOARD.
5.) ALL EXPANSION JOINTS SHALL BE CAULKED WITH DOW CORNING 790 SILICONE SEALANT (COLOR: LIGHT GRAY). CONTRACTOR SHALL REMOVE AND DISPOSE SNAP CAP PRIOR TO CAULKING AND PROTECT/BARRACADE ALL CAULK JOINTS FROM TRAFFIC DURING CURING TIME.
6.) ALL CONTROL JOINTS SHALL BE MACHINE V-GROOVE SAWCUT MIN. 1" DEEP, 2" DEEP EVERY 100 S.F. (NO HAND SAW PERMITTED). CONTROL JOINT LAYOUT SHALL BE EQUAL FLAGS, DIVIDE LENGTH EQUALLY BETWEEN EXPANSION JOINTS-SEE DRAWINGS FOR LAYOUT.
7.) CONCRETE STRENGTH FOR ALL PROPOSED CONCRETE FLATWORK SHALL BE MIN. 4,000 P.S.I. CONCRETE FOR ALL CONCRETE AT 28 DAYS, WITH A +/-6% AIR ENTRAINMENT MIX DESIGN SHALL NOT HAVE LESS THAN 6.25 SACKS OF CEMENT PER CUBIC YARD.
8.) ALL PROPOSED SLEEVES SHALL BE SCHEDULE 40 PVC, EXTEND A MIN. 12" BEYOND PROPOSED PAVING EDGES, BURY A MIN. 12" BELOW PROPOSED FINISH GRADE, CAP ENDS, AND STAKE LOCATIONS (BOTH ENDS). CONTRACTOR SHALL SUPPLY LANDSCAPE ARCHITECT WITH AN AS-BUILT DRAWING ILLUSTRATING LOCATION OF ALL SLEEVES.
9.) ALL CONCRETE FLATWORK SHALL BE REINFORCED AS SPECIFIED, MIN. 2" EMBEDMENT.
10.) THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED EARTHWORK AND EXCAVATIONS TO PERFORM SCHEDULED WORK. ALL EXCAVATED MATERIALS SHALL BE GRADED IN PLACE (ON-SITE) IN PARK AS DIRECTED BY LANDSCAPE ARCHITECT, INCLUDED IN THE SUBMITTED BID PROPOSAL.
11.) THE CONTRACTOR SHALL INSTALL ALL PROPOSED WORK ON COMPACTED OR UNDISTURBED SUBGRADE.
12.) THE CONTRACTOR SHALL FORM ALL PROPOSED CONCRETE BASE WORK TO MINIMIZE OVERPOURS. ALL FORMS SHALL BE REMOVED AND LEGALLY DISPOSED OFF-SITE.

CONCRETE UNIT PAVERS:

1.) THE CONTRACTOR SHALL LAYOUT PROPOSED PAVER WALK FOR THE LANDSCAPE ARCHITECT'S APPROVAL PRIOR TO INSTALLATION.
2.) ALL PROPOSED SLEEVES SHALL BE SCHEDULE 40 PVC, EXTEND A MIN. 12" BEYOND PROPOSED PAVING EDGES, BURY A MIN. 12" BELOW PROPOSED FINISH GRADE, CAP ENDS, AND STAKE LOCATIONS (BOTH ENDS). CONTRACTOR SHALL SUPPLY LANDSCAPE ARCHITECT WITH AN AS-BUILT DRAWING ILLUSTRATING LOCATION OF ALL SLEEVES.
3.) THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED EARTHWORK AND EXCAVATIONS TO PERFORM SCHEDULED WORK. ALL EXCAVATED MATERIALS SHALL BE LEGALLY DISPOSED (OFF-SITE), INCLUDED IN THE SUBMITTED BID PROPOSAL.
4.) THE CONTRACTOR SHALL INSTALL ALL PROPOSED WORK ON COMPACTED OR UNDISTURBED SUBGRADE.
5.) THE CONTRACTOR SHALL INSTALL COMPACTED 21AA LIMESTONE AGGREGATE AND 2NS SAND SETTING BEDS TO SPECIFIED DEPTHS.
6.) THE CONTRACTOR SHALL INCLUDE A MIN. 6" WIDE OVERDIG AND INSTALL MIN. 6" COMPACTED 21AA LIMESTONE AGGREGATE AND CONTINUOUS CONCRETE RETAINING EDGE.
7.) ALL JOINTS SHALL BE SWEPT WITH GREY POLYMERIC SAND PER MANUFACTURER'S SPECIFICATIONS UPON COMPLETION OF PROJECT.

LANDSCAPE ARCHITECTURE

MICHAEL J. DUL
& ASSOCIATES, INC

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BIRMINGHAM
MICHIGAN 48009

P 248 644 3410

www.mjdul.com

STATE OF MICHIGAN
Michael J. Dul
MICHAEL J. DUL
LANDSCAPE ARCHITECT
NO. 781
REGISTERED LANDSCAPE ARCHITECT

Bowers School Farm
Bloomfield Hills Schools
1219 East Square Lake Road
Bloomfield Hills, Michigan 48304

PROJECT

Landscape Development

CONSTRUCTION PLAN

SHEET TITLE

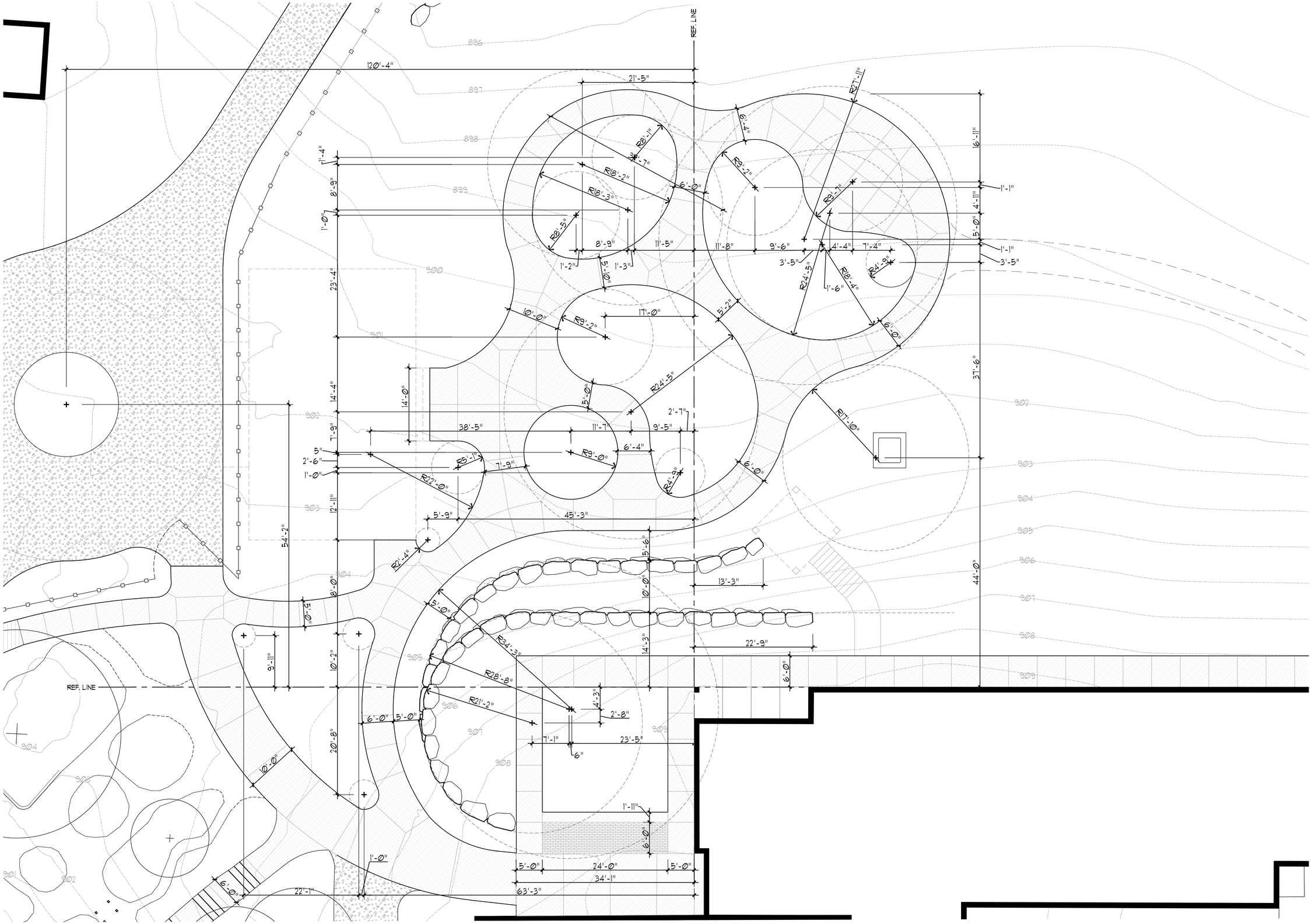
811 Know what's **below.** **Call** before you dig.

SEE DETAILS

SCALE

PROJECT NUMBER:	24100
DRAWN:	M. Jacobs
CHECKED:	T. Shoemaker
DATE:	July 23, 2024
REVISIONS:	

L2



A L3 CONSTRUCTION LAYOUT PLAN
Plan Scale: 1/8" = 1'-0"

LANDSCAPE ARCHITECTURE

MICHAEL J. DUL
& ASSOCIATES, INC

212 DAINES STREET
BIRMINGHAM
MICHIGAN 48009

P 248 644 3410

www.mjdul.com

STATE OF MICHIGAN
MICHAEL J. DUL
LANDSCAPE ARCHITECT
NO. 781
REGISTERED LANDSCAPE ARCHITECT

PROJECT

Bowers School Farm
Bloomfield Hills Schools
1219 East Square Lake Road
Bloomfield Hills, Michigan 48304

Landscape Development

SHEET TITLE

CONSTRUCTION LAYOUT PLAN

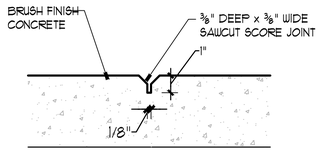
Know what's **below.** **Call** before you dig.

SEE DETAILS

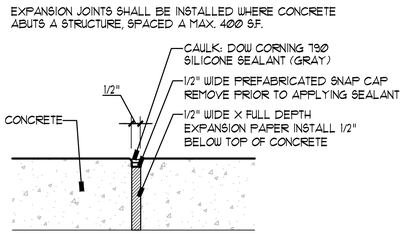
SCALE

PROJECT NUMBER:	24100
DRAWN:	M. Jacobs
CHECKED:	T. Shoemaker
DATE:	July 23 2024
REVISIONS:	

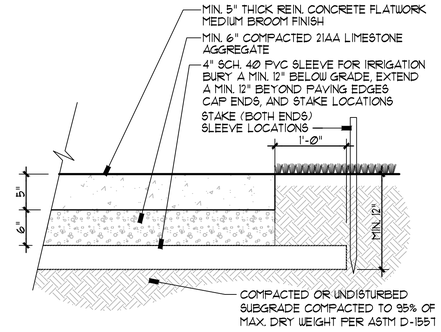
L3



A L4 V-GROOVE CONTROL / SCORE DETAIL
Section Scale: 1" = 1'-0"



B L4 EXPANSION JOINT DETAIL
Section Scale: 1" = 1'-0"



C L4 CONCRETE FLATWORK & SLEEVE DETAIL (TYP.)
Section Scale: 1" = 1'-0"

CONTRACTOR SHALL VERIFY QUANTITY AND SIZING OF EXISTING BOULDERS ON-SITE TO BE USED FIRST, SUPPLEMENT WITH IMPORTED BOULDERS AS NEEDED.

BOULDER WALL SHALL BE OF GRAVITY TYPE CONSTRUCTION

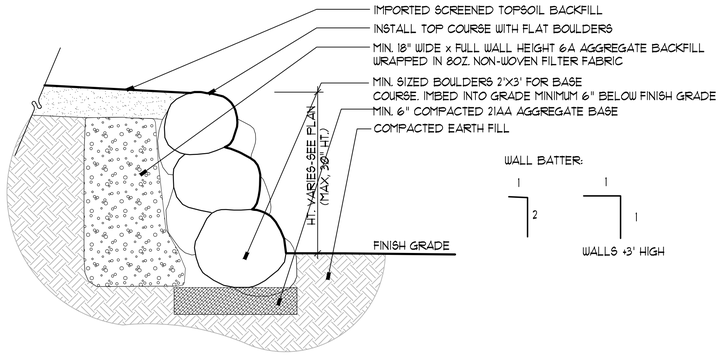
BOULDER SIZE SHALL AVERAGE 1.5' DIA. RANGING FROM 1' DIA. TO 2' DIA. 20% OF THE TOTAL BOULDER QUAN. SHALL EQUAL PIECES MIN. 2'X3'

BOULDER SHALL BE FIELDSTONE NATIVE TO MICHIGAN

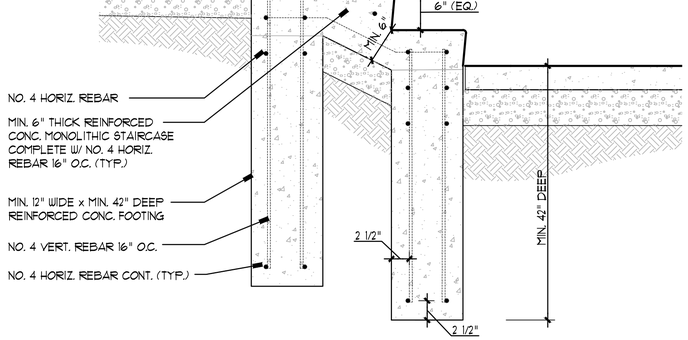
BOULDER JOINTS SHALL BE TIGHT & CONSISTENT AS POSSIBLE

DO NOT CONSTRUCT WALL WITH TWO CONSECUTIVE COURSES THAT HAVE VERTICAL JOINTS IN DIRECT ALIGNMENT

BOULDER WALLS OVER 3' HIGH WILL HAVE A BATTER OF 1:1



D L4 BOULDER WALL DETAIL (TYP.)
Section Scale: 3/4" = 1'-0"



E L4 CONCRETE MONO-POUR STEPS (TYP.)
Section Scale: 1" = 1'-0"

LANDSCAPE ARCHITECTURE

MICHAEL J. DUL
& ASSOCIATES, INC

212 DAINES STREET
BIRMINGHAM
MICHIGAN 48009

P 248 644 3410

www.mjdul.com

STATE OF MICHIGAN
MICHAEL J. DUL
LANDSCAPE ARCHITECT
NO. 781
REGISTERED LANDSCAPE ARCHITECT

Bowers School Farm
Bloomfield Hills Schools
1219 East Square Lake Road
Bloomfield Hills, Michigan 48304

PROJECT

Landscape Development

CONSTRUCTION DETAILS

SHEET TITLE

811 Know what's **below.** **Call** before you dig.

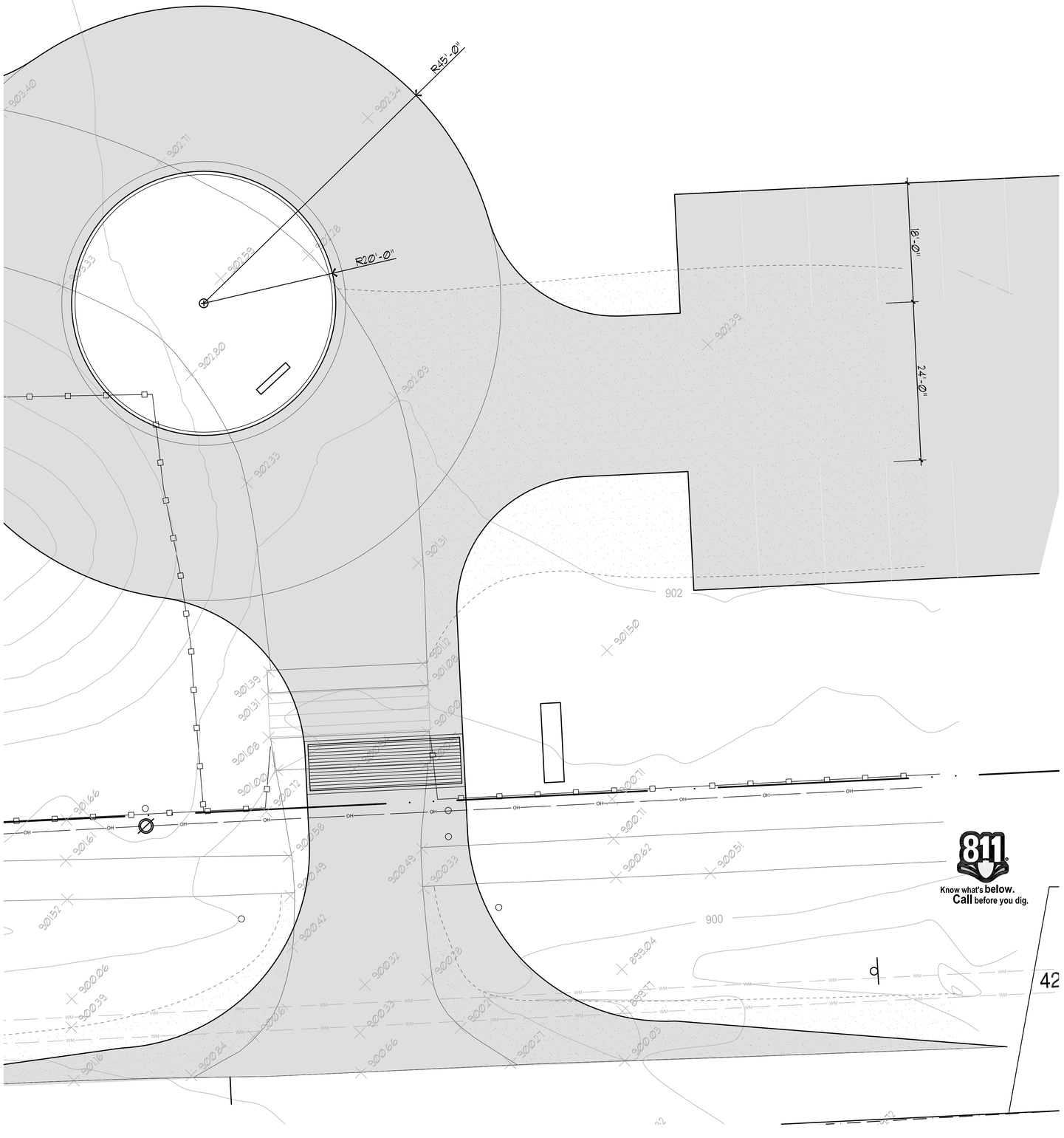
SEE DETAILS

SCALE

PROJECT NUMBER:	24100
DRAWN:	M. Jacobs
CHECKED:	T. Shoemaker
DATE:	July 23, 2024
REVISIONS:	

L4

C+G | graphic resource usage | 248 642



LANDSCAPE
ARCHITECTURE

MICHAEL J. DUL
& ASSOCIATES, INC

212 DAINES STREET
BIRMINGHAM
MICHIGAN 48009

P 248 644 3410
F 248 644 0819

info @ mjdul.com

Bower's Farm School
Bloomfield Hills Schools
Bloomfield Hills, MI

PROJECT

Landscape Development

Preliminary Plan
Site Entry

SHEET TITLE

811 Know what's **below.** **Call** before you dig.

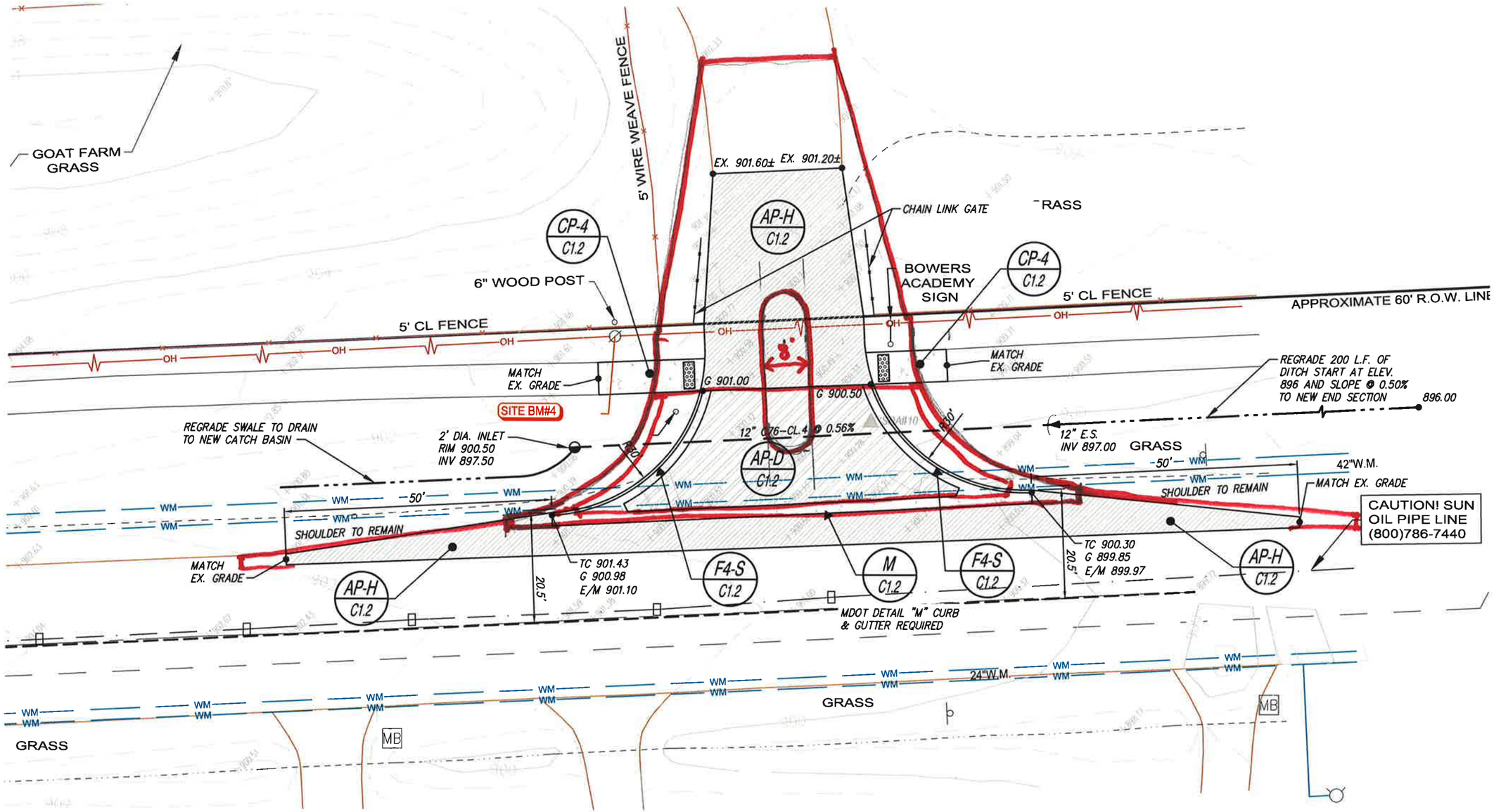
1/8" = 1'-0"

NORTH

SCALE

PROJECT NUMBER:	18116
DRAWN:	T. Shoemaker
CHECKED:	M. Dul
DATE:	May 21, 2019
REVISIONS:	

L2


GOAT FARM GRASS
5' WIRE WEAVE FENCE
EX. 901.60±
EX. 901.20±
CP-4 C1.2
AP-H C1.2
CHAIN LINK GATE
RASS
BOWERS ACADEMY SIGN
CP-4 C1.2
6" WOOD POST
5' CL FENCE
OH
APPROXIMATE 60' R.O.W. LINE
MATCH EX. GRADE
G 901.00
G 900.50
SITE BM#4
REGRADE 200 L.F. OF DITCH START AT ELEV. 896 AND SLOPE @ 0.50% TO NEW END SECTION
896.00
REGRADE SWALE TO DRAIN TO NEW CATCH BASIN
2' DIA. INLET RIM 900.50 INV 897.50
12" C76-CL.4 @ 0.56%
AP-D C1.2
12" E.S. INV 897.00
GRASS
WM
50'
42"W.M.
SHOULDER TO REMAIN
MATCH EX. GRADE
CAUTION! SUN OIL PIPE LINE (800)786-7440
TC 901.43
G 900.98
E/M 901.10
TC 900.30
G 899.85
E/M 899.97
20.5'
AP-H C1.2
F4-S C1.2
M C1.2
MDOT DETAIL "M" CURB & GUTTER REQUIRED
24"W.M.
MB
GRASS

ENGINEERING & ENVIRONMENTAL SERVICES DEPARTMENT

Application for Engineering Plan Review

1. Project Name: _____

   Project Address: _____ Section: _____

2. Owner's Name: _____

   Company: _____

   Address: _____

   Phone: _____ E-Mail: _____

3. Plans Prepared By: ☐ Engineer ☐ Architect ☐ Surveyor

   Name: _____

   Company: _____

   Address: _____

   Phone: _____ E-Mail: _____

4. Project Status: (check one that applies)

   Planning Commission Approved: ☐ Y ☐ N ☐ NA

   Design Board Approved: ☐ Y ☐ N ☐ NA

   Township Board Approved: ☐ Y ☐ N ☐ NA

   Application for Building Permit: ☐ Y ☐ N ☐ NA

5. Type of Site Improvement: (check all that apply)

   ☐ **Sanitary Sewer:** ☐ Public ☐ Private Sewer Lead

   ☐ **Water Main:** ☐ Public ☐ Fire Protection Line

   ☐ **Storm Drainage:** ☐ Storm sewer ☐ Detention / Retention Storage

   ☐ **Site Grading:** ☐ Parking lot ☐ Retaining Walls

   ☐ **Other:** _____

6. Identify off-site outlet(s) for project storm drainage (by name if possible):

☐ Lake _____ ☐ Wetlands _____

☐ Stream _____ ☐ Open ditch _____

☐ Pond _____ ☐ Storm Sewer _____

☐ Other: _____

7. Will the project include any work or disruption within a floodplain?

☐ No

☐ Yes, ☐ Fill ☐ Structure ☐ Road

8. Will the project include any work within the cross-section of a lake, stream, or wetland?

☐ No

☐ Yes, ☐ Dredging ☐ Stream Relocation

☐ Filling ☐ Stream Crossing

9. Engineering plans have been/ or will be submitted to the following agencies for approval:

☐ RCOC / MDOT for Right-of-Way Work

☐ OCWRC / County Drain Connection or Crossing

☐ OCWRC / Soil Erosion Permit

☐ MDEQ ☐ Wetland ☐ Flood Plain ☐ Water Main ☐ Sanitary Sewer

☐ Other: _____

10. <u>Application Attachments</u>:

The applicant shall submit the following with the completed application:

☐ Four (4) sets of engineering plans

☐ Engineer's cost estimate for site improvements: sanitary sewer, water mains, storm sewers, and grading

11. Plan Review Fees:

After review of the application the Township will request from the applicant the plan review fee based upon 2.50% of the engineer's estimate, or $1,500, whichever amount is greater, plus an administration fee as determined by the most current EESD Fee Schedule.

The plan review includes the initial review and one revised plan review resulting from the engineer's comments. Additional engineering review fees will be required for substantial changes to the project or special consultation is necessary.

Identify the person that will be responsible for paying all review fees associated with this project, if other than the applicant:

Name: _____

Company: _____

Address: _____

Phone: _____

E-Mail: _____

I hereby certify that the proposed work is authorized by the owner of the property and that I have been authorized by the owner to make this application as their authorized agent and we agree to all applicable laws and ordinances of the Township.

Applicant Signature: _____ Date: _____

Applicant Name: _____

Company: _____

Address: _____

Submit completed application and plans to:

In Person:
Dave Payne Public Services Building
Engineering & Environmental Services Dept.
1153 Exeter Road
Bloomfield Hills, MI 48302
Phone: 248-594-2800

By Mail:
Bloomfield Township
Engineering & Environmental Services Dept.
4200 Telegraph Road
Bloomfield Hills, MI 48302
Phone: 248-594-2800

BOARD OF COUNTY ROAD COMMISSIONERS, OAKLAND COUNTY, MICHIGAN

PERMIT APPLICATION

MAKE CHECK PAYABLE TO ROAD COMMISSION FOR OAKLAND COUNTY

FOR R.C.O.C. USE ONLY	
Application No.	
Date Received	
Permit E No.	
Date of Issuance	

APPLICANT: _____ hereby makes **APPLICATION for a permit to CONSTRUCT, OPERATE, USE and/or MAINTAIN or to TEMPORARILY CLOSE A COUNTY ROAD** within the part of the right-of-way of road(s) _____ under the jurisdiction of the Board: **a detailed description of the desired facility and/or activity is required in the space provided below:** (include size, length, type of facility; - if underground, indicate depth below surface; if parallel to road, indicate distance from inside edge of facility to edge of pavement, if crossing under roadbed, describe method). **THE FOLLOWING MUST BE ATTACHED TO THE APPLICATION WHEN APPLICABLE**: 1. Plans, specifications and location of facility. 2. Traffic plan and detour route in cases of street closures.

PLEASE CHECK THE APPROPRIATE BOX(ES) THAT APPLY TO THE TYPE OF WORK YOU WISH TO OBTAIN A PERMIT FOR:

☐ Annual	☐ Community Event	☐ Public Utility (i.e. electric, gas, telephone)	☐ Soil Boring/Monitoring Well
☐ Approach/Private Road Access	☐ Landscaping/Grading	☐ Sanitary/Storm Sewer	☐ Watermain
☐ Cable TV	☐ Pathway/Sidewalk	☐ Sign/Subdivision Entrance Marker	☐ Other _____

City or Township _____ Section No. _____

The above activities will be carried out in accordance with plans, specifications, maps and statements filed with the R.C.O.C. as part of this application, and if said application is approved, the above named applicant agrees to abide by the **CONDITIONS** contained on the reverse side. Since a permit will have to be secured from the Board prior to the start of any construction or maintenance operations proposed by this application, it is intended that the **SUPPLEMENTAL SPECIFICATIONS**, on the reverse side, are to be incorporated as part of the plans or specifications required for this proposed work.

FOR R.C.O.C. USE ONLY

Design: _____ Right-of-Way: _____

Traffic: _____ Maintenance: _____

Planning: _____ Construction: _____

Subdivision: _____

Environmental Concerns: _____ Permits: _____

FOR R.C.O.C. USE ONLY

Application Fee: $ _____ Permit Fee: $ _____

Deposit: $ _____

Receipt No: _____ Estimated Inspection Fee: $ _____

Paint Fee: $ _____

Bond: $ _____ Sign Fee: $ _____

(RCOC Form 75) Signal Fee: $ _____

TOTAL FEES DUE
AT TIME OF PERMIT ISSUANCE: $ _____

Proof of Insurance Required Yes ☐ No ☐

Pollution Liability Required Yes ☐ No ☐

This application is approved subject to **CONDITIONS** and **SUPPLEMENTAL SPECIFICATIONS** contained on the reverse side of this application.

Approval of this application does not relieve applicant from meeting any applicable requirements or duties of law or other public bodies or agencies including but not limited to the Michigan Department of Natural Resources.

APPROVAL OF THIS APPLICATION EXPIRES IN ONE YEAR IF A PERMIT HAS NOT BEEN ISSUED. RESUBMITTAL OF CURRENT PLANS, PERMIT APPLICATION REVIEW FEES AND PERMIT APPLICATION IS REQUIRED IF APPROVAL OF THIS APPLICATION HAS EXPIRED.

REFER ALL INQUIRIES TO (248) 858-4835

DEPARTMENT OF CUSTOMER SERVICES
PERMITS
2420 PONTIAC LAKE ROAD
WATERFORD, MI 48328

APPLICATION APPROVED:

By: _____ Date: _____

APPLICANT (PRINT OR TYPE)

SIGNATURE DATE

(PRINTED/TYPED SIGNATURE & TITLE)

APPLICANT'S ADDRESS TELEPHONE NUMBER

CITY STATE ZIP CODE

EMAIL ADDRESS

Form 64A (12/08)

AS A CONDITION OF THE APPROVAL OF THIS APPLICATION, THE APPLICANT AGREES TO THE FOLLOWING CONDITIONS:

1. The application agrees to secure, or cause to be secured, a permit from the Board prior to the commencement of construction or maintenance operations. If a contractor is to perform the construction or maintenance entailed in this application, the contractor shall secure the permit from the Board prior to the commencement of construction or maintenance operations and thereby assumes responsibility, along with the applicant, for any provisions of this application which apply to them.
2. Any and all construction proposed under this application will meet all requirements of the Board, together with the Supplemental Specifications as set forth below.
3. The applicant agrees to save harmless, indemnify, defend, and represent the Board and its employees against any and all claims for bodily injury or property damage, or any other claim arising out of or related to the creation, operation, use, or continuing existence of the structure or facility covered by the permit or for any other work done within county road right-of-way whether or not specifically authorized or in conformance with the description of activities for which the permit was issued . Applicant agrees and understands that the obligations set forth herein are binding upon their successors, transferors, assigns, sureties, and guarantors. The Applicant shall maintain insurance of a type and in an amount in conformance with the Board's established requirements and provide certificates of insurance in a type and amount which shall assure conformance with the Board's established requirements is currently in force for any and all facilities installed in the Board's right of way.
4. The applicant agrees to surrender the permit herein applied for; surrender all rights hereunder; cease operations; and remove, alter, relocate at applicant's own expense, the facilities for which this permit is granted whenever ordered to do so by the Board because of the need for the area covered by this permit for public uses or because of a default in the conditions of the permit. Upon failure to remove, alter, relocate or surrender the facilities pursuant to the order of the Board, the applicant agrees to reimburse the Board for its cost in doing same.
5. Nothing in this application shall be construed to grant any rights whatsoever to any public utilities whatsoever except as to the consent herein specifically given, nor to otherwise impair any existing rights granted in accordance with the constitution or laws of this State.
6. The obligation to construct, operate, use and/or maintain the facility to the satisfaction of the Board remains in force as long as the facility exists and is within the right-of-way under the jurisdiction of the Board. The applicant is obliged to repair any damage to the road and right of way which is a result of the facility and which occurs or appears after the permit licensee is released.
7. The necessary construction zone signing for the protection of traffic shall be in accordance with the most current edition of the Michigan Manual of Uniform Traffic Control Devices, Part 6. All such devices shall be furnished, installed and maintained by the Permit Holder. All construction signage shall have black lettering on a reflective florescent orange background, unless otherwise specified. The Permit Holder shall provide any additional signs, barricades and/or lights, at the Permit Holder's expense, required to protect the general motoring public and the work zone when requested by the Road Commission.
8. **ADDITIONAL CONDITIONS**: As will be identified in approved permit description.

SUPPLEMENTAL SPECIFICATIONS

1. **EXCAVATION AND DISPOSAL OF EXCAVATED MATERIAL:** The contractor and/or the utility company shall provide and place the necessary sheeting, shoring and bracing required to prevent caving, loss or settlement of foundation material supporting the pavement, or any other highway installation such as sewers, culverts, etc. The contractor and/or utility company shall assume the full responsibility for this protection. Excavated material shall be stocked in such locations that it does not obstruct vision on the traveled portion of the highway and in such a manner that it will not interfere with the flow of traffic. Sod and topsoil shall be stocked separately from other excavated material. The applicant shall dispose of all surplus and unsuitable material outside of the limits of the right-of-way unless the permit provides for, and with approval of abutting property owners, disposal at approved locations with the right-of-way. In the latter case, the material shall be leveled and trimmed in a manner approved by the Road Commission for Oakland County.
2. **BACKFILLING AND COMPACTING BACKFILL:** All trenches, holes, pits, and other excavations shall be filled with approved excavated earth or with MDOT Class II granular material if so provided, placed in successive layers not more than 9 inches in depth, loose measure, and each layer shall be thoroughly compacted by tamping and all backfill compaction will be subject to check by the Controlled Density Method (minimum 95%). Restoration shall be such that it will provide a condition equal to or better than the original condition and in accordance with current Road Commission for Oakland County standards. Any excavation within the right of way outside traveled portion of road must be maintained until all settlement has occurred and must be restored and seeded or sodded as directed. The permit will not be released until the Road Commission is satisfied that no further settlement will occur.
3. **CROSSING ROADBED BY TUNNELING, DIRECTIONAL BORE, JACK CASING AND BORE:** When the pipe is installed by tunneling without cutting the existing pavement, the tunnel shall be adequately sheeted or shored to prevent the sides and top from collapsing or the pavement from settling or cracking. Directional bore shall be at least 4 diameters under the pavement or 48 inches, whichever is greater. When the pipe is installed by boring and jacking, the leading edge of the pipe must always precede the auger. The tunnel backfill shall be made by tamping a dry mix of lean concrete into place so as to completely fill any voids remaining around the installation. The concrete shall be composed of one part of Portland cement and 10 parts of sand-gravel by volume. Tunnel and boring pits shall be at least 10 feet from the edge of the pavement unless otherwise approved.
4. **CROSSING BY CUTTING GRAVEL ROADS:** All trenches are to be backfilled with approved material to within 12 inches of surface within the limits of the roadbed. Backfill methods will be as described in paragraph 2 above. All surplus excavated material will be disposed of as described in paragraph 1. The top 12 inches within the roadbed will be backfilled with processed road gravel (MDOT 22A or 23A). Trenches outside of the roadbed will be backfilled in accordance with paragraph 2 above.
5. **CROSSING BY CUTTING PAVEMENT AND TRENCHING:** When this method is approved by the Road Commission, the pavement shall be cut so that the opening is a minimum of 5 feet wide and at least 1 foot wider on each side than the trench. In no case shall an open cut result in a remaining slab width of less than 5 feet from patch to an existing joint. The cut shall be made by sawing to a full pavement depth. Cuts in concrete residential and commercial drives shall be as above except that the patch width shall be a minimum of 3 feet and the remaining slab from patch to existing joint a minimum of 3 feet. Backfill shall be made with MDOT Class II granular material. After the backfill has been placed by control density method and thoroughly compacted, the pavement shall be replaced with a temporary surface of approved hot-mixed bituminous material and later replaced with new pavement of the original type and quality by the Permit Licensee unless other provisions are included in the permit.
6. **DEPTH OF COVER MATERIAL:** Pipes shall be placed to a depth that will provide not less than 4 feet of cover between the top of roadway surface and top of the pipe.
7. **TREE TRIMMING OR REMOVAL:** All trees that may be affected by the proposed construction shall be shown on the plans. The plan must clearly indicate which trees are proposed to be removed, trimmed and/or tunneled. This work, if approved, must be done in accordance with current Board standards, including advance notification of abutting property owners. Wood Disposal License Agreement(s) will be required for any tree work
8. **DISPOSAL OF GROUND WATER:** Roadside drainage systems – open ditches, storm sewers, etc. – shall not be used for the disposal of water pumped from below the surface of the ground unless specifically allowed by the Road Commission. Details such as volume and frequency of discharge, erosion control, duration of use, NPDES permit and other pertinent information as may be required must be submitted with the application for such permission.
9. Any proposed operation in the right of way not covered by the above specifications, submitted with this application, shall be done in accordance with any additional specifications deemed necessary by the Board or as outlined in the Permit Rules, Specifications and Guidelines.

APPLICATION AND PERMIT FEES AS OF OCTOBER 1, 2021

Each item listed below should be a separate application. Many projects will have more than one permit required – one for approach and related work and another for underground utility connections. Please direct any questions to (248) 858-4835 or permits@rcoc.org. Please make checks payable to the Road Commission for Oakland County. Applications fees are not required for governmental organizations (Municipalities, Public School Districts, Public Libraries, etc.)

RCOC is now accepting digital applications and plan submittals at permits@rcoc.org. Payment can be made by electronic check or credit card (in person or over the phone).

TYPE OF WORK	APPLICATION FEE	PERMIT FEE
COMMERCIAL DRIVE/PRIVATE ROAD		
Single driveway without passing or turning lanes	$ 400.00	$ 500.00
Single driveway with passing lane or turning lanes	$ 500.00	$ 500.00
Multiple driveways	$ 500.00	$ 1,000.00
Reconstruct or pave existing	$ 300.00	$ 100.00
Utility Drive – Rule 6.6	$ 150.00	$ 50.00
IMPROVING UNCERTIFIED		
Residential Street	$ 450.00	$ 1,000.00
ROAD AND STREET APPROACHES		
New public connection *(Inspection fee may be collected as part of plat inspection administered by SID)*	$ 300.00	$ 200.00
PAVING OF EXISTING PUBLIC ROAD		
Applicant to provide for testing, inspection by Registered Engineer, etc.	$ 1,200.00	$ 100.00
Paving less than 500 feet	$ 500.00	$ 100.00
RCOC to provide testing, engineering inspection, etc. by way of agreement with applicant	$ 1,200.00	8% of Contract
NON-MOTORIZED PATHS		
Less than 300 feet in length	$ 150.00	$ 150.00
Greater than 300 feet in length	$ 200.00	$ 500.00
LANDSCAPING		
Plantings, berms, grading surfaces, drainage work. ditch enclosure, entrance markers, signs	$ 200.00	$ 100.00
SPECIAL CATEGORIES, SIGNAL FEES		
Groundwater wells, soil borings	$ 200.00	$ 200.00
Monitoring wells	$ 200.00	$ 200.00
Seismic testing, geo probe, other	$ 200.00	$ 100.00
Intersection traffic signal	$ 700.00	$ 50.00
Pedestrian Signals	$ 300.00	$ 100.00

TYPE OF WORK	APPLICATION FEE	PERMIT FEE
UNDERGROUND UTILITY, SANITARY, WATERMAIN		
By directional bore or plowing	$ 100.00	$ 100.00
(*200 lineal feet or less, .35 per foot in excess of 200 feet with maximum of $250.00, these amounts will be determined by RCOC.)*		
By trenching without pavement removal	$ 100.00	$ 100.00
By trenching with pavement removal	$ 200.00	$ 200.00
(*200 lineal feet or less, .65 per foot in excess of 200 feet with maximum of $1,000.00, these amounts will be determined by RCOC.)* (*REGARDLESS OF LENGTH/METHOD*)		
UNDERGROUND INSTALLATION		
Impacting RCOC facilities bond for installations on our poles	$ 500.00	$ 1,000.00
MAJOR UNDERGROUND UTILITY PROJECT		
Greater than 2.0 miles in length (**> 1 MILE, OR 2+ PRIMARY ROAD CROSSINGS**)	$ 200.00	$ 1,000.00
Removal and restoration of .5 or more miles of roadway	$ 200.00	$ 1,000.00
Numerous road crossings and/or open-cut of roads	$ 200.00	$ 1,000.00
UTILITY OVERHEAD (JOINT APPLICATION AND PERMIT FEE)		
Less than 1,500 feet in length and on one road	$ 200.00	$ 200.00
Greater than 1,500 feet in length or multiple road	$ 200.00	$ 300.00
STORM WATER CONNECTION TO AN EXISTING SYSTEM	$ 200.00	$ 200.00
SUMP PUMP CONNECTION TO AN ENCLOSED SEWER SYSTEM	$ 200.00	$ 100.00
ANNUAL DUST CONTROL PERMIT		
Joint application and permit fee	$ N/A	$ 100.00
SURVEYING IN COUNTY ROAD RIGHT-OF-WAY		
(Joint application and permit fee)	$ N/A	$ 150.00
FORESTRY (JOINT APPLICATION AND PERMIT FEE)		
Tree removal or planting by property owner on their property	$ N/A	$ N/A
Tree removal or planting as part of work with separate permit	$ N/A	$ N/A
Tree removal or planting	$ 100.00	$ 200.00
(Fee waived if applicant is abutting homeowner, or if part of separate application.)		

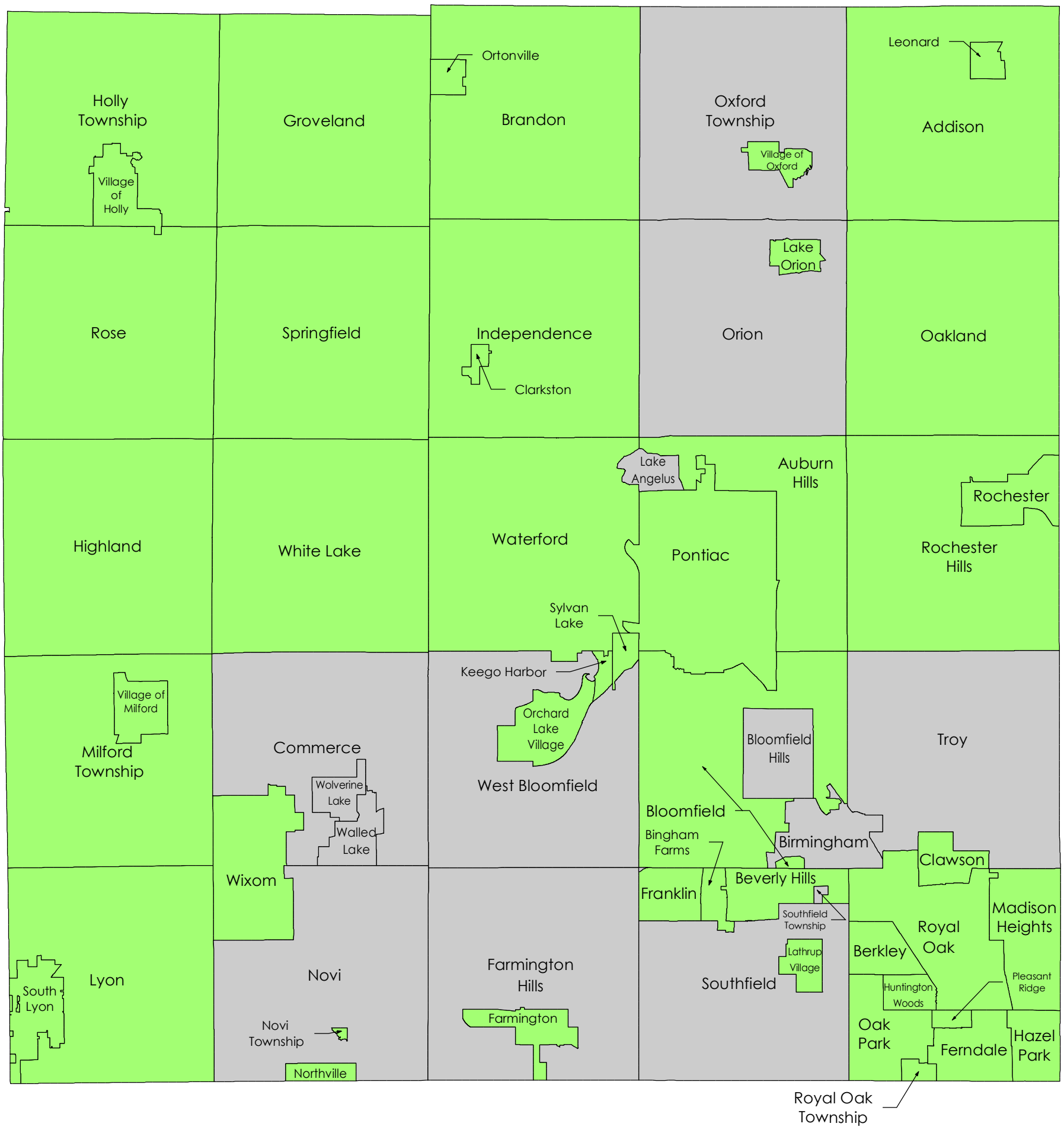
TYPE OF WORK	APPLICATION FEE	PERMIT FEE
MUNICIPALITY OR PUBLIC UTILITY, PARADES AND BANNERS ANNUAL PERMITS (Joint application and permit fee)		
Maintenance and/or repairs of utilities in the right-of-way overhead or underground	$ N/A	$ 550.00
Installation of new facilities on regular or recurring basis	$ N/A	$ 550.00
Maintenance and/or repair issued to governmental agencies	$ N/A	$ N/A
RESIDENTIAL DRIVEWAYS		
Pave Existing (remove/replace or repair)		$ 100.00
New Driveway		$ 150.00
SPECIAL CATEGORIES (NEW)		
Unauthorized work performed. prior to issuance of permit	Application and Permit Fee x 2	
No Show w/Inspection Scheduled	One (1) hour of inspection time	
Road Closure	Application fee, plus $500.00	

ROAD COMMISSION FOR OAKLAND COUNTY
TRANSPORTATION

TYPE OF WORK	PERMIT FEE
SINGLE MOVE EXCEEDING CAB CARD LIMITS	$ 50.00
SINGLE MOVE MOBILE HOME/OFFICES UP TO 16'	$ 50.00
ANNUAL CAB CARD Per Licensed Vehicle	$ 65.00
ANNUAL CAB CAR FOR UP TO 16' MOBILE HOME/OFFICE	$ 200.00
BUILDING MOVE/SUPER MOVE (*Permit includes two hours of Weighmaster escort. Additional charges for overtime or beyond two hours*)	$ 350.00

		APPLICATION FEE	PERMIT FEE
1.	**SPECIAL HAUL ROUTES**	$ 150.00	$ 350.00

(*Permit fee includes periodic inspection by a Weighmaster*)



Legend

Municipalities Whose Part 91 of Act 451
Soil Erosion Program is Administered by
The Oakland County Water Resources Commissioner.

Municipalities Who Administer Their Local
Soil Erosion and Sedimentation Control
Program Under the Provisions of Part 91 of Act 451 of 1994.

OAKLAND COUNTY SOIL EROSION ADMINISTRATION

Not To Scale

WRC
WATER RESOURCES COMMISSIONER
Jim Nash

Disclaimer: The information provided in this system has been compiled from recorded deeds, plats, tax maps, surveys and other public records and data. It is not a legally recorded map or survey and is not intended to be used as one. Users of this data are hereby notified that the information sources mentioned above should be consulted for verification of the information.

Revision Date: 11/27/2018
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Accessibility Evaluation and Barrier Removal Recommendations

The identification of accessibility barriers is the key to developing strategies to remove barriers to enhance accessibility for all people of all abilities utilizing this environment. This accessibility evaluation was conducted on site September 26-28, 2022. The following report identifies accessibility barriers observed, the Americans with Disability Act Accessibility Guideline citation relevant to the identified barrier, and barrier removal recommendations for each identified barrier. The intent of the report is to assist the farm staff in making thoughtful informed decisions to remove accessibility barriers and improve inclusive universally accessible experiences for everyone together. The following general observations and environmental, programmatic, and operational barrier removal strategies are intended to give overarching guidance that can affect specific accessibility decisions for the environment as well as programs and services.

Environmental, Programmatic and Operational Accessibility Barriers	**Accessibility Enhancement Recommendations**
No connected accessible routes to outdoor classrooms or interpretive experiences such as the historic cabin, garden walks, barns, animal enclosures, production garden, community gardens, challenge courses, pumpkin patch, chicken coop, etc.	It is imperative that accessible connecting routes be developed to the outdoor classrooms and interpretive experiences. All students and guests should be able to, at a minimum, visit and experience these amenities. There is plenty land space to create these accessible routes with thoughtful planning and professional design, so routes don't go straight up and down steep slopes. Engaging trail design professionals to develop accessible reroutes to these main amenities will result in greater accessibility as well as environmental protection of the farm property. Additionally, the purchase of at least two accessible hiking wheelchairs such as the Action Track Chair, Terrain Hopper, or GRIT wheelchair will greatly enhance access. These hiking assistive devices should be available for free use for all programs and on all days/times the farm is open. They should be advertised on the website and set out for use whenever staff is on site and the center is open.

Extreme slopes on many routes render them technically inaccessible to guests with mobility related disabilities who use personal mobility devices.	The layout of current routes have not been designed to reduce running slopes. It is imperative to give guests steep slope information so they can decide if they have the ability and adaptive equipment to safely navigate each route. This information should be given at each route intersection and can be incorporated into the site map. In order to give accurate slope information a professional mapping of the entire site should be conducted. In particular, the route from the rear of the visitor center down to the event space at the bottom of the extremely steep hill should be closed off immediately to prevent further injury accidents!
Many of the route surfaces around the main structures on the farm are in disrepair such as cracking/heaving/sinking asphalt and boardwalks. There are also many routes to outer experiences that are unimproved, mowed grass.	The existing route surfaces that have accessibility barriers should be, at the very least repaired, and should be considered for replacement soon. These surface barriers are not only an access barrier for people with disabilities, but a safety concern for trip and fall of little ones as well. To create greater access to experiences such as the chicken coop that are transient and relocated, temporary route surface such as Mobi-mat can used to "direct human behavior" on to the accessible route to the experience.
No directional or interpretive signs provide information in any alternative accessible formats	Providing information in alternative formats can greatly enhance access for people with vision impairments and non-readers alike. Automated systems exist that connect to cell phones that "ping" when someone approaches an interpretive information sign or trail intersection.
Some of the accessibility barriers are due not from design but ongoing maintenance of constructed features such as boardwalks and bridges.	Developing a robust maintenance program to maintain the accessible features of the site can greatly enhance accessibility for everyone. This requires time and expertise to identify areas in need of maintenance and to preform the upkeep. Some simple things like keeping encroaching vegetation cut back from the sides and overhead could be done by volunteers.
The website has no accessibility information regarding programs or the facility	As a school district program, you have an obligation to provide accessibility accommodations for all your programs and this should be articulated on your website. Developing informative accessibility information on the website will help visitors to plan their visits as well.

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Visitor Center parking lot 52 spaces 1 van accessible space appropriately signed and striped 1 car accessible space appropriately signed and striped 1 car space signed with a portable sign & not striped, does not count as accessible space in required count	208.2 502	3 accessible permanent spaces required At least one van accessible space required Add one additional permanent parking space with appropriate markings and signage

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Visitor Center parking lot Portable benches located on the sidewalk reducing the clear width to less than the required 5’	402 403	Move portable benches off sidewalk or remove Create accessible bench spaces surrounded by accessible surface with accessible clear space on at least one end and anchor so they don’t migrate back on to the sidewalk

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Raised garden boxes in front of the school end of visitor center No accessible route to raised garden boxes, inaccessible grass surface Garden boxes too low, not within low forward/side reach ranges	402 403 302 308	Add accessible surfaced route at least 36” wide to and surrounding garden boxes. Raise garden boxes to comply with 15” low forward/side reach ranges
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Picnic area in front of visitor center Multiple picnic tables, none are accessible design, none are located on an accessible route, inaccessible grass surface surrounding all tables	402 403 302 Outdoor F245.2.2	Add accessible design picnic tables to equal at least 20% of total # of tables and locate each accessible table on accessible surface at least 36” wide surrounding each accessible table and connect to accessible route
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
 	Photo opportunity near picnic tables in front of visitor center No accessible route to front for viewing or taking photos and no accessible route to the rear side for posing, inaccessible grass surface surrounding the photo opportunity	402 403 302	Add accessible surfacing 36” wide surrounding the entire photo opportunity and connect to main accessible route to visitor center

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Front patio in front of the school end of the visitor center Two accessible design picnic tables No accessible route to either table, patio is too narrow and the route is blocked by stored “stuff” No accessible clear space surrounding the table on all sides	402 403 302	Expand accessible patio surface to surround each accessible table with a 36” accessible route Move and keep portable “stuff” out of the accessible routes to the accessible tables
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
 	Upper route to cabin garden past greenhouse and patio table sitting area Wide relatively level route to the cabin garden area, surface is inaccessible large +1” chunk gravel Patio table and chairs are located off the route on inaccessible grass surface	402 403 302	Add a top dressing of ¼” crushed aggregate to stabilize existing surface Or Add a unitary surface (concrete/asphalt) accessible route with accessible running slopes less than 5% (1’/20’) along the entire roadway side fence line with accessible routes to the cabin garden and back entry of the cabin Replace inaccessible grass surface with ¼” crushed aggregate surface and surround table and chairs (spaced away from table as if occupied) with 36” wide accessible surface route

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Upper route to cabin garden and rear cabin entry Route changes to a mix of asphalt and grass and is in disrepair and slopes increase past the garden and along the fence line toward the rear door of the cabin No accessible route to cabin garden, inaccessible grass surface	402 403 302	Replace inaccessible grass and asphalt surface with accessible ¼" crushed aggregate surface Or Add a unitary surface (concrete/asphalt) accessible route with accessible running slopes less than 5% (1'/20') along the entire roadway side fence line with accessible routes to the cabin garden and back entry of the cabin
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
 	Rear cabin entry door Route surface ends before back door entry, inaccessible grass surface +3" step up into the cabin at the rear door	402 403 302 303	Replace inaccessible grass and asphalt surface with accessible ¼" crushed aggregate surface Or Add a unitary surface (concrete/asphalt) accessible route with accessible running slopes less than 5% (1'/20') along the entire roadway side fence line with accessible routes to the cabin garden and back entry of the cabin Add transition plate less than 5% (1'/20') from doorway down to accessible route surface

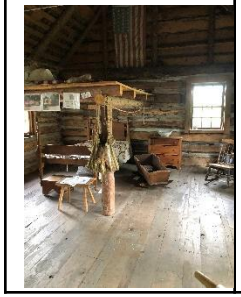
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Cabin interior Reasonable clear floor space around display items	304	
	Loft display items cannot be seen from the main floor level for anyone		No view shed to loft display for anyone. Add mirror on ceiling to show loft contents Or Display photos of loft content

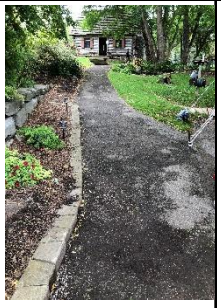
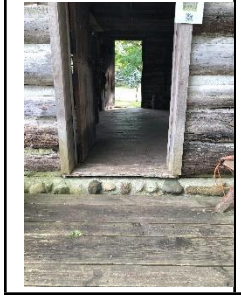
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Cabin front entry Asphalt route to front cabin entry in disrepair with steep slopes at +12%	402 403 302	Regrade to reduce running slope to less than 5% (1’/20’) Repave with unitary surface such as concrete or asphalt
	5 step platforms up to front door are not accessible design steps, no handrails, nonuniform riser heights	504	Consider reconstructing stairs to meet accessible design requirements including adding handrails To enhance accessibility, at the very least, add accessible handrails to both sides of the stairs Add information at stairs and route past the greenhouse directing people to the accessible route to the accessible rear entry of the cabin when accessible route is completed
			
	+8” step up into cabin	303	

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
  	Garden Paths Crushed limestone surface is fairly accessible if it is maintained All paths too narrow at less than 36” due to design in some locations and encroaching vegetation throughout	402 403 302	Top dress and maintain accessible ¼” crushed aggregate surfacing Trim encroaching vegetation to maintain minimum 36” wide accessible route
	Some areas have been top dressed with inaccessible woodchip surfacing		Remove inaccessible woodchip surface and replace with accessible ¼” crushed aggregate surface

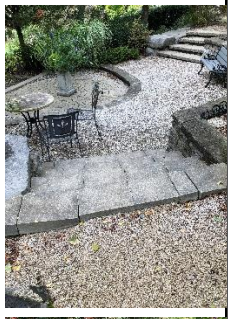
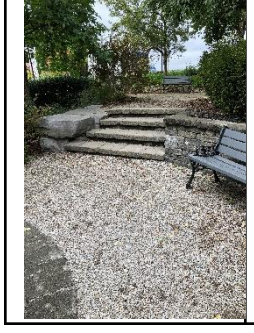
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	Garden Paths All paths lead to inaccessible areas accessed only by stone steps up or down to small sitting areas	402 403 302	Because you have one garden area seating without step access you do not have to remove steps to create accessible routes to the other seating areas

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	Garden path seating areas All paths lead to inaccessible areas accessed only by stone steps up or down to small sitting areas	402 403 302	Because you have one garden area seating without step access you do not have to remove steps to create accessible routes to the other seating areas But… The 2nd & 3rd photo shows this one seating area accessed via the very steep inaccessible route to the lower-level event space, therefore this route must be regraded and surfaced to create an accessible route access to this one seating space that doesn't require step navigation

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Main walkway to lower-level event space Extreme running slope greater than +21% Asphalt surfacing is in disrepair	402 403 302	This route is extremely dangerous and should be blocked off immediately from guest use A warning sign should be posted for the time being stating extreme slopes up to +21% This route should be regraded/rerouted to reduce running slopes to less than 5% (1’/20’) space for this re-route can be captured from the garden space to the NE

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	Woodchip garden paths to the northeast of the main walkway down to the lower-level event space Most are accessible width, but all have inaccessible woodchip surfacing, some sections have running slopes greater than 5%	402 403 302	Regrade/reroute steep slope segments to reduce running slope to less than 5% (1’/20’) Replace inaccessible woodchip surface with accessible ¼” crushed aggregate surface Trim and maintain encroaching vegetation to maintain 36” clear width

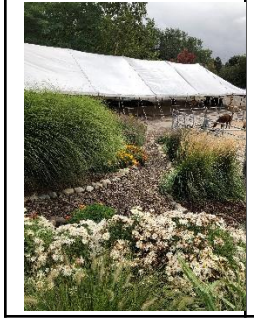
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	Woodchip garden paths to the northeast of the main walkway down to the lower-level event space Some paths are too narrow at less than 36” some due to design some due to encroaching vegetation	402 403 302	Regrade/reroute steep slope segments to reduce running slope to less than 5% (1’/2’) Replace inaccessible woodchip surface with accessible ¼” crushed aggregate surface Trim and maintain encroaching vegetation to maintain 36” clear width

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
  	Woodchip garden paths to the northeast of the main walkway down to the lower-level event space Route ends have steps +8” down to lower-level event space	402 403 302	Regrade/reroute steep slope segments to reduce running slope to less than 5% (1’/2’) Replace inaccessible woodchip surface with accessible ¼” crushed aggregate surface Trim and maintain encroaching vegetation to maintain 36” clear width Eliminate route end step downs to accessible route to lower-level accessible route

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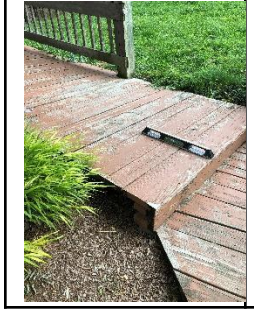
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Route to Gazebo from historic home side No visual step edge protection indicating change of level	504 402 403 302	Consider reconstructing stairs to meet accessible design requirements including adding handrails To enhance accessibility, at the very least, add accessible handrails to both sides of the stairs To enhance accessibility and safety add high contrasting stair edge color to indicate a step edge Add information at stairs directing people to the accessible route on the other side of the gazebo to the ramp up from the front cabin route Another consideration is to remove the lower two steps and regrade to create an accessible route to the lower deck in front of the gazebo that takes users to the ramp at the other end of the gazebo, also have to add accessible route end to connect with the route to the cabin Best option is to remove current wood stairs and ramps, regrade and create accessible route to gazebo from both sides 
	No handrails		
	Running slope of ramp to gazebo is too steep at +13% Ramp has no accessible design handrails		
	Ramp has an end platform with a running slope of 7% and no level landing and ends with a step down to a platform creating a dangerous roll off/ tip off end		

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Route to gazebo from the historic cabin side Route to gazebo from the cabin side is too steep with a running slope of +10.5% and no accessible handrails	402 403	Reduce ramp running slope to less than 5% (1'/20') Best option is to remove current wood ramp, regrade and create accessible route to gazebo from both sides

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Route to firepit gathering space from gazebo Good wide path, relatively level, but the gravel surface is large +1" chunk which greater than ¼" accessible size surface	402 403 302 305	Top dress and maintain accessible ¼" crushed aggregate surfacing When setting up temporary event spaces and amenities make sure they are on accessible surface, connected to an accessible route, and provide accessible side-by-side sitting space between seating

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Route to historic house Good route design, but once again the route has large +1” chunk gravel surface, which greater than ¼” accessible size surface	402 403 302	Top dress and maintain accessible ¼” crushed aggregate surfacing
	Step up onto porch is too high at 1½” change of level, which is greater than ¼” accessible change of level allowed	303	Add transition plate on porch down to accessible ¼” crushed aggregate surface and remove rug

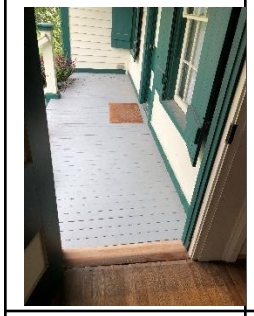
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Historic home interior Interior door too narrow	404	If the home is deemed a historical structure no accessibility changes to the structure may be required, but…providing accessible interpretive information of the areas of the home that are not made accessible should be a priority and can be provided through on-site photos and/or video (captioned/audio described) tours of the inaccessible spaces
	Toilet is accessible height, but sink is not accessible design and there is not accessible clear space in the toilet room		Interior door may be able to be made accessible by removing the door and door jams to create a 32” opening
	Two doors out to back porch with steps down to the ground, neither is accessible width and door thresholds have change of level greater than ¼”		If an accessible route along the roadside fence line is created a ramped route onto the back house porch could be created to create an accessible route into the home from the rear porch. This would also require door threshold adjustments to eliminate the changes of level greater than ¼”

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Water hand pump Surrounding windmill structure creates a barrier on the accessible route, pounds of force is greater than 5# to operate pump and clear space in front of spigot is blocked by concrete pad, topped with metal drain grids, topped by wood slabs under bucket	402 403 302	If use of the water pump is restricted to staff only, accessible changes only need to be made to accommodate a staff person with a disability whose duties include access to and use of the water pump, but…if guests or volunteers have access to use the pump then accessibility changes are required Create accessible route to pump, reduce the pounds of force to operate pump, remove barriers in front of spigot

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Lower barn Entry door threshold has +5% slope up and +18% down concrete “fix” that is also in disrepair	402 403 302	Remove and replace the concrete “fix” at the doorway to create and accessible entry into the lower barn with running slopes less than 5% (1’/20’)
	Route up to goat milking station is too steep with running slopes up to 25%		The route to the goat milking station cannot be negated, but…the milking station is portable and could be moved to the lower barn for demonstration if you have a student or guest who cannot go up the extremely steep slope ramp
	Goat milking station equipment appears to be portable?		

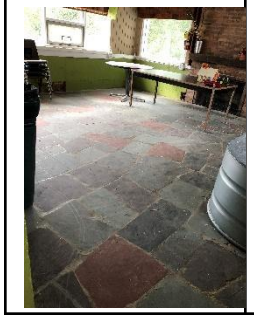
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Small building with classroom space Step up into building is too high at +1½” change of level, which is greater than ¼” accessible change of level allowed	402 403 302	Fix then building entry by regrading/resetting bricks to be level with the door threshold eliminating the change of level at the doorway
	Good clear space in classroom area, but route into storage area reduced to less than 36” by storage of portable materials		Create accessible route and clear space in the storage area

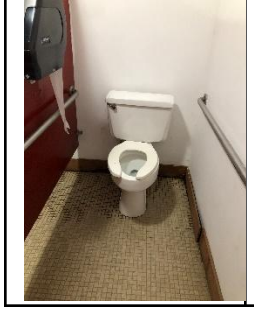
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Restrooms across from upper barn Women's side No accessible route to bathroom entry, inaccessible grass surface Inoperable inaccessible design water fountain	402 403 302 602	Best solution is to redesign each side into an accessible unisex individual toilet room complete with infant changing tables, newly required adult changing bench. Interim alternative is to remove stall closest to stall with grab bars, combine the space and create a single accessible stall, moving the stall door to the end of the route to the stalls, adding appropriate grab bar to rear of toilet, move toilet paper dispenser to back side wall next to toilet, remove toilet and repair floor to be level from the stall that is eliminated Remove and replace inaccessible water fountain with accessible design fountain
	No pipe insulation under either sink, trash can in clear space of paper towel dispenser	606	Add pipe insultation under both sinks
	Door lock requires pinch grasp wrist twist and there is no "U" handle on the exterior or interior of the door	309	Replace inaccessible door hardware with a slide lock design that doesn't require pinch grasp/wrist twist Add "U" handle inside and outside of the door to the newly created accessible stall
	Stall with grab bars not accessible design, too narrow at 36", not enough clear space, no back grab bar, no vertical grab bar	604	Create larger stall with 60"X60" clear space side & front of toilet, add vertical grab bar and back grab bar

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Restrooms across from upper barn Men's side Stall with grab bars not accessible design, too narrow at 34", not enough clear space, no back grab bar, no vertical grab bar Door lock requires pinch grasp wrist twist and there is no "U" handle on the exterior or interior of the door	605 602	Best solution is to redesign each side into an accessible unisex individual toilet room complete with infant changing tables, newly required adult changing bench. Interim alternative is to remove urinal stall next to stall with grab bars, combine the space and create a single accessible stall, moving the stall door to the end of the route to the stalls, adding appropriate grab bar to rear of toilet, move toilet paper dispenser to back side wall next to toilet, remove urinal and repair floor to be level from the stall that is eliminated
	Urinal too high at +24"	606 402 403 302	Replace urinal with accessible design urinal and mount at accessible height less than 17" Replace vanity with accessible design sinks
	Clear space in front of paper towel dispenser blocked by storage of portable "stuff" Sink/vanity too high (36") at greater than 30", no knee clearance due to cabinet structure, mirror too high at 44"		
	Portable lockers in the route to men's restroom reducing route to 32"	402 403 302	Move portable lockers out of the accessible route to the men's restroom

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Upper horse barn Side entry door has step up into barn is too high at +4” change of level, which is greater than ¼” accessible change of level allowed	402 403 302	Raise exterior concrete to be level with the interior floor height
	Interactive mirror clear space/turning space too small at less than 5’		Add additional concrete to create a 60”X60” clear turning space in front of the mirror
	Interior floor drops off +2” to dirt/straw, concrete edge in disrepair		Repair concrete edge with a beveled edge with a running slope less than 5% (1’/20’) kill below grade of dirt/straw surface
	Interior concrete floor drops +3” off to inaccessible woodchip surface at goat feeding/information station		Extend accessible concrete surface out to the goat feeding fences or eliminate change of level by adding a transition plate from the concrete down to inaccessible non-unitary surface and replace inaccessible woodchips with accessible ¼” crushed aggregate surfacing

//4”

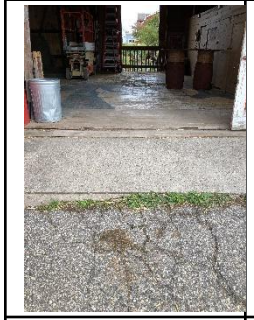
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Upper horse barn No accessible route into the hay loft, side entry to hay loft with floor map has +2½" step up from concrete to +3½" change of level up to wood hay loft floor	402 403 302	Remove asphalt/concrete and regrade/resurface to eliminate multiple changes of level to create accessible route in to upper barn hay loft

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Side entry to lower-level barn Inaccessible steep stairway entry/exit, not accessible design stairs	402 403 302 504	There is no way to make this entry/exit accessible therefore it should be closed to students and visitor access

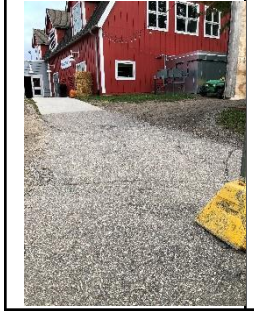
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Bridge over animal walkway Route has inaccessible large +1” chunk gravel surface, change of level onto bridge deck +2½” Bridge has inaccessible steep running slopes up to 9.7% with cross slopes up to 5.4% No accessible handrail Bridge has change of level +2” from deck to asphalt route surface which is in significant disrepair with large cross route cracks	402 403 302	Best solution is to remove and redesign an accessible route over the animal runway Reduce ramp running slope to less than 5% (1’/20’) Eliminate change of level at both ends Add accessible design handrails
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Walkway from animal crossing bridge to visitor center entry from inside the farm area Route has inaccessible steep running slopes up to +10.3% with cross route asphalt cracks	402 403 302	Reduce running slope to less than 5% (1’/20’) by removing existing asphalt, regrading/rerouting to reduce running slopes and eliminate surface cracks

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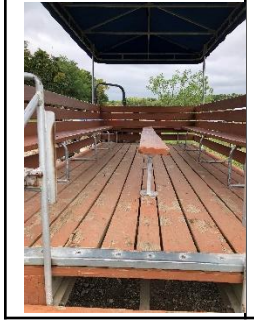
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
  	Wagon Inaccessible design transport wagon used for pumpkin patch visits and site tours, 16' long, 36" high with 4 steps up, center seat bench 24" from either bench seat side no accessible clear space on wagon, no accessible route on to or off from wagon at any entry/exit location	402 403 302 410	If possible consider… Redesigning the wagon to lower interior floor 18" above ground and incorporate a pull-out ramp, also remove 1/3rd of the center bench to create an accessible seating space 60"X60" Or Add a platform lift to the back if feasible Or Build an accessible boarding station at the visitor center and an accessible boarding platform/ramp at the pumpkin patch an any other location where wagon users exit the wagon for a farm experience

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	Photo opportunities near wagon boarding area No accessible route to front for viewing or taking photos and no accessible route to the rear side for posing, inaccessible grass surface surrounding the photo opportunity Both farmer face spaces too high for seated use at +42”, no lower hole	402 403 302	Add accessible surfacing 36” wide surrounding the entire photo opportunity and connect to main accessible route to visitor center

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Open field area used for outdoor event space No accessible route to space	402 403 302 Outdoor F245.2.2	Add accessible design picnic tables to equal at least 20% of total # of tables and locate each accessible table on accessible surface at least 36” wide surrounding each accessible table and connected to the accessible route
	No accessible design picnic tables		

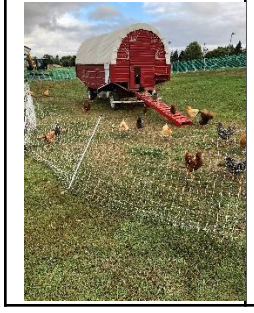
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
  	Chicken coop interaction area No accessible, sloping inaccessible grass surface	402 403 302	Add accessible route to the chicken coop interaction area

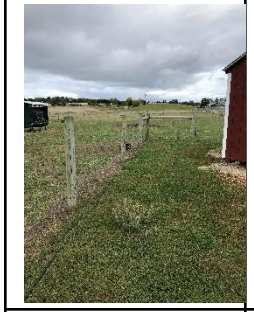
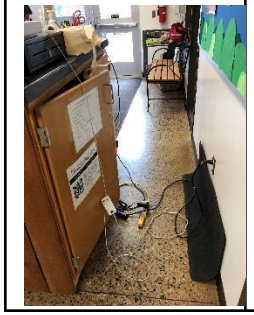
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Fenced pasture area with electric fence Electric fence wire within easy reach range of visitors, particularly children	308	Safety concern: Move electrified wire inside the fence line and out of the accessible reach ranges for guests
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
 	Information welcome desk Information desk is too high at 44”, with no lowered service section at 30” height Clear space behind information desk blocked by cords	902 305 402	If employee space, add lowered workstation 28”-34” high Keep employee workspace behind workstation clear of “stuff”

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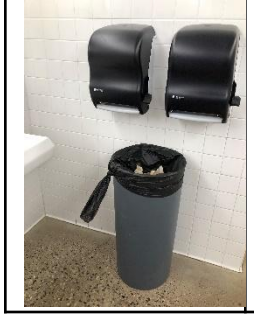
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Women's restroom Great stall design, only missing the "U" handle on the inside of the stall door	309 404	Add "U" handle below slide lock to facilitate one hand closing & locking
			
	Trash can in clear space under paper towel dispensers	402 403 302	Move trash can out of the clear space of the paper towel dispenser

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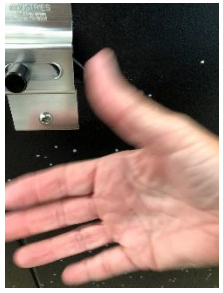
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Men's restroom Missing "U" handle on inside stall door below slide lock	309 404	Add "U" handle below slide lock to facilitate one hand closing & locking
	Trash can in clear space under paper towel dispensers	402 403 302	Move trash can out of the clear space of the paper towel dispenser
	Portable stool in clear space of urinal		Move stool out of the clear space of the accessible urinal
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Volunteer check-in station Heavy barrel seat in clear space of check-in station	402 403 302	Put barrel seat on rollers to make it easier for someone to move out of the accessible route and clear space

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Laundry area and staff lockers Accessible route reduced to less than 36” by the placement/storage of “stuff” Permanent bench in clear space of all lockers	402 403 302	Keep portable “stuff” out of the accessible route in the laundry space If an employee with a disability needs access to the lockers remove a 36” section of the bench in front to create a clear space to a lower locker

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Retail checkout area Lowered cash register section still too high at 38”	902 305 402	If employee space, add lowered workstation 28”-34” high
	Route to retail service area reduced to less than 36” by storage of “stuff” and placement of coolers and tables		Keep employee workspace behind workstation clear of “stuff”
			

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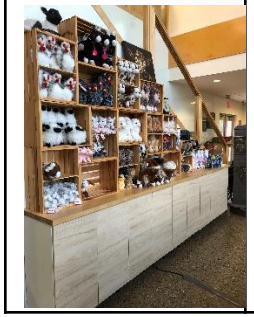
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Visitor center retail area Some items displayed out of accessible reach ranges	308	Display at least one of each type of item within accessible reach ranges

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
  	Hallway to greenhouse and employee area Accessible route reduced to less than 36” with placement/storage of “stuff”	402 403 302	Keep portable “stuff” out of the accessible route to the emergency exit
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Lift to second floor Key operable only	402 403 302	Is this a staff area only? Are meetings held in this space? Who controls the key? Do all staff have access to the key and have they all had training on lift operations?

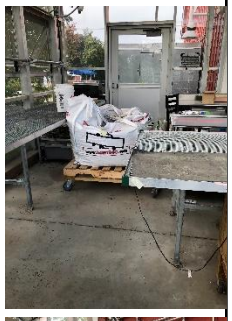
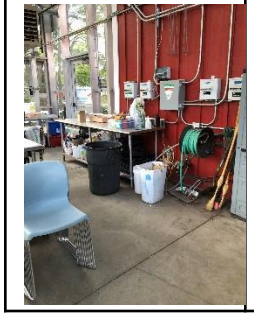
	Greenhouse Door closes too fast	404 402 403 302	Adjust door closer speed and pause
	Accessible route reduced to less than 36” by the placement/storage of “stuff”		Keep all portable “stuff” out of the accessible 36” route throughout the greenhouse
			
			

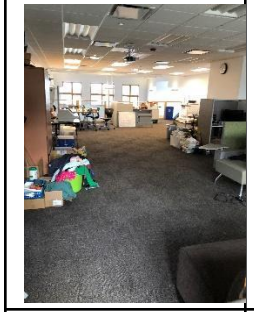
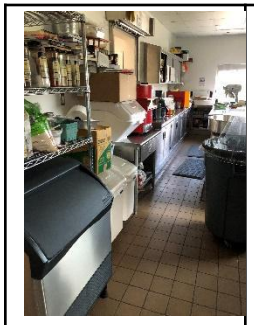
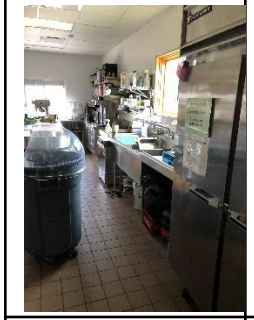
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Upper-level staff area and storage Some items stored out of accessible reach ranges and clear space blocked by placement/storage of “stuff”	402 403 302 308	If employee with a disability relocate essential items within reach ranges
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Wheelchair Typical wheelchair stored at bottom of stairs with no information on access for use		This wheelchair is designed only for indoor use and should not be the wheelchair for guest use in the out of doors! An all-terrain hiking wheelchair should be available such as Terrain Hopper, Action Track Chair, GRIT all-terrain hiking wheelchair

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Teaching and commercial kitchen Kitchen hand washing stations Access to both hand washing stations is blocked by placement/storage of “stuff” Soap dispensers too high 50” Paper towel dispensers too high at 56” No hot water pipe insulation	402 403 302 308 804 606	 Remove all portable items from the required clear space at both hand washing sinks Lower soap and paper towel dispenses to less than 48” to be within accessible reach ranges Add hot water pipe insultation on both sinks
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Teaching and commercial kitchen Accessible route reduced to less than 36” by the placement/storage of “stuff”, some areas less than 22” wide	402 403 302	Create accessible route by removing/relocating portable items in the accessible route

	Teaching and commercial kitchen Accessible route surface interrupted by placement of 1” thick mats	402 403 302	
	Lowered accessible serving area counter use blocked by placement/storage of “stuff”		If the counter is used as a service counter, remove/relocate portable “stuff” blocking the service area
	Portable equipment blocks end passing area of route		Create accessible route by removing/relocating portable items in the accessible route

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	All doors All doors shown open too hard &/or close too fast	404	Adjust the opening force, closing speed and pause function on all doors

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	All doors All doors shown open too hard &/or close too fast	404	Adjust the opening force, closing speed and pause function on all doors

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Emergency equipment Access route to emergency equipment blocked by placement/storage of “stuff” in the clear space	402 403 302	Remove/relocate portable “stuff” from the required accessible route and clear space

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	New hoop greenhouse under construction No accessible route to new greenhouse, inaccessible grass surface	402 403 302	Add accessible surfaced route to the new hoop greenhouse Add accessible surface on the inside as well

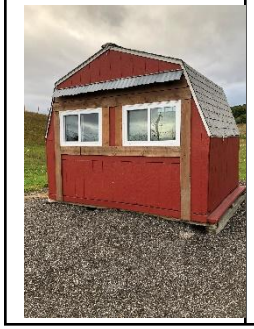
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Ice skating rink area No accessible route area indicated	402 403 302	Provide accessible route from parking to skate rental space and to the edge of the ice surface Add accessible transfer station down to ice surface (top box 24” wide X 14” deep X 4” step down to next box) Obtain several accessible ice hockey sleds for free use as well as “skate-aids”
	If this is the skate rental barn, no accessible route into structure, change of level +4”, service windows too high out of accessible reach ranges		If this is the skate rental building add ramp into barn to rent skates

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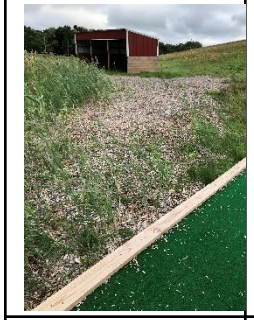
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Route from event center to base of tubing hill Route to tube pick-up/drop-off shed is relatively flat with inaccessible woodchip and grass surface	402 403 302	Add accessible route to tube pick-up shed and provide accessible ATV tow up to top Add accessible transfer station (top box 24” wide X 14” deep X 4” step down to next box) down to tube then assist rider on to the magic carpet for pull up and serves to help transfer back to assistive devise when exiting the tube
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Tubing hill run exit area No accessible route to tube return shed or to “walk-up” area on either slide side, change of level +4” side border timbers	402 403 302	Add accessible “magic carpet” transport to the top of the hill or add ATV pull transport to the top for a tuber needing mobility assistance to the top Create direct access onto launching platform (eliminate steps) Add accessible route to tube pick-up shed and provide accessible ATV tow up to top Add accessible transfer station (top box 24” wide X 14” deep X 4” step down to next box) down to tube then assist rider on to the magic carpet for pull up and serves to help transfer back to assistive devise when exiting the tube

   	Tubing hill entry decks Neither boarding platform are accessible design and have multiple steps up at +8" each Neither climb-up return routes are accessible due to inaccessible steep slopes and no assistance via technology such as magic carpet or ATV sled transport	402 403 302	Create direct access onto launching platform (eliminate steps) so a tuber can be pulled right from the ATV transport or magic carpet right onto the launch space Add accessible "magic carpet" transport to the top of the hill or add ATV pull transport to the top for a tuber needing mobility assistance to the top

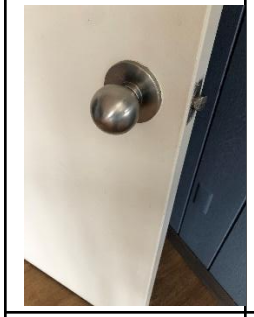
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Event center doors All doors have doorknobs that require pinch grasp/wrist twist	309	Replace all doorknobs with accessible lever action door handles that are one hand operable and don't require pinch grasp/wrist twist to operate
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Event center drinking fountain Clear space of fountain located under stairs blocked by placement/storage of "stuff"	402 403 302	Remove/relocate portable items in the clear space of the water fountain

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Event Center Restroom entry doors, accessible door signs in wrong location on the door, not mounted on the latch side at the correct height Both doors have doorknobs that require pinch grasp/wrist twist	309 703	Replace all doorknobs with accessible lever action door handles that are one hand operable and don't require pinch grasp/wrist twist to operate Move accessible sign to the latch side of the door a maximum 60" high
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Event Center Restroom stall door has no accessible "U" handle on the inside below the locking mechanism	309	Add "U" shaped handle under slide lock

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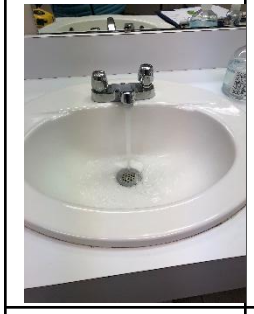
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Event Center Restroom toilet paper dispensers are located too far back above the grab bar	309 604	Move to toilet paper dispenser to front of toilet bowl (7” min/ 9” max)
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Event Center Restroom sink water flow valves all need adjustment, some don’t stay on at all and one stayed on for 10 minutes and could not be shut off	606 309	Adjust water flow of all auto dispensers to stay on a minimum of +10 seconds
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
	Event Center Restroom sink clear space blocked by placement/storage of “stuff”	402 403 302	Remove/relocate items under the sink in the clear space

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Event Center Restroom door hooks too high at 54” in men’s stall and 64” in women’s stall	308	Lower all restroom stall hooks to accessible reach ranges less than 48”

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Event Center No accessible route to upper-level, steep stairway only No accessible route to upper-level office and storage area	402 403 302 410	If the upper-level space is going to be rental space add accessible lift like in the visitor center

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Event Center Parking lot has 23 spaces, no van accessible or car accessible spaces signed, only pavement markings at two spaces	208 502	Create at least one van accessible space and one car accessible space, both signed and striped appropriately and connected to the accessible route to the event center
	One accessible parking sign but not located at an accessible space		
	Horse trailers and other trailers stored at the barn end of the lot		

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	Pumpkin patch and beehives Pumpkin patch route to picking area has steep slopes +13% and inaccessible straw over grass surface No accessible route to beehives, route through rutted plowed pumpkin patch	402 403 302	The best solution is to provide an all-terrain hiking wheelchair for guest use either to take from the visitor center out to the patch or to board the transport wagon to ride with others and get off/on to a boarding platform & ramp at the pumpkin patch

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
	Farm produce production gardens	402 403 302 309	Add accessible route to the farm produce production garden
	No accessible route to entry gate, steep hill with inaccessible grass surface		Make the entry gate accessible operable opening
	Processing area has portable worktables and no accessible route space around the worktables due to placement of “stuff”		Remove/relocate portable “stuff” out of the accessible route around the worktables
			
	Processing area has inaccessible large ROUND stone surface		Replace the inaccessible large round-stone gravel in the workspace with accessible ¼” crushed aggregate

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations

   	Farm produce production gardens No accessible routes to produce row ends or between rows	402 403 302	Add accessible routes to all row ends and down one row of each type

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Community Gardens No accessible route to community gardens, steep running slopes up to +10%, inaccessible surfacing	402 403 302	Add accessible route to community gardens by regrading/re-routing and adding accessible surfacing

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations

   	Community Gardens No accessible route to any water stations, inaccessible surface	402 403 302	Add accessible route to community gardens water stations by adding accessible surfacing in the common garden routes to all water stations

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations

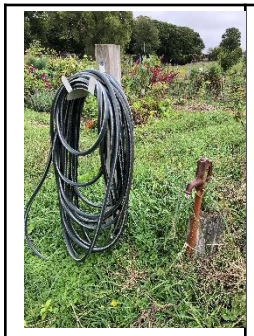
   	Community Gardens No accessible route to any water stations, inaccessible surface	402 403 302	Add accessible route to community gardens water stations by adding accessible surfacing in the common garden routes to all water stations

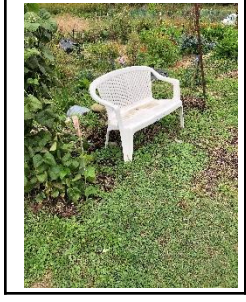
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Community Gardens No accessible route to any water stations, inaccessible surface	402 403 302	Add accessible route to community gardens water stations by adding accessible surfacing in the common garden routes to all water stations
Photo	**Barrier Description**	**ADAAG**	**Barrier Removal Recommendations**
 	Community Gardens No accessible route to any bench, inaccessible surface	402 403 302	Add accessible route to community gardens benches by adding accessible surfacing in the common garden routes to all benches

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
  	Community Gardens No accessible routes to raised garden beds in several areas, inaccessible surface, fencing blocks route Design of raised garden beds are too low and out of accessible reach ranges	402 403 302 308	Add accessible garden boxes that meet the minimum low reach range of 15” to the dirt surface and located on accessible route with accessible surface

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	High ropes challenge course activities No accessible route to individual activity entry/exit points, inaccessible slopes and surfacing	402 403 302	The best solution is to provide an all-terrain hiking wheelchair for guest use either to take from the visitor center out to the challenge courses or to board the transport wagon to ride with others and get off/on to a boarding platform & ramp at the challenge courses on the lower level

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Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
  	Route to hilltop low ropes challenges No accessible route up to the hilltop low ropes challenge activities, extreme running slopes up to +38%	402 403 302	The best solution is to provide an all-terrain hiking wheelchair for guest use either to take from the visitor center out to the challenge courses or to board the transport wagon to ride with others and get off/on to a boarding platform & ramp at the challenge courses on the lower level

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	Hill top low ropes challenge activities No accessible route between challenge activities due to steep running and cross slopes, inaccessible surface debris One inaccessible design picnic table	402 403 302	The best solution is to provide an all-terrain hiking wheelchair for guest use either to take from the visitor center out to the challenge courses or to board the transport wagon to ride with others and get off/on to a boarding platform & ramp at the challenge courses on the upper level Add one accessible design picnic table

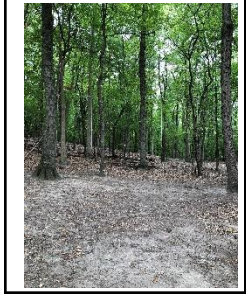
Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	Hill top low ropes challenge activities No accessible route between challenge activities due to steep running and cross slopes, inaccessible surface debris	402 403 302	The best solution is to provide an all-terrain hiking wheelchair for guest use either to take from the visitor center out to the challenge courses or to board the transport wagon to ride with others and get off/on to a boarding platform & ramp at the challenge courses on the lower level

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
 	Hill top low ropes challenge activities No accessible route between challenge activities due to steep running and cross slopes, inaccessible surface debris	402 403 302	The best solution is to provide an all-terrain hiking wheelchair for guest use either to take from the visitor center out to the challenge courses or to board the transport wagon to ride with others and get off/on to a boarding platform & ramp at the challenge courses on the lower level

Photo	Barrier Description	ADAAG	Barrier Removal Recommendations
   	Entry/exit route to challenge course areas No accessible route between challenge activities area and the entry behind the barn area due to steep running and cross slopes, inaccessible surface debris, inaccessible wood steps Inaccessible gates through goat pens at both ends with extremely steep steps in between	402 403 302	The best solution is to provide an all-terrain hiking wheelchair for guest use either to take from the visitor center out to the challenge courses or to board the transport wagon to ride with others and get off/on to a boarding platform & ramp at the challenge courses on the lower level

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ANNUAL INSPECTION REPORT



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Challenge Course Inspection Report

Bowers School Farm / 03/12/2026 / Annual Course Inspection / Myron Gwinner - ESI Level 2 Inspector (#0048) - ACCT Level 2 Inspector (8021937)

Complete

Flagged items	9
Inspection Type, Date Performed and Inspector(s) Name and Certification	
Organization Name	Bowers School Farm, USA, Michigan, East North Central, School
Address / Location	1219 E Square Lake Rd Bloomfield Hills MI 48304
Contact Person (for inspection)	Ken Wallace
Contact Person Email	Kwallace@bloomfield. org
Type of Inspection	Annual Course Inspection
Inspection Date	03/12/2026
Inspector(s)	Myron Gwinner - ESI Level 2 Inspector (#0048) - ACCT Level 2 Inspector (8021937)
Previous Inspection History	
Previous Inspection History 1	
Inspection Year:	February 10, 2025
Inspection Company	Experiential Systems, Inc (ESI)
Myron Gwinner	
Major Modifications Since last Inspection	No

Disclaimer

Experiential Systems, Inc. (ESI) believes the information contained within this inspection report to be correct at the time of completion. The report is based on a limited visual inspection of the challenge course structures, systems and components. The inspection was performed in accordance with relevant industry standards and practices for challenge course inspections unless otherwise listed within the scope of the contract for services.

INSPECTION SCOPE:
The scope of the inspection is limited to the items listed within this report, and as seen and evaluated on the date(s) of the inspection. The inspection and the provided report are but a snapshot of the course structures, components and installation areas as they were seen during a specific moment in time, and it is beyond the scope of this inspection or the associated report to attest to any future usability or condition of a course, system or component that may be subject to environmental damage, normal wear and tear, abnormal or unauthorized use, or intentional or accidental modification by others.

The inspector is a challenge course generalist and is not acting as a licensed engineer or expert in any other specific craft or trade. If the inspector recommends that the Client consult with specialized experts, the Client must do so at the Clients expense (ex. arborist, engineer, etc.).

NOT INCLUDED IN THE SCOPE OF INSPECTION:
Any area which is not exposed to view, is concealed, or was inaccessible because of soil, walls, fixed or immovable barriers, or any other activity, system or component installed on your property that is not included within the inspection report. The inspection does not include any destructive testing or dismantling of components or systems. Client agrees to assume all risks for any and all conditions which are concealed from view at the time of the inspection. The inspection is not a challenge course warranty, guarantee, or insurance policy. Some specific items not included in the scope of this inspection include, but are not limited to: soil or geological inspection; arboricultural inspection; building code or zoning ordinance violations; engineering analysis or calculations of any system; efficiency analysis of any installed components or systems; or complete identification of mold, fungi, pests, termites, or other wood destroying organisms.

CLIENTS RESPONSIBILITIES:
It is the Client’s responsibility to understand and adhere to all requirements and regulations set forth by any Authority Having Jurisdiction (AHJ) applicable to their site(s) and organization including but not limited to Federal OSHA codes, and state regulations regarding challenge courses and related structures. This includes but is not limited to AHJ requirements related to insurance, work safety, and industry specific standards such as those produced by ASTM International, the Association for Challenge Course Technology (ACCT), The Professional Ropes Course Association (PRCA), The Climbing Wall Association (CWA), or the International Standards Organization (ISO).

It is the Client’s responsibility to retain at all times a designated Qualified Course Manager who shall be charged with the responsibility to oversee operations for all elements, structures, and programs in accordance with the ANSI/ACCT 03-2019 Challenge Course and Canopy/Zip Line Tour Standard and the ACCT Qualified Challenge Course Professional (QCCP) Guidelines, and ensure that staff training and skills verification are completed annually to the same standards.

Copies of the most recent industry standards can be procured from the standard setting bodies directly. Experiential Systems recommends membership with at least one relevant standard setting body, and participation in ongoing relevant professional development.
Information on the latest workers compensation and OHS / WHS laws can be found at the relevant State WorkCover / WorkSafe Authority.
Information on the latest workers compensation and OHS / WHS laws can be found at the relevant State WorkCover / WorkSafe Authority.

Flagged items

9 flagged

Course and Operation Documentation / Policy and Procedures

Annual Arborist Report on File

Non-Compliant - Organization does not have the required annual arboricultural inspection documentation (D.2.3. Inspection and Evaluation: A tree inspection and evaluation shall be conducted by a qualified person.)

ESI recommends that all trees used in high challenge course activities be inspected annually by a certified arborist to ensure the health and vitality of the tree. Building in trees takes extra maintenance.

Low Ropes Course / Low Ropes Course / Low Ropes Course 1 / Fixed Low Element / Fixed Low Element 3

Element Condition

Non-Compliant

This element has been heavily affected by tree growth and is not safe to use. Significant repairs will be necessary.

Low Ropes Course / Low Ropes Course / Low Ropes Course 1 / Fixed Low Element / Fixed Low Element 7

Element Condition

Non-Compliant

The beam was broken by a tree several years ago. This should be removed to prevent injuries due to misuse.

Climbing Structures: Tower - Stand-Alone - Wall / Climbing Structures: Stand-Alone / Climbing Structures: Stand-Alone 1

Life Support System Condition

Non-Compliant

The Tree that is shared by the Giants Ladder shows signs of significant decay. An arborist inspection will be needed to determine the health of the tree.
The backup Loop cable is beginning to be affected by tree growth. This will need to be replaced soon.



Photo 20

Climbing Structures: Tower - Stand-Alone - Wall / Climbing Structures: Stand-Alone / Climbing Structures: Stand-Alone 1

Element Condition

Non-Compliant

The tree shows signs of significant decay.

Climbing Structures: Tower - Stand-Alone - Wall / Climbing Structures: Stand-Alone / Climbing Structures: Stand-Alone 1

Overall Structure Condition

Non-Compliant

Tree growth issues and arborist report

Climbing Structures: Tower - Stand-Alone - Wall / Climbing Structures: Stand-Alone / Climbing Structures: Stand-Alone 2

Life Support System Condition

Non-Compliant

The Tree that is shared by the Beam Crossing shows signs of significant decay. An arborist inspection will be needed to determine the health of the tree.
The backup Loop cable is beginning to be affected by tree growth. This will need to be replaced soon.



Photo 24

Climbing Structures: Tower - Stand-Alone - Wall / Climbing Structures: Stand-Alone / Climbing Structures: Stand-Alone 2

Element Condition

Non-Compliant

The eye bolt suspending the element is pulling through the tree. This is an indication of weakness in the tree itself.



Photo 25

Climbing Structures: Tower - Stand-Alone - Wall / Climbing Structures: Stand-Alone / Climbing Structures: Stand-Alone 2

Overall Structure Condition

Non-Compliant

There are indications of weakness in the trees leading to movement of the bolts

Course and Operation Documentation	1 flagged
Operational Review	
Has a documented operational review, or equivalent, been completed within the last 5 years?	Compliant - Organization has had an Operational Review or equivalent within the last 5 years or this structure was built within the last 5 years
Name of Reviewing Organization	
Peer Review with Upland Hills School	
Date of last operational review (if applicable)	05/20/2022
Policy and Procedures	1 flagged
Participant Health Screenings/Forms	Compliant - Health screenings and/or forms are used with participants
Liability Releases and/or Waivers	Compliant - Liability releases and/or waivers are used with participant
Equipment Inspection and Use Log	Compliant - Equipment inspection and use logs are present and up to date
Course Pre-use Logs	Compliant - Organization has a up-to-date course pre-use inspection log
Maintenance Logs	Compliant - Organization has up-to-date maintenance logs
Course Periodic Inspection Logs	Compliant - Organization has a up-to-date course periodic inspection log
Documented Risk Management Plan	Compliant - Organization has a documented risk management plan
Emergency Management Plan	Compliant - Organization has a documented emergency management plan
Near Miss Report Forms	Compliant - Organization documents near misses in a consistent manner
Incident Report Forms	Compliant - Organization documents incidents in a consistent manner
Accident Report Forms	Compliant - Organization documents accidents in a consistent manner
	Compliant - Organization

Annual Incident Analysis	documents an annual analysis of all incident documentation including remedial measures or changes implemented
Operations Manual w/Standard Operating Procedures (SOPs)	Compliant - Organization has operations manuals or SOP's for all inspected activities
Employee Policy Manual	Compliant - Organization has employee manual
Work at Height Plan	Compliant - Organization has a documented work at height plan
Employee Training and/or Skills Verification	Compliant - Organization has up to date records of all staff training
Training Organization	In-House

Level II Facilitator

Engineering, Design, Building Plans or As-Built Drawings	Compliant - No plans or engineering documentation for course structures are available - While best practice, the course was designed and installed prior to requirements for such by industry standards and/or regulations.
Course Acceptance Inspection Documents	Compliant - Organization Has No Acceptance Inspection Documents for Any Activities - While best practice, the course was designed and installed prior to November 2012, when this standard was added. All Major modifications after November 2012 would require Commissioning Documents (none have occurred)
Annual Arborist Report on File	Non-Compliant - Organization does not have the required annual arboricultural inspection documentation (D.2.3. Inspection and Evaluation: A tree inspection and evaluation shall be conducted by a qualified person.)

ESI recommends that all trees used in high challenge course activities be inspected annually by a certified arborist to ensure the health and vitality of the tree. Building in trees takes extra maintenance.

Low Ropes Course 2 flagged

Low Ropes Course 2 flagged

Low Ropes Course 1 2 flagged

Description and Build/Modification History

Bowers Farm Low Course

Fixed Low Element 2 flagged

Fixed Low Element 1

Element Name Whale Watch / Moby Deck



Photo 1

Element Condition Compliant w/Note

Element needs recentered on fulcrum



Photo 2

Fixed Low Element 2

Element Name T.P. Shuffle

Former swinging beam



Photo 3

Site Specific Name (if different)

TP Shuffle one

Element Condition Compliant

Fixed Low Element 3 1 flagged

Element Name	Group Wall / Team Wall



Photo 4

Element Condition	Non-Compliant

This element has been heavily affected by tree growth and is not safe to use. Significant repairs will be necessary.

Fixed Low Element 4

Element Name	T.P. Shuffle



Photo 5

Site Specific Name (if different)

TP Shuffle two

Element Condition	Compliant

Fixed Low Element 5

Element Name	Triangle Traverse / Pirates Crossing



Photo 6



Photo 7

Element Condition	Compliant

Fixed Low Element 6

Element Name	Adventure Walk

Adventure walk includes multivines, postman's walk, pulley walk, tension traverse, and three cable spans.


Photo 8


Photo 9


Photo 10

Element Condition Compliant w/Note

Some of the cable terminations are beginning to be affected by tree growth. Repairs may be necessary in the next year.


Photo 11


Photo 12


Photo 13

Fixed Low Element 7 1 flagged

Element Name High Beam


Photo 14

Element Condition Non-Compliant

The beam was broken by a tree several years ago. This should be removed to prevent injuries due to misuse.

Fixed Low Element 8

Element Name Trust Fall


Photo 15

Element Condition Compliant

Fixed Low Element 9

Element Name Nitro Crossing / Prouty's Landing / Swing Aboard



Photo 16

Site Specific Name (if different)

This element is combined with the beam walk High element.

Element Condition	Compliant

Climbing Structures: Tower - Stand-Alone - Wall	6 flagged
Climbing Structures: Stand-Alone	6 flagged
Climbing Structures: Stand-Alone 1	3 flagged
Element/Structure	Dynamic Traverse


Photo 17

Description and Build/Modification History

Beam walk

Manufacturer	Project Adventure (PA)
Installation Date (year)	Unknown, probably about 1998
Primary Support Structure:	Trees
Life Support System	Dynamic Belays - Belay cable with top rope anchors and staff operated belays

Traveling pulley belay


Photo 18


Photo 19

Cable Details	3/8" 7x19 GAC
Life Support System Condition	Non-Compliant

The Tree that is shared by the Giants Ladder shows signs of significant decay. An arborist inspection will be needed to determine the health of the tree.
The backup Loop cable is beginning to be affected by tree growth. This will need to be replaced soon.


Photo 20

Access Climb Types	Staple Climb(s)

Maintenance/Inspection Access Description

Shared staple climb with LEED Anchors.

Element Condition	Non-Compliant
The tree shows signs of significant decay.	
Access Prevention Condition:	Compliant
Signage	Compliant w/Note
More warning signs should be posted closer to the element	
Overall Structure Condition	Non-Compliant
Tree growth issues and arborist report	
Climbing Structures: Stand-Alone 2	3 flagged
Element/Structure	Giant's Ladder/Dangle Duo


Photo 21

Description and Build/Modification History

A giants Ladder/ Dangle duo.

Manufacturer	Project Adventure (PA)
Installation Date (year)	1998, Estimated
Primary Support Structure:	Trees
Life Support System	Dynamic Belays - Belay cable with top rope anchors and staff operated belays


Photo 22


Photo 23

Cable Details	3/8" 7x19 GAC
Life Support System Condition	Non-Compliant

The Tree that is shared by the Beam Crossing shows signs of significant decay. An arborist inspection will be needed to determine the health of the tree.
The backup Loop cable is beginning to be affected by tree growth. This will need to be replaced soon.



Photo 24

Element Condition	Non-Compliant

The eye bolt suspending the element is pulling through the tree. This is an indication of weakness in the tree itself.



Photo 25

Access Prevention Condition:	Compliant
Signage	Compliant
Overall Structure Condition	Non-Compliant

There are indications of weakness in the trees leading to movement of the bolts

Climbing Structures: Stand-Alone 3

Element/Structure	Other

Describe Other

Stemming Climb



Photo 26

Description and Build/Modification History

Stemming Climb built in trees.

Manufacturer	Project Adventure (PA)
Installation Date (year)	1998 Estimated
Primary Support Structure:	Trees
Life Support System	Dynamic Belays - Belay cable with top rope anchors and staff operated belays

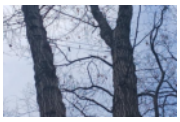


Photo 27

Cable Details	3/8" 7x19 GAC
Life Support System Condition	Compliant

Access Climb Types

Staple Climb(s)	Lead Anchors

Maintenance/Inspection Access Description

Same

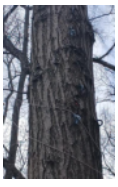


Photo 28

Element Condition	Compliant w/Note

Tree growth is affecting Staples. Additional Staples may be needed

Access Prevention Condition:	Compliant

The climb starts 10 ft above the ground

Signage	Compliant
Overall Structure Condition	Compliant w/Note

Additional Staples and Lead anchors will be needed soon


Photo 29

Climbing Structures: Stand-Alone 4

Element/Structure	Vertical Play Pen (VPP)


Photo 30

Description and Build/Modification History

The vertical playpen was built on poles about 2000

Manufacturer	Project Adventure (PA)
Installation Date (year)	2000 apx.
Primary Support Structure:	Utility Poles


Photo 31


Photo 32

Pole Details (i.e. length, year, class, etc.):

Class 1, 45 ft., Manufactured in 1998.
Poles were inspected by Best Electric in 2024.


Photo 33

Primary Support Structure Condition	Compliant
Guy System(s)	Guy cables


Photo 34

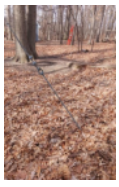


Photo 35

Guy cable details	3/8" 7x19 GAC
Guy System Condition	Compliant w/Note

The ground anchors may be shallow. Monitor for any movement.

Life Support System	Dynamic Belays - Belay cable with top rope anchors and staff operated belays

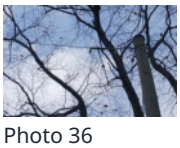


Photo 36

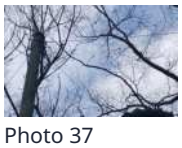


Photo 37

Cable Details	3/8" 7x19 GAC

Life Support System Condition	Compliant
Access Climb Types	Other

Playpen elements

Maintenance/Inspection Access Description

Staple climb with lead anchors

Element Condition	Compliant
Access Prevention Condition:	Compliant

The staple Climb starts at 10 ft.

Signage	Compliant



Photo 38

Overall Structure Condition	Compliant

Climbing Structures: Stand-Alone 5

Element/Structure	Pamper Pole/Leap of Faith



Photo 39



Photo 40

Description and Build/Modification History

This element was probably built by Project adventure around 1998. Most of the cables have been replaced due to tree growth.

Manufacturer	Project Adventure (PA)

Possibly, No actual documentation exists

Installation Date (year)	about 1998
Primary Support Structure:	Trees


Photo 41


Photo 42


Photo 43

Life Support System

Dynamic Belays - Belay cable with top rope anchors and staff operated belays	Just Right Descender (JRD) / Belay Post / Team Belay Post


Photo 44

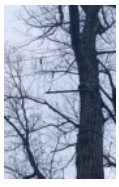


Photo 45

Cable Details

3/8" 7x19 GAC

Life Support System Condition

Compliant

The belay cable was replaced in 2025

Access Climb Types

Lead Anchors	Staple Climb(s)


Photo 46


Photo 47

Maintenance/Inspection Access Description

Same as participants

Deck / Platform Condition

Compliant w/Note

The platforms are being affected by tree growth. Some have been repaired.


Photo 48


Photo 49

Element Condition

Compliant w/Note

This element will continue to be affected by tree growth. Plans need to be made to replace this element.

Access Prevention Condition:

Compliant

The staple Climb begins at 10 ft.

Signage — Compliant w/Note

More signs should be installed closer to the element



Photo 50

Overall Structure Condition — Compliant w/Note

Tree growth is affecting the access climb. More Staples and Lead anchors will be necessary in the future.

Climbing Structures: Stand-Alone 6

Element/Structure — Dynamic Traverse

Dynamic multivines element



Photo 51

Description and Build/Modification History

This is a dynamic belay multivines. Probably built with the rest of the elements around 1998

Manufacturer — Project Adventure (PA)

Installation Date (year) — Apx. 1998

Primary Support Structure: — Trees

Life Support System — Dynamic Belays - Belay cable with top rope anchors and staff operated belays



Photo 52

Cable Details — 3/8" 7x19 GAC

Life Support System Condition — Compliant

The belay cable was replaced in 2025

Access Climb Types

Lead Anchors	Staple Climb(s)



Photo 53

Maintenance/Inspection Access Description

Same as participants

Element Condition	Compliant w/Note

This element will continue to be affected by tree growth. Plans need to be made to replace this element.

Access Prevention Condition:	Compliant



Photo 54

Signage	Compliant w/Note

More signage closer to the element

Overall Structure Condition	Compliant w/Note

This element will continue to be affected by tree growth. Plans need to be made to replace this element.

Climbing Structures: Stand-Alone 7

Element/Structure	Dynamic Traverse

Postman's walk Traverse



Photo 55

Description and Build/Modification History

This is a dynamic belay Postman's Walk. Probably built with the rest of the elements around 1998

Manufacturer	Project Adventure (PA)
Installation Date (year)	1998
Primary Support Structure:	Trees

Life Support System	Dynamic Belays - Belay cable with top rope anchors and staff operated belays
Cable Details	3/8" 7x19 GAC
Life Support System Condition	Compliant

Access Climb Types

Lead Anchors	Staple Climb(s)

Maintenance/Inspection Access Description

Same as Participants

Element Condition	Compliant w/Note

This element will continue to be affected by tree growth. Plans need to be made to replace this element.

Access Prevention Condition:	Compliant
Signage	Compliant w/Note

More signs closer to the element

Overall Structure Condition	Compliant w/Note

This element will continue to be affected by tree growth. Plans need to be made to replace this element.

Zip Line(s) / Canopy Tour(s)

Zip Line/Canopy Tour

Zip Line/Canopy Tour 1

Tour Name/Identifier

Bowers Farm zipline


Photo 56


Photo 57

Description and Build/Modification History

Zip line is located in a field above the ropes course.

Manufacturer	Unknown
Installation Date (year)	Unknown
Primary Support Structure:	Utility Poles


Photo 58

Pole Details (i.e. length, year, class, etc.):

Class 2, 50Ft.


Photo 59


Photo 60

Primary Support Structure Condition	Compliant

Inspected by best electric in 2024.

Add Tour Component

Add Tour Component 1

Alternate Tour Build Details ☐

Component Type	Zip Line

Zip Line Name/Identifier

Bowers Farm zip line

Alternate Manufacturer and/or Installation Date ☐

Zip Line Cable Diameter and Type	3/8" 7x19 GAC


Photo 61


Photo 62

Zip Line Details (i.e. length, percent grade, tension, etc.)

apx. 300 ft long. Level end to end. Low tension.

Zip Line Cable Condition:	Compliant
Guy System(s)	Guy cables
Guy cable details	3/8" 7x19 GAC


Photo 63

Guy System Condition	Compliant
Brake System Type	Gravity - Belly Dismount
Primary Brake System Installation and Operation	Compliant
Zip Line Landing/Dismount Area	Compliant

Dismount is by an A frame Ladder.


Photo 64

Zip Line Corridor	Compliant

Access Prevention	Compliant
Staple Climbs start at 10 ft.	
Overall Tour Condition	Compliant

Programming Equipment

Equipment Storage Area

Equipment Storage Area 1

Equipment Storage Area Name and Description

Bowers Farm program equipment


Photo 65


Photo 66


Photo 67

Helmets

Helmets 1

Equipment Manufacturer	Petzl
Qty.	18
Model/Style	Panga


Photo 68

Mfg. Date

2018- 2022

In Service Date

2018-2022

Condition	Compliant

Helmets 2

Equipment Manufacturer	Petzl
Qty.	4
Model/Style	Elios


Photo 69

Mfg. Date

2015

In Service Date

2016

Condition Compliant w/Note

One helmet fails for a broken back strap.
3 pass but are in their last year of use.


Photo 70

Harnesses

Harnesses 1

Equipment Type: Seat Harness

Equipment Manufacturer Headwall Harnesses

Qty. 55

43. blue large
4. dark blue x large
5. green small
3. padded large

Model/Style Way EZ Universal

Some are easy adjust, some are double back adjust.
Some have padded backstrap.


Photo 71

Mfg. Date

2016-2022

In Service Date

2017- 2023

Condition	Compliant

Harnesses 2

Equipment Type:	Chest Harness
Equipment Manufacturer	Headwall Harnesses
Qty.	2
Model/Style	Way EZ Universal chest



Photo 72

Mfg. Date

2022

In Service Date

2023

Condition	Compliant

Harnesses 3

Equipment Type:	Full Body Harness
Equipment Manufacturer	Singing Rock
Qty.	3
Model/Style	Technic ANSI



Photo 73

Mfg. Date

2022

In Service Date

2022

Condition	Compliant
Hardware	
Hardware 1	
Equipment Type:	Carabiner(s)
Equipment Manufacturer	Petzl
Qty.	3
Model/Style	AmD aluminum triple lock



Photo 74

Mfg. Date

NA

Condition	Compliant
Hardware 2	
Equipment Type:	Carabiner(s)
Equipment Manufacturer	Omega Pacific
Qty.	1
Model/Style	Aluminum triple lock



Photo 75

Mfg. Date

NA

Condition	Compliant

Hardware 3

Equipment Type:	Carabiner(s)
Equipment Manufacturer	Omega Pacific
Qty.	4
Model/Style	Aluminum screw gate



Photo 76

Mfg. Date

NA

Condition	Compliant w/Note

Some have moderate rope wear from use with an ATC



Photo 77

Hardware 4

Equipment Type:	Carabiner(s)
Equipment Manufacturer	Other

CLOG

Qty.	5
Model/Style	Aluminum double lock



Photo 78

Mfg. Date

NA

Condition	Compliant w/Note

Some need lubrication

Hardware 5

Equipment Type:	Carabiner(s)
Equipment Manufacturer	Other

CLOG

Qty.	5
Model/Style	Aluminum screw gate

Mfg. Date

NA

Condition	Compliant

Hardware 6

Equipment Type:	Carabiner(s)
Equipment Manufacturer	Yoke
Qty.	3
Model/Style	Steel double lock



Photo 79

Mfg. Date

NA

Condition	Compliant

Hardware 7

Equipment Type:	Belay Device(s)
Equipment Manufacturer	ABC

Qty.	5
Model/Style	ATC



Photo 80

Mfg. Date

NA

Condition	Compliant

Hardware 8

Equipment Type:	Pulley(s)
Equipment Manufacturer	Project Adventure (PA)
Qty.	2
Model/Style	Single wheel pulley



Photo 81

Mfg. Date

NA

Condition	Compliant

Hardware 9

Equipment Type:	Shear Reduction Device (SRD)
Equipment Manufacturer	Project Adventure (PA)
Qty.	3

Model/Style



Photo 82

Mfg. Date

NA

Condition	Compliant
Hardware 10	
Equipment Type:	Trolley(s)
Equipment Manufacturer	Project Adventure (PA)
Qty.	1
Model/Style	Zip trolley



Photo 83

Mfg. Date

NA

Condition	Compliant
Lanyards	
Lanyards 1	
Equipment Type:	Lanyard(s) – Instructor w/ Shock Pack
Equipment Manufacturer	Yates Gear
Qty.	2
Model/Style	Sewn webbing w zorber



Photo 84

Mfg. Date

2019

In Service Date

2020

Condition	Compliant w/Note

Should be replaced soon due to date

Lanyards 2

Equipment Type:	Lanyard(s) – Instructor w/ Shock Pack
Equipment Manufacturer	Yates Gear
Qty.	3
Model/Style	GOBLLOS


Photo 85


Photo 86

Mfg. Date

2019

In Service Date

2020

Condition	Compliant w/Note

These should be replaced soon due to date

Rope(s)

Rope(s) 1

Equipment Manufacturer	Sterling Ropes

And New England rope

Qty.	12
Model/Style	Kernmantle static

2- blue w white
2- black
4- orange w yellow
2- orange w blue
2- green w blue



Photo 87

Mfg. Date

Unknown

In Service Date

2022

Condition Compliant w/Note

Check use logs for retirement schedules

Rescue Bag/Kit(s)

Rescue Bag/Kit(s) 1

Rescue Bag Description and Contents:

Contains: rope, carabiners, rescue 8, figure 8, ATC, cutters, prussic loops.



Photo 88

Mfg. Date

Various

In Service Date

Used only for training

Condition Compliant

Comments and Considerations

Course and Equipment - Things to Consider

Petzl harnesses and helmets have a max life of 10 years. Any failure to pass pre-use inspection requires immediate removal from service.

Headwall harnesses have a max life of 10 years. Any failure to pass pre-use inspection requires immediate removal from service.

Singing Rock harnesses have a max in-service life of 10 years with a max shelf life of 12 years. Any failure to pass pre-use inspection requires immediate removal from service.

Most metal carabiners have a max in service life only based on condition. Any failure to pass pre-use inspection requires immediate removal from service.

Course and Equipment - General Comments

The Elements that are built in Trees are continuing to be heavily affected by tree growth. They have been repaired several times and will continue to need extensive maintenance to keep operational. These are very near to the end of their useful life. Plans need to be made to replace these elements.

Client Requesting Follow Up for Maintenance Needs	No
Subgrade Pole Inspection Required	No

Sign Off

Inspection Sign Off

Method of Informing for Non-Compliant Issues	In Person

I have been notified of any and all non-compliant elements and equipment and understand a complete report will be sent at later date.



Kenneth T Wallace
12 Mar 2026 16:37 EDT

Inspection Completion Date	03/12/2026

Signature of Inspector



Myron Gwinner
31 Mar 2026 21:01 EDT

Approval	
Date of Approval	03/31/2026
Approver's signature	 Myron Gwinner 31 Mar 2026 21:12 EDT
Date Report Sent to Client	31 Mar 2026 21:00 EDT

Bowers Farm Master Livestock Inventory Updated 10/23/26				
Species	**# of Species**	**Purpose**	**Current Location**	**NOTES**
Bourbon Red Turkeys	13	Breeding stock/meat	poultry pasture	livestock conservency
Broad Breasted Turkeys	40	Thanksgiving Turkeys	pasture	
Heritage Breed Turkeys	11	Thanksgiving Turkeys	pasture	
Chickens (laying hens)	120	eggs	3 locations of chicken housing	sites include: garden pasture, backyard, #2 pasture. Count fluctuates based on predator pressure and life cycle
Broiler Chickens (FFA)	69	FFA competition/fundraising	poultry barn	
Guinea Fowl	3	wildlife and tick protection	Barns	
Ducks	22	program/eggs/meat	poultry barn	2 swimmers purchased, 4 runners donated, 16 peking donated - housed at pond
Dairy Goats	5	Guest experience/teaching	barn	
Boer Goats	5	Breeding	pasture	
Boer Goat kids	6	Breeding/guest experience	pasture	4H club goat (kid) leasing and meat
Pygmy Goats	2	Guest experience	farm event center	
Hampshire Cross Sheep	5	program/breeding	barn	4H club sheep (lamb) leasing
Lincoln Sheep	1	Guest experience	Barn pen	livestock conservancy
Polled Dorset Sheep	11	Breeding/meat/guest experien	pasture	
Horned Dorset Sheep	5	Breeding/meat/guest experien	pasture/barn	livestock conservency
American Guinea Sows/Gilt	3	breeding, guest exp, meat	Pasture	livestock conservancy
American Guinea Hog - piglets	5	guest exp, meat	Pasture	livestock conservancy
Ponies	6	program/guest experience	barn/pasture	
Horses	5	programs/guest experience	pasture/barn	
Maine-Anjou Cows	4	program/breeding	pasture	4H club calves and meat
Llamas	2	operational	pasture	livestock protection
Rabbit	3	program	rabbit hut	adopted bonded pair 3/7/26
Cats	3	operational	barns	pest management

Livestock	Name	Tag/ID	Breed	Birthdate	Sex	Originated From	Address	Notes:
Avian	Turkey		Broad Breasted White		Tom	1		
Avian	Peafowl		BlueIndian		Peacock	1		
Avian	Chicken		Barred Rock		Hen			
Avian	Chicken		Americauna		Hen			
Avian	Chicken		Rhode Island Red		Hen	~40 Birds		
Avian	Chicken		Isa Brown		Hen	Total		
Avian	Chicken		Buff Orpington		Hen			
Avian	Chicken		Astorlorpe		Hen			

Leg Band Codes

Blue	2021 and older
Red	2022 hatch
Green	2023 hatch

LIVESTOCK	TOTAL #	educational	retail sales	culinary use	NOTES
Bourbon Red Turkeys	4	X	X		livestock conservency
Chickens various breeds	130	X	X	X	
Ducks	22	X	X	X	eggs & meat, programs,
Guinea Fowl	7				
Chicks					

Feed costs
Infrastructure costs (pond build out for now?)
Labor source

DEPARTED
copy/paste the removed livestock below for reference

CURRENT LIVESTOCK

Species	Tag	Scrapies Tag	Breed	Sire:	Dam:	Birthdate	Sex	Originated From	2023 Notes	Notes
Ovine	200		Hampshire Cross	Heavy Duty	King Tut	2019	Ewe	Chapman Brothers Showstock	2 lambs - 2 rams	2024 - lambed 2 rams and one ewe lamb
Ovine	437	64	Hampshire Cross	53 (Big Rig)	162 Donor (Heavy Duty x King Tut)	2021	Ewe	Chapman Brothers Showstock	3 lambs (2 rams, 1 ewe)	2024 - lambed 3 ewe lambs
Ovine	386		Hampshire Cross				Ewe	Chapman Brothers Showstock - arrived fall 2024	-	2024 - lambed one ram lamb

DEPARTED

copy/paste the removed livestock below for reference

Alpine										
Species	**Name**	**Tag/ID/Tattoo**	**Breed**	**Birthdate**	**Sex**	**Originated From**	**Address**	**Notes**	**2024**	**2025**
Caprine	Moo	DJA2(RE) L2(LE)	French Alpine	2019	Doe	Desjarden Acres		CAE Negative	2024 - no kids	breed to Dwight
Caprine	Mackinac	BWRS(RE) L06 (LE)	Nubian/Boer	2019	Doe			CAE Negative	2024 - twin buck	breed to Dwight
Boer										
Caprine	Petunia	2011	Boer	Nov 2020	Doe	Lucky Farms		CAE Negative		
Caprine	Kingsley	2013	Boer	Nov 2020	Doe	Lucky Farms		CAE Negative		
Caprine	Jewels	2020	Boer	Nov 2020	Doe	Lucky Farms		CAE Negative		
Caprine	Jill		Boer	Spring 2022	Doe	Manchester		CAE Negative		
Caprine	Lady May		Boer		Doe	BAMF Farms		CAE Negative		
Caprine	Clarice		Boer	2023	Doe	Lisa Conroy		CAE Negative		
Caprine	Dwight		Boer	2023	Buck	Rutherford's Show Goats		CAE Negative		
CROSS - Boer/Alpine										
Caprine	Buck Kid 1		Cross	6.20.24	Buck	Mackinac x Patrick	Bowers			
	Buck Kid 2		Cross	6.20.24	Buck	Mackinac x Patrick	Bowers			
nigerian dwarf goats										
				DEPARTED						
				copy/paste the removed livestock below for reference						

Livestock	Name	Tag/ID	Breed	Birthdate	Sex	Originated From	Address	Notes:
Swine	Barney		Vietnam Pot Belly	12/13/2011	Barrow	Jessica Klima		Donated

DEPARTED
copy/paste the removed livestock below for reference

Livestock	Name	Tag/ID	Breed	Birthdate	Sex	Originated From	Address	Notes:
Bovine	Bella		Maintainer	Feb 2021	Cow	OH Beef Expo		
Bovine	Nelly		Maintainer	May 2021	Cow	MI Beef Expo		
Bovine	Valerie		Maintainer	February 2022	Cow	Fall Frenzy Sale		
Bovine	Macy		Maintainer	April 2022	Cow	South Dakota		

DEPARTED
copy/paste the removed livestock below for reference

Livestock	Name	Tag/ID	Breed	Birthdate	Sex	Originated From	Address		Notes:
Equine	Taffy	Bay	Mini Horse/ Shetland Pony Cross	1999	Mare	West Branch, MI Donated by an AgScience student in 2004		Donated	
Equine	Patches	Bay/White Paint	Mini Horse/ Shetland Pony Cross	1999	Mare	West Branch, MI Donated by an AgScience student in 2004		Donated	
Equine	Scout	Black/white	Paint Grade	2008	Gelding	North Bay Horse CO . Dispersal Auction Sept. 2022		8000	
Equine	Bud	Sorrell	Grade	2008	Gelding	North Bay Horse CO . Dispersal Auction Sept. 2022		6500	
Equine	Clifford	Roan	Quarter Grade	2004	Gelding	North Bay Horse CO . Dispersal Auction Sept. 2022		9000	
Equine	Ranger	Bay Roan Appaloosa	Appaloosa	2005	Gelding	Huston, TX (Originally). Holly, MI. Alpha Omega Equine llc 2024		2000	
Equine	Chance	Seal Brown	Quarter Horse Reg.	2016	Gelding	Ortinville, MI Donated by Wedlake Family 2024		Donated	

DEPARTED

copy/paste the removed livestock below for reference

Livestock	Name	Tag/ID	Breed	Birthdate	Sex	Originated From	Address	Notes:
DEPARTED copy/paste the removed livestock below for reference								

Livestock	Name	Tag/ID	Breed	Birthdate	Sex	Originated From	Address	Notes:
Camelid	Kronk		Brown		Gelding			
Camelid	Sandy	Brown			Female	Debbie Arendas		arrived at bowers 9/20/24
Camelid	Pepper	Black and Gray			Female	Debbie Arendas		arrived at bowers 9/20/24

DEPARTED
copy/paste the removed livestock below for reference

Livestock	Name	Tag/ID	Breed	Birthdate	Sex	Originated From	Address	Notes:
Feline	Turnip	Gray	DLH		Female			
Feline	Miss K	Dark Tabby	DSH		Female			
~~Feline~~	~~Charles~~	~~Dark Tabby~~			~~Male~~			
Feline	Jesse	White longhair			Male			
				DEPARTED copy/paste the removed livestock below for reference				

Species	Name	Color	Breed	Birthdate	Sex	Tattoo	Originated From	Address	Notes
leporine	Lucky			7.2023	Doe		Local Family Donation		4/1/2024 - acuired

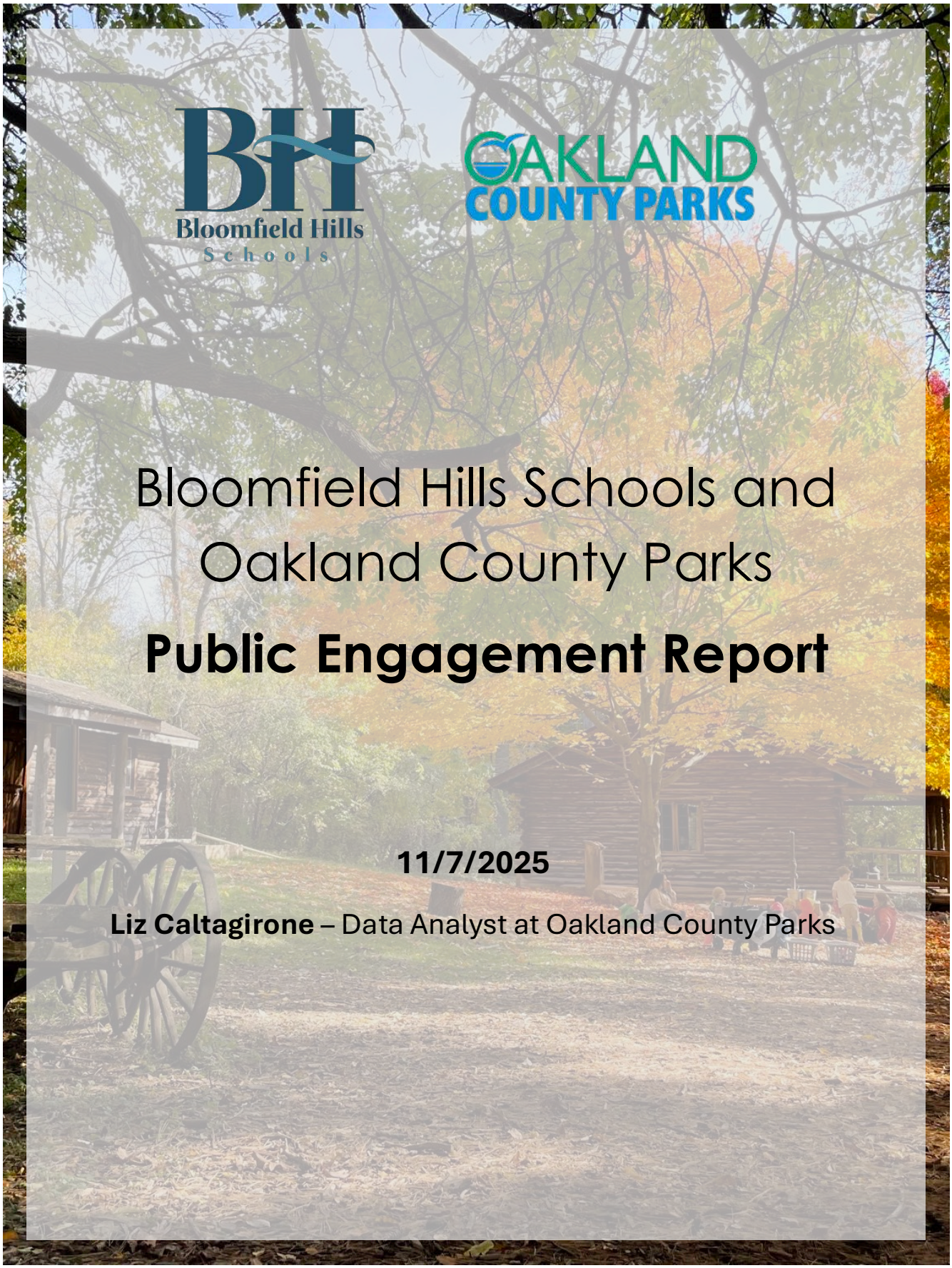
DEPARTED

copy/paste the removed livestock below for reference

Animals Removed:											
Species:	Sub Species:	Tag/ID	Color	Birthdate	Sex		Reason:				
Bovine	Richard	633	Cross	April 2023	Steer	SD		FFA Lease Project 2024			
Bovine	Brody	4275	Cross	April 2023	Steer	SD		FFA Lease Project 2024			
Bovine	Sir Loin		Holestein	Febuary 2024	Steer	Lamb Dairy Farm		2024 Lease Project			
Bovine	Ozzy		Holestein	Febuary 2024	Steer	Lamb Dairy Farm		2024 Lease Project			
Bovine	Rosie		X-Bred		Heifer			2024 Lease Project			
Bovine	Gracie		X-Bred		Heifer			2024 Lease Project			
Bovine	Dudley		X-Bred		Steer			2024 Lease Project			
Bovine	Smokey		X-Bred		Steer			2024 Lease Project			
Caprine	GiGi	2017	Boer	Nov 2020	Doe	Lucky Farms	Sold at Marlette - never recovered fully from giving birth	CAE Negative			
Ovine	200		Wether-type	SOWB	CBSS 162 (Heav	2020	Sold at Marlette - never recovered fully from giving birth - bag blown ou	Chapman Brothers Showstock			
Equine	Mirage	Bay	Arbian	1997	Mare	N/a	died 12/7/24				
Equine	Missy	Gray	Throughbred	1995	Mare	d on Farm from 2001-2009	died 12/17/2024	Donated			
Avian	Quail		Bobwhite		Hen	2	Pre-Approved - Abby King ate them.....				
Swine	Meatloaf		Berkshire	2020	Boar	Albright Swine Farms - 1	Traded for a young Tam boar				
Bovine	2020 Calf	1691		2020	Steer	McKay bull	Sold to Thueme Farms LLC				
Bovine	2020 Calf	1554		2020	Heifer	McKay bull	Sold to Thueme Farms LLC				
Camelid	Cinnamon				Female		Vet Euthanasia				
Caprine	Esme	3812 (RE) H46 (I	Nubian	2016	Doe		CAE Positve	CAE Positive			
Caprine	Poppy	WIN (RE) J93 (LI	Alpine	2017	Doe		CAE Positve	CAE Positive			
Caprine	Grace	EAEA (RE) J3 (L	Alpine	2017	Doe		CAE Positve	CAE Positive			
Caprine	Marshmallow	BWRS (RE) K7 (	Alpine	2018	Doe		CAE Positve	CAE Positive			
Caprine	Maple/Willow		Boer	2020	Doe		CAE Positve	CAE Positive			
Caprine	Boer w/Horns 39		Boer		Doe		CAE Positve	CAE Positive			
Bovine		Reece 1572	Angus	2012	Cow	MSU Tollgate Farm	Processed for Farm Store				
Caprine	Petosky	BWRS (RE) L05	Alpine	2019	Doe		Did not fit our future goat program	CAE Negative			
Caprine	Socks 740		Nubian/Boer		Doe		Did not fit our future goat program	CAE Negative			
Swine		Gray	Tamworth		Gilt		Processed for Farm Store				
Swine		Pink	Tamworth		Gilt		Processed for Farm Store				
Swine		Yellow	Tamworth		Gilt		Processed for Farm Store				
Swine		Green	Tamworth		Gilt		Processed for Farm Store				
Swine		Red	Tamworth		Gilt		Processed for Farm Store				
Leporine	Joan	Siamese Sable	Jersey Wooly	2017	Doe	HB	Died				
Ovine	1702	743	Cheviot	2017	Ewe		Shipped UPI				
Ovine	Dark Natural 160	359	Suffolk	2016	Ewe		Shipped UPI				
Ovine	Desert 1711 Cas	813	Desert Painted X	2017	Ewe		Shipped UPI				
Ovine	1603	357	Suffolk	2016	Ewe		Shipped UPI				
Ovine	2006	758	Suffolk	2020	Ewe		Shipped UPI				
Swine	Feeder		York Appearing	January 2021	Barrow	Thueme Hog Farm	Processed for Farm Store				
Equine	Starsky	Appy	Appaloosa	2015	Gelding	Greg Flower	Sold				
Equine	Mack	Sorrel	Belgian	1997	Gelding	Maura & Kurt Jung	Deceased				
Bovine	Cow						Processed for Farm Store				
Bovine	Cow						Processed for Farm Store				
Camelid	Kuzco						Sold				
	Feline	Ernie	Gray & White	DLH		Male	Deceased				
Ovine	2001	749	Suffolk	2020	Ewe		Consigned to MI Sheep Producers Sale				
Ovine	2018	757	Suffolk	2020	Ewe		Consigned to MI Sheep Producers Sale				
Ovine	2003	748	Suffolk	2020	Ewe		Consigned to MI Sheep Producers Sale				
Ovine	1509	739	Suffolk	2015	Ewe		Manchester				
Ovine	1605	360	Suffolk	2016	Ewe		Manchester				
Ovine	2020	759	Suffolk	2020	Ewe		Manchester				
Ovine	2015	760	Suffolk	2020	Ewe		Manchester				
Ovine	345		Wether-type		Ewe	Chapman Brothers Showst	Died				

Caprine	Bandit				Buck		Died in May				
Caprine	Gonzo		Boer		Buck		Manchester				
Swine	Tizzy		Tamworth		Sow	Francis	Sold to John Clark				
Swine	Maude		Tamworth		Sow	Francis	Sold at Marlette				
Donkey	Provence?	Jenny	Eeyore	---	27	Southwest, USA	Euthanized in 2018				
Donkey	Provence?	Jack	Dumas	---	26		Euthanized in 2018				
Horse	Mini Horse	Gelding	Rambo	---	27		Euthanized in 2019				
Horse	Belgian Horse	Gelding	Mack	---	24	Maura & Kurt Jung from Oakland County	Euthanized in 2022 see vet notes	Donated to Bowers in 2008			
Horse	Morgan Horse	Mare	Casey	---	16	Sanford, MI (central MI)	Blanche Wicke April 8th, 2020 $500.	Bought for $2,000 in 2007			
Horse	tang x Quarter Ho	Gelding	Buddy	---	10	Davison, MI	05/03/2019 to Black River	Donated by our current farrier, Chris LaBrie			
Horse	ouri Fox Trotter H	Mare	Lady	---	18	Metamora, MI	07/29/18	Donated by clients of our previous farrier, Joe Nichols			
Horse	Welsh Cob Horse	Gelding	Sully	---	20	Metamora, MI	7/29/2018	Donated by clients of our previous farrier, Joe Nichols			
Horse	uarter Horse Cros	Mare	Charity	---	21	N/A	11-01-2018				
Horse	Hanoverian x Thoroughbred x Quarter Horse	Mare	Scarlet	---	18	Victoria Prizer from Oxford, Mi	Decomissioned 08/03/2018	Victoria is daughter of retired/deceased Conant teacher			
Horse	Quarter Horse	Mare	Cowgirl	---	18	Springbrook Barn in Sterling Heights, MI	Euthanized 2021 See VET notes				
Swine	Tam Feeders		Tamworth	May	B/G	Farrowed onsite	Sold as feeders				
	Feline	tbd	Light Brown Tabby		~ Feb 2022	Female	BT Animal Control - Have not seen after releasing	1/2 Distemper, RV, FVRCP, 1 Year Rabies			
	Feline	Archer	Bullseye Tabby		~ Feb 2022	Female	BT Animal Control - Have not seen after releasing	1/2 Distemper, RV, FVRCP, 1 Year Rabies			
Goats	7 head						Sold at Manchester				
Sheep	11 head						Sold at Manchester				
Sheep	29 head						Sold at Marlette				
Sheep	2 head						Sold through online auction with MSP				
Swine	Happy		Vietnam Pot Belly		Barrow		Euthanized 12-5-2022 See VET notes				
Bovine	Chloe		Sim/Angus/Heref	May 2022	Cow	Thueme Farms	Sold in January to other 4-H kid (Wayne Co)				
Ovine	1601	358	Suffolk			2016	Sold at Marlette 7-15-23				
Ovine	9058		Wether-type	Harrell 78	6175 Center Fold	2019	Euthanized by Lobar. Sent to MSU for necropsy. Results-pheniomia	Chapman Brothers Showstock			
Caprine	Honey	WIN(RE) J27(LE	French Alpine	2017	Doe	Country Winds	Sold at Marlette 7-15-23	CAE Negative			
Caprine	Banjo (Jo Jo)		French Alpine	2022	Doe	Bowers Bred	Sold at Marlette 7-15-23				
Ovine	ueen Bee Donor) #180		Wether-type	King Tut	Hoss	2015	Sold at Marlette	Chapman Brothers Showstock			
Ovine	156		Wether-type	Heavy Duty	1427	2019	Sold at Marlette	Chapman Brothers Showstock			
Ovine	2176 (3339)		Wether-type				Ewe	Chapman Brothers Showstock			
Ovine	385		Wether-type	Big Rig	WB (Donor)	2021	Ewe	Chapman Brothers Showstock			
Caprine	Stella		Boer	Jan 2018	Doe	Thueme Farms	Sold to McCoy	CAE Negative			
Bovine	Paula		Commercial	April 2023	Heifer	Jake Homich	Returned to Jake Homich after lease				
Bovine	Penny		Commercial	April 2023	Heifer	Jake Homich	Returned to Jake Homich after lease				
Equine	Mia	Gray	Donkey		Jenny	Stoney Creek Farms	Sold at Marlette	Bred; Due Date Unknown			
Equine	Olive	Gray	Donkey	May 2023	Jenny	Born at Bowers	Sold to Hess Hathaway	SOLD to Waterford Parks and Recs - September 2023			
Equine	Lola	Gray w/Blaze	Donkey	2021	Jenny	Stoney Creek Farms	Sold to Mitchell Wool Company December 2023				
Swine	Staple		Hamp Appearing	June 2021	Sow	Brady Littlefield	Sold to John Clark 2-1-24	Weaned 7 piglets	Staple Plan		
	Swine	Bob		Spot		Brady Littlefield	Butchered 2-8-24		Green & White FFA Lease Project		
	Swine	Cob		Spot		Brady Littlefield	Butchered 2-8-24		Green & White FFA Lease Project		
	Swine	Rob		Spot		Brady Littlefield	Butchered 2-8-24		Green & White FFA Lease Project		

Leporine	Rock It	Smoked Pearl	Jersey Wooly	2018	Buck	R1	Died on 1-29-24				
Ovine	135		Wether-type	Liquid Courage	(Queen Bee Don	2018	Sold	Chapman Brothers Showstock			
Ovine	136		Wether-type	Liquid Courage	(Queen Bee Don	2018	Sold	Chapman Brothers Showstock			
Ovine	185		Wether-type	Big Chill	36 Liquid Courage	2020	Sold at Manchester. Had masititis	Chapman Brothers Showstock			
Caprine	Friday		Boer		Doe	BAMF Farms	Sold to Adam Roehem	CAE Negative			
Swine	13 piglets		Crossbred	12-23-23		Staple 2023 litter	Sold				
Bovine	Marty		Holestein	July 2023	Steer	Marlette	Sold to Aurora Anne				
Bovine	Rhonda	A63									
Bovine	Elsa	E27	Winter Beef Lease Heifers - onsite 10-6-23 until 2-28								
Bovine	Jade						Returned to Jake Homich after lease				
Equine	Dozer	Chestnut	Mini Horse/ Shet	1999	Gelding	AgScience student in 2004	Euthanized 4-17-24	Donated			
Bovine	Ginny		Maintainer	March 2021	Cow	OH Beef Expo	Euthanized Spring Break 2025				
Leporine	Marie	Dark Brown	Mini Rex	10.2021	Doe		Fly Strike				
~~Equine~~	~~Mirage~~	~~Bay~~	~~Arbian~~	~~1997~~	~~Mare~~	~~N/a~~		~~?~~	~~died 12/7/24~~		
~~Equine~~	~~Missy~~	~~Gray~~	~~Throughbred~~	~~1995~~	~~Mare~~	~~d on Farm from 2001-2009~~		~~Donated~~	~~died 12/17/2024~~		



Bloomfield Hills Schools and Oakland County Parks

Public Engagement Report

11/7/2025

Liz Caltagirone – Data Analyst at Oakland County Parks

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Background

Oakland County Parks (OCP) and Bloomfield Hills Schools (BHS) are exploring a potential intergovernmental partnership to support and strengthen Bowers School Farm (BSF) and the Johnson Nature Center (JNC). While no agreements have been made, early discussions suggest a model where Bloomfield Hills Schools would continue to have priority access for educational programming, while Oakland County Parks would oversee operations and management with a focus on bolstering recreation activities.

In-person community engagement opportunities were held at both Bowers School Farm and the Johnson Nature Center, and an online survey was also available to provide feedback on this potential partnership. The purpose of the online survey was three-fold:

1. To measure the amount of public support for Bloomfield Hills Schools to continue dialogue with Oakland County parks about this potential partnership.
2. To determine community priorities related to offerings, features, and activities related to Bowers School Farm and the Johnson Nature Center
3. To analyze how often these facilities are visited and the different ways visitors use them.

Around 80 people engaged with the materials present at the in-person events and 646 individuals sent in complete responses to the online survey, for a total of 727 participants.

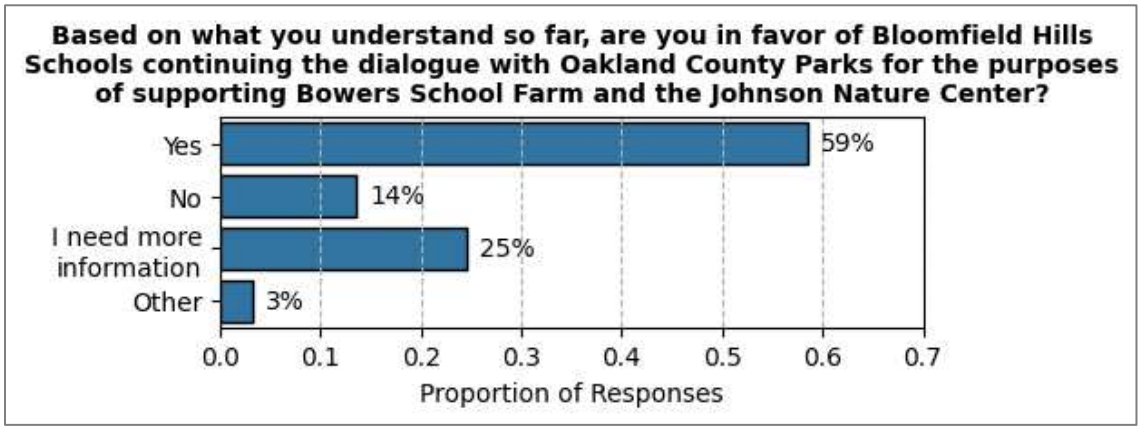
Community Feedback Summary

Support for the Potential Partnership

59% of respondents answered "Yes" to a question about whether they support the dialogue that may lead to a partnership. An additional 1.5% answered "Yes, with conditions" and an additional 0.5% are "leaning yes", for a total of **61% in support**. 25% need more information and **14% are not in support** (*Figure 1*).

The more often a respondent visits either Bowers School Farm or the Johnson Nature Center, the more strongly they feel about the facility and its ownership. However, this does not mean loyal supporters are opposed to the idea of the partnership, as 47% of respondents who visit the Johnson Nature Center more than once a month say they need more information on the subject to decide (*Figure 46*). The percentage of respondents who explicitly do not support the partnership is roughly the same (14%) regardless of how often they visit the facilities (*Figure 45*).

Figure 1. Percent of respondents in support of partnership dialogue



Community Priorities

Visitors to Bowers School Farm who took this survey highly value agriculture education, weekend events, and natural areas (*Figure 21*). Popular features and activities at the Farm include farm store and kitchen (56%), Fall Festival (53% attended), Winter Park (46%), and grade K-5 field trips (42%) (*Figure 19*). Visitors to the Johnson nature Center who took this survey highly value natural areas/trails and youth education opportunities (*Figure 32*). Popular features and activities at the Nature Center include trails and hiking (59%), youth education (46%), visiting rescue animals (45%), and maple sugaring (33% attended) (*Figure 30*).

1. In-Person Events

Two in-person engagement opportunities were held:

- Saturday, October 18th, 2025 @ Bowers School Farm's Fall Festival event from 10AM-12PM (paid admission)
- Monday, October 20th, 2025 @ Johnson Nature Center from 4-6PM

Representatives from both Bloomfield Hills Schools and Oakland County Parks were present at both events and available to answer questions from visitors. Each person engaged at an in-person pop-up event (80 total) was given four stickers to "vote" for their priorities (*Figure 2*).

In-Person Feedback

Figure 2. In-Person priority boards with stickers

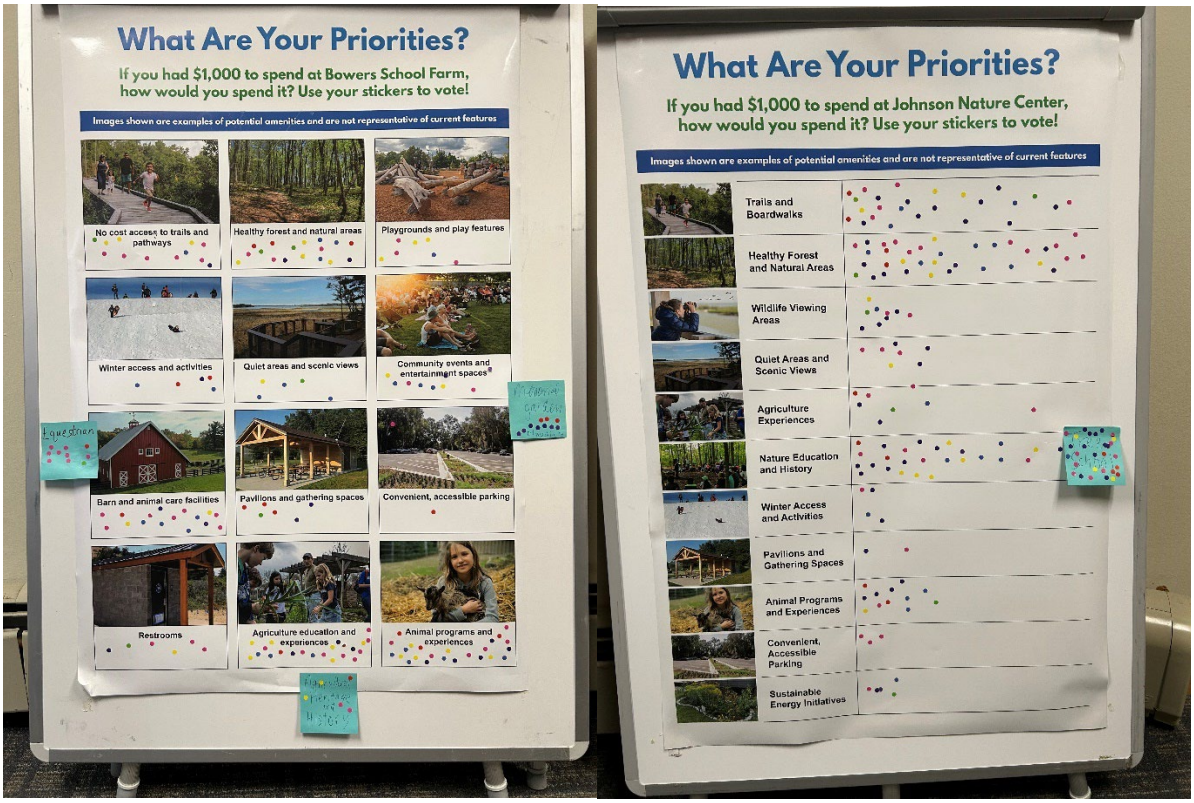


Figure 3. Priorities in financial expenditure at BSF with added assets highlighted

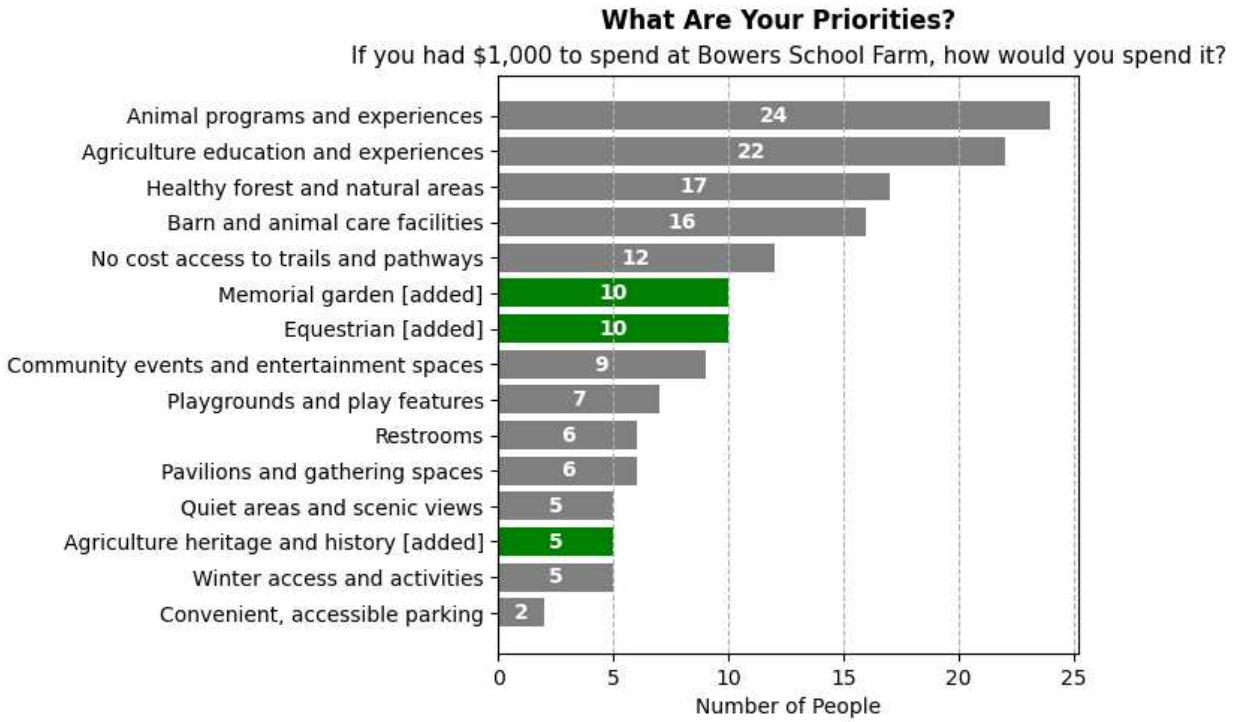
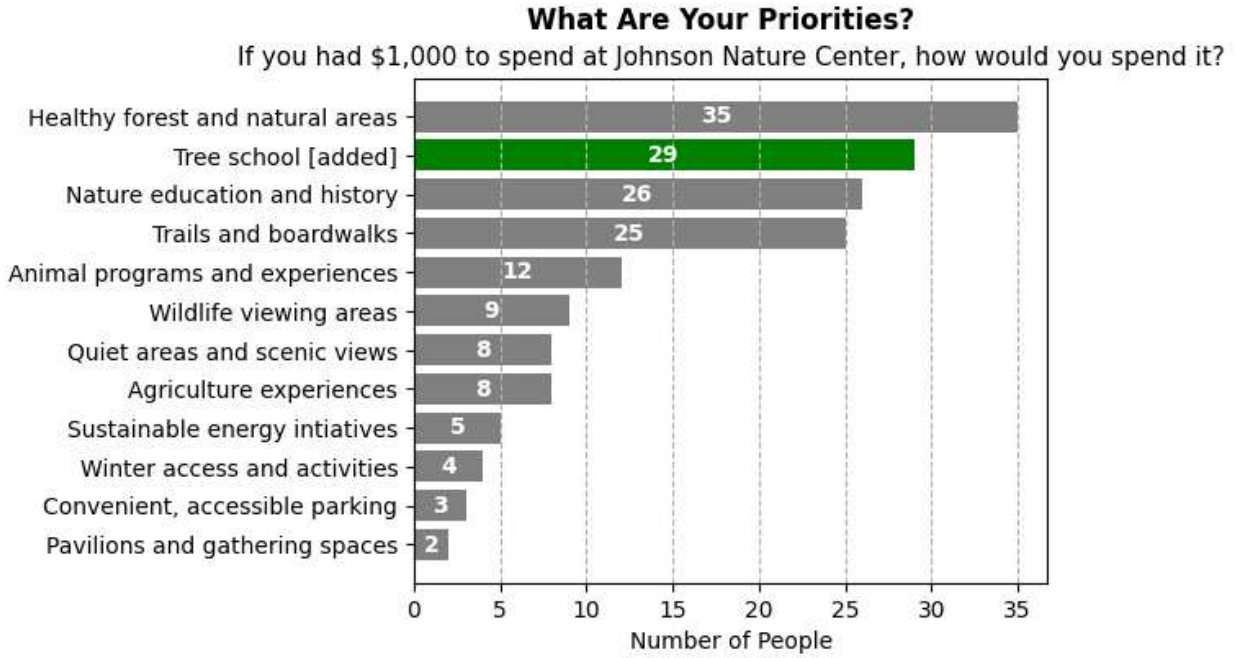


Figure 4.Priorities in financial expenditure at JNC with added assets highlighted



In-Person Priorities vs Online Priorities

The priorities expressed by participants at the in-person events and the priorities expressed by individuals taking the online survey are very similar. At Bowers School Farm in-person participants rated animal experiences and agriculture education more highly important than the online participants, who valued natural areas above education (*Figure 3*). At Johnson Nature Center, both in-person and online participants rated healthy forest and natural areas as the top priority. In-person participants were also very enthusiastic about Tree School specifically, adding that voting option to the board and gathering 29 votes (*Figure 4*).

2. Online Survey

Survey Methods

A total of 646 complete responses were collected between October 7th and October 31st, 2025. The survey was shared via social media and email newsletters and via postcards with a QR code link to residents in the Bloomfield Hills school district boundaries.

The full survey text is included in the appendix (*Full Survey Text*) and consists of 28 questions. Five of those questions were open-ended. Four of those questions were rating different features out a preset scale. Eight of those questions were related to demographics. The remaining questions were related to visitor experiences and participation at Bowers School Farm and the Johnson Nature Center.

Typical Demographics

97% of respondents live in Oakland County (*Figure 9*), with 32% living in Bloomfield Township followed by 27% in Bloomfield Hills (*Figure 10*). 68% of survey respondents live within BHS district boundaries (*Figure 5*), and 41% of them are a parent or guardian or a child currently enrolled in a BHS school (*Figure 6*). 56% of respondents have children under 19 years old in their household (*Figure 8*), and of those, the most common age range is 6-11 years (*Figure 7*).

The area within a 10-minute drive of either Bowers School Farm or the Johnson Nature Center contains 70,910 households (population of 173,233) and contains the entirety of the Bloomfield Hills Schools district boundaries. Where relevant, the charts below will indicate the demographics of that service area compared to the demographics of respondents. Additional horizontal or vertical lines on the chart represent the value of that demographic within the service area. The color of the line will indicate whether the survey under-represents (red), accurately represents (blue), or over-represents (green) that demographic.

The most common age range of respondents is 35-54 years old, which is greatly over-represented compared to BSF and JNC's 10-minute drive service areas (*Figure 12*). 69% of respondents identify as female (*Figure 13*), and 84% are White (*Figure 14*). Both the female gender and the White race are also greatly over-represented compared to the target service area. 93% speak English at home (*Figure 15*).

Figure 5. Proportion of respondents that live within BHS boundaries

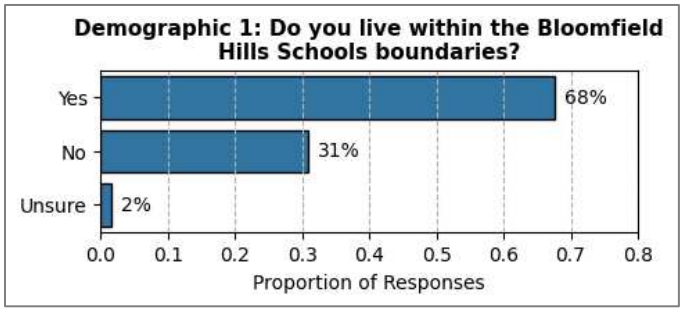


Figure 6. Proportion of respondents who have children in BHS

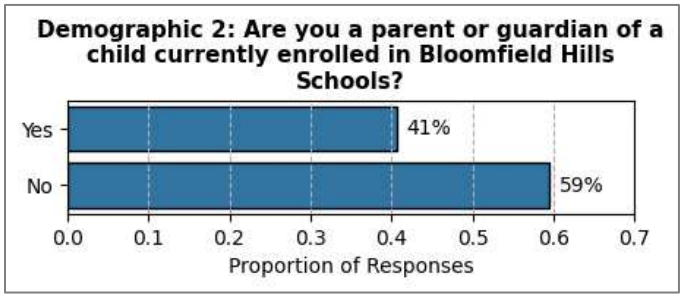
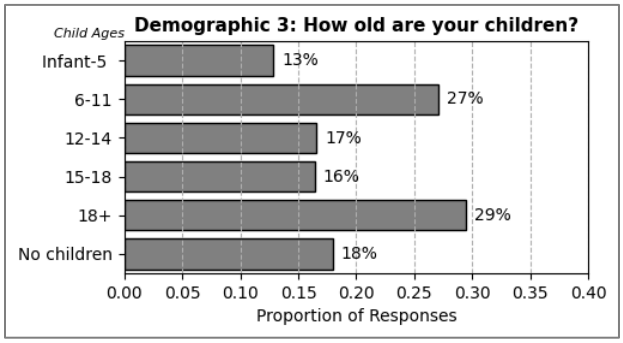


Figure 7. Age range for respondents' children



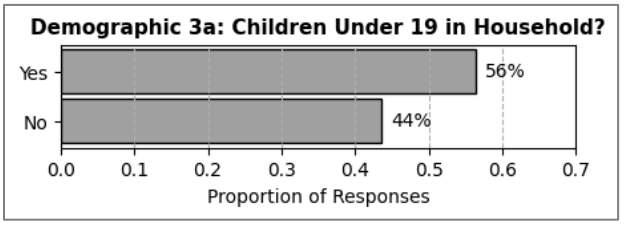


Figure 8. Respondent county of residence

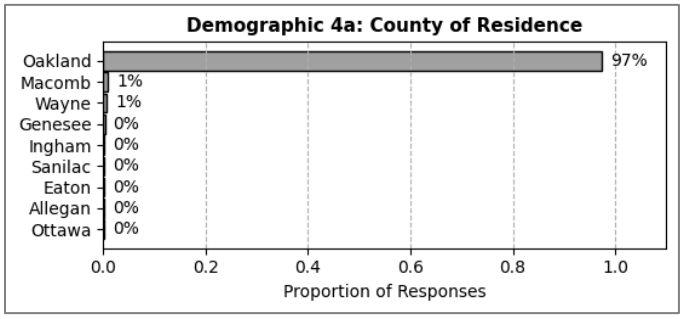


Figure 9. Respondent city of residence

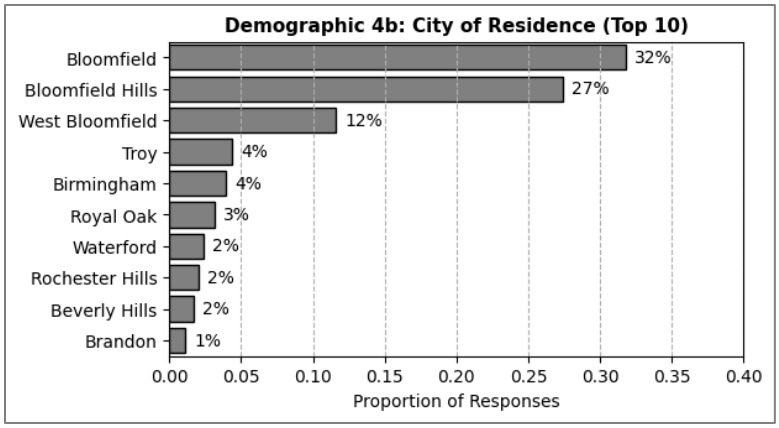


Figure 10. Map of respondent zipcode of residence

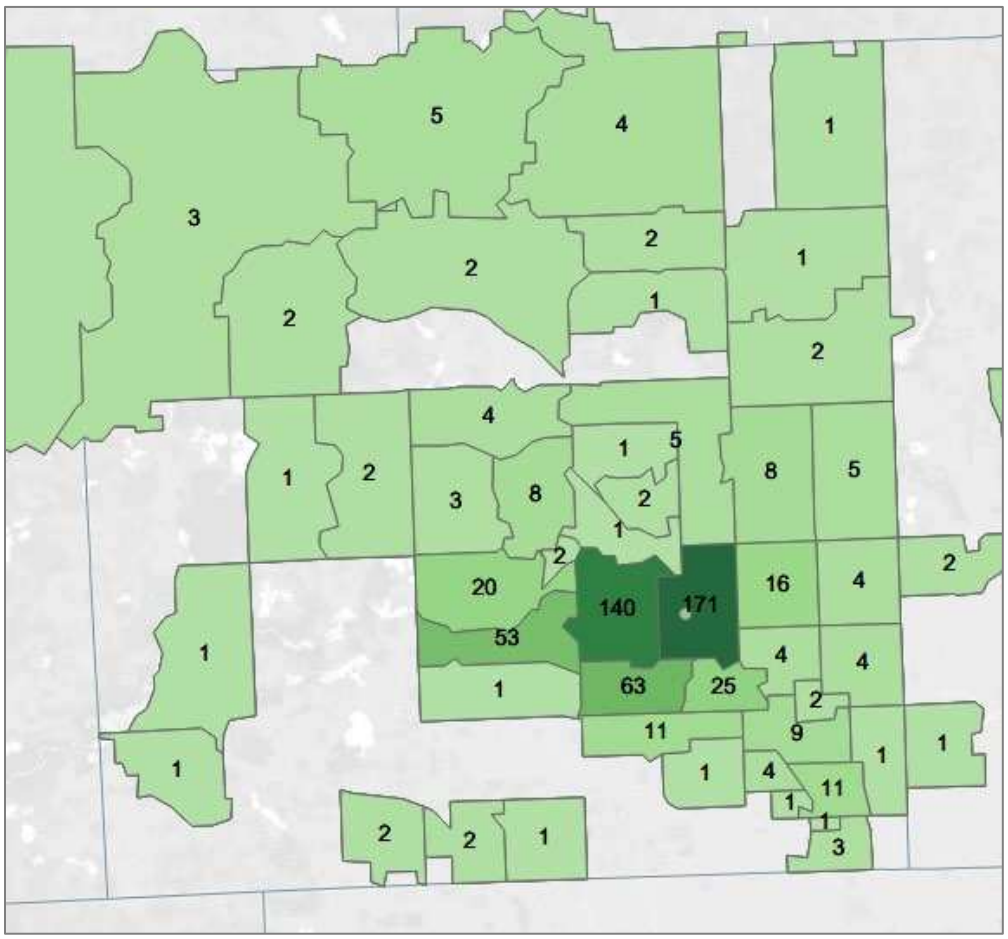


Figure 11. Age range and gender of respondents

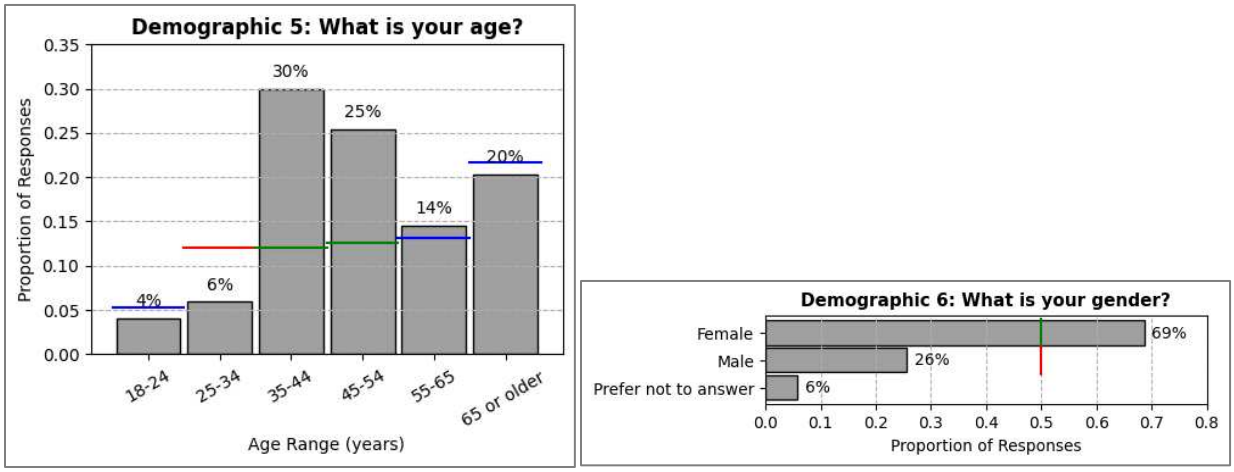


Figure 12. Race/Ethnicity distribution of respondents

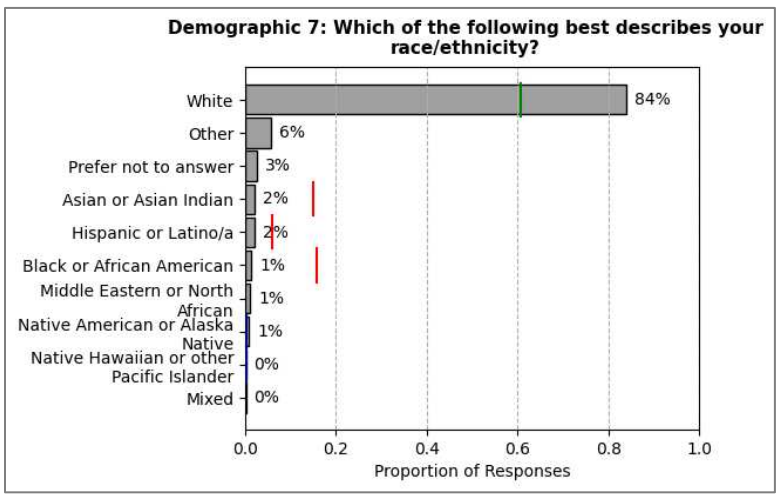
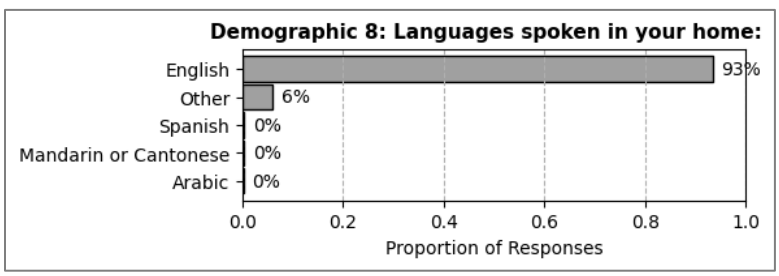


Figure 13. Language use at home of respondents

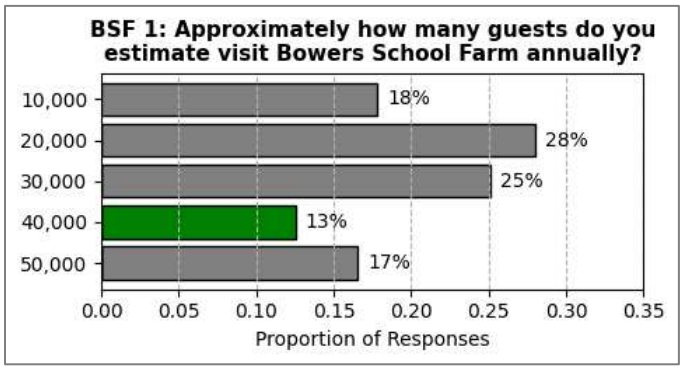


Survey Results

Bowers School Farm Questions

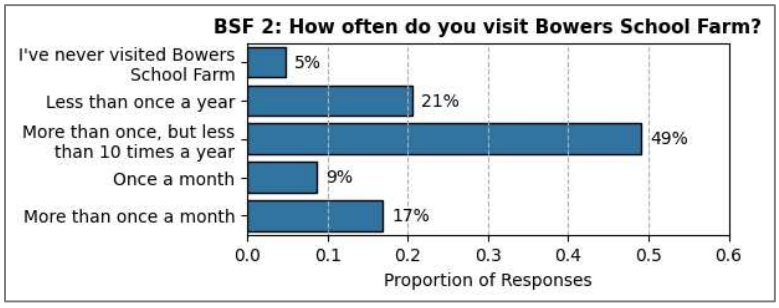
13% of respondents guessed correctly that Bowers School Farm sees 40,000 visitors annually.

Figure 14. Respondent guess on BSF visitation with correct highlighted



49% of respondents visit Bowers School Farm more than once, but less than 10 times per year. 17% visit more than once per month, and 5% have never visited.

Figure 15. Respondent BSF visitation frequency



83% of respondents say they actively support Bowers School Farm in some way. 25% have purchased a membership, 22% have volunteered, 16% have made monetary donations, and 20% contribute in some other way, including purchasing items from the farm, attending school or camp, or participating in other ways.

Figure 16. Respondent BSF support style

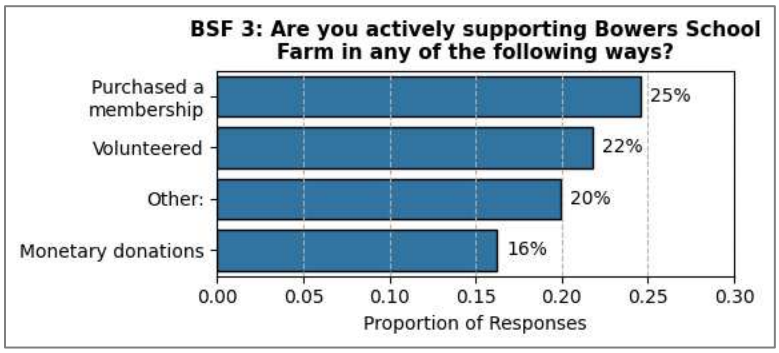
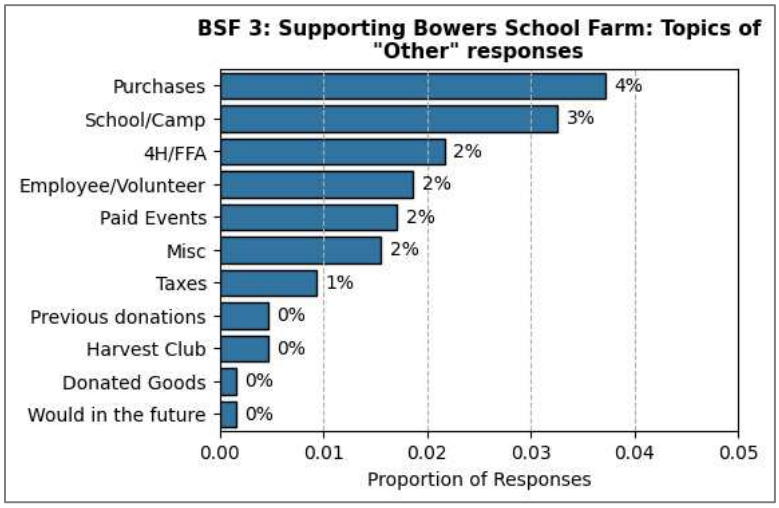


Figure 17. Respondent BSF support style "other" elaborated



56% of respondents have used the farm store and kitchen when visiting Bowers School Farm. 53% have attended the Fall Festival and 46% have attended the Winter Park event. There are many other popular activities listed in the two figures below.

Figure 18. Respondent activity upon visitation

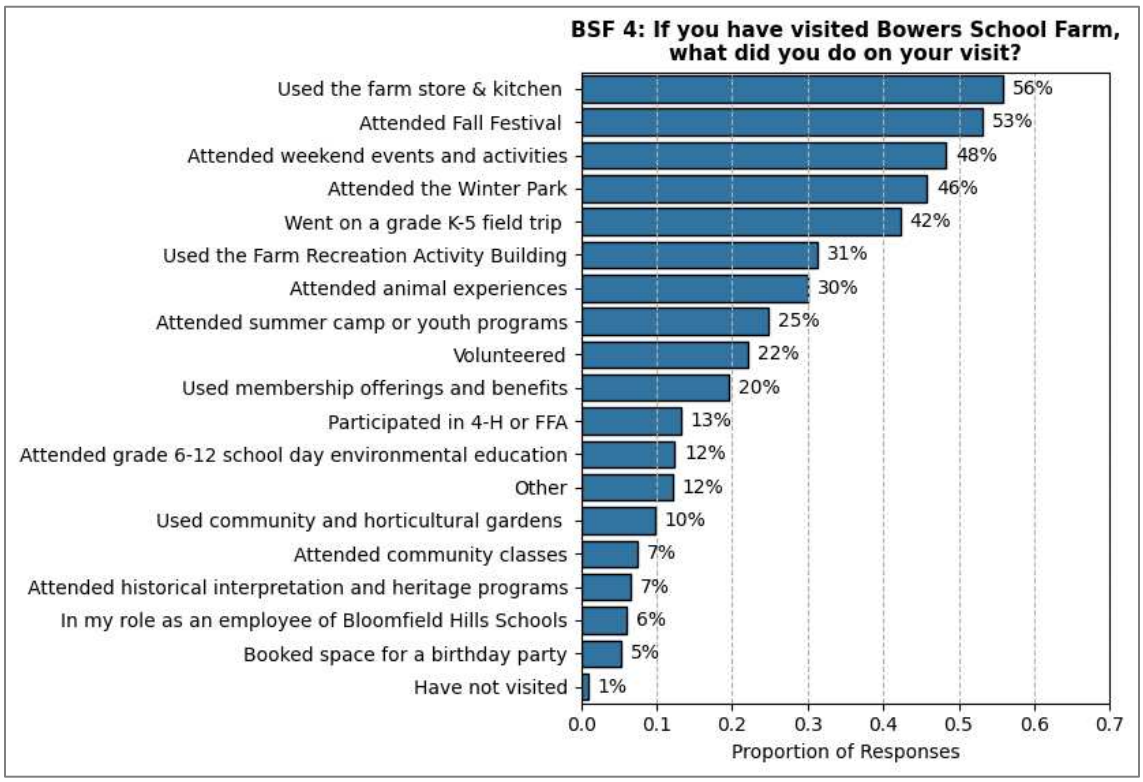
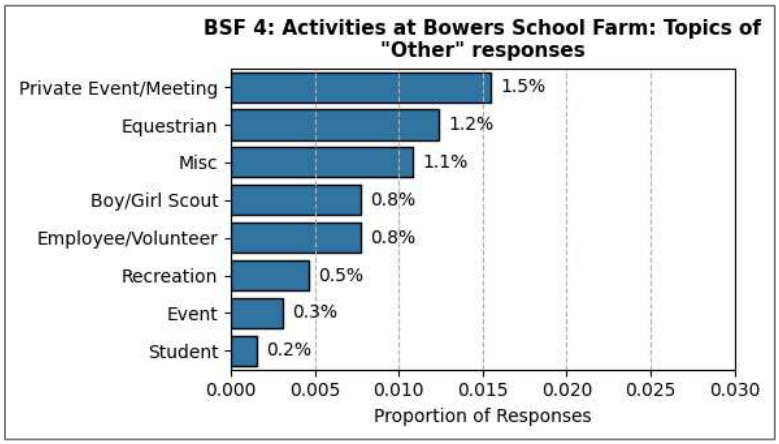


Figure 19. Respondent activity upon visitation "other" elaborated



When asked about the importance of various offerings at Bowers School Farm, at least 50% of respondents answered that every item was “Very Important”, except for the items “Membership offerings and benefits” and “Rental space for a birthday party”. The most important offerings by rating are “Animal experiences”, “Grade K-5 field trip”, and “Summer camp or youth programs”.

Figure 20. BSF offerings in order of importance – percentage split

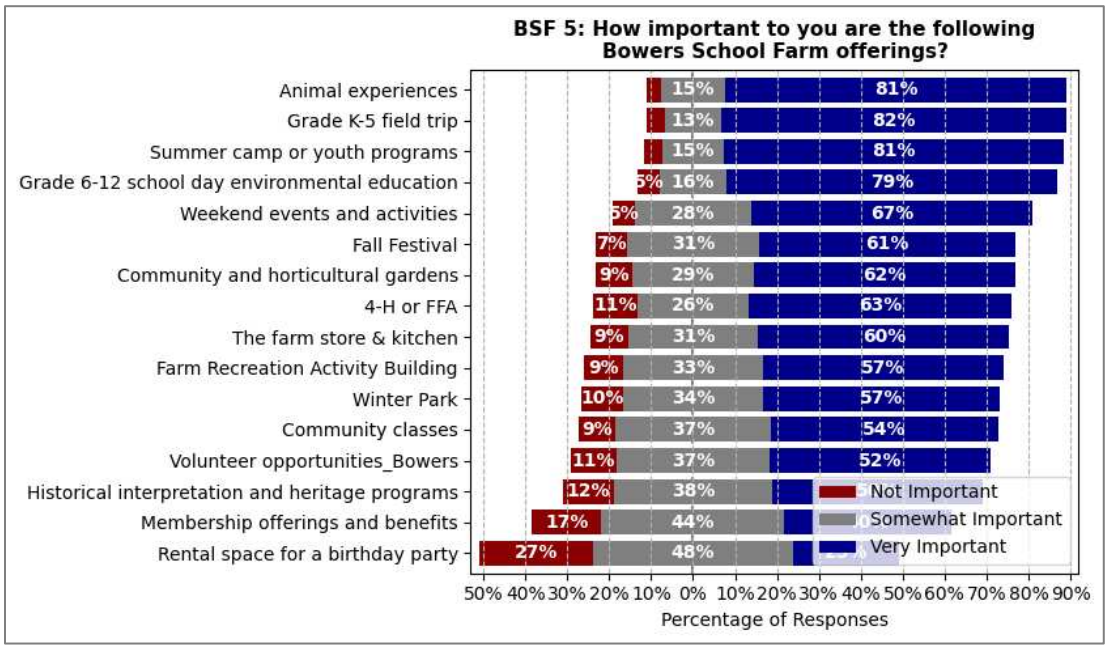
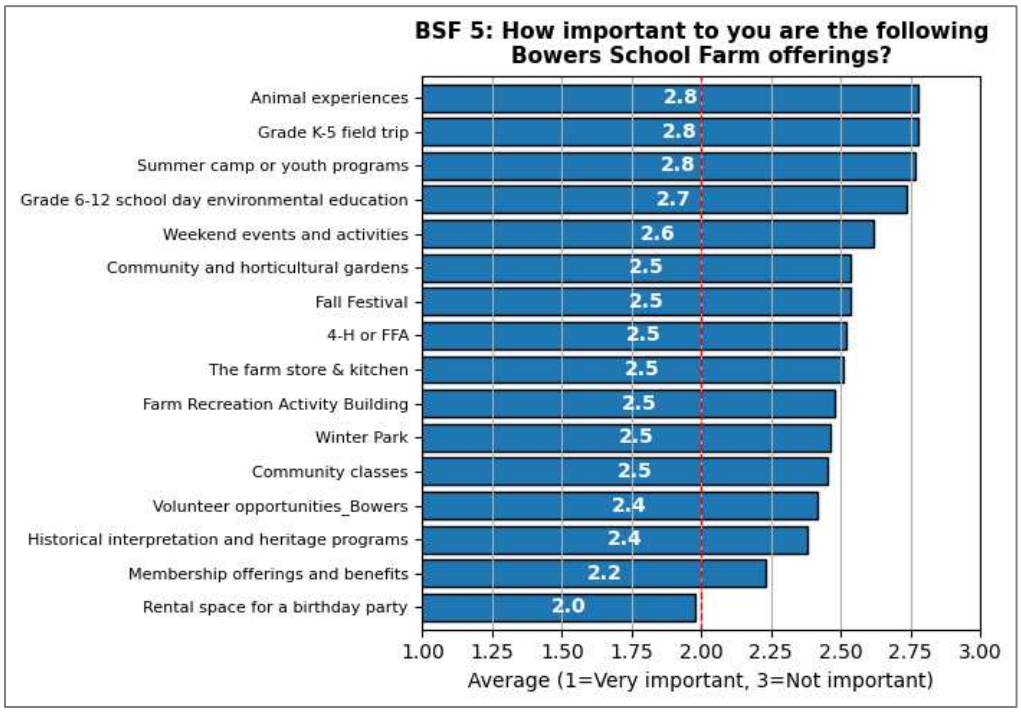


Figure 21. BSF offerings in order of importance – average score



When asked about the importance of various features and activities at Bowers School Farm, there starts to appear some variation in importance, although at least half of the items still have greater than 50% of respondents rated as “Very Important”. The most important features and activities by rating are “Healthy forest and natural areas”, “Agricultural education”, and “Updated barns and animal care areas”. Least important are “Improved parking and traffic flow” and “Dedicated event space”

Figure 22. BSF features/activities in order of importance – percentage split

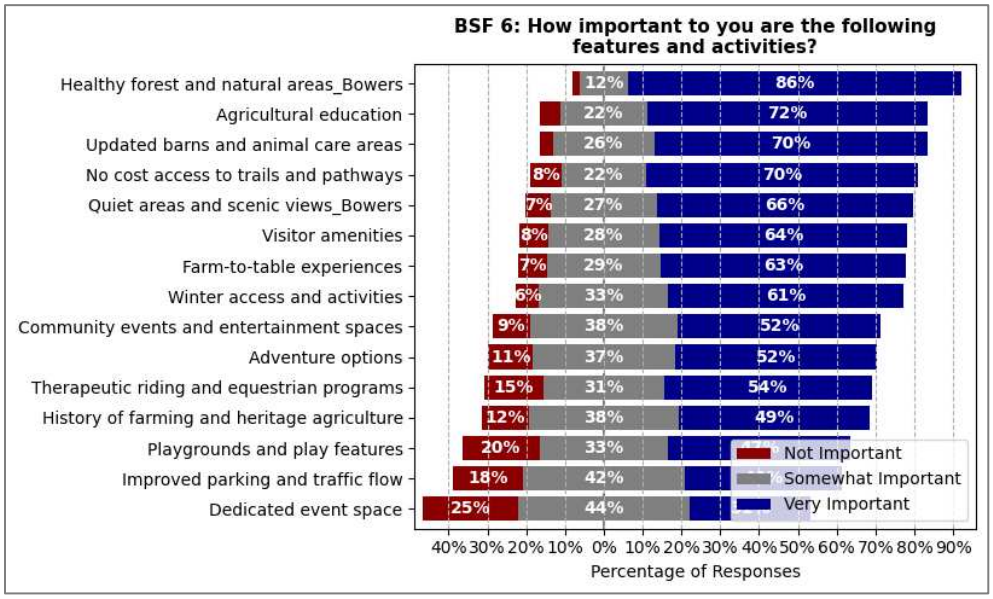
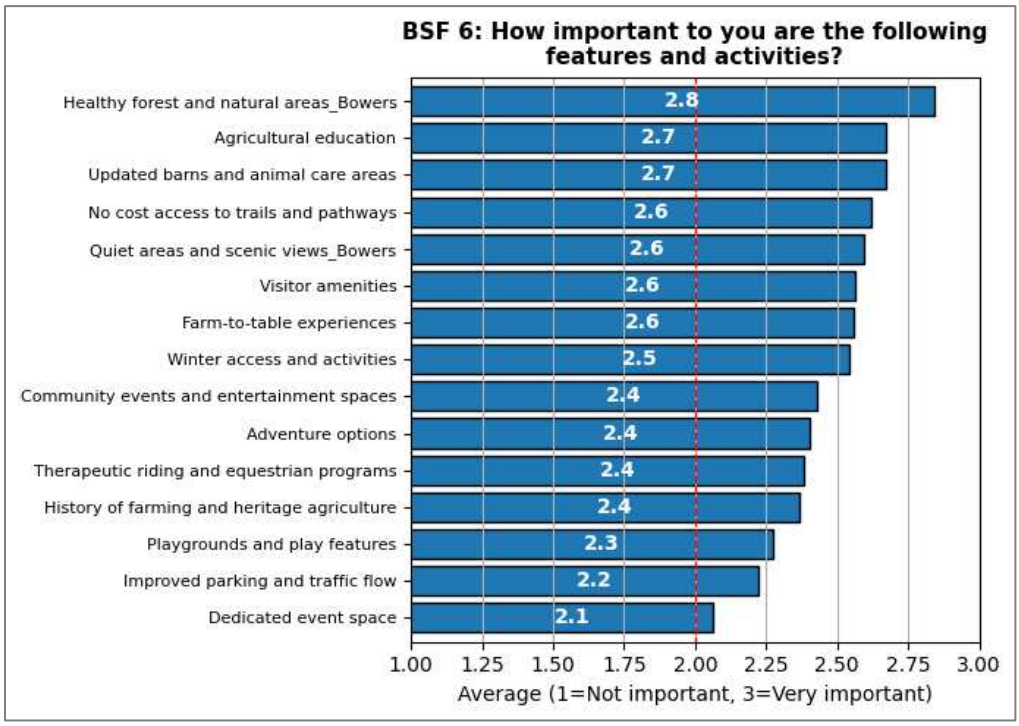
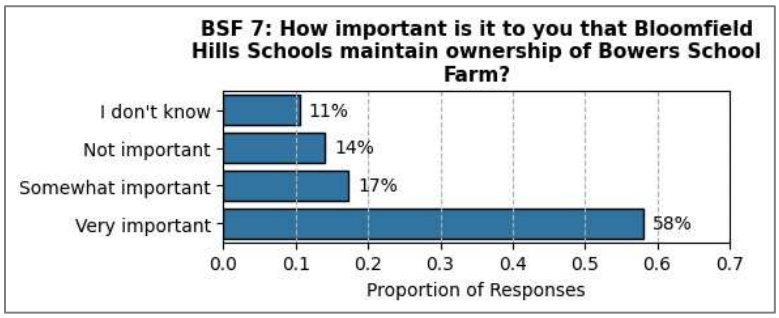


Figure 23. BSF features/activities in order of importance – average score



58% of respondents say that Bloomfield Hills Schools maintaining ownership of Bowers School Farm is Very Important.

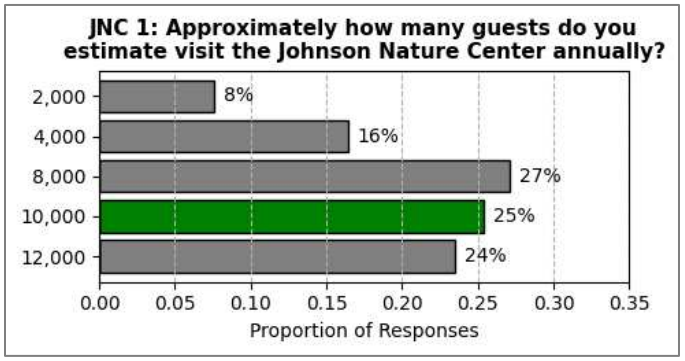
Figure 24. Importance of BHS ownership of BSF to respondents



Johnson Nature Center Questions

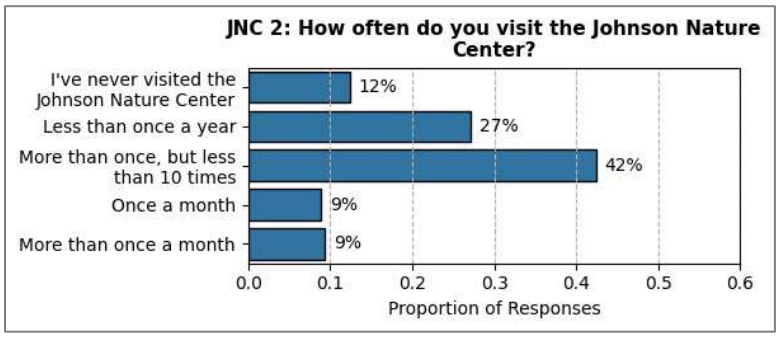
25% of respondents guessed correctly that the Johnson Nature Center sees 10,000 visitors annually.

Figure 25. Respondent guess on BSF visitation with correct highlighted



42% of respondents visit the Johnson Nature Center more than once, but less than 10 times per year. 9% visit more than once per month, and 12% have never visited.

Figure 26. Respondent JNC visitation frequency



50% of respondents say they actively support the Johnson Nature Center in some way. 13% have donated money, 12% have volunteered, 7% have attended a Forest to Table fundraising event, and 7% have purchased a membership. 11% support in other ways, including attending school/classes and events.

Figure 27. Respondent JNC support style

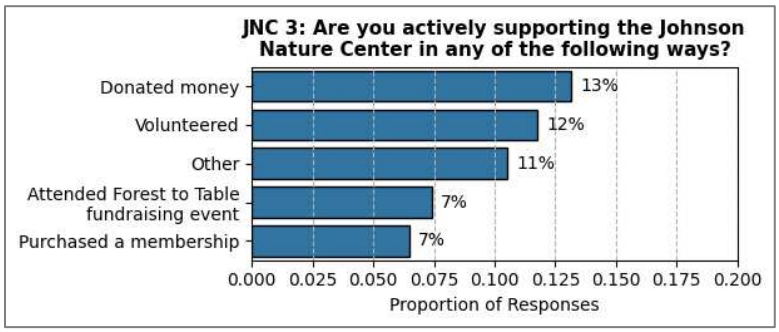
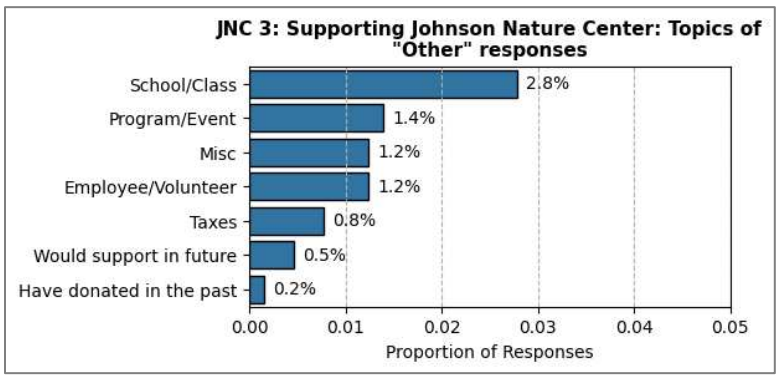


Figure 28. Respondent JNC support style "other" elaborated



59% of respondents have used the trails and hiking opportunities when visiting the Johnson nature Center. 46% have taken part in K-12 environmental education programming, and 45% have visited the deer pen/rescued animals. There are many other popular activities listed in the two figures below.

Figure 29. Respondent activity upon visitation

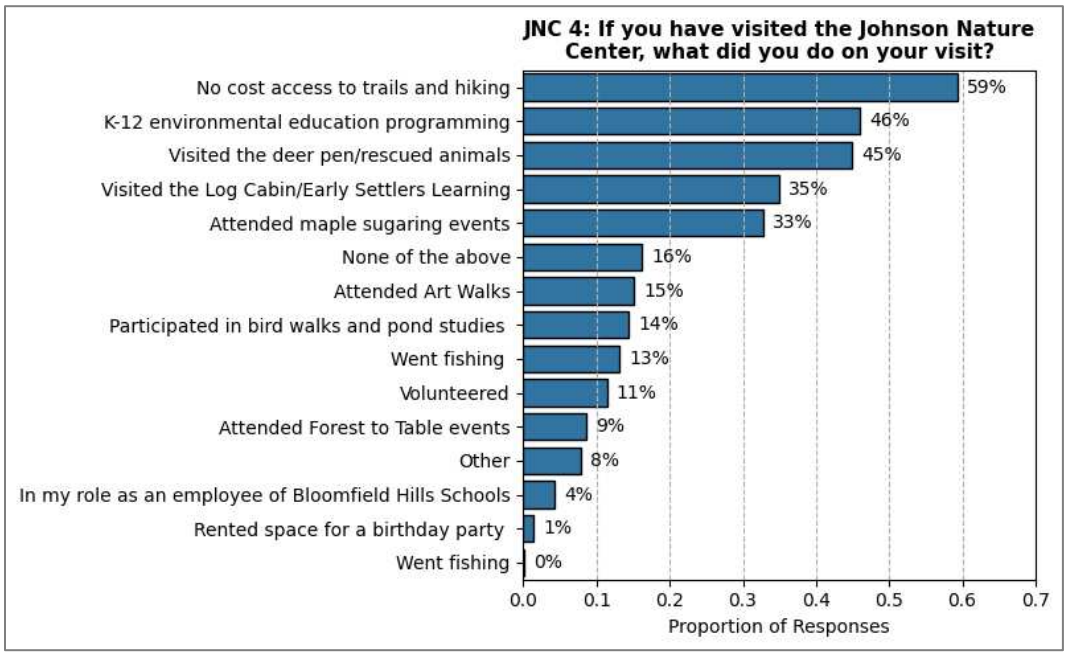
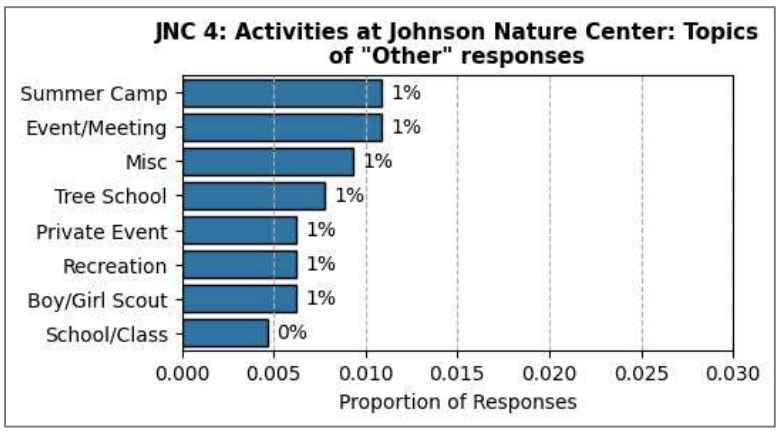


Figure 30. Respondent activity upon visitation "other" elaborated



When asked about the importance of various offerings at the Johnson Nature Center, “No cost trails and hiking” (82% say Very Important) and “K-12 environmental education programming” (82% say Very Important) are the most important to respondents, followed by offerings such as “Bird walks and pond studies” and “Maple sugaring events”. Rental space and art walks are the least important.

Figure 31. JNC offerings in order of importance – percentage split

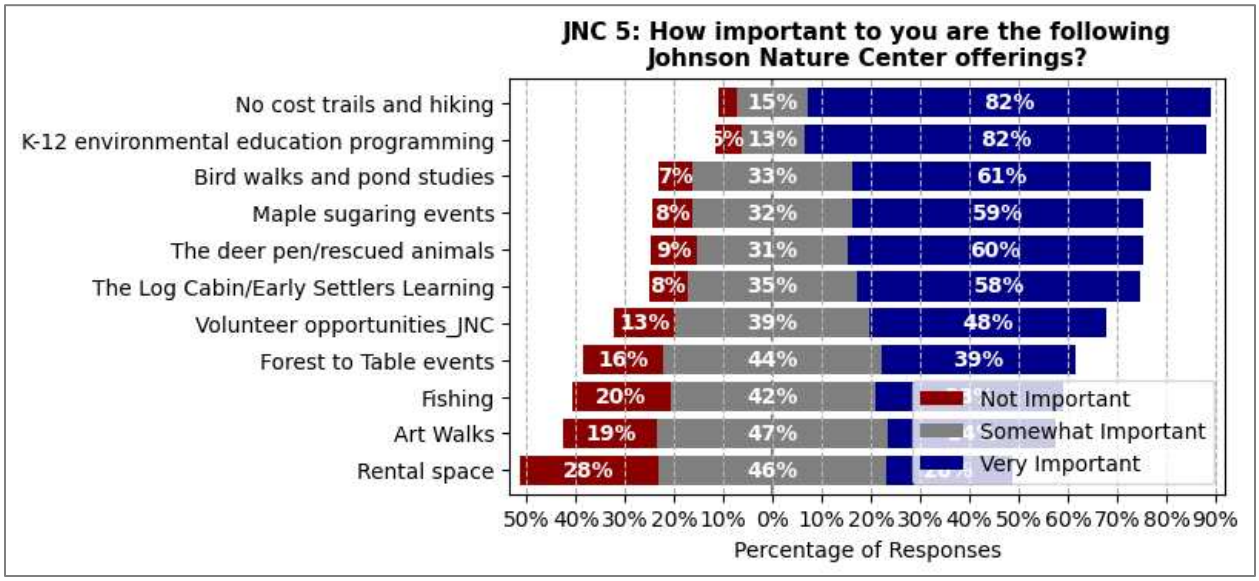
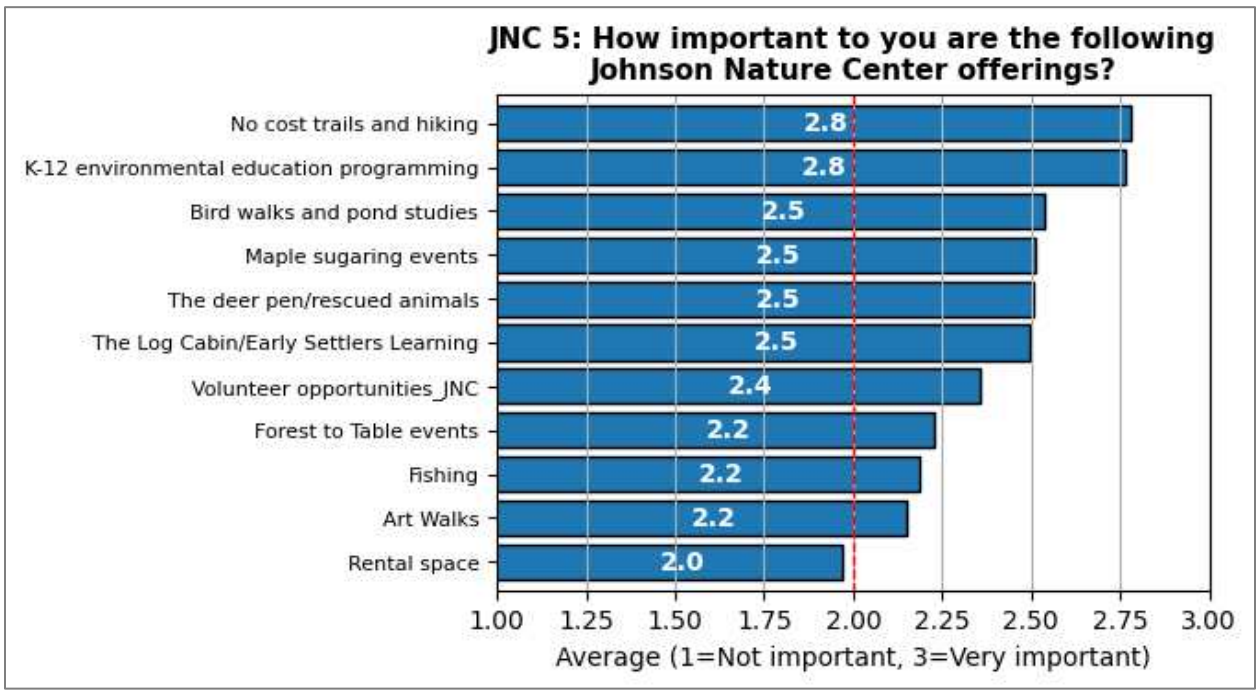


Figure 32. JNC offerings in order of importance – average score



When asked about the importance of various features and activities at the Johnson Nature Center, natural areas and trails are the most important. Enhancements to visitor amenities like parking lots are the least important (30% Very Important).

Figure 33. JNC features/activities in order of importance – percentage split

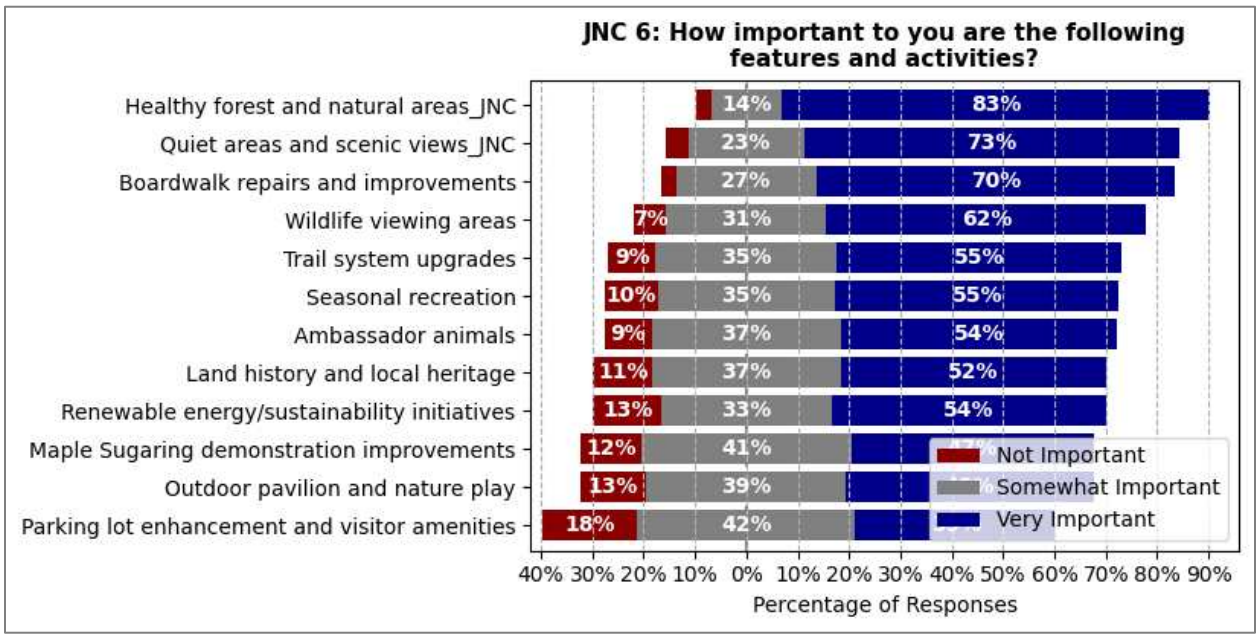
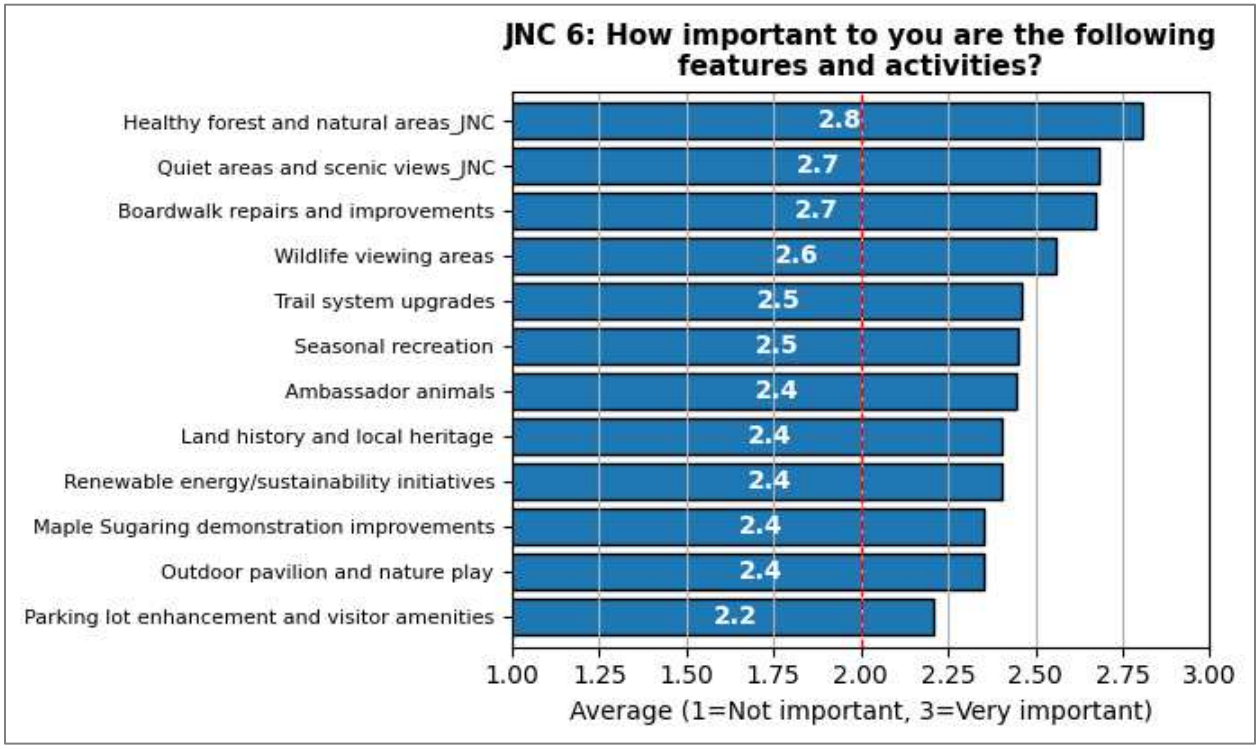
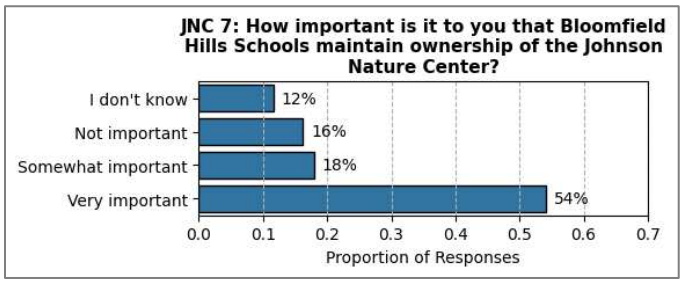


Figure 34. JNC features/activities in order of importance – average score



54% of respondents say that Bloomfield Hills Schools maintaining ownership of the Johnson Nature Center is Very Important.

Figure 35. Importance of BHS ownership of JNC to respondents



Other Questions

59% of respondents answered “Yes” to a question about whether they support the dialogue that may lead to a partnership. An additional 1.5% answered “Yes, with conditions” and an additional 0.5% are “leaning yes”, for a total of 61% in support. 25% need more information and 14% are not in support.

Figure 36. Proportion of respondents in favor of BHS partnering with OCP

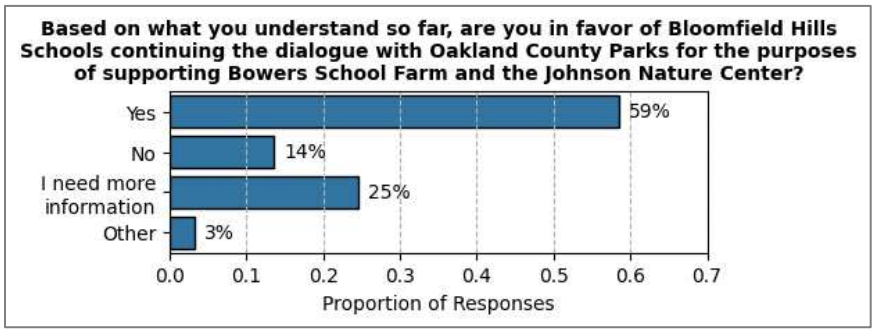
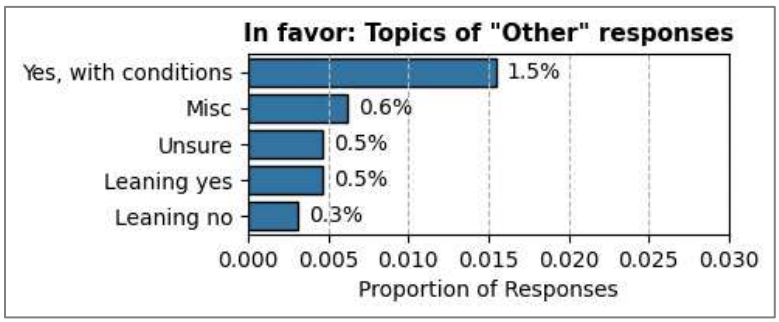


Figure 37. Proportion of respondents in favor of BHS partnering with OCP - "other" elaborated



Crosstab Survey Results

Responses to any of the above survey questions can be further broken down and separated by different demographic variables such as age or whether they have young children, or even their answers to a different question, such as whether they are in favor of the partnership or how often they visit the location in question. All the possible combinations of results are available in this interactive dashboard, but a subset will be presented here, along with any notable results from charts not included.

Factors Influencing Importance of Offerings, Features, and Activities

See *Figure 39*, *Figure 40*, *Figure 41*, and *Figure 42* for charts.

Effect of Age

- Respondents under age 35 generally think all offerings, features, and activities are more important than respondents over age 35.
    - In particular, younger respondents think volunteer opportunities are more important (true at Johnson Nature Center, more true at Bowers School Farm).

Effect of Having Young Children in the Household

- Respondents without children under 19 years old generally think all offerings, features, and activities are more important than respondents with young children.
    - In particular, respondents without young children think "History of farming and heritage agriculture" are more important at Bowers School Farm.

Effect of Visit Frequency

- Respondents who visit Bowers School Farm more often generally think all offerings, features, and activities are more important.
    - For an infrequent visitor (less than once per year), the most important features at Bowers School Farm are "Healthy forest and natural areas" and "No cost access to trails and pathways".

Effect of Partnership Opinion

- Respondents who answered "Yes" to the question "…are you in favor of BHS continuing the dialogue with OCP…" generally think all offerings, features, and activities are slightly more important than respondents who answered "No".
- Respondents who answered "No" still think natural areas are important at the Johnson Nature Center

Factors Influencing Answers to Other Questions

Effect of Partnership Opinion on Responses

- 54% of BHS residents support the partnership, while 68% of non-BHS residents support the partnership. (*Figure 40*)
- 48% of BHS parent/guardians support the partnership, while 65% of respondents who are not BHS parent/guardians support the partnership. (*Figure 41*)
- The percentage of respondents who do not support the partnership is roughly equal across Johnson Nature Center visit frequency (roughly 14%). The percentage of respondents who explicitly support the partnership is much lower for respondents who visit more than once a month (35% vs 62% for other frequencies). The most common answer for respondents who visit more than once a month is "I need more information", at 47%. (*Figure 43*)
    - Visit frequency does not have a notable effect on answers to the Bowers School Farm visit frequency question. (*Figure 42*)

Effect of BHS Ownership Importance on Responses

- As respondents' visit frequency to both Bowers School Farm and the Johnson Nature Center increases, so does respondents' level of importance placed on BHS ownership of those facilities. 68% of respondents who visit Bowers School Farm more than once a month think BHS ownership of the facility is "very important". (*Figure 44*) That number is 65% at the Johnson Nature Center. (*Figure 45*)

Effect of Support (Monetary or Otherwise) on Responses

- Respondents who have supported either Bowers School Farm or the Johnson Nature Center in some way (either through donations, volunteering, or other means) are much more likely to visit those locations more frequently.
    - 96% of respondents who visit Bowers School Farm once a month or more have supported the facility in the past. (*Figure 46*)
    - 70% of respondents who visit the Johnson Nature Center once a month or more have supported the facility in the past. (*Figure 47*)

Effect of Age on Responses

- At Bowers School Farm, visit frequency decreases as age increases. 58% of respondents who visit more than once per month are under the age of 35. (*Figure 48*)
    - Age does not have as much correlation with visit frequency at the Johnson Nature Center. (*Figure 49*)

Numeric Crosstabs – Heatmaps

How to read a heatmap

The following four pages are heatmaps breaking the Importance questions down by additional variables. The numbers on the heatmaps are the same calculation shown earlier in the report (average rating), but grouped and averaged by different factors, such as age or gender. The color of each cell in the heatmap also corresponds to the average rating and provides a visual indicator of differences. Generally, you will be looking for especially light or dark areas that stand out ("hot spots").

Figure 38. Average Importance of Bowers School Farms offerings, separated by group

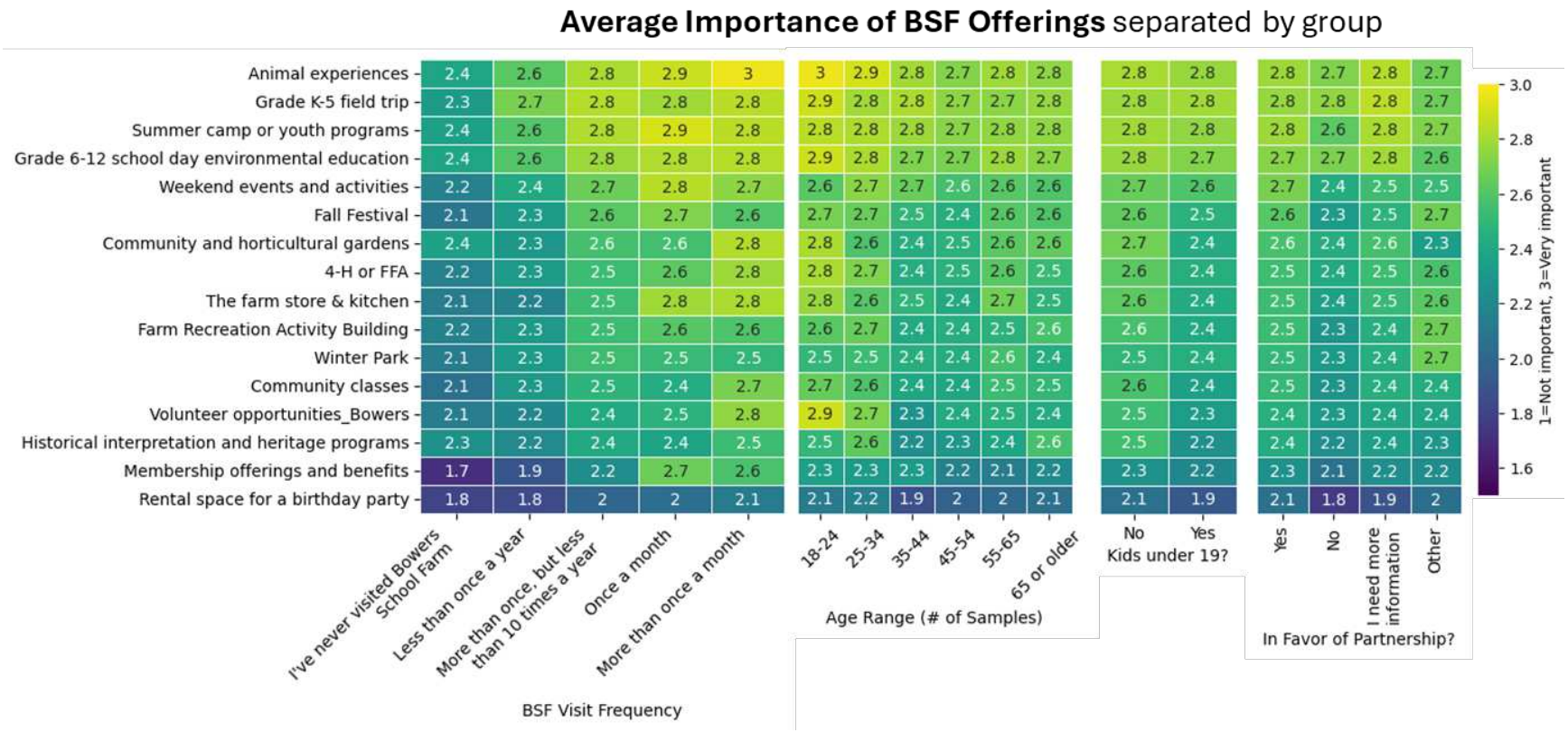


Figure 39. Average importance of features/activities, separated by group [Bowers School Farm]

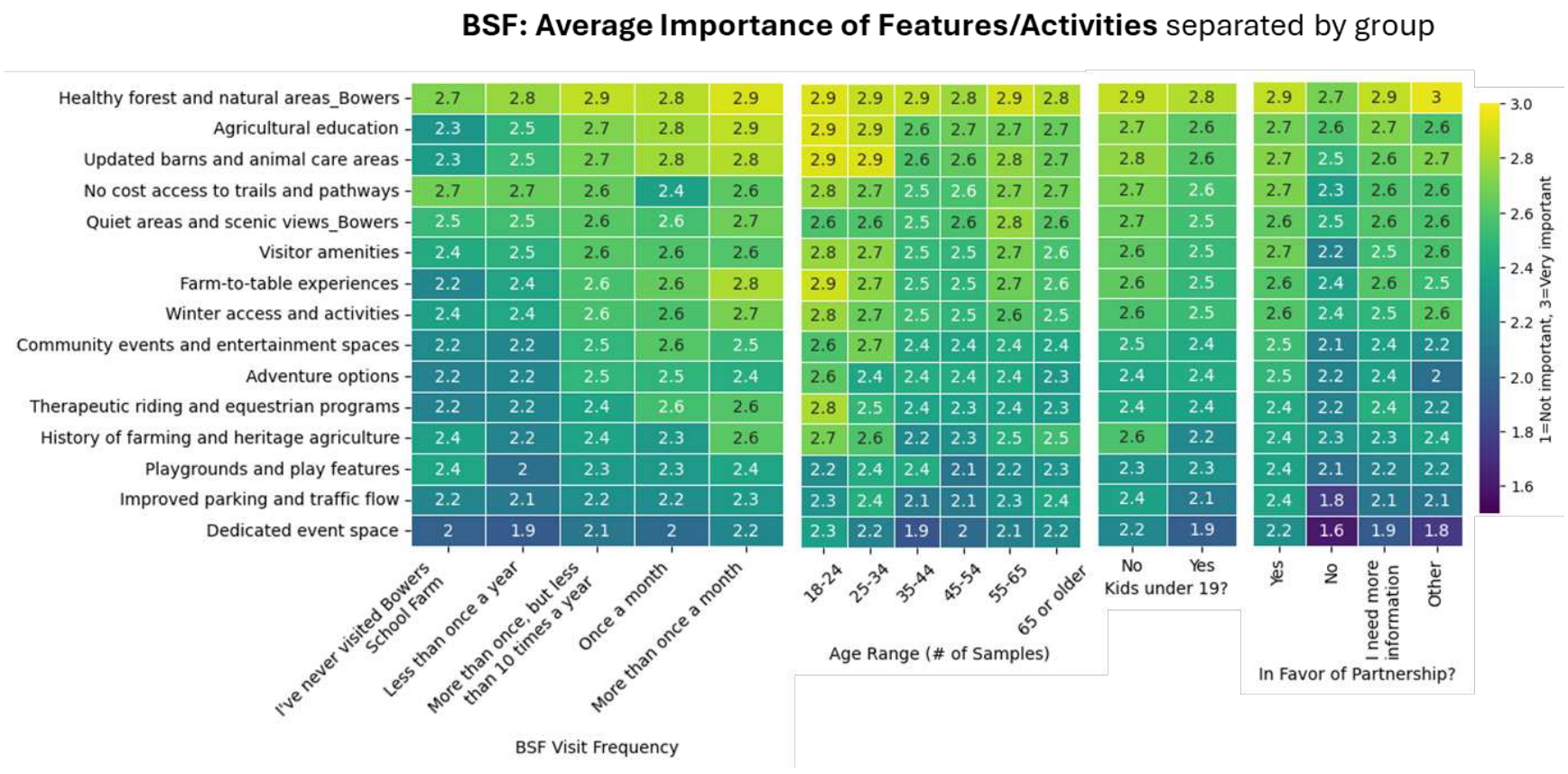


Figure 40. Average importance of Johnson Nature Center offerings, separated by group

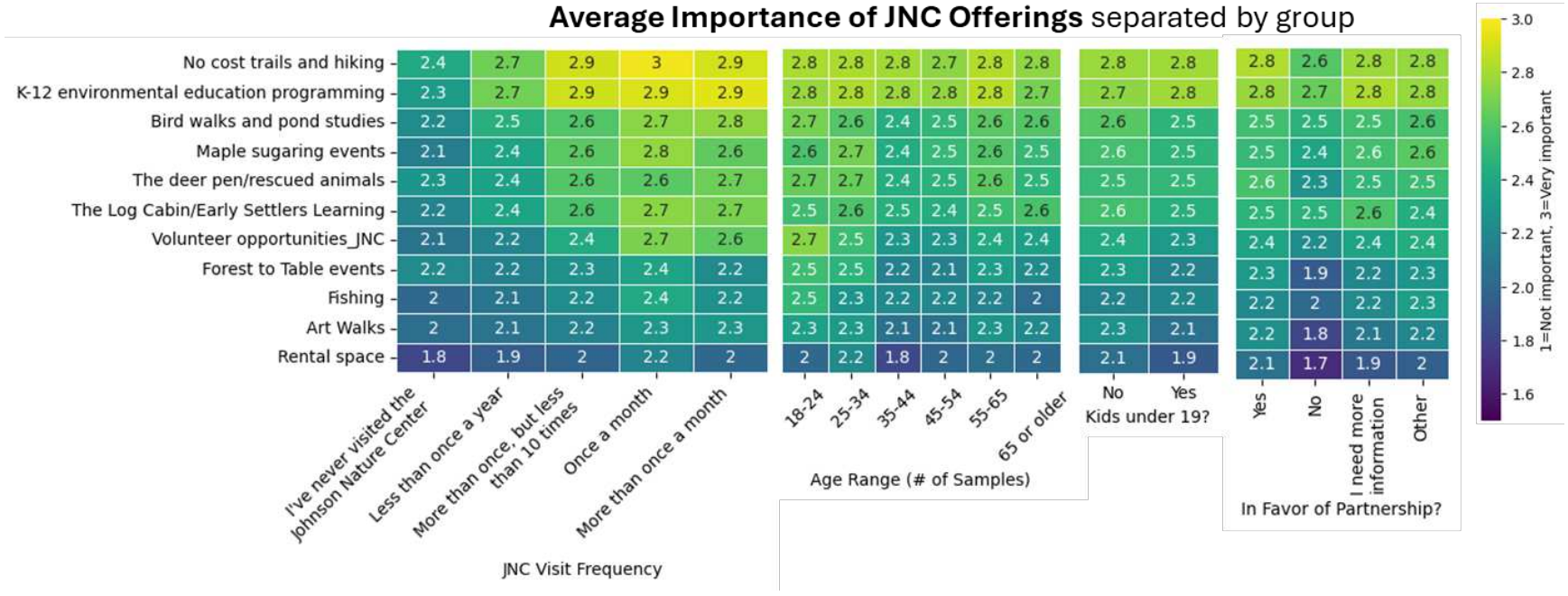
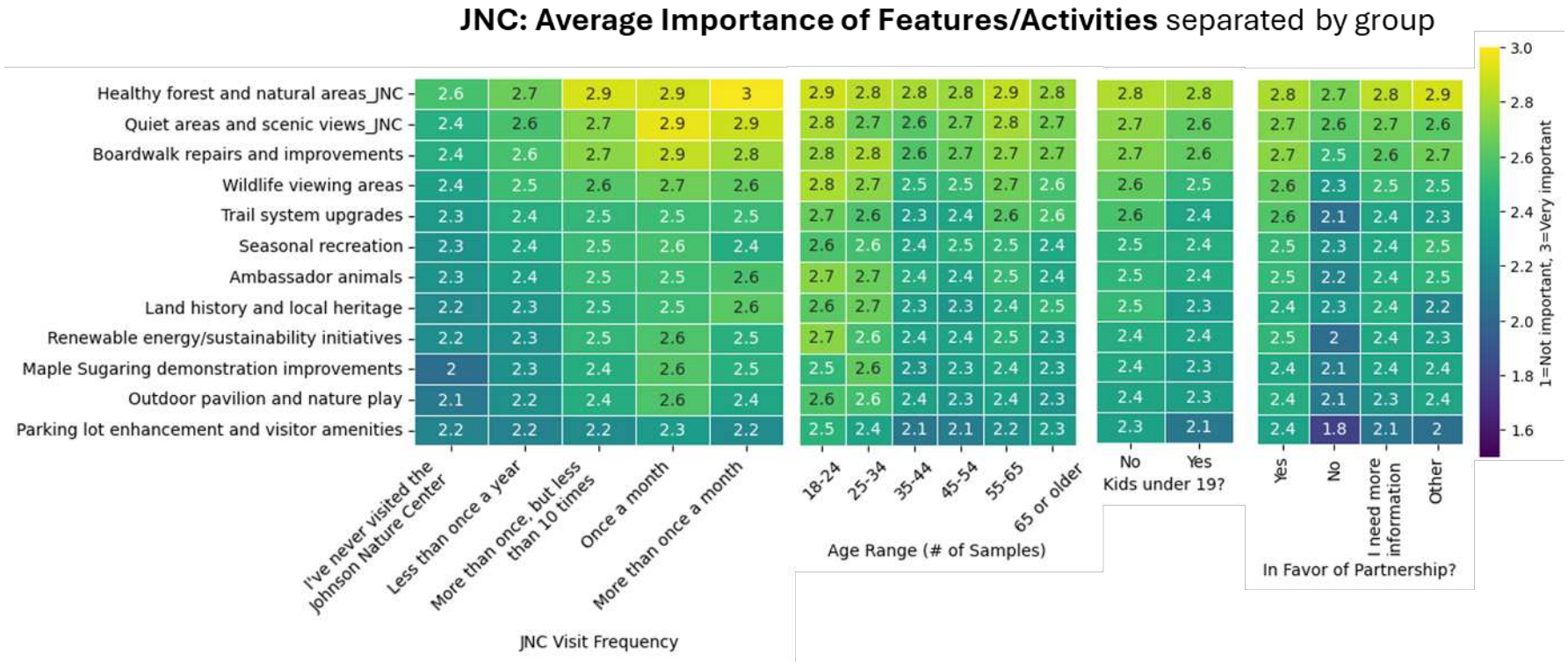


Figure 41. Importance of features/activities, separated by group [Johnson Nature Center]



Categorical Crosstabs

Figure 42. Answers to BHS Residency question separated by responses to Partnership Opinion question

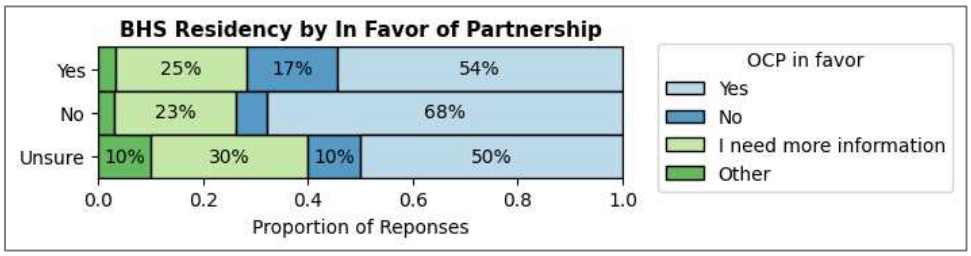


Figure 43. Answers to the BHS Parent/Guardian question separated by responses to Partnership Opinion question

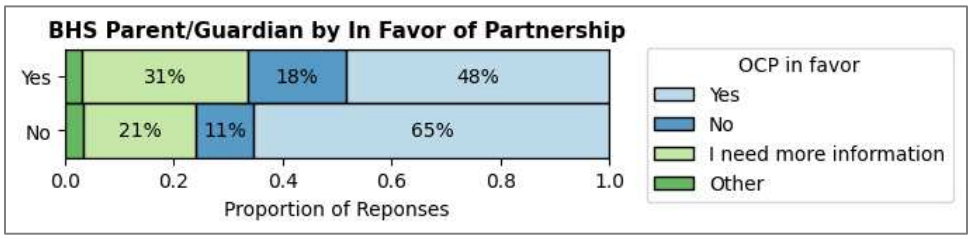


Figure 44. Answers to BSF Visit Frequency separated by responses to Partnership Opinion question

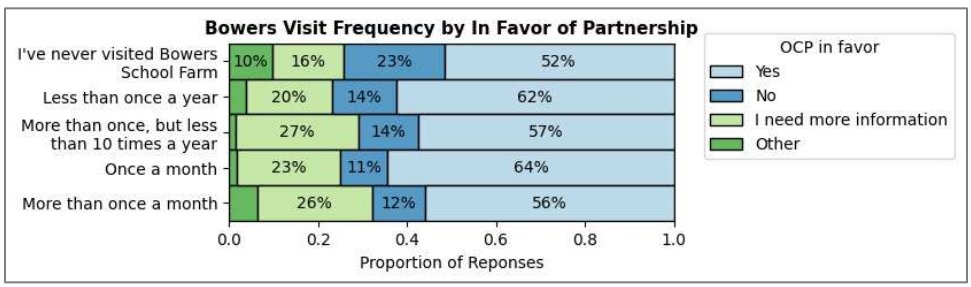


Figure 45. Answers to JNC Visit Frequency separated by responses to Partnership Opinion question

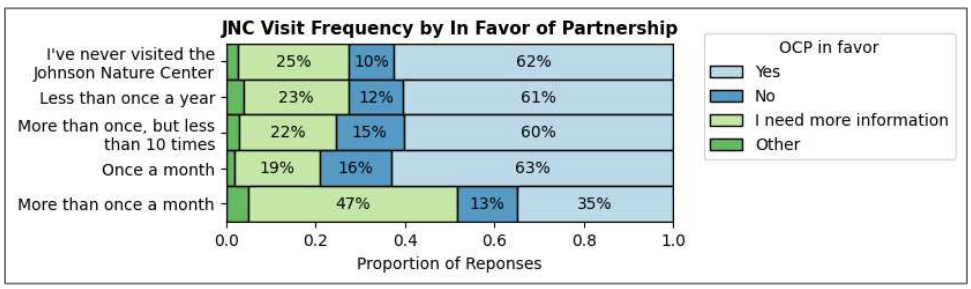


Figure 46. Answers to BSF Visit Frequency question separated by responses to BSF Ownership question

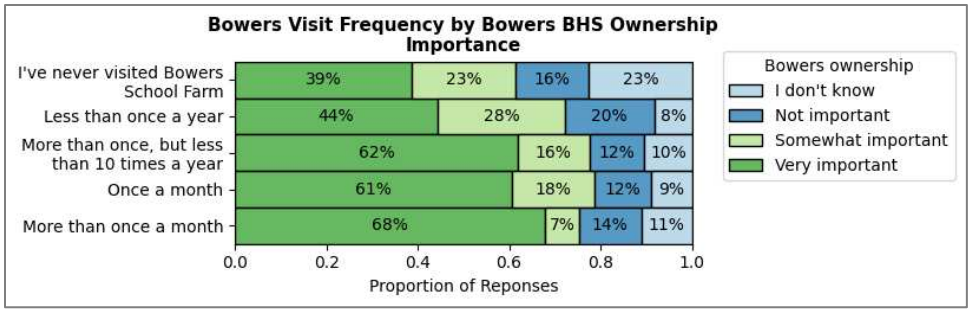


Figure 47. Answers to JNC Visit Frequency question separated by responses to JNC Ownership question

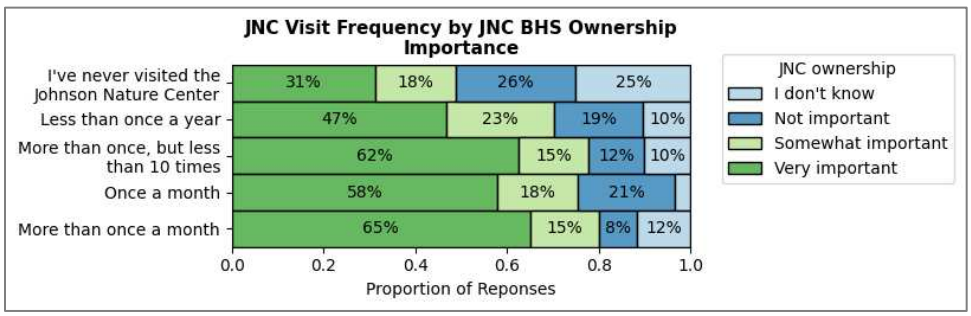


Figure 48. Answers to BSF Visit Frequency question separated by responses to Bowers Support question

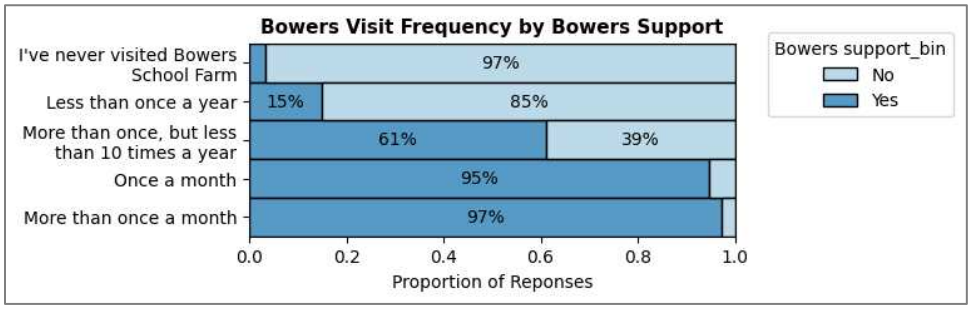


Figure 49. Answers to JNC Visit Frequency question separated by responses to JNC Support question

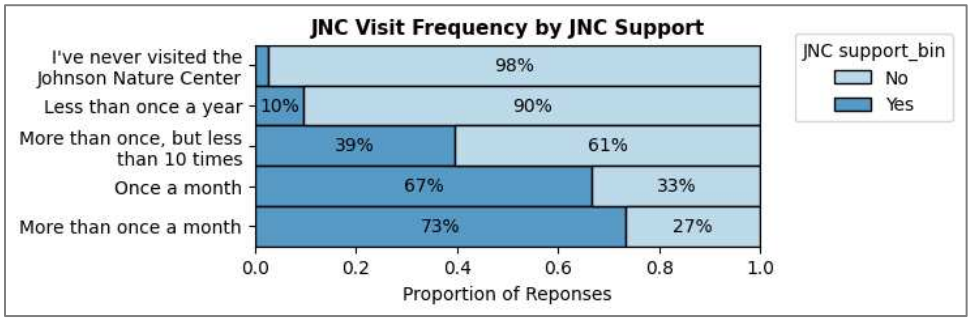


Figure 50. Answers to BSF Visit Frequency separated by age group

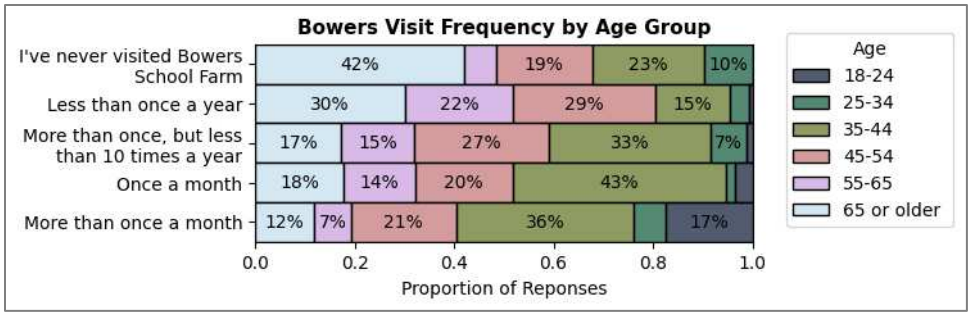
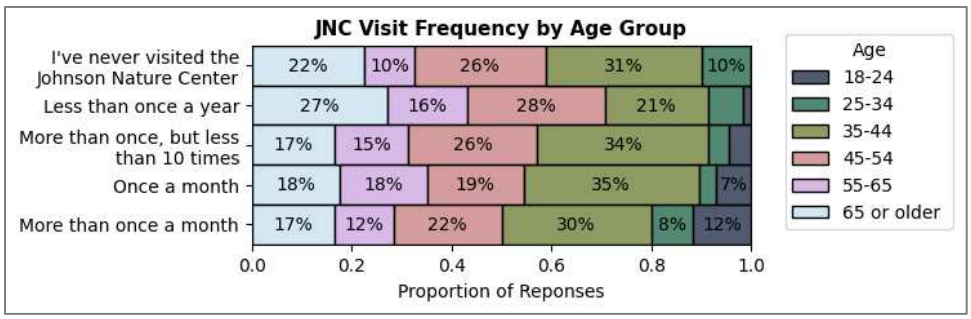


Figure 51. Answers to JNC Visit Frequency separated by age group



Comment Analysis

Almost 1,800 total comments were received between the four open-ended questions:

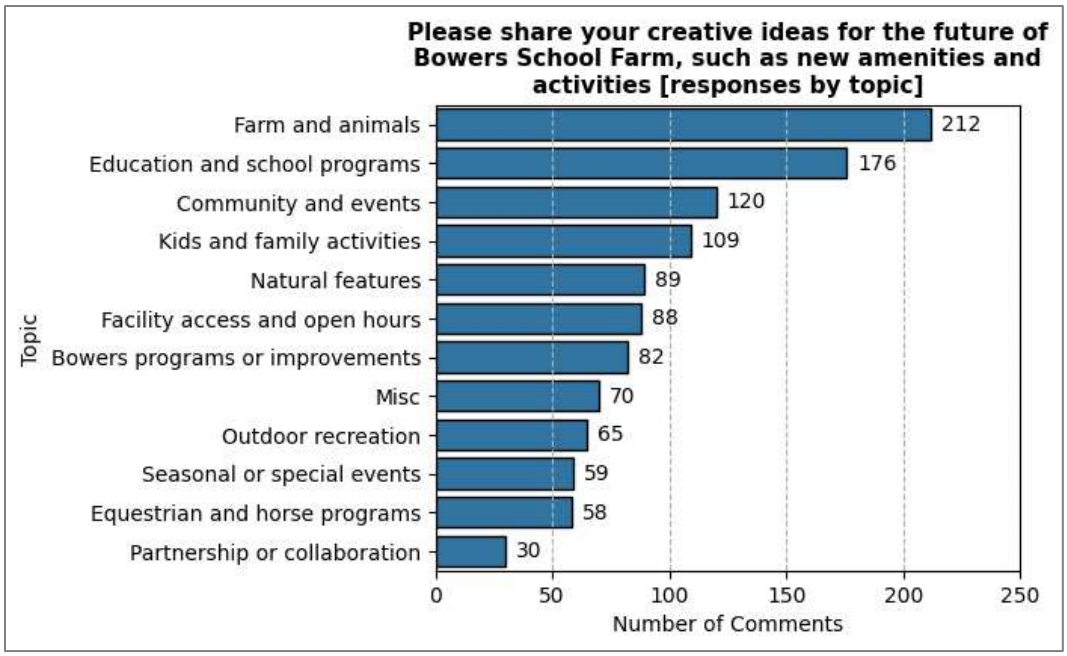
1. Please share your creative ideas for the future of Bowers School Farm, such as new amenities and activities.
2. Do you have any other comments, questions, concerns, or suggestions? (regarding Bowers School Farm)
3. Please share your creative ideas for the future of the Johnson Nature Center, such as new amenities and activities.
4. Do you have any other comments, questions, concerns, or suggestions? (regarding Johnson Nature Center)

All comments are available for viewing in this interactive dashboard.

Creative Ideas for Bowers School Farm

Most comments center on farm experiences, community events, and educational programs for students and families. Many recommend adding workshops, art activities, outdoor recreation, and equestrian opportunities. Several emphasize better access, extended hours, and revitalized Bowers-specific events and partnerships.

Figure 52. Ideas for BSF categorized by topic



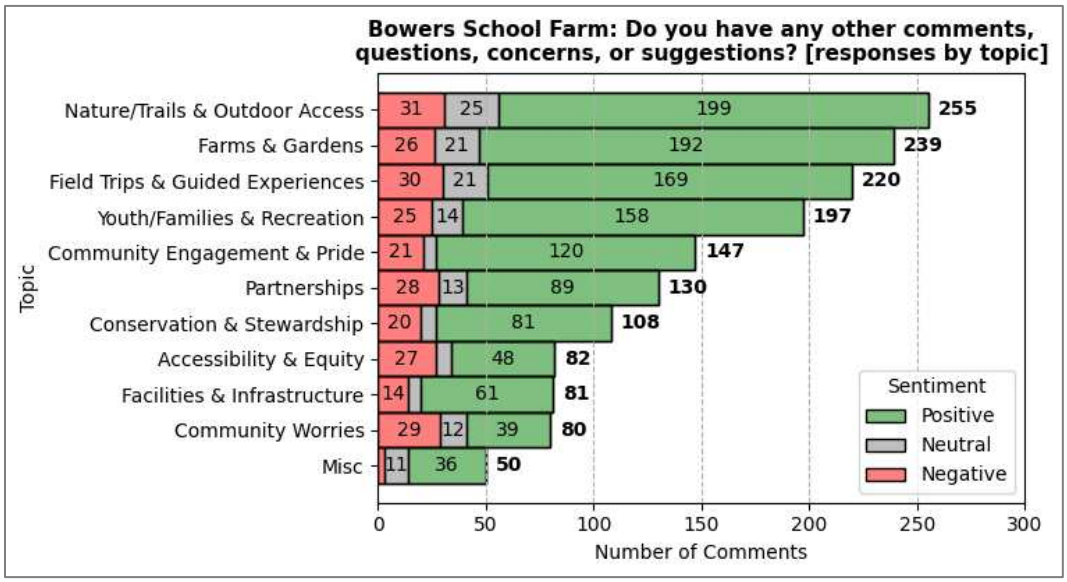
Comment Samples:

- “Partner with plain air painting groups and bring artists to the farm”
- “Expanded STEM programs and integration of student research”
- “Offer community garden plots with oversight on gardening”
- “Play structures and playground for children”
- “It would be great to have accessible trails for quiet walks”
- “Open the ropes course for public use”
- “More equestrian programs”

Comments on Bowers School Farm

The most common theme in responses to this question is strong community and educational value, with most commenters emphasizing Bowers School Farm's importance as an educational resource for students and a meaningful part of the Bloomfield Hills Schools experience. Also common are comments are diversity of experiences and programs, with many mentioning specific activities such as field trips, camps, animal care, agricultural learning, seasonal festival, and the tubing hill. Comments were also received regarding the respondents' desires for preservation and continued support of the facility. A significant portion express opposition to closure or redevelopment, urging continued funding, upkeep, and access for families and schools.

Figure 53. Additional comments about Bowers School Farm, categorized by topic and sentiment



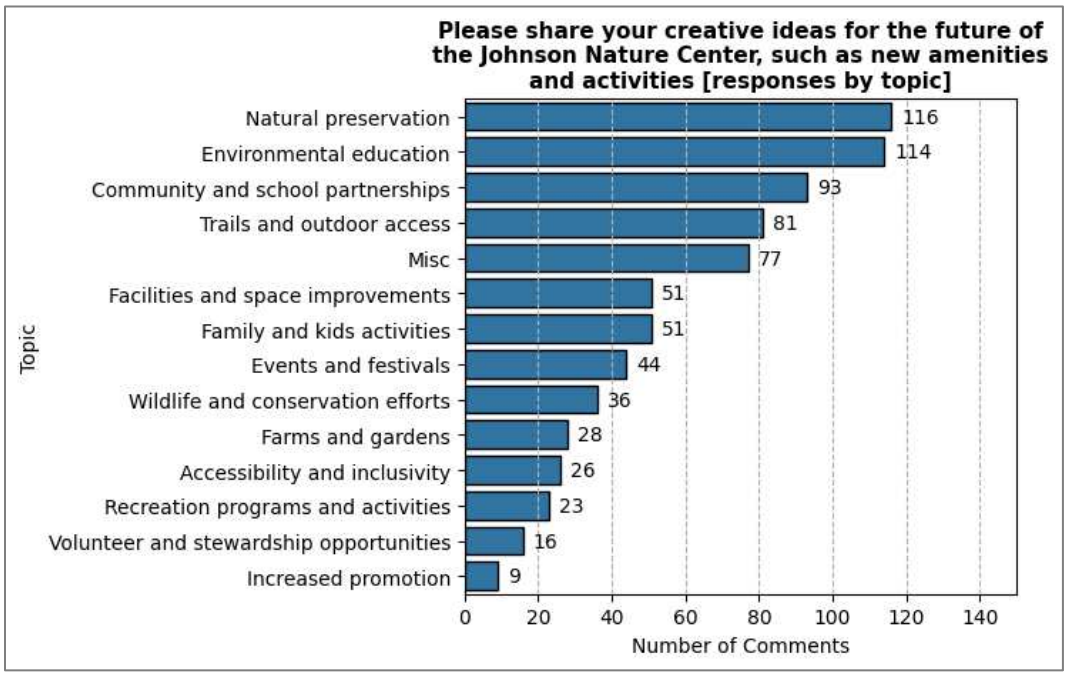
Comment Samples:

- "Bowers Farm is an important part of the Bloomfield Schools community and it's important to keep the relationship there for our children"
- "We love Bowers. Please do not move forward with this plan. Work with the community, the Bloomfield Foundation, grants, etc. to help with costs. Charge more for out of district field trips, perhaps?"
- "Expand curricular programs to grades 6-12. The programs seem mostly limited to grade schoolers."
- "Camps are amazing but so difficult to get into. Perhaps a lottery selection would be better"
- "Outdoor (green) spaces are more important than ever. We need to keep and maintain them for public use."

Creative Ideas for the Johnson Nature Center

Comments include strong interest in expanding outdoor and nature experiences, including more trails, hiking paths, and access to open spaces. There are frequent requests for education and community programs, particularly partnerships with schools, youth activities, and environmental learning. Also present are suggestions for facility improvements and inclusive events, such as better infrastructure, more family-friendly features, and accessible programming for all visitors.

Figure 54. Ideas for Johnson Nature Center, categorized into topics



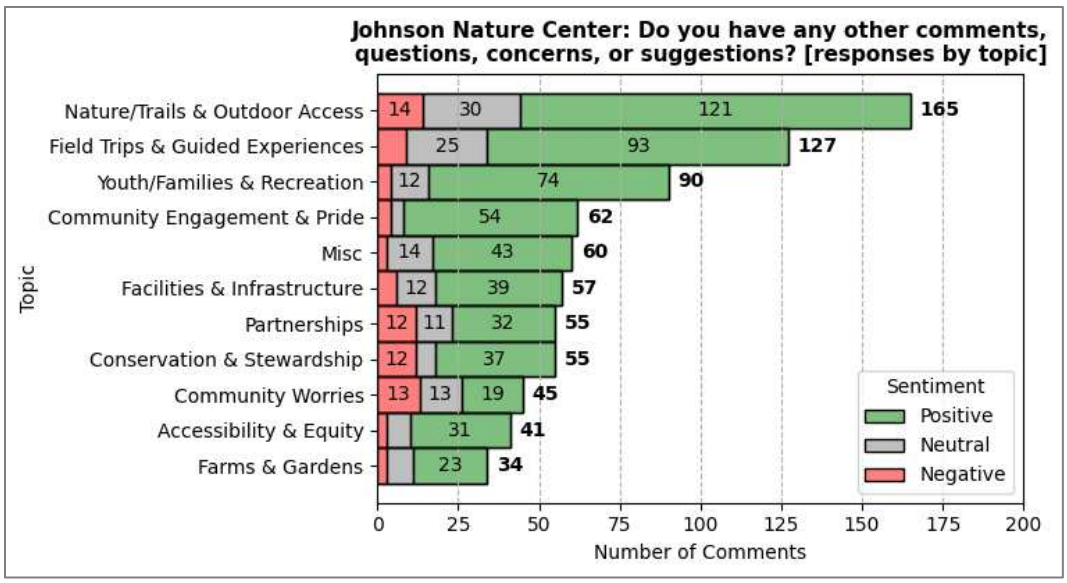
Comment Samples:

- “Wildlife signage related to potential species we might spot at the nature center”
- “Cross overs with university programs, enhancing environment concerns with like minded companies”
- “Open hours extended”
- “Guided hikes with naturalist…. Snow shoe and smores, qr code interactive displays, stargazing activity, arts and crafts”
- “We LOVED the fairy gardens last year: both on the nature trail and the homes from the middle school. Such a fun art installation.”

Comments on the Johnson Nature Center

The most common theme in responses to this question is education and learning, with a strong focus on student experiences, school district involvement, and learning opportunities through programs at the nature center. There is frequent praise for the nature center and trails as valuable community spaces that connect people to the environment. There are also repeated expressions of love, pride, and appreciation for the partnership between schools and the nature center as a community asset.

Figure 55. Additional Johnson Nature Center comments, categorized by topic and sentiment



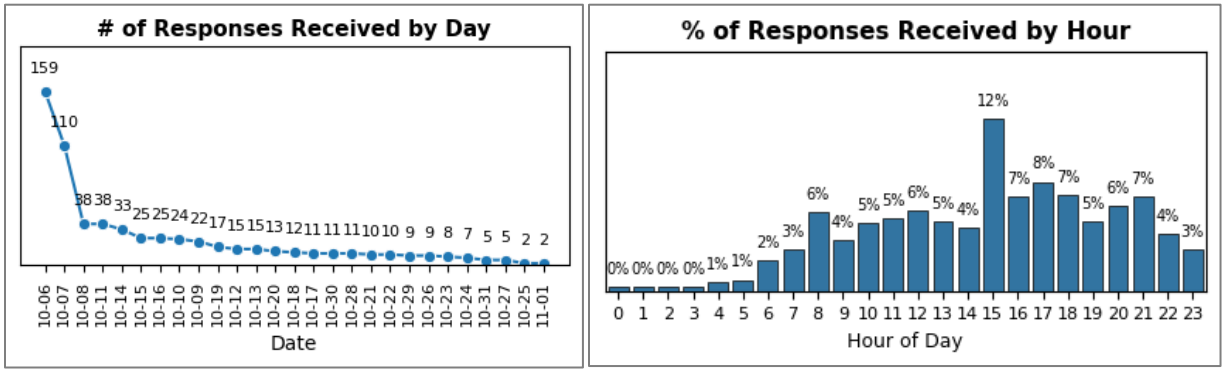
Comment Samples:

- “We enjoy the trails to get some peace and quiet without having to travel farm from home!”
- “Bring program costs down”
- “This is such an important asset to protect. It is already well visited, so bringing in more visitors might make things worse for everyone”
- “I feel like the community is not aware enough about the nature center. I think that if people knew about it more, it would be used way more.”
- “Sounds like you want to pave it over for yoga studios, corporate party rental pavilions, and cross country skiing – this was supposed to be a natural area, not a playground.”

Appendix A. Further Analysis

Survey Days and Times

Figure 56. Day and time that respondents completed the survey



Response Correlation

See this interactive dashboard for correlation between answers to each question.

Data Cleaning Notes

- Answers to open-ended questions that just said “no”, “N/A”, or similar were removed
- Comments were anonymized, then AI was used to find a list of common topics expressed in the responses to a single question
    - A list of keywords associated with each topic was generated manually, then each comment was tagged with the topics it contained
- Responses to the BSF open comment question and JNC open comment question were assigned a topic and a sentiment (positive/neutral/negative)
    - Two different sentiment models were used:
        - VADER (Valence Aware Dictionary and sEntiment Reasoner) – a lexicon and rule-based sentiment analysis tool developed by MIT specifically attuned to sentiments expressed in social media
        - roBERTa (robustly optimized BERT approach) – a transformer-based model developed by Facebook AI designed to improve on the BERT (Bidirectional Encoder Representations from Transformers) model, trained on a larger corpus with more data
    - If both models presented the same result then the sentiment was assigned. For comments where the models disagreed, a manual review was conducted and sentiment was assigned by the analyst.
- Answers to the “Likert” questions were duplicated and then coded as numbers:
    - 1=Not Important, 2=Somewhat Important, 3=Very Important

- This allowed these questions to be analyzed in aggregate and represented as averages to better summarize responses.

Appendix B. Online Marketing Activity

Bitly Link Tracking

A shortened Bitly link was created to use when promoting the survey online, with an accompanying QR code for physical promotion. The Bitly link gathered 807 clicks and the QR code gathered 12 scans. 69% of this engagement came from the Facebook mobile app, 21% came from "direct" sources, 7% came from Facebook desktop, and the remaining 3% from other sources.

Oakland County Parks Facebook and Instagram

The Oakland County Parks Facebook page published a paid ad to share the survey, with the following results:

- Active: 10/7/2025 to 11/1/2025
- Views: 27,663
- Reach: 11,666
- Link Clicks: 580
- Click-through Ratio: 2.1%
- Engagement: 667 total

The Oakland County Parks Facebook page also shared post #6 from Friends of Bowers Farm on 10/23 (1,186 views, 702 reach, 10 interactions, 6 link clicks) and posted natively on 10/30 (1,980 views, 1,220 reach, interactions, 13 link clicks)

Friends of Bowers Farm Facebook

Post #	Date, Time	Content	Engagement
1	10/6/2025, 3:52PM	Initial announcement *"An Update! [...]"*	7 reactions, 20 shares
2	10/9/2025, 9:35AM	Shared joint statement of support *"The Friends of Bowers Farm and [...]"*	11 reactions, 7 shares, 10 comments
3	10/13/2025, 2:24PM	Re-shared survey info with pictures of vision boards *"Have your say! [...]"*	None
4	10/15/2025, 4:16PM	Re-shared survey info with picture of vision board *"Oakland County parks and [...]"*	4 reactions, 3 shares, 3 comments
5	10/20/2025, 9:47AM	Re-shared post #4 *"Don't forget to join us [...]"*	2 reactions
6	10/23/2025, 10:06AM	Recap of public forum *"Thank you to everyone [...]"*	4 reactions, 4 shares
7	10/27/2025, 12:50PM	Re-shared survey with pictures *"By combining Bloomfield Hills Schools [...]"*	4 reactions, 3 shares

8	10/28/2025, 2:17PM	Survey reminder *"Reminder!! This week [...]"*	1 reaction, 1 share

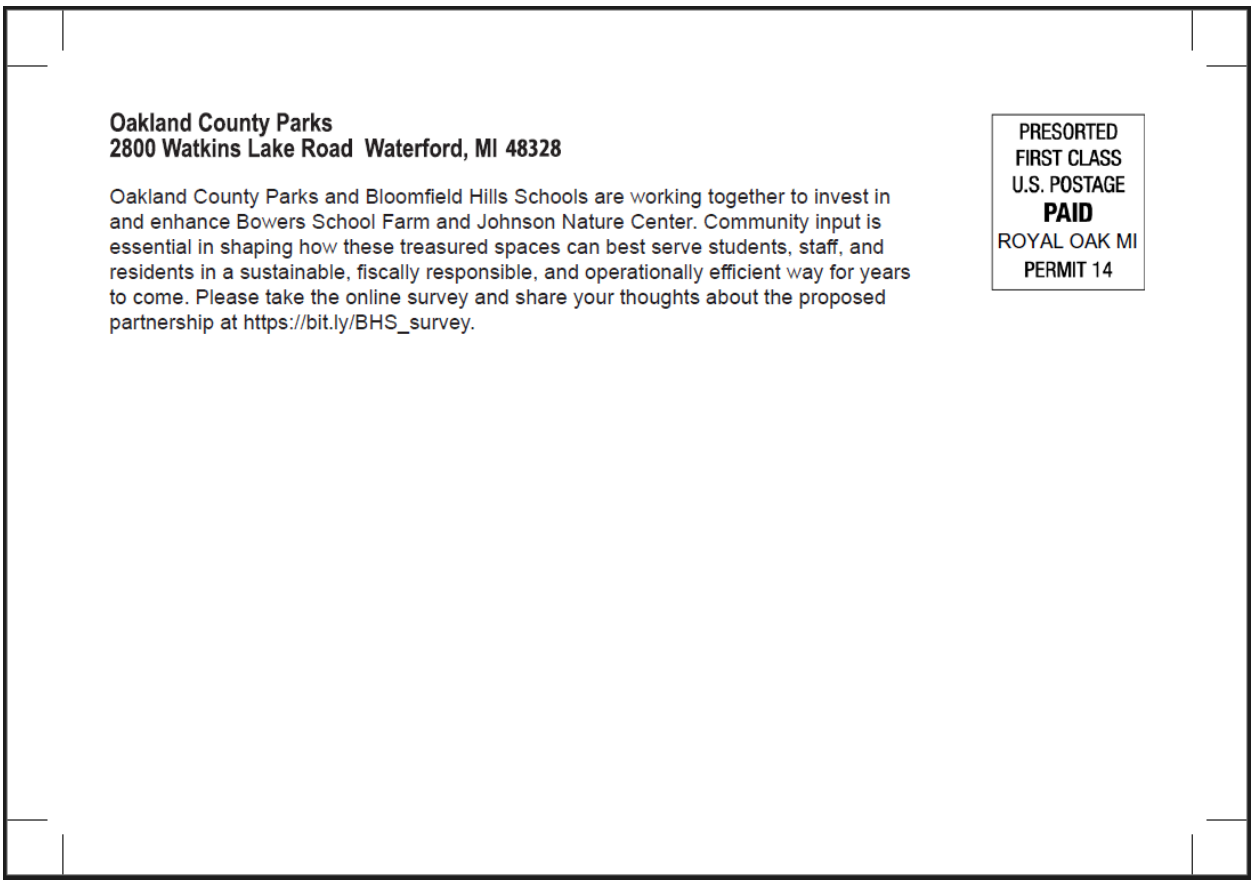
Friends of the Johnson Nature Center Facebook

The Friends of the Johnson Nature Center Facebook page shared post #2 from Friends of Bowers Farm on 10/10, gathering 1 share.

Marketing Materials

Figure 57. Postcard mailed to BHS residents





Oakland County Parks
2800 Watkins Lake Road Waterford, MI 48328

Oakland County Parks and Bloomfield Hills Schools are working together to invest in and enhance Bowers School Farm and Johnson Nature Center. Community input is essential in shaping how these treasured spaces can best serve students, staff, and residents in a sustainable, fiscally responsible, and operationally efficient way for years to come. Please take the online survey and share your thoughts about the proposed partnership at https://bit.ly/BHS_survey.

PRESORTED
FIRST CLASS
U.S. POSTAGE
PAID
ROYAL OAK MI
PERMIT 14

Figure 58. Bowers School Farm Project Overview Document



Figure 59. Bowers School Farm Partnership Vision Document



Figure 60. Johnson Nature Center Project Overview Document



Figure 61. Johnson Nature Center Partnership Vision Document



OCP Partnership FAQ Document

What am I hearing about a possible partnership?

Oakland County Parks and Bloomfield Hills Schools are exploring a potential intergovernmental partnership to support and strengthen Bowers School Farm and the Johnson Nature Center. While no agreements have been made, early discussions suggest a model where Bloomfield Hills Schools would continue to have priority access for educational programming, while Oakland County Parks would oversee operations and management with a focus on bolstering recreation activities.

What is the status of the conversation?

This is still in the exploratory phase. No formal proposal or agreement has been drafted or reviewed.

What are the potential benefits of a partnership?

A partnership could:

Ensure long-term sustainability and environmental stewardship of both properties

Bring in new facility and infrastructure investments and improvements

Offer more programs and activities for families

Preserve first-in-line access for BHS students

Combine Oakland County Park's recreation expertise with BHS's commitment to education and community

Help win state and federal grants that require joint ownership

Will this increase my taxes?

No. This would not raise taxes.

How long would the partnership last?

The exact length has not yet been determined. In similar agreements, partnerships run 20–30 years. A long-term agreement would allow OCP and BHS to jointly apply for state and federal grants, bringing additional resources to enhance and sustain the Farm and Nature Center.

Why does this make sense for Oakland County Parks?

Oakland County Parks is committed to delivering increased value to residents by expanding access to recreation, education, and nature. Partnering with BHS on Bowers Farm and Johnson Nature Center would:

Strengthen OCP's mission to connect people with outdoor learning and recreation

Extend services into an area of the county that currently has limited OCP presence

Leverage county resources to invest in and sustain two well-loved community destinations

Ensure that more families and students benefit from high-quality programs and facilities

Why does this make sense for BHS?

This partnership could bring important resources to preserve and enhance these treasured spaces, while expanding recreational opportunities and addressing long-term facility needs.

Who would decide? Any agreement would need approval from:

The Bloomfield Hills Schools Board of Education

The Oakland County Parks Commission

The Oakland County Board of Commissioners

Will current programs change?

An intergovernmental partnership could strengthen long-term sustainability and expand offerings. It could help fund new programming, provide essential operational investments and maintenance, and improve accessibility.

Would the Farm and Nature Center be shared more widely with the public?

These spaces already serve the broader community through school field trips, camps, and public events. A partnership could maintain or expand these already established experiences.

Where do things stand now?

These are early talks only. No agreement has been written. Both Oakland County Parks and Bloomfield Hills Schools agree that nothing will move forward unless the community is on board.

What role do Friends of Bowers Farm and Friends of Johnson Nature Center play?

Both are independent 501(c)(3) nonprofit organizations that exist to advance the mission and reach of their respective sites through fundraising, volunteer efforts, and community events. Both organizations support any and all investments that strengthen and expand these facilities, including a partnership with Oakland County Parks.

When will a decision be made?

October will be dedicated to gathering community feedback, followed by a thorough analysis of the results in November. A summary of the feedback will be shared with both the Bloomfield Hills School Board of Education and the Oakland County Parks Commission at their November meetings. This website will continue to be updated as the timeline evolves.

How can I share my opinion?

Community input is essential in shaping how these treasured spaces can best serve students, staff, and residents in a sustainable, fiscally responsible, and operationally efficient way for

years to come. To gather feedback, Bloomfield Hills Schools is working with Oakland County Parks to offer public forums and a community survey.

Public Forums: Two sessions will be held for residents to learn more and share their views:

Saturday, October 18, 2025, at Bowers School Farm during the Fall Festival event from 10 a.m.–12 p.m.

Monday, October 20, 2025, at Johnson Nature Center from 4 p.m.–6 p.m.

Complete the short survey.

Full Survey Text

Bloomfield Hills Schools and Oakland County Parks Survey

An Intergovernmental Partnership to Support Bowers School Farm and Johnson Nature Center

Oakland County Parks and Bloomfield Hills Schools are exploring a potential intergovernmental partnership to support and strengthen Bowers School Farm and the Johnson Nature Center. While no agreements have been made, early discussions suggest a model where Bloomfield Hills Schools would continue to have priority access for educational programming, while Oakland County Parks

would oversee recreation-related operations. This partnership could bring important resources to preserve and enhance these treasured spaces, while expanding recreational opportunities and addressing long-term facility needs. Here is a proposal that shares more details about a possible intergovernmental partnership.

Community input is essential in shaping how these treasured spaces can best serve students, staff, and residents in a sustainable, fiscally responsible, and operationally efficient way for years to come. To gather feedback, Bloomfield Hills Schools is working with Oakland County Parks to offer public forums and a community survey.

Public Forums: Two sessions will be held for residents to learn more and share their views:

- Saturday, October 18, 2025, at Bowers School Farm from 10 a.m.–12 p.m.
- Monday, October 20, 2025, at Johnson Nature Center from 4 p.m.–6 p.m.

Thank you for taking the time to complete the below survey. This survey should take you approximately ten minutes to complete.

Questions Specific to Bowers School Farm

1. Approximately how many guests do you estimate visit Bowers School Farm annually?
   - 10,000
   - 20,000
   - 30,000
   - 40,000
   - 50,000

Then branching/confirming the correct answer (Bowers School Farm has more than 40,000 annual visitors.)

2. How often do you visit Bowers School Farm?
   - I've never visited Bowers School Farm
   - Less than once a year
   - More than once, but less than 10 times a year
   - Once a month
   - More than once a month
3. Are you actively supporting Bowers School Farm in any of the following ways?
   - Monetary donations
   - Volunteered
   - Purchased a membership
   - None of the above
   - Other: (Open Ended)

4. If you have visited Bowers School Farm, what did you do on your visit? Please select all that apply.
    - Went on a grade K-5 field trip
    - Attended grade 6-12 school day environmental education
    - Used the Farm Recreation Activity Building (Barn used for Winter Park, rentals, etc.)
    - Attended Fall Festival
    - Attended the Winter Park (tubing hill)
    - Used the farm store & kitchen
    - Attended summer camp or youth programs
    - Attended weekend events and activities
    - Used membership offerings and benefits
    - Booked space for a birthday party
    - Attended community classes
    - Participated in 4-H or FFA
    - Volunteered
    - Used community and horticultural gardens
    - Attended historical interpretation and heritage programs
    - Attended animal experiences
5. How important to you are the following Bowers School Farm offerings? [not important, somewhat important, very important]
    - Grade K-5 field trip
    - Grade 6-12 school day environmental education
    - Farm Recreation Activity Building (Barn used for Winter Park, rentals, etc.)
    - Fall Festival
    - Winter Park (tubing hill)
    - The farm store & kitchen
    - Summer camp or youth programs
    - Weekend events and activities
    - Membership offerings and benefits
    - Rental space for a birthday party
    - Community classes
    - 4-H or FFA
    - Volunteer opportunities
    - Community and horticultural gardens
    - Historical interpretation and heritage programs
    - Animal experiences
6. How important to you are the following features and activities? [not important, somewhat important, very important]
    - No cost access to trails and pathways
    - Healthy forest and natural areas

- Winter access and activities
- Playgrounds and play features
- Quiet areas and scenic views
- Community events and entertainment spaces
- Updated barns and animal care areas
- Visitor amenities (accessible restrooms, food/beverage, picnic shelters)
- Improved parking and traffic flow
- Dedicated event space (barn rentals, pavilion, amphitheater)
- Agricultural education (livestock, crops, equestrian)
- Farm-to-table experiences (gardening, cooking, maple sugaring)
- History of farming and heritage agriculture
- Therapeutic riding and equestrian programs
- Adventure options (farm mazes, ropes course, winter tubing)

7. How important is it to you that Bloomfield Hills Schools maintain ownership of Bowers School Farm?
   - Very important
   - Somewhat important
   - Not important
   - I don't know
8. Please share your creative ideas for the future of Bowers School Farm, such as new amenities and activities. [open-ended]
9. Is there anything else you'd like to share about Bowers School Farm? [open-ended]

Questions Specific to the Johnson Nature Center

1. Approximately how many guests do you estimate visit the Johnson Nature Center annually?
   - 2,000
   - 4,000
   - 8,000
   - 10,000
   - 12,000

Then branching/confirming the correct answer (The Johnson Nature Center has approximately 10,000 annual visitors.)

2. How often do you visit the Johnson Nature Center?
   - I've never visited the Johnson Nature Center
   - Less than once a year
   - More than once, but less than 10 times
   - Once a month
   - More than once a month
3. Are you actively supporting the Johnson Nature Center in any of the following ways?
   - Donated money

- Volunteered
- Purchased a membership
- Attended Forest to Table fundraising event
- None of the above
- Other (open ended)

4. If you visited JNC, what did you do on your visit? Please select all that apply.
   - K-12 environmental education programming
   - No cost access to trails and hiking
   - Visited the Log Cabin/Early Settlers Learning
   - Visited the deer pen/rescued animals
   - Attended Art Walks (when visiting exhibits are on site)
   - Attended maple sugaring events
   - Participated in bird walks and pond studies
   - Attended Forest to Table events
   - Volunteered
   - Went fishing
   - Rented space for a birthday party
   - None of the above
   - Other (open-ended)
5. How important to you are the following Johnson Nature Center offerings? (all should be: not important, somewhat important, very important)
   - K-12 environmental education programming
   - No cost trails and hiking
   - The Log Cabin/Early Settlers Learning
   - The deer pen/rescued animals
   - Art Walks (when visiting exhibits are on site)
   - Maple sugaring events
   - Bird walks and pond studies
   - Forest to Table events
   - Volunteer opportunities
   - Fishing
   - Rental space
6. How important to you are the following features and activities? (all should be: not important, somewhat important, very important)
   - Trail system upgrades (ADA-accessible, wayfinding)
   - Healthy forest and natural areas
   - Boardwalk repairs and improvements
   - Wildlife viewing areas (bird blinds, observation decks)
   - Quiet areas and scenic views
   - Maple Sugaring demonstration improvements

- Land history and local heritage
- Seasonal recreation (snowshoeing, cross-country skiing, fishing)
- Outdoor pavilion and nature play
- Parking lot enhancement and visitor amenities (restrooms, water stations)
- Ambassador animals (rehabilitated, non-releasable)
- Renewable energy / sustainability initiatives (solar, rain gardens)

7. How important is it to you that Bloomfield Hills Schools maintain ownership of the Johnson Nature Center?
   - Very important
   - Somewhat important
   - Not important
   - I don't know
8. Please share your creative ideas for the future of the Johnson Nature Center, such as new amenities and activities. [open-ended]
9. Is there anything else you'd like to share about Johnson Nature Center? [open-ended]

Final Thoughts:

1. Based on what you understand so far, are you in favor of Bloomfield Hills Schools continuing the dialogue with Oakland County Parks for the purposes of supporting Bowers School Farm and the Johnson Nature Center?
   - Yes
   - No
   - I need more information
   - Other (open ended)
2. Do you have any other comments, questions, concerns, or suggestions? [open-ended]

About You

1. Do you live within the Bloomfield Hills Schools boundaries?
   - Yes
   - No
   - Unsure
2. Are you a parent or caretaker of a child currently enrolled in Bloomfield Hills Schools?
   - Yes
   - No
3. How old are your children? Please select all that apply for multiple children.
   - 0-5
   - 6-11
   - 12-14
   - 15-18
   - 18+
   - No children

4. What is your home zip code?
5. What is your age?
    - 18-24
    - 25-34
    - 35-44
    - 45-54
    - 55-65
    - 65 or older
6. What is your gender?
    - Female
    - Male
    - Prefer not to answer
7. Which of the following best describes your race/ethnicity?
    - Asian or Asian Indian
    - Black or African American
    - Native American or Alaska Native
    - White
    - Native Hawaiian or other Pacific Islander
    - Hispanic or Latino/a
    - Middle Eastern or North African
    - Other ____
8. Languages spoken in your home:
    - English
    - Spanish
    - Arabic
    - Mandarin or Cantonese
    - Hindi
    - Other_____

After survey is completed:

Thank you for taking the time to complete the survey, your feedback is important to us.

This survey was created in partnership with the Friends of Bowers Farm, the Friends of the Johnson Nature Center, and Oakland County Parks.

For news and updates on the status of our discussions, please visit https://www.bloomfield.org/community/oakland-county-parks-partnership.

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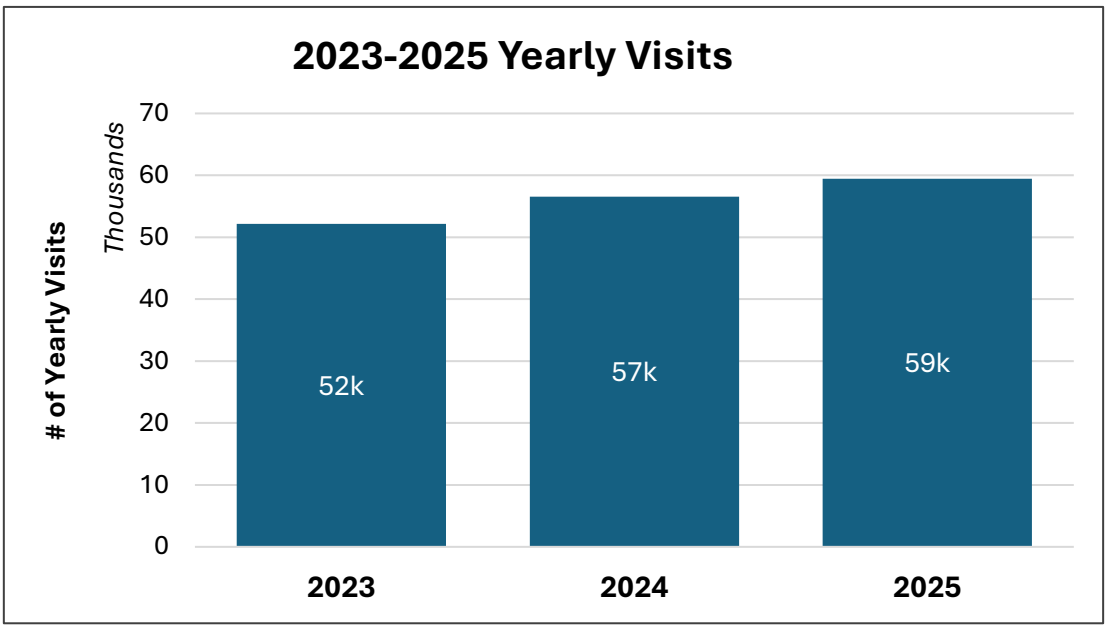
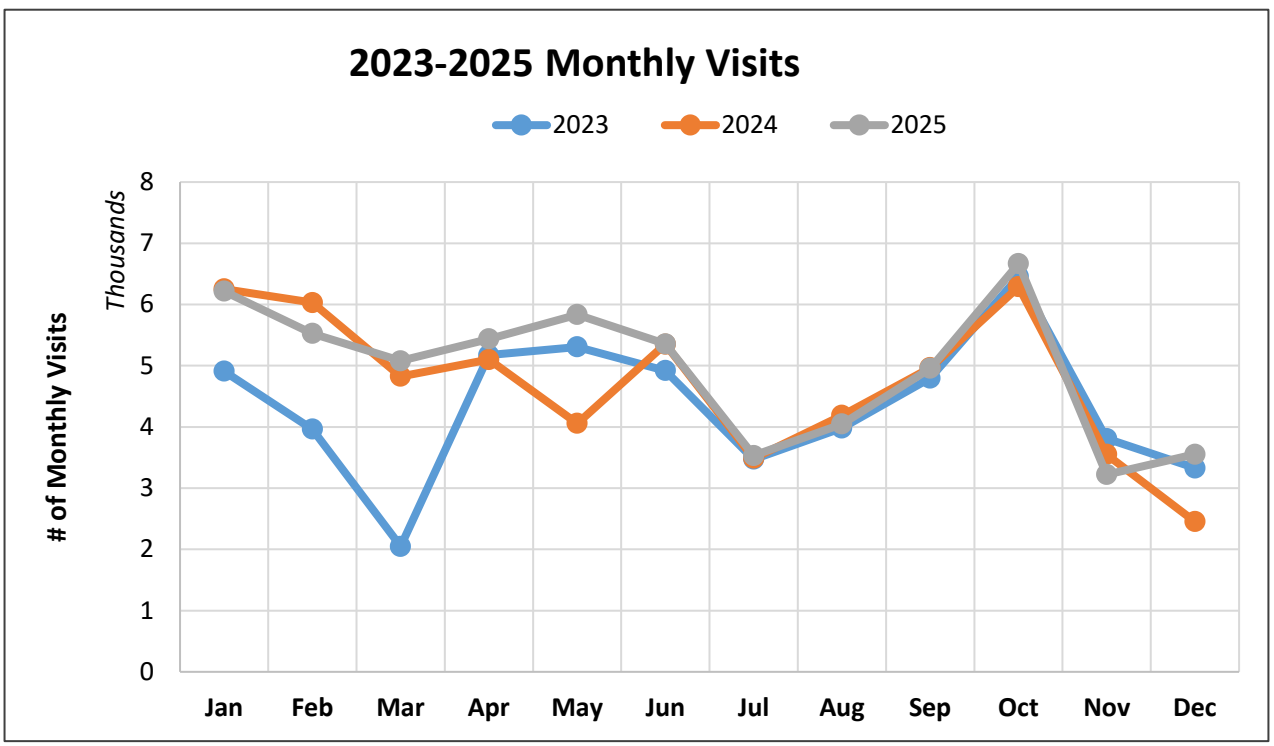
Discovery Oaks Visitor Data

Total Visits in 2025:
59,000 visits

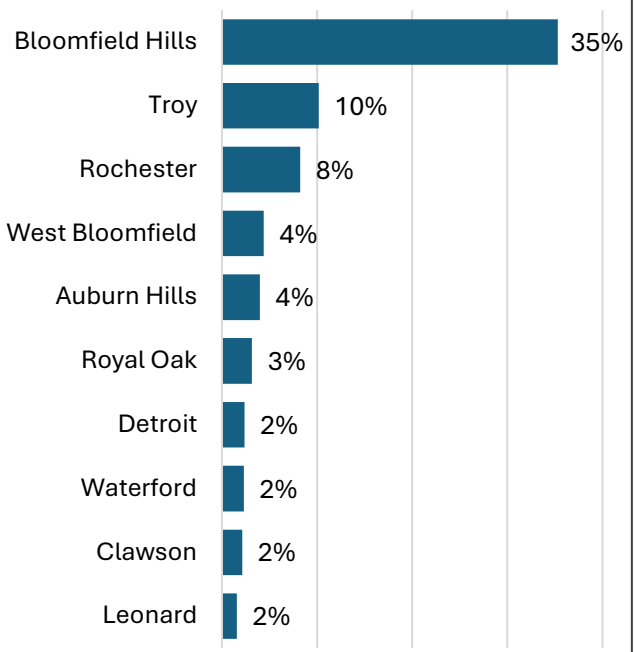
Avg Visit Frequency:
1.8 times



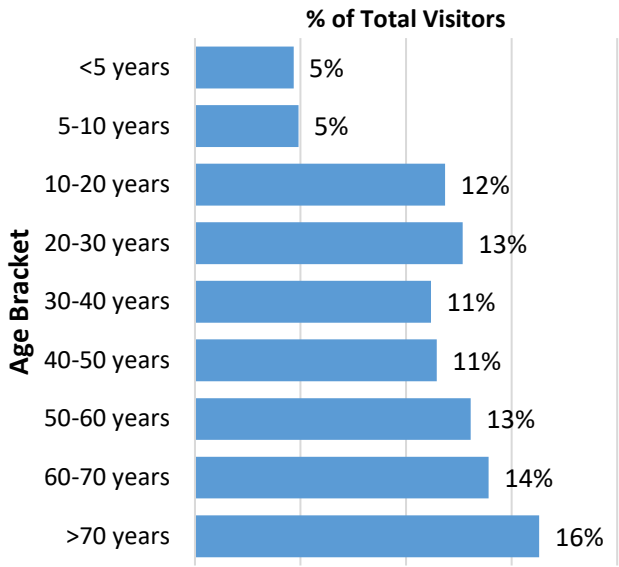


Discovery Oaks 2025 Visitor Demographics

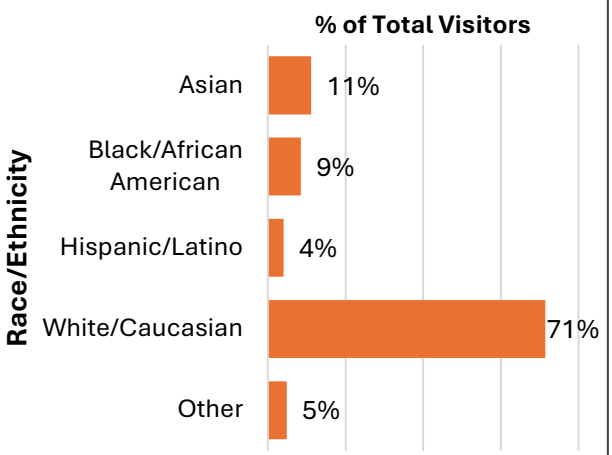
2025 Visits - Top 10 CVT Home Locations



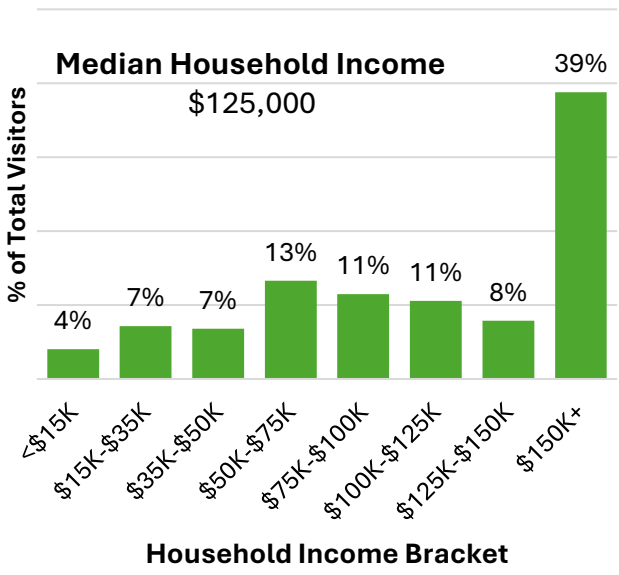
2025 Visitors - Age Distribution



2025 Visitors - Race/Ethnicity Distribution



2025 Visitors - HH Income Distribution



ASTI ENVIRONMENTAL

A DIVISION OF PEA GROUP

Phase I Environmental Site Assessment
Bower's School Farm
1219 E. Square Lake Road
Bloomfield Hills, Oakland County, Michigan 48034

Oakland County Parks and Recreation

June 4, 2026



Preserving what matters. Transforming what's next.

Phase I Environmental Site Assessment
Bower's School Farm
1219 E. Square Lake Road
Bloomfield Hills, Oakland County, Michigan 48034

June 4, 2026

Report Prepared For:

Oakland County Parks and Recreation
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ASTI ENVIRONMENTAL
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1.0 EXECUTIVE SUMMARY

ASTI Environmental (ASTI) was retained by Oakland County Parks and Recreation to conduct a Phase I Environmental Site Assessment (ESA) of the site at 1219 E. Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48034 (Subject Property). The Phase I ESA was conducted in accordance with United States Environmental Protection Agency (US EPA) Standards and Practices for All Appropriate Inquiries (AAI, 40 CFR Part 312) and the American Society for Testing and Materials (ASTM) Practice E1527-21. The information and opinions presented in this report are intended solely for the reliance of Oakland County Parks and Recreation.

Subject Property Overview		
Address/Location	1219 E. Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48034	
Parcel Information	Street Address	Parcel Number
	1219 E. Square Lake	C -19-01-376-006
	E. Square Lake	C -19-01-451-002
	1219 E. Square Lake	C -19-01-451-003
Acreage	± 85.54	
Current Use	Rural land with a farm school, park, and event venue	

The Phase I ESA included (1) a site inspection on May 1, 2026, (2) interviews with knowledgeable site contacts, (3) review of pertinent Michigan Department of Environment, Great Lakes, and Energy (EGLE), Department of Licensing and Regulatory Affairs (LARA), Bloomfield Hills, and Wayne County records, (4) acquisition and review of a federal and state database search, and (5) review of historical aerial photographs, topographic maps, and city directories.

Below is a summary of our opinion, which represents the findings of this Phase I ESA. Affirmative answers are discussed following the summary table.

Condition as defined in ASTM E1527 and/or AAI	Identified through a search of ***Reasonably Ascertainable*** records
Significant Data Gap	No
De Minimis Condition	No
Historically Recognized Environmental Condition (HREC)	No
Controlled Recognized Environmental Condition (CREC)	No
Recognized Environmental Condition (REC)	Yes

Refer to Section 10.0 for a more detailed summary of the findings.

Recognized Environmental Conditions

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 for the Subject Property. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. This assessment has identified the following RECs, CRECs, and/or significant data gaps in connection with the Subject Property.

- REC: It was reported that a diesel oil underground storage tank (UST) was recently discovered underneath the northern portion of a cottage at the Subject Property. The tank was located on the hill-facing façade behind a concrete retaining wall. A section of the retaining wall was removed to allow for tank removal. During site reconnaissance, ASTI observed posted signs prohibiting use of the cottage. A pungent oily odor was noted during inspection of the cottage. All that remains of the tank removal activity is a 55-gallon metal drum with impacted soil that was excavated after the discovery. No other information was given, but the former tank appears to have been an orphaned fuel oil tank. There is evidence of a release, which is a REC.

2.0 INTRODUCTION

ASTI was retained by Oakland County Parks and Recreation to conduct a Phase I ESA of the Subject Property. The Phase I ESA was conducted in accordance with the U.S. EPA Standards and Practices for AAI and the ASTM Practice E1527-21.

2.1 Purpose

The assessment was conducted to identify *recognized environmental conditions* (RECs), *historically recognized environmental conditions* (HRECs), and *controlled recognized environmental condition*s (CRECs) associated with the historical uses of the Subject Property, current site operations, and the condition of surrounding properties. This Phase I ESA can be used by Oakland County Parks and Recreation to qualify for one of three landowner liability protections (contiguous property owner, innocent landowner, or bona fide prospective purchaser) available under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended. This Phase I ESA may also be used to qualify for State of Michigan liability defenses and exemptions that may be available under Part 201 of the Natural Resources and Environmental Protection Act.

2.2 Detailed Scope of Services

Information required to complete the Phase I ESA was obtained from personal interviews and a review of *practically reviewable* and *reasonably ascertainable* records. Informational sources include the following:

Section	Item	Adequate	Inadequate/ Data Gap	Source
7.0	Interviews	x		Ken Wallace, Site Coordinator
4.0	User-Provided Information		x	Questionnaire
4.1/4.2	AUL/Liens Search		x	User
5.2.3	Assessing Documents	x		Bloomfield Hills
5.2.4	Building Permits	x		Bloomfield Hills
5.2.5	Zoning Documents	x		Bloomfield Hills
5.2.2	Fire Department Records	x		Bloomfield Hills
5.2.1	Health Department Records	x		Oakland County
5.3.1	Aerial Photographs	x		EDR
5.3.2	Sanborn Map Search	x		EDR
5.3.3	City Directories	x		EDR
5.3.4	Topographic Maps	x		EDR
5.1	Regulatory Database Review	x		EDR

2.3 Significant Assumptions

Information obtained during this assessment, to the extent it was relied on to form our opinion, was assumed to be complete and accurate. ASTI cannot be held responsible for the quality or content of information obtained from interviews and standard sources. Since ASTI cannot warrant or guarantee that the information provided by interviews and standard sources is accurate or complete, the intention of this Phase I ESA is to reduce, but not eliminate, uncertainty for the potential for RECs, HRECs, and CRECs on the Subject Property.

2.4 Deviations, Exceptions, and Limitations

The information and opinions included in this report were provided in response to a limited scope of work, specifically a Phase I ESA as per ASTM Practice E1527-21 and AAI. They should be considered and implemented only in light of that particular scope of work. The services provided

by ASTI in completing this assessment have been provided in a manner consistent with the expected standards of the profession. No other warranties, expressed or implied, are made.

Non-scope issues are considered by ASTM Practice E1527-21 to be beyond the scope of a Phase I ESA. These issues may affect *business environmental risk* at the Subject Property. These non-scope issues may warrant assessment based on the type of Subject Property transaction. Non-scope issues such as those described in ASTM Practice E1527-21 Appendix X6 were not investigated.

No deviations to ASTM Practice E1527-21 or AAI have occurred during this assessment.

No testing or sampling of materials (i.e., soil, water, and air) was conducted as part of this assessment. No limiting conditions were identified during the site reconnaissance, except for those described in Section 6.1.

ASTM Practice E1527-21 does not require a review of standard historical sources at intervals of less than approximately five years. Past uses of the Subject Property at intervals of less than approximately five years may not have been uncovered.

Responses received from regulatory agencies or other secondary sources of information after the issuance of this report may alter the facts, findings, conclusions, or recommendations in this Phase I ESA.

2.5 Special Terms and Conditions

The Phase I ESA was performed in conformance with the scope and limitations of ASTM Practice E1527-21 and AAI. No special terms and conditions outside ASTM Practice E1527-21 and AAI have been addressed. Under the AAI Rule and ASTM Practice E1527-21, AAI must be conducted within one year prior to the date of the transaction of the Subject Property. However, according to Section 4.6 of ASTM Practice E1527-21, "Certain Components" of the AAI must be conducted or updated within 180 days prior to the date of the Subject Property transaction. These "Certain Components" and the corresponding dates they were conducted are provided below:

- Interviews with owners, operators, and occupants (conducted May 1, 2026)
- Governmental records review (conducted April 7, 2026)
- Site reconnaissance (conducted May 1, 2026)

- Searches for records of environmental cleanup liens (a User responsibility, ASTI conducted a review of liens perfected by the EGLE Remediation and Redevelopment Division on April 8, 2026)
- Declaration by the Environmental Professional responsible for the assessment (signed May 22, 2026)

2.6 User Reliance

The Phase I ESA was performed for the benefit of Oakland County Parks and Recreation. ASTI acknowledges that this party may rely on the contents and conclusions presented in this report. This effort was performed per the authorization of Oakland County Parks and Recreation on April 3, 2026. The information and opinions presented in this report are intended exclusively for the use of Oakland County Parks and Recreation. ASTI will not distribute or publish this report without the prior consent of Oakland County Parks and Recreation, except as required by law or court order.

Any use a third party makes of this report, any reliance upon it, or any decision based on it is the sole responsibility of the third party. A third party is not afforded the status of a third-party beneficiary unless ASTI expressly agrees to such status in writing. ASTI has no liability for any damages that may be incurred by a third party as a result of any decision made or action taken by that party based on this report.

3.0 SITE DESCRIPTION

3.1 Location, Legal Description, Vicinity Characteristics

General Location	A Site Location Map is provided in Appendix A.	
Legal Description	A copy of the assessment record, including the legal description, is included in Appendix D.	
Section & Township and Range	SE¼ of Section 01, Township 2 North, Range 10 East	
City/Township, County, State, Zip Code	Bloomfield Hills, Oakland County, Michigan 48034	
Parcel Information	Street Address 1219 E. Square Lake E. Square Lake 1219 E. Square Lake	Parcel Number C -19-01-376-006 C -19-01-451-002 C -19-01-451-003
Acreage	± 85.54	

Subject Property Zoning	R-2: One Family Residential District
Local Development Utilization	Rural land with a farm school, park, event venue, offices, residential

A Site Features Map is included in Appendix A. Photographs of the Subject Property and adjoining properties were taken during the site inspection and are provided in Appendix B.

3.2 Current Use of the Subject Property

The Subject Property is used for agricultural, educational, and recreational purposes.

3.3 Descriptions of Structures, Roads, Other Improvements on the Site

Building Descriptions					
I.D.	Building Type	Primary Use	Functional Spaces	Built Date	Stories
1	Commercial	Visitor Center	Retail, classrooms, kitchen, office, restroom, janitorial, electrical	1990s, 2012	1
2	Commercial	Farm Activities Building	Classrooms, office, restroom, janitorial, electrical	1990s	2
3	Farmhouse*	Barton Farmhouse	Bedroom/office, bathroom, stairs, living room, kitchen	Early 1900s	2
4	Barn	Livestock Barn	Storage, pens	Early 1900s	2
5	Barn	Bird Barn	Storage	1980s	1-2
6	Barn	Horse & Maintenance Barn	Storage, pens	1980s	2
7	Cottage	Storage	Bedroom/office, bathroom, stairs, living room, kitchen	Early 1900s	1
8	Farmhouse	Storage	Bedroom/office, bathroom, stairs, living room, kitchen	1970s	1

*Relocated onto the Subject Property in the 2000s

Building Construction			
I.D.	Square Footage*	Primary Construction	Interior Finishes
1, 2	6,500-11,000	Concrete slab foundation, wood framing, gable roof	Epoxy, drywall, ceiling tile, paint, wallpaper, ceramic, vinyl, carpet, composite flooring, base cove
3, 7, 8	1,200-2,500	Concrete slab foundation, basement, wood framing, gable roof	Plaster/dry wall, paint, wood, ceramic

Building Construction			
I.D.	Square Footage*	Primary Construction	Interior Finishes
4, 5, 6	1,000-3,800	Concrete slab foundation, earthen floor, wood framing, gable roof	Paint

*All square footage is estimated

Roads and Other Improvements	
Access	Via nearby roadways
Paved Areas	Limited areas around buildings
Maintained Lawn	
Landscaped Areas	Limited areas around dwellings
Surface Water	Tributary of Lake Charnwood
Additional Improvements	Fencing, farmland, and trails

Municipal Services and Utilities			
Service or Utility	Present	Provider	Comments
Potable Water Source	Yes	City of Bloomfield	
Irrigation Well	Yes		Installed in 2013 and 2021 (3 total)
Sewage	Yes		Private septic systems installed in 1993 and 2010 (2 total)
Storm Sewer	No		
Electrical	Yes	DTE Energy	
Natural Gas	Yes	DTE Energy	
Solid Waste Disposal	Yes	Green For Life	
Heating & Cooling	Yes		Geothermal pumps, natural gas, and electric

3.4 Current Uses of Adjoining Properties

ASTI observed adjoining properties during the site inspection to evaluate the potential risk these properties may pose to the Subject Property. Observations were made from the Subject Property and public access areas, as appropriate. Each is described as follows:

Adjoining Property Use			
Direction	Description	Use	Potential Concerns Observed During Site Reconnaissance
North	Private Residences	Residential	None
	Tuskegee Airmen Memorial Highway	Transit	None
East	Tuskegee Airmen Memorial Highway	Ramp	None

Adjoining Property Use			
Direction	Description	Use	Potential Concerns Observed During Site Reconnaissance
East	Offices, 6001 N. Adams	Commercial	None
South	Private Residences	Residential	None
West	Private Residences	Residential	None

No stained areas, stressed vegetation, or signs of material spillage were observed along the shared property lines with the Subject Property. No pits, waste lagoons, above-ground storage tanks (ASTs), physical evidence of underground storage tanks (USTs), or other forms of chemical storage were observed on the adjoining properties.

3.5 Physical Setting Sources

The EDR report in Appendix D provides a Physical Setting Sources Map, which includes an overlay of the United States Geological Survey (USGS) topographic map (7.5-minute series) for the Birmingham, Michigan quadrangle, which includes the Subject Property. The USGS map is also the basis of the Site Location Map in Appendix A.

Average Elevation (feet above mean sea level)	902 feet
Local Gradient	Declines to the west-northwest
Regional Gradient	Declines to the southeast
Nearest Surface Water Body	Tributary of Lake Charmwood exists onsite (drains to the Rouge River to the southeast
Groundwater Depth (feet below ground)	Between 30 – 65 feet according to onsite well records
Groundwater Flow Direction	Inferred to flow northwest based on gradient and surface water flow

According to onsite well/septic records, the lithology of the Subject Property consists silt and gravel to 18 feet bgs, clay and gravel to 31 feet bgs, sand to 45 feet bgs, sand and gravel to 75 feet bgs, clay and gravel to 162 feet bgs, gravel and clay to 170 feet bgs, sand to 182 feet bgs, sand with clay to 185 feet bgs, and sand and gravel to 210 feet bgs.

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4.0 USER-PROVIDED INFORMATION

To qualify for one of the landowner liability protections offered by the Small Business Liability Relief and Brownfield's Revitalization Act of 2002, the User, defined by ASTM as *the party seeking to use Practice E1527 to complete an environmental site assessment of the property*, has specific obligations for completing a successful application of this practice as outlined in Section 6 of ASTM Practice E1527-21. Failure to provide information regarding the obligations outlined to the Environmental Professional may result in a determination that AAI is not complete.

ASTI requested the completion of a User Questionnaire; however, no response was received during the completion of this Phase I ESA. A blank copy of the questionnaire is included in Appendix C.

Question		Response
1	Did a search of recorded land title records identify any environmental liens filed or recorded against the Subject Property under federal, tribal, state, or local law?	No response
2	Did a search of recorded land title records identify any Activity Use Limitations, such as engineering controls, land use restrictions, or institutional controls that are in place at the Subject Property and/or have been filed or recorded against the Subject Property under federal, tribal, state, or local law?	No response
3	Do you have any specialized knowledge or experience related to the Subject Property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the Subject Property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?	No response
4	Is the purchase price significantly lower than the fair market value? If you conclude there is a difference, have you considered whether a lower price is due to contamination known or believed to be present at the Subject Property?	No response

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Question		Response
5	Are you aware of commonly known or reasonably ascertainable information about the Subject Property that would help the environmental professional to identify conditions indicative of releases or threatened releases?	No response
5a	Do you know past uses of the Subject Property?	No response
5b	Do you know of specific chemicals that are present or once were present at the Subject Property?	No response
5c	Do you know of spills or other chemical releases that have taken place at the Subject Property?	No response
5d	Do you know of any environmental cleanups that have taken place at the Subject Property?	No response
5e	Based on your knowledge and experience related to the Subject Property, are there any obvious indicators that point to the presence or likely presence of releases at the Subject Property?	No response
6	Are you aware of any prior environmental investigations that may be available for review?	No response

4.1 Environmental Liens and Activity Use Limitations (AULs)

The User did not report AULs or liens related to environmental matters.

4.2 Search of Recorded Land Title Records

The User did not provide recorded land title records for the Subject Property.

4.3 Additional Records Provided by the User

The User did not provide any additional records.

5.0 RECORDS REVIEW

5.1 Standard Environmental Record Sources

ASTI ordered a government records search for the Subject Property from Environmental Data Resources, Inc. (EDR) in Shelton, Connecticut. A copy of the EDR Radius Map Report with GeoCheck®, dated April 7, 2026, is included in Appendix D. The EDR report presents a description of the databases, search distances, and results.

5.1.1 Discussion of Subject Property Listings

There are no Subject Property Listings.

The EGLE Remediation and Redevelopment Division (RRD) maintains a list of environmental liens that EGLE RRD has placed on properties in the state to recover costs associated with state-led response activities. No EGLE RRD environmental liens were listed for the Subject Property in the online database as of August 7, 2026 (Appendix D).

According to the EDR report, the Subject Property was not listed in the search of institutional control and engineering control registries.

5.1.2 Discussion of Sites of Potential Environmental Concern

There are no listings for adjoining sites.

For the remaining listings, ASTI considers select criteria to determine which listings represent an environmental concern to the Subject Property. The criteria include but are not limited to the following:

- Database type
- Topography relative to the Subject Property
- Direction and distance
- Soil profile identified in available sources
- Known or inferred groundwater depth and flow direction
- Status of applicable investigation
- Surface and subsurface conditions including but not limited to buildings, pavement, utility corridors, and surface water features
- Potable water source (well or municipal)

An evaluation of these criteria is completed to determine the level of risk associated with each

listing. Listings with likely releases that are found to have the potential to represent an elevated or high risk are requested through the Freedom of Information Act (FOIA) from applicable agencies.

Using the referenced criteria and based on the information in the EDR report, ASTI did not identify identified additional listings beyond adjoining properties that were considered to represent a potential elevated or high risk to the Subject Property.

5.1.3 Discussion of Orphan Sites

No orphan sites were listed in the EDR Radius Map Report.

5.2 Additional Agency/Regulatory Sources

5.2.1 Local Health Department

ASTI requested information about the Subject Property from the Oakland County Health Department. Available records were provided on April 14, 2026, and copies are included Appendix D. Records regarded irrigation wells and septic systems.

5.2.2 Local Fire Department

ASTI requested information about the Subject Property from the Bloomfield Township Fire Department. In a response dated April 15, 2026, the township clerk indicated that there were no records. A copy of the response is included in Appendix D.

5.2.3 Subject Property Assessor/Tax Files

ASTI requested information about the Subject Property from the Bloomfield Township Assessing Department. Current assessment records are provided in Appendix D. No RECs were identified.

5.2.4 Building Permit/Inspections

ASTI requested information about the Subject Property from the Bloomfield Township Building Department. Reviewed records include electrical, mechanical, building, plumbing and water service permits. Reviewed records are provided in Appendix D.

5.2.5 Zoning/Land Use Records

ASTI reviewed information about the Subject Property from the Bloomfield Township Zoning Department. The Subject Property is zoned R-2 (One Family Residential District). A copy of the zoning map is provided in Appendix D.

5.2.6 Oil and Gas Wells

Based on a review of the EGLE GeoWebFace search system and the EDR report, no oil or gas wells were identified on or adjacent to the Subject Property.

5.3 Historical Use Information

Reasonably ascertainable historical sources, as outlined in Section 8.3.4 of ASTM Practice E1527-21, were utilized to determine the previous use of the Subject Property and its surrounding area. A chronological summary of the sources used may include, but is not limited to, aerial photographs, Sanborn maps, city directories, agency records, and prior environmental assessments. ASTI made a *good faith* effort to identify the obvious uses of the Subject Property from the present back to the Subject Property's first developed use, or back to 1940, whichever is earlier. *Data Failures* were encountered as part of this assessment and are discussed as data gaps in Section 9.0.

5.3.1 Aerial Photographs

ASTI reviewed aerial photographs provided by EDR. Observations about the Subject Property and adjoining sites are summarized in the table below. Copies of the obtained information are provided in Appendix E.

Year	Observations
1937	Subject Property: Two farmsteads, farmland and woodland are evident.
	Adjoining: Rural land is evident. The area is dominated by farmland. A farmstead and an orchard are evident to the south.
1940	No significant change is identified.
1949	
1952	Subject Property: The eastern farmstead appears deteriorated and demolished.
	North Adjoining: The current residences are evident.
1956	South Adjoining: Increased residential use is evident.
1967	Subject Property: A disturbance is evident in the eastern portion, and it appears to be surface mining.
	North Adjoining: The current highway is evident.
	West Adjoining: Pre-development grading is evident.
1976	Subject Property: Additional buildings are evident.
	West Adjoining: The current residences are evident.
1983	Subject Property: Additional buildings are evident.
1987	East Adjoining: The current office building is evident.
1997	Subject Property: Additional buildings are evident in the eastern portion. A track is evident.
1999	No significant changes are evident.
2006	
2009	
2012	Subject Property: The current school complex is evident.

Year	Observations
2016	No significant changes are evident.
2020	
2024	

5.3.2 Sanborn Maps

There are no Sanborn maps for the area. A Certified Sanborn Map Report, which identifies the search results as unmapped, is included in Appendix D.

5.3.3 City Directories

City directory research was conducted by EDR (Appendix E). The non-residential occupant information was considered as part of the summaries provided in Sections 5.3.6 and 5.3.7.

5.3.4 Topographic Maps

ASTI reviewed the United States Geological Survey (USGS) topographic maps provided by EDR. Observations about the Subject Property and adjoining sites are summarized in the table below. Copies of the obtained information are provided in Appendix E.

Year	Observations
1908	Subject Property: Three buildings are evident.
	Adjoining: Buildings are evident to the south.
1936	Subject Property: Two buildings are evident.
	Adjoining: Linton School is evident to the south.
1945	Subject Property: One building is evident.
1952	Subject Property: An additional building is evident.
	Adjoining: An orchard is evident to the south. Residences are evident to the north.
1968	Subject Property: Buildings are no longer evident. The topography on the eastern portion has changed and is about 40 to 60 feet lower than before.
	Adjoining: Residences are evident to the south and west. The highway is evident to the north.
1972	Subject Property: Two outbuildings are evident.
1981	Subject Property: Three outbuildings are evident.
2014	Buildings are no longer included in map images.
2017	No significant change is identified.
2019	
2023	

5.3.5 Previous Environmental Reports

ASTI was not provided with any environmental reports.

5.3.6 Historical Use Summary of the Subject Property

Based on a review of the historical sources obtained, the former uses of the Subject Property are

summarized as follows.

The Subject Property was used for agricultural and residential purposes from at least 1937 until the mid-1970s when it was repurposed as the current farm school. The farm school has continued to be developed into the 2010s. The eastern portion appears to have been used as a surface mine in the 1960s, which is around the time the adjoining highway was constructed.

5.3.7 Historical Use Summary of the Adjoining Properties

Based on a review of the obtained historical sources, the former uses of adjoining properties are summarized as follows:

The area was dominated by rural land from at least 1937 until the mid-1950s when residential uses increased. The highway to the north was constructed in the 1960s, followed by the office building to the west in the late 1980s. Several residences have been used for home-based businesses, including metal architecture, inspector, and a limo service.

6.0 SITE RECONNAISSANCE

6.1 Methodology and Limiting Conditions

Assessor Name and Title	Brady Metzger, Environmental Technician
Date of Inspection	May 1, 2026
Weather Conditions	44 º F and cloudy
Methodology	ASTI inspected the Subject Property in a meander and search pattern, including all property boundaries, adjoining properties from the Subject Property, and public access areas.
Access Limitations	Untrimmed vegetation, storage, park cars, secured building
Adverse Subject Property Conditions	None

6.2 Exterior Observations

The following table summarizes the site's exterior observations. Observed items are further discussed below.

Category	Item	Item Observed
Above Ground Hazardous Substance/Petroleum Product Storage	Drums, barrels, or containers ≥5 gallons in connection with identified uses	Yes
	Drums, barrels, or containers ≥5 gallons not in connection with identified uses	No
	Unidentified Substance Containers	No
	ASTs	No
Underground Hazardous Substance/Petroleum Product Storage	USTs (fill ports and/or vent pipes)	Reported
	Fuel dispensers	No
	Natural gas or petroleum pipelines/wells	No
Basic & Specialized Systems	Pole-mounted or pad-mounted transformers	Yes
	Hydraulic equipment	No
Indications of Releases or Potential Releases	Stained soil or pavement	No
	Stressed vegetation	No
	Pools of liquid	No
	Strong or pungent odors	Yes
	Filled Land/Soil Piles/Mounding	Yes
	Unregulated/Unauthorized Waste Disposal	No
	Dumpsters with Staining	No
	Monitor wells	No
Drainage & Waste Collection Systems	Pits	No
	Ponds	Yes
	Lagoons	No
	Sumps/Oil-Water Separators	No
	Stormwater collection basins	No
	Dry wells/crocks/cisterns	No
Other Notable Items	None observed	N/A

Items noted as unobserved do not fully warrant that these items are not present on the Subject Property, as some items may not have been readily observable.

ASTI observed a 55-gallon metal drum that was labeled hazmat. The drum was located north of the farm activity building. It contained impacted soil that was excavated from around the recently discovered buried diesel/oil tank underneath the cottage.

ASTI observed posted signs prohibiting use of the cottage. A pungent oily odor was noted during inspection of the cottage.

ASTI observed debris pile comprised of milled asphalt, brick, cobble, and concrete.

ASTI observed pole- and pad-mounted transformers. They were in fair condition. It's assumed that the transformers are owned by the local utility provider.

ASTI observed two ponds. They don't appear to be associated with any drainage or waste collection systems.

6.3 Interior Observations

The following table summarizes the site's interior observations. Observed items are further discussed below.

Category	Item	Item Observed
Above Ground Hazardous Substance/Petroleum Product Storage	Drums, barrels, or containers ≥5 gallons in connection with identified uses	Yes
	Drums, barrels, or containers ≥5 gallons not in connection with identified uses	No
	Unidentified Substance Containers	No
	ASTs	No
Underground Hazardous Substance/Petroleum Product Storage	USTs (fill ports and/or vent pipes)	No
	Dispensing Systems	No
Basic & Specialized Systems	Transformers	No
	Elevators	No
	Compressors	No
	Compactors	No
	Hydraulic Hoists/Lifts	No
	Hydraulic Equipment other than those above	No
	Emergency generators	No
Indications of Releases or Potential Releases	Staining	No
	Pools of liquid	No
	Strong or pungent odors	No
	Monitor wells	No
Drainage & Waste Collection Systems	Pits	No
	Standard floor drains	Yes
	Sumps/manhole covers/oil-water separators	Yes
	Trench drains	Yes
	Dry wells/crocks	No
Other Notable Items	Grease Trap	Yes

ASTI observed small containers of cleaning supplies, salt, and oil. These materials were stored on concrete, shelves, and a flammable materials cabinet. Generally, the storage areas were neat and orderly.

ASTI observed standard floor drains and one french drain. The plumbing for each building was not verified, but its assumed plumbing connects into septic systems or municipal services. No mismanagement or suspect operations were observed.

A standard basement sump was observed in a dwelling.

ASTI observed a kitchen grease trap. The trap intercepts kitchen greases before being discharged into the septic system or municipal sewer service.

7.0 INTERVIEWS

7.1 Interview with Owner

ASTI requested the completion of an Owner Questionnaire; however, no response was received during the completion of this Phase I ESA.

7.2 Interview with Site Manager

ASTI interviewed Ken Wallace, Site Coordinator with Bower's School Farm/Bloomfield Hills Schools, during site reconnaissance on May 1, 2026. It was reported that a diesel oil underground storage tank was recently discovered underneath the northern portion of cottage at the Subject Property. The tank was located on the hill-facing façade behind a concrete retaining wall. A section of the retaining wall was removed to allow for tank removal. About 32 gallons of product were pumped and removed during tank closure.

7.3 Interview with Occupants

Refer to Section 7.2.

7.4 Interviews with Local Government Officials

Conversations with local government officials were limited to requesting department records.

7.5 Interviews with Others

No others were interviewed as part of this assessment.

8.0 DISCUSSION REGARDING POTENTIAL VAPOR MIGRATION/ENCROACHMENT

Tier 1 Non-Invasive screening aims to conduct an initial screen to determine whether a vapor migration/encroachment condition (VEC) exists, is likely to exist, cannot be ruled out, or can be ruled out at the Subject Property.

The REC discussed in Section 11.0 is a potential VEC.

The screening process concludes that a VEC cannot be ruled out.

9.0 DATA FAILURE AND DATA GAPS

Data gaps occur when the EP is unable to obtain the required information despite making a *good-faith* effort.

Data failure is one type of data gap. According to ASTM Practice E1527-21, data failure occurs when all the standard historical sources that are *reasonably ascertainable* and likely to be useful have been reviewed, and yet the objectives have not been met. Historical sources are required to document the property's use back to the Subject Property's first developed use or to 1940, whichever is earlier. A data failure is considered to have occurred and is described below.

Data Gap	The Subject Property was developed prior to the earliest reasonably ascertainable standard historical source.
Is this a significant data gap?	No
Rationale	The earliest identified uses were residential and agricultural.

No additional data gaps were identified during this investigation, except for those listed below.

Data Gap	ASTI was unable to interview the Owner despite a request to do so. ASTI requested the completion of an Owner Questionnaire as an interview tool, but no response was received during the completion of this Phase I ESA.
Is this a significant data gap?	No
Rationale	Given the history of the site as a residence, farm, and farm school, the reviewed information is sufficient to determine risk. If the Owner is available in the future, they should be interviewed.

Data Gap	The User has not met their obligations, which are defined in Section 6 of ASTM Practice E1527-21. ASTI requested the completion of a User Questionnaire to cover the obligations, but no response was received during the completion of this Phase I ESA.
Is this a significant data gap?	No
Rationale	Given the history of the site as a residence, farm, and farm school, the reviewed information is sufficient to determine risk. If the Owner is available in the future, they should be interviewed.

Data Gap	ASTI was unable to determine past heating fuel sources for the Subject Property. The fuel sources may have included electric, wood, coal, propane, or fuel oil.
Is this a significant data gap?	No
Rationale	Although no evidence (i.e., fill ports, vent pipes, or pressure gauges, etc.) or information regarding the use of heating fuel was found during the assessment, based on the age of the former residences/buildings (built in the early 1900s), there is a potential that heating oil was used as a fuel source prior to natural gas. If a buried heating oil fuel tank is found during any redevelopment activities, the tank should be properly decommissioned with verification sampling conducted.

Data Gap	The foundation type of the former dwelling is unknown. Dwellings can be built with the following foundations: concrete slab, crawl space, partial basement, and full basement.
Is this a significant data gap?	No
Rationale	The foundation type is unknown and there is no indication or evidence to suggest a specific foundation type based on interviews or reviewed municipal records and historical records. Outbuildings typically have concrete floors, wood floors, or earthen floors. Therefore, the risk of fill material is minimal. If it is found that the former building contained a basement and fill material is encountered in the future, an assessment of fill material can be performed to further reduce environmental risk.

10.0 FINDINGS AND OPINION

FINDINGS

Below is a summary of the findings of this Phase I ESA.

The Subject Property was used for agricultural and residential purposes from at least 1937 until the mid-1970s when it was repurposed as the current farm school. The farm school has continued to be developed into the 2010s. The eastern portion appears to have been used as a surface mine in the 1960s, which is around the time the adjoining highway was constructed.

E-01 | original source page 24 | APP 670

ASTI interviewed Ken Wallace, Site Coordinator with Bower's School Farm/Bloomfield Hills Schools, during site reconnaissance on May 1, 2026. It was reported that a diesel oil underground storage tank was recently discovered underneath the northern portion of cottage at the Subject Property. The tank was located on the hill-facing façade behind a concrete retaining wall. A section of the retaining wall was removed to allow for tank removal. About 32 gallons of product were pumped and removed during tank closure. No other information was given.

ASTI observed posted signs prohibiting use of the cottage. A pungent oily odor was noted during inspection of the cottage.

ASTI observed a 55-gallon metal drum that was labeled hazmat. The drum was located north of farm activity building. It contained impacted soil that was excavated from around the recently discovered buried diesel/oil tank.

OPINION

Based on the site inspection, interviews, review of regulatory and municipal records, and examination of historical documentation, the following is opined by the EP.

De Minimis Conditions

The EP did not identify any de minimis conditions associated with the Subject Property.

Significant Data Gaps

The EP did not identify any significant data gaps associated with the Subject Property.

Historical Recognized Environmental Conditions

The EP did not identify any HRECs associated with the Subject Property.

Controlled Recognized Environmental Conditions

The EP did not identify any CRECs associated with the Subject Property.

Recognized Environmental Conditions

The EP identified the following REC associated with the Subject Property.

- REC: ASTI interviewed Ken Wallace, Site Coordinator with Bower's School Farm/Bloomfield Hills Schools, during site reconnaissance on May 1, 2026. It was

reported that a diesel oil underground storage tank was recently discovered underneath the northern portion of a cottage at the Subject Property. The tank was located on the hill-facing façade behind a concrete retaining wall. A section of the retaining wall was removed to allow for tank removal. During site reconnaissance, ASTI observed posted signs prohibiting use of the cottage. A pungent oily odor was noted during inspection of the cottage. All that remains of the tank removal activity is a 55-gallon metal drum with impacted soil that was excavated after the discovery. No other information was given, but the former tank appears to have been an orphaned fuel oil tank.

11.0 CONCLUSIONS

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 for the Subject Property. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. This assessment has identified the following RECs, CRECs, and/or significant data gaps in connection with the Subject Property:

- REC: It was reported that a diesel oil underground storage tank (UST) was recently discovered underneath the northern portion of a cottage at the Subject Property. The tank was located on the hill-facing façade behind a concrete retaining wall. A section of the retaining wall was removed to allow for tank removal. During site reconnaissance, ASTI observed posted signs prohibiting use of the cottage. A pungent oily odor was noted during inspection of the cottage. All that remains of the tank removal activity is a 55-gallon metal drum with impacted soil that was excavated after the discovery. No other information was given, but the former tank appears to have been an orphaned fuel oil tank. There is evidence of a release, which is a REC.

12.0 ADDITIONAL SERVICES

Non-Scope Considerations under Appendix X6 of ASTM Practice E1527-21 were not addressed in this investigation.

E-01 | original source page 26 | APP 672

13.0 REFERENCES

The following references were used in preparing this Phase I ESA:

- Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E1527-21
- 40 CFR Part 312: Standards and Practice for All Appropriate Inquiries; Final Rule (AAI), November 1, 2005
- EDR Radius Map Report with GeoCheck
- EDR Aerial Photo Decade Package
- EDR Certified Sanborn Map Report
- EDR-City Directory Image Report
- EDR Historical Topo Map Report
- Ken Wallace, Site Coordinator, Bower's School Farm/Bloomfield Hills Schools
- Assessing Department
- Building Department
- Fire Department
- Zoning Department
- Health Department
- LARA
- EGLE
- EGLE RRD Perfected Environmental Liens List
  https://www.michigan.gov/egle/about/organization/remediation-and-redevelopment/rrd-enforcement-perfected-lien-list
- EGLE GeoWebFace
  http://www.deq.state.mi.us/GeoWebFace/
- EGLE RIDE Mapper
  https://www.michigan.gov/egle/maps-data/ride-mapper
- EGLE WDS Website
  https://www.egle.state.mi.us/wdspi/home.aspx
- EGLE MiEnviro Portal
  https://www.michigan.gov/egle/maps-data/mienviroportal

14.0 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312.

I possess the specific qualifications, based on education, training, and experience, to assess the property in terms of its nature, history, and setting, specifically the Subject Property. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Anthony Spencer, EP
Environmental Project Manager
Date: June 4, 2026

Glossary

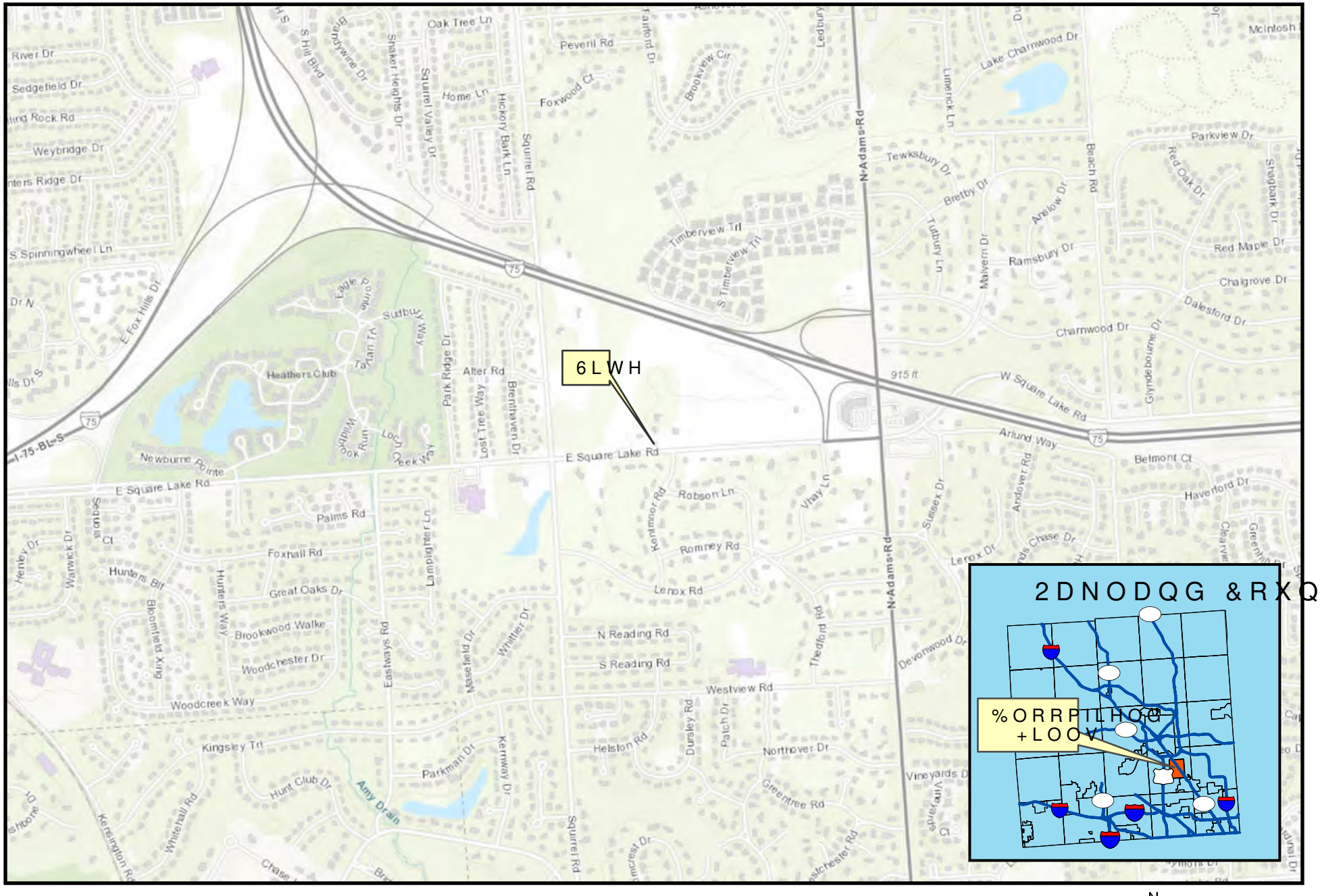
- *Business Environmental Risk:* A risk that can have a material environmental or environmentally driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in ASTM Practice E1527.
- *Controlled REC*: A recognized environmental condition affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities, with hazardous substances or petroleum products allowed to remain in place, subject to the implementation of required controls (for example, activity and use limitations or other property use limitations).
- *Data Gap: A lack of or inability to obtain information required by this practice, despite the EP's good faith efforts* to gather such information.
- *De Minimis Condition:* De minimis conditions refer to releases that generally do not pose a threat to human health or the environment and would not typically be the subject of an enforcement action if brought to the attention of relevant governmental agencies. Conditions deemed de minimis are neither RECs nor CRECs.
- *Environmental Condition:* ASTI defines an Environmental Condition as the presence or likely presence, currently or in the past, of a hazardous substance or petroleum product in, on, or at the Subject Property of which the Environmental Professional requires an opinion regarding the likelihood of a release to the environment to determine if a REC is present.
- *Good Faith:* The absence of any intention to see an unfair advantage or to defraud another party; an honest and sincere intention to fulfill one's obligations in the conduct or transaction concerned.
- *Hazardous Substance:* A substance defined as A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, B) any element, compound, mixture, solution, or substance designated to section 9602 of this title, C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the RCRA Act of 1976, as amended, D) any toxic pollutant listed under section 1317(a) to Title 33, E) any hazardous air pollutant listed under section 112 of the Clean Air Act, and F) any imminently hazardous chemical substance or mixture with respect to which the Administrator of the EPA has taken action pursuant to section 2606 of Title 15.
- *Historical REC*: A previous release of hazardous substances or petroleum products affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the Subject Property to any controls (for example, activity and use limitations or other property use limitations). HRECs are not considered to be RECs.
- *Material Threat: An obvious threat that is likely to lead to a release and that, in the opinion of the EP, would likely result in an adverse impact on* public health or the environment.
- *Migration*: The movement of hazardous substances or petroleum products in any form, including solids, liquids, and vapors at the surface or subsurface.
- *Petroleum Product:* Petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under Subparagraphs (A) through (F) of 42 U.S.C. 9601 (14), natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
- *Practically Reviewable: The information is provided by the source in a manner and form that, upon examination, yields relevant information about the Subject Property without requiring* extraordinary analysis of irrelevant data.
- *Subject Property:* The real property that is the subject of the environmental assessment described in ASTM Practice E1527. The User defines the real property boundaries, and these boundaries may not be consistent with the boundaries of a legal parcel.
- *Reasonably Ascertainable:* Information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable.
- *Recognized Environmental Condition*: (1) the presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release or likely release to the environment; or (3) the presence of hazardous substances or

petroleum products in, on, or at the Subject Property under conditions that pose a material threat of a future release to the environment. For this definition, “likely” refers to that which is neither certain nor proven but can be expected or believed by a reasonable observer based on the logic and/or experience of the EP and/or available evidence, as stated in this report to support the opinions given herein. The term REC is not intended to include de minimis conditions.

- *Release*: Spilling, leaking, pumping, pouring, emitting, discharging, injecting, escaping, leaching, dumping, or disposing into the environment.
- *Significant Data Gap: A data gap that affects the environmental professional's ability* to identify a recognized environmental condition.

APPENDIX A

Figures
Site Location Map
Site Features Map


6LWH
2DNODQG &RXQW\
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River Dr
Sedgefield Dr
Weybridge Dr
S Spinningwheel Ln
E Fox Hills Dr
I-75-BL-S
Newburne Pointe
E Square Lake Rd
Heathers Club
Eagle Pointe Dr
Sudbury Way
Tartan Trl
Alter Rd
Park Ridge Dr
Lost Tree Way
Brentnaven Dr
Loch Creek Way
Willobrook Run
Oak Tree Ln
Peveril Rd
Foxwood Ct
Home Ln
Hickory Bark Ln
Squirrel Rd
Squirrel Valley Dr
Shaker Heights Dr
Brandywine Dr
S Hill Blvd
Fairford Dr
Brookview Cir
Ledbury
Timberview Trl
S Timberview Trl
N Adams Rd
Lake Charnwood Dr
Limerick Ln
Tewksbury Dr
Bretby Dr
Tutbury Ln
Malvern Dr
Ansley Dr
Beach Rd
Ramsbury Dr
Parkview Dr
Red Oak Dr
Shagbark Dr
Red Maple Dr
Chalgrove Dr
Dalesford Dr
Charnwood Dr
Glyndebourne Dr
915 ft
W Square Lake Rd
Arlund Way
Belmont Ct
Haverford Dr
Andover Rd
Sussex Dr
Lenox Dr
Devonwood Dr
Thedford Rd
Vhay Ln
Robson Ln
Romney Rd
Kentmere Rd
Lenox Rd
N Reading Rd
S Reading Rd
Westview Rd
Northover Dr
Greentree Rd
Vineyards Dr
Vineyards Ct
Helston Rd
Dursley Rd
Patch Dr
Kerway Dr
Parkman Dr
Amy Drain
Hunt Club Dr
Kingsley Trl
Woodcreek Way
Woodchester Dr
Brookwood Walke
Great Oaks Dr
Hunters Bit
Hunters Way
Bloomfield Xing
Foxhall Rd
Palms Rd
Lamplighter Ln
Eastways Rd
Masefield Dr
Whittier Dr
Whitehall Rd
Kenrington Rd
Warwick Dr
Henley Dr
Seaton Ct
Mcintosh
Lake Charnwood Dr
Parkview Dr
Red Oak Dr
Shagbark Dr
Red Maple Dr
Chalgrove Dr
Dalesford Dr
Charnwood Dr
Glyndebourne Dr
Arlund Way
Belmont Ct
Haverford Dr
Andover Rd
Sussex Dr
Lenox Dr
Devonwood Dr
Thedford Rd
Vhay Ln
Robson Ln
Romney Rd
Kentmere Rd
Lenox Rd
N Reading Rd
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Westview Rd
Northover Dr
Greentree Rd
Vineyards Dr
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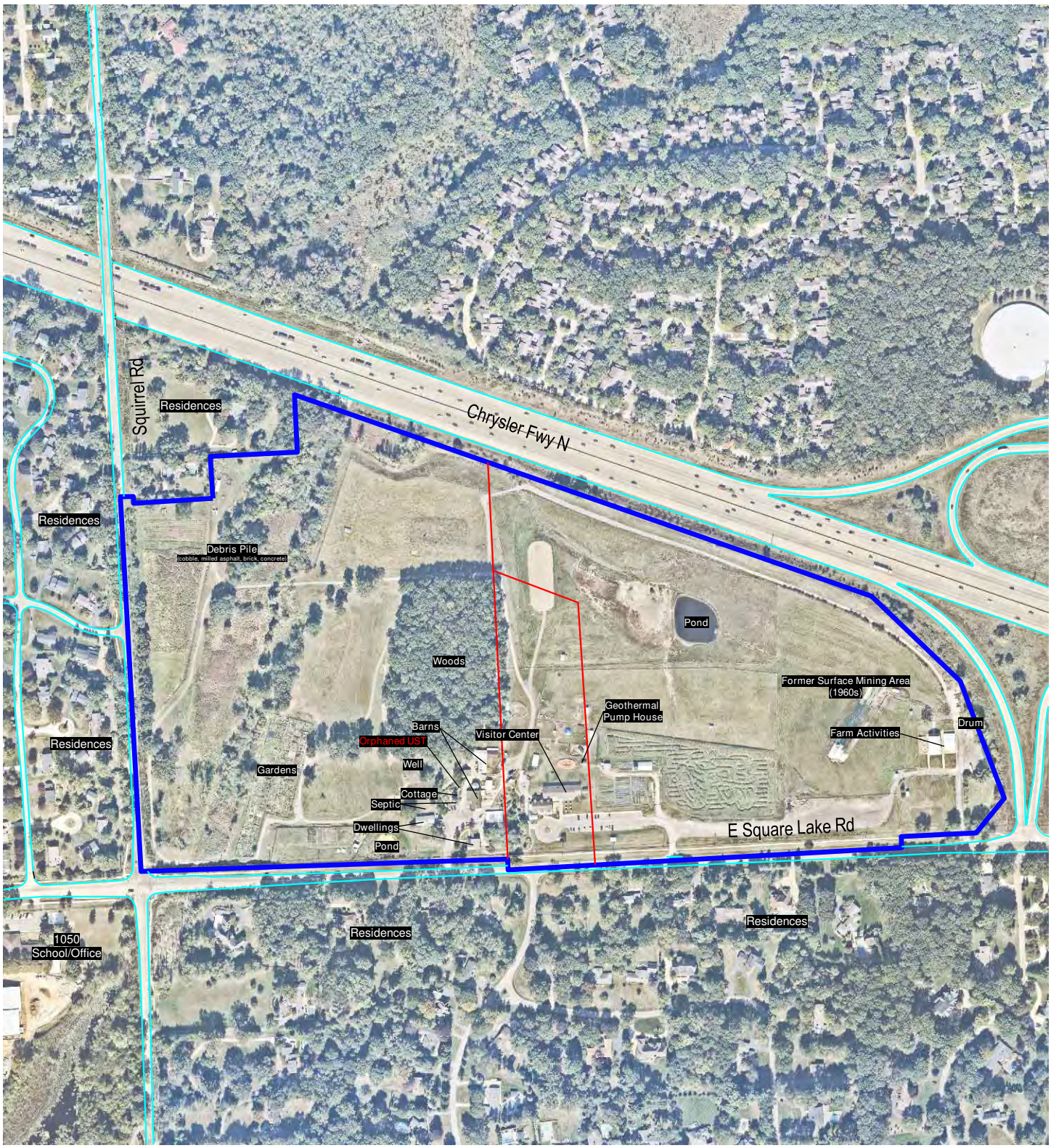
Helston Rd
Dursley Rd
Patch Dr
Kerway Dr
Parkman Dr
Amy Drain
Hunt Club Dr
Kingsley Trl
Woodcreek Way
Woodchester Dr
Brookwood Walke
Great Oaks Dr
Hunters Bit
Hunters Way
Bloomfield Xing
Foxhall Rd
Palms Rd
Lamplighter Ln
Eastways Rd
Masefield Dr
Whittier Dr
Whitehall Rd
Kenrington Rd
Warwick Dr
Henley Dr
Seaton Ct
Oak Tree Ln
Peveril Rd
Foxwood Ct
Home Ln
Hickory Bark Ln
Squirrel Rd
Squirrel Valley Dr
Shaker Heights Dr
Brandywine Dr
S Hill Blvd
Fairford Dr
Brookview Cir
Ledbury
Timberview Trl
S Timberview Trl
N Adams Rd
Lake Charnwood Dr
Limerick Ln
Tewksbury Dr
Bretby Dr
Tutbury Ln
Malvern Dr
Ansley Dr
Beach Rd
Ramsbury Dr
Parkview Dr
Red Oak Dr
Shagbark Dr
Red Maple Dr
Chalgrove Dr
Dalesford Dr
Charnwood Dr
Glyndebourne Dr
915 ft
W Square Lake Rd



S:\PROJECTS\2026\26-0480 1219 E SQUARE LK RD BLOOMFIELD HILLS\ENV\P161 PIES&FIGURES\SPM.dwg PLOT DATE 4/9/2026 BY Lucas Wright

1219 E. Square Lake Road

Bloomfield Hills, MI

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

Client: Oakland County Parks & Recreation

ASTI Project P26-0480.00, April 9, 2026

Site Features Map

Drawn By: LAW

APPENDIX B

Site Photographs

PHOTO LOG

1219 East Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48085

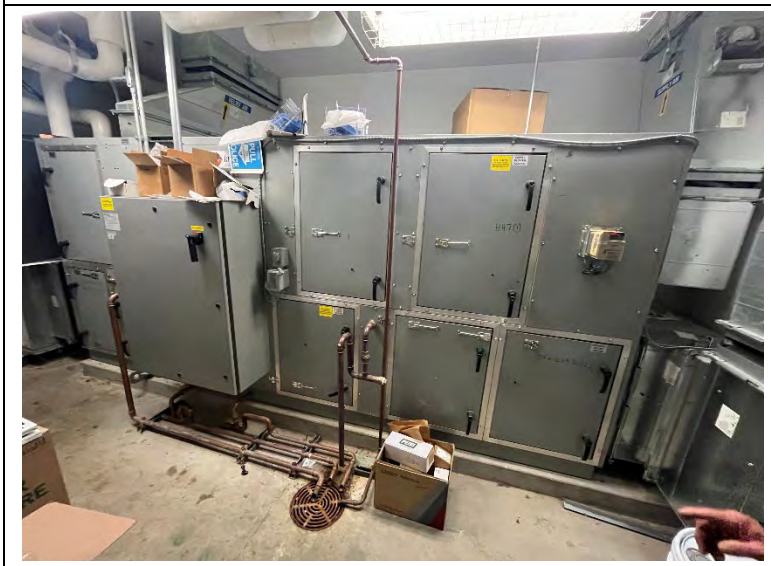
	Photo 1. The visitor center, facing west
	Photo 2. The west side of the visitor center and the walk-in refrigerator and freezer.
	Photo 3. Kitchen in the visitor center

ASTI Project No. P26-0480.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

1219 East Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48085

	Photo 4. Floor drain and the grease trap in the kitchen of the visitor center
	Photo 5. Classroom in the visitor center
	Photo 6. Electrical room in the visitor center

ASTI Project No. P26-0480.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

1219 East Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48085

	Photo 7. The water heater in the visitor center
	Photo 8. The electric elevator in the visitor center
	Photo 9. The parking lot

ASTI Project No. P26-0480.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

1219 East Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48085

	Photo 10. The south side of the farm activities building
	Photo 11. The interior of the farm activities building
	Photo 12. The second floor of the farm activities building

ASTI Project No. P26-0480.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

1219 East Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48085

	Photo 13. Water heater and janitor closet in the farm activities building
	Photo 14. South side of the livestock barn
	Photo 15. Interior of the livestock building

ASTI Project No. P26-0480.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

1219 East Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48085

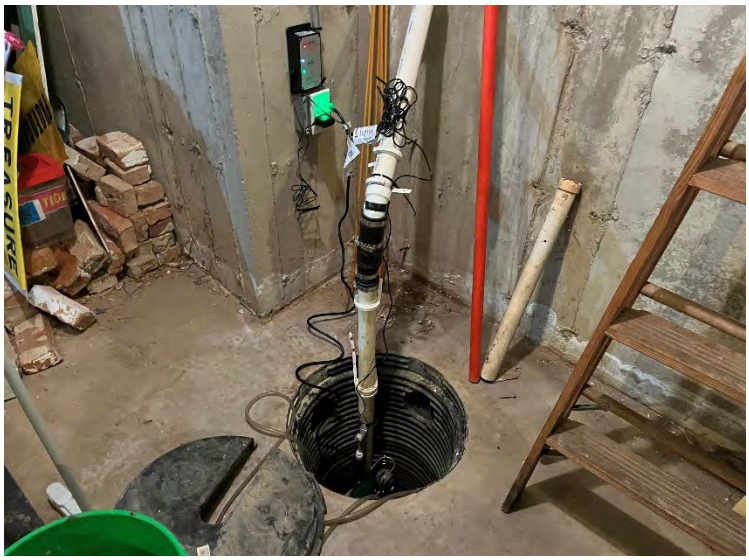
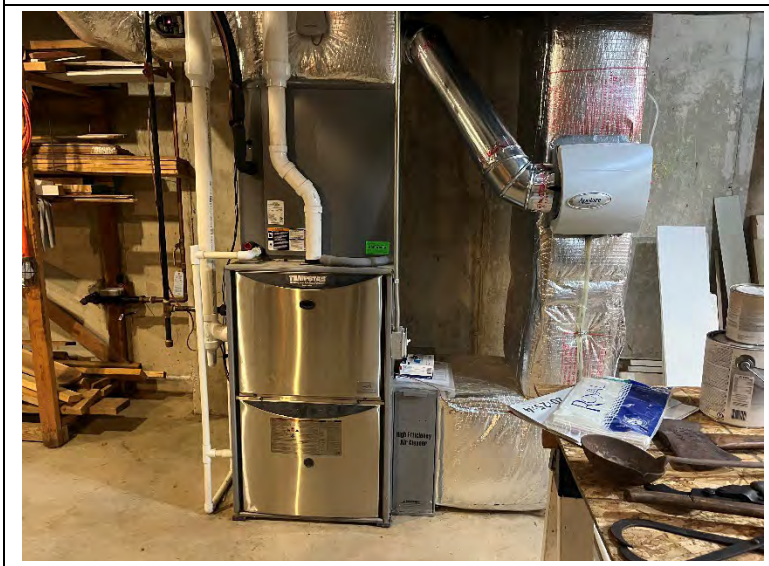
	Photo 16. Cabinet in the maintenance garage building
	Photo 17. View of a trench drain in the maintenance garage building
	Photo 18. West side of the Barton Farmhouse

ASTI Project No. P26-0480.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

1219 East Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48085

	Photo 19. North side of the Barton Farmhouse
	Photo 20. Sump pump and alarm system in the Barton Farmhouse
	Photo 21. Furnace in the basement of the Barton Farmhouse

ASTI Project No. P26-0480.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

1219 East Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48085

	Photo 22. East side of the cottage building
	Photo 23. North side of the cottage building, which is where a UST was recently discovered
	Photo 24. Dumpster area

ASTI Project No. P26-0480.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

1219 East Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48085

	Photo 25. A private well
	Photo 26. Debris pile
	Photo 27. Wooded area

ASTI Project No. P26-0480.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
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PHOTO LOG

1219 East Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48085

	Photo 28. A drum located north of the farm activities building
	Photo 29. Example transformer
	Photo 30. Adjoining dwelling

ASTI Project No. P26-0480.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

PHOTO LOG

1219 East Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48085

	Photo 31. Adjoining dwelling
	Photo 32. The east adjoining office

ASTI Project No. P26-0480.00
May 1, 2026
Photographed By Brady Metzger

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

APPENDIX C

User-Provided Information and Interview Documentation
User Questionnaire (blank)

E1527 USER QUESTIONNAIRE

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfield's Revitalization Act of 2001 (the "Brownfields Amendments"), the User must conduct the following inquiries required by 40 CRF 312.25, 312.28, 312.29, 312.30, and 312.31. Failure to provide knowledge pertaining to this information could result in a determination that "all appropriate inquiry" is not completed. Please complete this questionnaire and return via email or fax to 810-225-3800. Details regarding "yes" responses should be provided with a brief explanation in the comment section.

Respondent Name:_____ **Signature:**_____

Date:_____

Subject Property Address: _____

ASTI Project #_____

Please answer all questions to the best of your knowledge and in good faith. Please provide details on comments to "yes" responses.

	Question	Response		Comments
		Yes	No	
1	Did a search of recorded land title records identify any environmental liens filed or recorded against the property under federal, tribe, state, or local law?			
2	Did a search of recorded land title records identify any Activity and Land Use Limitations such as engineering controls, land use restrictions, or institutional controls that are in place and/or have been filed in a recorded registry under federal, tribe, state, or local law?			
3	Do you have specialized knowledge or experiences related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and process used by this type of business?			
4	Is the purchase price significantly lower than the fair market value of the property? If you conclude there is a difference, have you considered whether a lower price is due to contamination known or believed to be present?			

Question			Response		Comments
			Yes	No	
5	Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of a release or threatened release?				
	5a	Do you know past uses of the property?			
	5b	Do you know specific chemicals that are present or once were present at the property?			
	5c	Do you know of spills or chemical releases that have occurred at the property?			
	5d	Do you know of any environmental cleanups that have taken place at the Property?			
	5e	Are there any obvious indicators that point to the presence or likely presence of contamination at the property?			
6	Are you aware of any prior environmental investigation reports that may be available for review?				

APPENDIX D

Regulatory Records Documentation
Assessing Department Records
EDR Radius Map Report with GeoCheck
EGLE RRD Perfected Lien Database Search Results
Oakland County Health Department Records
FOIA-Fire Department Response
Building Department Records
Zoning Department Records

Parcel Number: C -19-01-376-006 Jurisdiction: CHARTER TOWNSHIP OF BLOOMF County: Oakland Printed on 04/13/2026

Grantor	Grantee	Sale Price	Sale Date	Inst. Type	Terms of Sale	Liber & Page	Verified By	Prcnt. Trans.

Property Address
1219 E SQUARE LAKE RD

Owner's Name/Address
BLOOMFIELD HILLS SCHOOL DIST
4175 ANDOVER RD
BLOOMFIELD HILLS, MI 48302-1903

Tax Description
T2N, R10E, SEC 1 PART OF SW 1/4 BEG AT S 1/4 COR, TH N 88-57-20 W 1335.52 FT, TH N 00-40-40 E 1405.57 FT, TH N 89-14-40 E 60.02 FT, TH S 00-40-40 W 27.01 FT, TH N 89-14-40 E 270.22 FT, TH N 00-40-40 W 145.25 FT, TH S 89-19-20 E 308.04 FT, TH N 00-10-00 W 199.04 FT, TH S 67-17-40 E 735.66 FT, TH S 00-01-00 E 1463.65 FT TO BEG EXC S 60 FT IN RD 44.79 A

Comments/Influences
ADDITIONAL NOTED ITEMS: ACTIVITY B BARN OUT BLDG. OUT BLDG.

2010 - Foundation Only. 100 % complete (No New).
2013-New AC unit
2021 - Interior kitchen work complete (No New).

Class: RESIDENTIAL-VACAN Zoning: ME
School: BLOOMFIELD HILLS SCHOOL DIST
P.R.E. 0%
ITOnly: POST
2027 Est TCV Tentative

Building Permit(s)	Date	Number	Status
Addition	06/01/2021	PB21-0356	Closed
Alteration/Remodel	12/17/2020	C20PB201127	Closed
Alteration/Remodel	02/10/2014	C14PB140036	Closed
Alteration/Remodel	05/10/2012	C12PB120069	Closed

X	Improved		Vacant

	Public Improvements
	Dirt Road
	Gravel Road
X	Paved Road
	Storm Sewer
	Sidewalk
	Water
	Sewer
X	Electric
X	Gas
X	Curb
X	Street Lights
	Standard Utilities
	Underground Utils.
	Topography of Site
X	Level
	Rolling
	Low
	High
	Landscaped
	Swamp
	Wooded
	Pond
	Waterfront
	Ravine
	Wetland
	Flood Plain
X	Thru-Street

Who	When	What
101	12/31/1958	SelectActi

Land Value Estimates for Land Table 01600.Land Table 01600

Description	Frontage	Depth	* Factors * Front	Depth	Rate	%Adj.	Reason	Value
Schools	(02) 0 - 21,780	21,780	SqFt		25.00000	0	Exempt Educational	
Schools	(03)Next 10,890	10,890	SqFt		25.00000	0	Exempt Educational	
Schools	(04)Next 10,890	10,890	SqFt		25.00000	0	Exempt Educational	
Schools	(05)Next 21,780	21,780	SqFt		25.00000	0	Exempt Educational	
Schools	(06)Next 21,780	21,780	SqFt		25.00000	0	Exempt Educational	
Schools	(07)Next 43,560	43,560	SqFt		4.00000	0	Exempt Educational	
Schools	(08)Balance SF	1,814,609	SqFt		4.00000	0	Exempt Educational	
44.66 Total Acres						Total Est. Land Value =		00

Year	Land Value	Building Value	Assessed Value	Board of Review	Tribunal/ Other	Taxable Value
2027	Tentative	Tentative	Tentative			Tentative
2026	EXEMPT	EXEMPT	EXEMPT			EXEMPT
2025	0	0	0			0
2024	0	0	0			0

Residential Building 1 of 1 Parcel Number: C -19-01-376-006 Printed on 04/13/2026

Building Type

X	Single Family
	Mobile Home
	Town Home
	Duplex
	A-Frame
	None

Building Style: Ranch

Yr Built	Remodeled
1938	0

Condition: Good

Room List

	Basement
4	1st Floor
	2nd Floor
1	Bedrooms

(1) Exterior

	Wood/Shingle
	Aluminum/Vinyl
	Brick
X	Brick/Siding
X	Insulation

(2) Windows

	Many		Large
X	Ave.	X	Ave.
	Few		Small

	Wood Sash
X	Metal Sash
	Vinyl Sash
	Double Hung
	Horiz. Slide
X	Casement
	Double Glass
	Patio Doors
X	Storms & Screens

(3) Roof

X	Gable		Gambrel
	Hip		Mansard
	Flat		Shed

X Ashphalt Shingle

Chimney:

(3) Roof (cont.)

	Eavestrough
X	Insulation
0	Front Overhang
0	Other Overhang

(4) Interior

	Drywall	X	Plaster
	Paneled		Wood T&G

Trim & Decoration

	Ex	X	Ord		Min

Size of Closets

	Lg	X	Ord		Small
Doors			Solid	X	H.C.

(5) Floors

Kitchen: Tile
Other: Tile
Other: Tile

(6) Ceilings

(7) Excavation

Basement: 50 S.F.
Crawl: 0 S.F.
Slab: 783 S.F.
Height to Joists: 0.0

(8) Basement

8	Conc. Block
	Poured Conc.
	Stone
	Treated Wood
	Concrete Floor

(9) Basement Finish

	Recreation	SF
	Living	SF
	Walkout Doors (B)	
	No Floor	SF
0	Walkout Doors (A)	

(10) Floor Support

Joists: 2X10, 16O.C.
Unsupported Len:
Cnts.Sup: Steel Beams

(11) Heating/Cooling

X	Gas		Oil		Elec.
	Wood		Coal		Steam

	Forced Air w/o Ducts
	Forced Air w/ Ducts
	Forced Hot Water
	Electric Baseboard
	Elec. Ceil. Radiant
	Radiant (in-floor)
	Electric Wall Heat
	Space Heater
	Wall/Floor Furnace
X	Forced Heat & Cool
	Heat Pump
	No Heating/Cooling

	Central Air
	Wood Furnace

(12) Electric

60 Amps Service

No./Qual. of Fixtures

	Ex.	X	Ord.		Min

No. of Elec. Outlets

	Many	X	Ave.		Few

(13) Plumbing

	Average Fixture(s)
1	3 Fixture Bath
	2 Fixture Bath
	Softner, Auto
	Softner, Manual
	Solar Water Heat
	No Plumbing
	Extra Toilet
	Extra Sink
	Separate Shower
	Ceramic Tile Floor
	Ceramic Tile Wains
1	Ceramic Tub Alcove
	Vent Fan

(14) Water/Sewer

	Public Water
	Public Sewer
	Water Well
	1000 Gal. Septic
	2000 Gal. Septic

Lump Sum Items:

(15) Built-ins

	Appliance Allow.
	Cook Top
	Dishwasher
	Garbage Disposal
	Bath Heater
	Vent Fan
	Hot Tub
	Unvented Hood
	Vented Hood
	Intercom
	Jacuzzi Tub
	Jacuzzi repl.Tub
	Oven
	Microwave
	Standard Range
	Self Clean Range
	Sauna
	Trash Compactor
	Central Vacuum
	Security System

(15) Fireplaces

	Interior 1 Story
	Interior 2 Story
	2nd/Same Stack
	Two Sided
	Exterior 1 Story
	Exterior 2 Story
1	Prefab 1 Story
	Prefab 2 Story
	Heat Circulator
1	Raised Hearth
	Wood Stove
	Direct-Vented Ga

Class: C
Effec. Age: 63
Floor Area: 833
Total Base New: 169,406 E.C.F.
Total Depr Cost: 0 X 0.927
Estimated T.C.V.: 0

(16) Porches/Decks

Area	Type

(17) Garage

Year Built: 1993
Car Capracity: 2 Car
Class: C
Exterior: Siding
Brick Ven.: 0
Stone Ven.: 0
Common Wall: Detache
Foundation: 42 Inch
Finished ?: Yes
Auto. Doors: 1
Mech. Doors: 0
Area: 576
% Good: 0
Storage Area: 0
No Conc. Floor: 0

Bsmnt Garage:

Carport Area:

Roof:

Cost Est. for Res. Bldg: 1 Single Family Ranch Cls C Blt 1938

(11) Heating System: Forced Heat & Cool
Ground Area = 833 SF Floor Area = 833 SF.
Phy/Ab.Phy/Func/Econ/Comb. % Good=45/100/100/0/0
Economic Depreciation because of: 999

Building Areas

Stories	Exterior	Foundation	Size	Cost New	Depr. Cost
1 Story	Siding/Brick	Slab	783		
1 Story	Siding/Brick	Basement	50		
			Total:	133,776	0

Other Additions/Adjustments

Garages

Class: C Exterior: Siding Foundation: 42 Inch (Finished)			
Base Cost	576	31,052	0
Door Opener	1	569	0
Plumbing			
Ceramic Tub Alcove	1	796	0
Fireplaces			
Prefab 1 Story	1	2,744	0
Raised Hearth	1	469	0
Totals:		169,406	0

Notes:

ECF (E.C.F. Table 01600School) 0.927 => TCV: 0

*** Information herein deemed reliable but not guaranteed***

Parcel Number: C -19-01-451-002 Jurisdiction: CHARTER TOWNSHIP OF BLOOMF County: Oakland Printed on 04/13/2026

Grantor	Grantee	Sale Price	Sale Date	Inst. Type	Terms of Sale	Liber & Page	Verified By	Prcnt. Trans.

Property Address

Owner's Name/Address
BLOOMFIELD HILLS SCHOOL DIST
4175 ANDOVER RD
BLOOMFIELD HILLS, MI 48302-1903

Tax Description
T2N, R10E, SEC 1 PART OF SE 1/4 BEG AT S 1/4 COR, TH N 02-57-15 W 1082.95 FT, TH S 70-17-59 E 325.04 FT, TH S 02-57-15 E 962.46 FT, TH S 87-56-42 W 300.00 FT TO BEG 7.04 A3-16-93 CORR

Comments/Influences

Class: RESIDENTIAL-VACAN Zoning: DV

School: BLOOMFIELD HILLS SCHOOL DIST

P.R.E. 0%

ITOnly: POST

2027 Est TCV Tentative

Building Permit(s)	Date	Number	Status

Improved X Vacant

Public Improvements

- Dirt Road
- Gravel Road
- X Paved Road
- Storm Sewer
- Sidewalk
- X Water
- X Sewer
- X Electric
- Gas
- Curb
- Street Lights
- Standard Utilities
- Underground Utils.

Topography of Site

- X Level
- Rolling
- Low
- High
- Landscaped
- Swamp
- Wooded
- Pond
- Waterfront
- Ravine
- Wetland
- Flood Plain
- X Thru-Street

Who	When	What
102	01/01/1976	SelectActi

Land Value Estimates for Land Table 01600.Land Table 01600

Description	Frontage	Depth	* Factors * Front	Depth	Rate	%Adj.	Reason	Value
Schools	(02) 0 - 21,780	21,780	SqFt	25.00000	100	Exempt	Educational	544,5
Schools	(03)Next 10,890	10,890	SqFt	25.00000	100	Exempt	Educational	272,2
Schools	(04)Next 10,890	10,890	SqFt	25.00000	100	Exempt	Educational	272,2
Schools	(05)Next 21,780	21,780	SqFt	25.00000	100	Exempt	Educational	544,5
Schools	(06)Next 21,780	21,780	SqFt	25.00000	100	Exempt	Educational	544,5
Schools	(07)Next 43,560	43,560	SqFt	4.00000	100	Exempt	Educational	174,2
Schools	(08)Balance SF	158,123	SqFt	4.00000	100	Exempt	Educational	632,4
6.63 Total Acres							Total Est. Land Value =	2,984,731

Year	Land Value	Building Value	Assessed Value	Board of Review	Tribunal/ Other	Taxable Value
2027	Tentative	Tentative	Tentative			Tentative
2026	EXEMPT	EXEMPT	EXEMPT			EXEMPT
2025	0	0	0			0
2024	0	0	0			0

Parcel Number: C -19-01-451-004 Jurisdiction: CHARTER TOWNSHIP OF BLOOMF County: Oakland Printed on 04/13/2026

Grantor	Grantee	Sale Price	Sale Date	Inst. Type	Terms of Sale	Liber & Page	Verified By	Prcnt. Trans.

Property Address
1383 E SQUARE LAKE RD

Owner's Name/Address
BLOOMFIELD HILLS SCHOOLS
7273 WING LAKE RD
BLOOMFIELD HILLS, MI 48301-3774

Tax Description *BALANCE OF LEGAL ON FILE
T2N, R10E, SEC 1 THAT PART OF SE 1/4 LYING SWLY OF LINE DESC AS BEG AT PT DIST S 87-56-42 W 900.12 FT FROM SE SEC COR, N 42-56-42 E 255.26 FT & N 18-18-13 W 440.59 FT & N 50-48-04 W 492.42 FT & N 67 -02-59 W 261.91 FT & N 70-17-59 W 2000 FT TO PT OF ENDING EXC BEG AT S 1/4 COR, TH N 02-57-15 W 1082.95 FT, TH S 70-17-59 E 325.04 FT, TH S 02-57-15 E 962.46 FT, TH S 87-56-42 W 300 FT TO BEG, ALSO EXC BEG AT PT DIST S 87-56-42 W 900.12 FT FROM SE SEC COR, TH S 87-56-42 W 142.68 FT, TH N 02-03-18 W 260 FT, TH N 87-56-42 E 300 FT, TH S 18-18-13 E 82.31 FT, TH S 42-56-42 W 255.26 FT TO BEG, ALSO BEG AT PT DIST S 87-56-42 W 1042.80 FT & N 02-03-18 W 60 FT FROM SE SEC COR, TH N 02-03-18 W 200 FT, TH N 87-56-42 E 300 FT, TH S 18-1

Comments/Influences

Class: RESIDENTIAL-VACAN Zoning: MM

School: BLOOMFIELD HILLS SCHOOL DIST

P.R.E. 0%

ITOnly:

2027 Est TCV Tentative

Building Permit(s)	Date	Number	Status

Improved X Vacant

Land Value Estimates for Land Table 01600.Land Table 01600

Public Improvements

Dirt Road
Gravel Road
Paved Road
Storm Sewer
Sidewalk
Water
Sewer
Electric
Gas
Curb
Street Lights
Standard Utilities
Underground Utils.

Topography of Site

Level
Rolling
Low
High
Landscaped
Swamp
Wooded
Pond
Waterfront
Ravine
Wetland
Flood Plain

Who When What

Description	Frontage	Depth	* Factors * Front	Depth	Rate	%Adj.	Reason	Value
Schools	(02) 0 - 21,780	21,780	SqFt	25.00000	100	Exempt	Educational	544,5
Schools	(03)Next 10,890	10,890	SqFt	25.00000	100	Exempt	Educational	272,2
Schools	(04)Next 10,890	10,890	SqFt	25.00000	100	Exempt	Educational	272,2
Schools	(05)Next 21,780	21,780	SqFt	25.00000	100	Exempt	Educational	544,5
Schools	(06)Next 21,780	21,780	SqFt	25.00000	100	Exempt	Educational	544,5
Schools	(07)Next 43,560	43,560	SqFt	4.00000	100	Exempt	Educational	174,2
Schools	(08)Balance SF 1,426,503		SqFt	4.00000	100	Exempt	Educational	5,706
35.75 Total Acres							Total Est. Land Value =	8,058,251

Year	Land Value	Building Value	Assessed Value	Board of Review	Tribunal/ Other	Taxable Value
2027	Tentative	Tentative	Tentative			Tentative
2026	EXEMPT	EXEMPT	EXEMPT			EXEMPT
2025	0	0	0			0
2024	0	0	0			0

1219 E Square Lake Road
1219 E Square Lake Road
Bloomfield Hills, MI 48304

Inquiry Number: 8305421.2s
April 07, 2026

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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LIGHTBOX LIVE

Open LightBox Live to access data, tools, and advanced analytics in one online platform.

http://www.web.edrnet.com/ordering/switchboard/login.aspx?s=goto_lightbox&pguid=1044C628-4E93-427F-932C-2A2903F1B8AF

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 23), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

1219 E SQUARE LAKE ROAD
BLOOMFIELD HILLS, MI 48304

COORDINATES

Latitude (North):	42.6060900 - 42° 36' 21.92''
Longitude (West):	83.2173030 - 83° 13' 2.29''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	318112.1
UTM Y (Meters):	4719242.0
Elevation:	902 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	50029850 BIRMINGHAM, MI
Version Date:	2023
North Map:	50029951 ROCHESTER, MI
Version Date:	2023

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2024
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
1219 E SQUARE LAKE ROAD
BLOOMFIELD HILLS, MI 48304

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	BLOOMFIELD HILLS SCH	1020 E SQ LAKE RD	RCRA-VSQG, E MANIFEST	Lower	1007, 0.191, WSW
A2	DETROIT WATER & SEWE	6201 ADAMS ROAD	FINDS, PFAS ECHO	Lower	1048, 0.198, NE
A3	ADAMS ROAD PUMP STAT	6201 N ADAMS RD	AST	Lower	1048, 0.198, NE
4	HAVERHILL OFFICE CEN	2950 W SQUARE LAKE R	RCRA NonGen / NLR	Lower	1086, 0.206, East
5	3200 SOUTH BOULEVARD	3200 SOUTH BOULEVARD	INVENTORY, PART 201	Lower	3991, 0.756, NNW
6	ADAMS AND AUBURN RD	3995 ADAMS RD AT AUB	AUL, PART 201, BEA	Lower	5051, 0.957, NNE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---------- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS ---------- Corrective Action Report

Lists of Federal RCRA TSD facilities

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROLS ---------- Institutional Controls Sites List

EXECUTIVE SUMMARY

Federal ERNS list

ERNS ---------- Emergency Response Notification System

Lists of state- and tribal hazardous waste facilities

SHWS ---------- This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF ---------- Solid Waste Facilities Database

Lists of state and tribal leaking storage tanks

LUST ---------- Leaking Underground Storage Tank Sites
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

Lists of state and tribal registered storage tanks

FEMA UST ---------- Underground Storage Tank Listing
UST ---------- Underground Storage Tank Facility List
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

AUL ---------- Engineering and Institutional Controls

Lists of state and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing

Lists of state and tribal brownfield sites

BROWNFIELDS ---------- Brownfields and UST Site Database

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF ---------- Inactive Solid Waste Facilities
SWRCY ---------- Recycling Facilities
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---------- Open Dump Inventory
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register

INVENTORY	Inventory of Facilities
CDL	Clandestine Drug Lab Listing
DEL PART 201	Delisted List of Contaminated Sites
US CDL	National Clandestine Laboratory Register

Local Land Records

LIENS	Lien List
LIENS 2	CERCLA Lien Information

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
PEAS	Pollution Emergency Alerting System

Other Ascertainable Records

FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
MINES MRDS	Mineral Resources Data System
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
UXO	Unexploded Ordnance Sites
ECHO	Enforcement & Compliance History Information
DOCKET HWC	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM	EPA Fuels Program Registered Listing

PFAS NPL ..... Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES ..... Federal Sites PFAS Information
PFAS TSCA ..... PFAS Manufacture and Imports Information
PFAS TRIS ..... List of PFAS Added to the TRI
PFAS RCRA MANIFEST ..... PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR ..... PFAS Contamination Site Location Listing
PFAS WQP ..... Ambient Environmental Sampling for PFAS
PFAS NPDES ..... Clean Water Act Discharge Monitoring Information
PFAS PROJECT ..... NORTHEASTERN UNIVERSITY PFAS PROJECT
PFAS ECHO FIRE TRAIN ..... Facilities in Industries that May Be Handling PFAS Listing
PFAS PT 139 AIRPORT ..... All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC ..... Aqueous Foam Related Incidents Listing
BIOSOLIDS ..... ICIS-NPDES Biosolids Facility Data
UST FINDER RELEASE ..... UST Finder Releases Database
UST FINDER ..... UST Finder Database
PFAS ..... PFAS Contaminated Sites Listing
AQUEOUS FOAM ..... Aqueous Film Forma Foam Listing
AIRS ..... Permit and Emissions Inventory Data
ASBESTOS ..... ASBESTOS
BEA ..... Baseline Environmental Assessment Database
COAL ASH ..... Coal Ash Disposal Sites
DRYCLEANERS ..... Drycleaning Establishments
Financial Assurance ..... Financial Assurance Information Listing
LEAD ..... Lead Safe Housing Registry
MANIFEST ..... Hazardous Waste Manifest Data
NPDES ..... List of Active NPDES Permits
UIC ..... Underground Injection Wells Database
WDS ..... Waste Data System
SSCUP ..... State Owned Sites Cleanup Program List
DRYCLEANERS ..... Drycleaner Facility Listing
ABAND AIRFIELDS ..... Abandoned & Little-Known Airfields Listing
ENVIRO ..... Michigan Enviro Information

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ..... EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ..... EDR Exclusive Historical Auto Stations
EDR Hist Cleaner ..... EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA PART 201 ..... Recovered Government Archive State Hazardous Waste Facilities List
RGA LF ..... Recovered Government Archive Solid Waste Facilities List
RGA LUST ..... Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal RCRA generators

RCRA-VSQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-VSQG list, as provided by EDR, and dated 11/30/2025 has revealed that there is 1 RCRA-VSQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
BLOOMFIELD HILLS SCH EPA ID:: MIK602191666	***1020 E SQ LAKE RD***	***WSW 1/8 - 1/4 (0.191 mi.)***	***1***	***8***

Lists of state and tribal registered storage tanks

AST: The Aboveground Storage Tank database contains registered ASTs. The data come from the Department of Natural Resources' Michigan AST database.

A review of the AST list, as provided by EDR, and dated 10/29/2025 has revealed that there is 1 AST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ADAMS ROAD PUMP STAT Facility Id: 91084227 Tank Status: Currently In Use	6201 N ADAMS RD	NE 1/8 - 1/4 (0.198 mi.)	A3	14

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

PART 201: A Part 201 Listed site is a location that has been evaluated and scored by the DEQ using

the Part 201 scoring model. The location is or includes a "facility" as defined by Part 201, where there has been a release of a hazardous substance(s) in excess of the Part 201 residential criteria, and/or where corrective actions have not been completed under Part 201 to meet the applicable cleanup criteria for unrestricted residential use. The Part 201 List does not include all of the sites of contamination that are subject to regulation under Part 201 because owners are not required to inform the DEQ about the sites and can pursue cleanup independently. Sites of environmental contamination that are not known to DEQ are not on the list, nor are sites with releases that resulted in low environmental impact.

A review of the PART 201 list, as provided by EDR, and dated 01/12/2026 has revealed that there are 2 PART 201 sites within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
3200 SOUTH BOULEVARD	***3200 SOUTH BOULEVARD***	***NNW 1/2 - 1 (0.756 mi.)***	***5***	***17***
Facility ID: 63500927				
ADAMS AND AUBURN RD	***3995 ADAMS RD AT AUB***	***NNE 1/2 - 1 (0.957 mi.)***	***6***	***18***
Facility Status: Interim Response in progress				
Facility ID: '63000874'				

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 11/30/2025 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
HAVERHILL OFFICE CEN	2950 W SQUARE LAKE R	E 1/8 - 1/4 (0.206 mi.)	4	15
EPA ID:: MIK767415581				

PFAS ECHO: Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

A review of the PFAS ECHO list, as provided by EDR, and dated 12/17/2025 has revealed that there is 1 PFAS ECHO site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
DETROIT WATER & SEWE	***6201 ADAMS ROAD***	***NE 1/8 - 1/4 (0.198 mi.)***	***A2***	***12***

EXECUTIVE SUMMARY

E MANIFEST: EPA established a national system for tracking hazardous waste shipments electronically. This system, known as ?e-Manifest,? will modernize the nation?s cradle-to-grave hazardous waste tracking process while saving valuable time, resources, and dollars for industry and states.

A review of the E MANIFEST list, as provided by EDR, and dated 11/30/2025 has revealed that there is 1 E MANIFEST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
BLOOMFIELD HILLS SCH	***1020 E SQ LAKE RD***	***WSW 1/8 - 1/4 (0.191 mi.)***	***1***	***8***

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 8305421.2S



0 1/4 1/2 1 Miles

Target Property
Sites at elevations higher than or equal to the target property
Sites at elevations lower than the target property
Manufactured Gas Plants
National Priority List Sites
Dept. Defense Sites

Indian Reservations BIA
Power transmission lines
Special Flood Hazard Area (1%)
0.2% Annual Chance Flood Hazard
National Wetland Inventory
State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	1219 E Square Lake Road	CLIENT:	Applied Science & Technology
ADDRESS:	1219 E Square Lake Road Bloomfield Hills MI 48304	CONTACT:	Alyssa Celano
LAT/LONG:	42.60609 / 83.217303	INQUIRY #:	8305421.2s
		DATE:	April 07, 2026 4:29 pm

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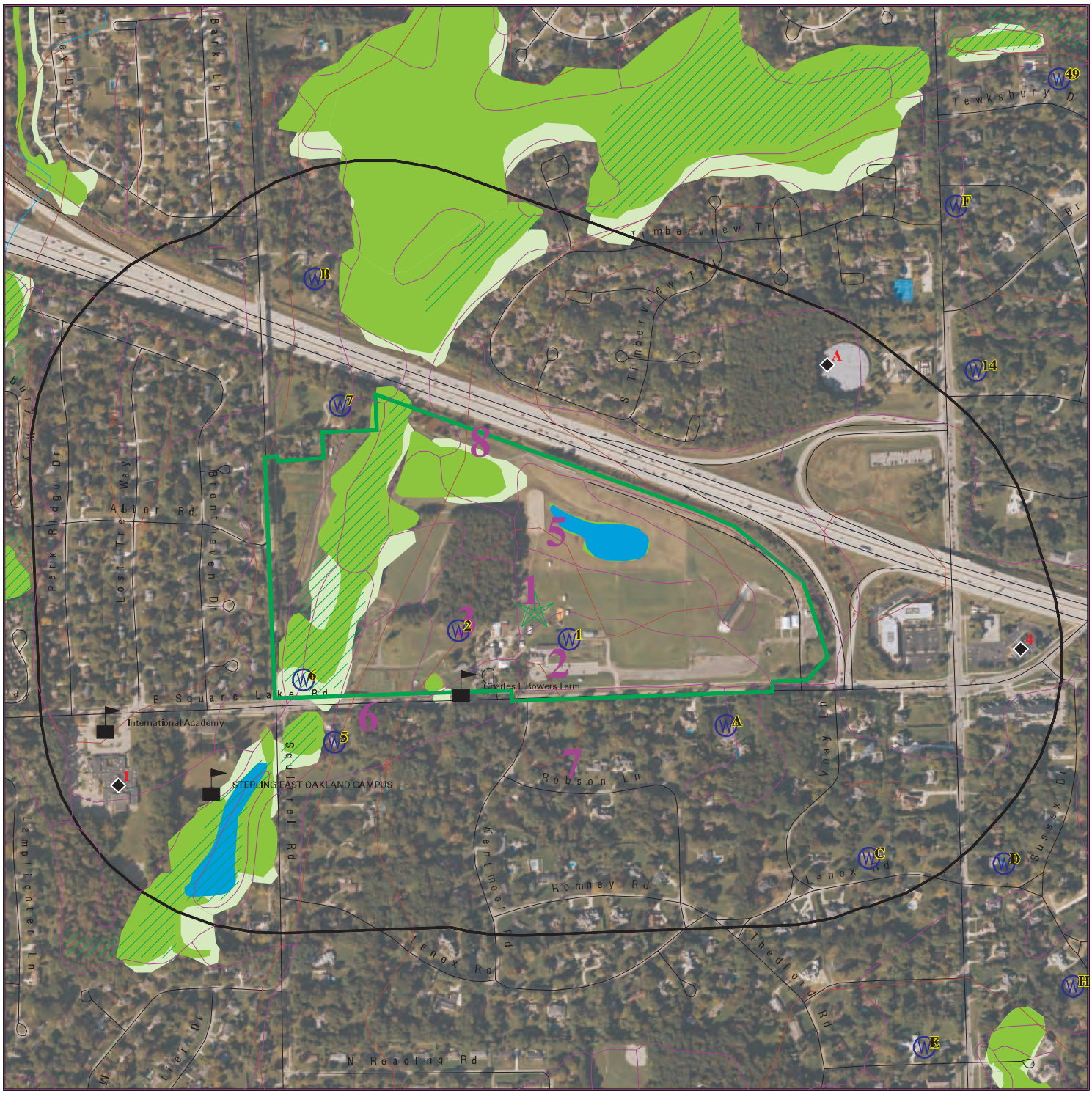
DETAIL MAP - 8305421.2S



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 1219 E Square Lake Road	CLIENT: Applied Science & Technology
ADDRESS: 1219 E Square Lake Road Bloomfield Hills MI 48304	CONTACT: Alyssa Celano INQUIRY #: 8305421.2s
LAT/LONG: 42.60609 / 83.217303	DATE: April 07, 2026 4:29 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	1	NR	NR	NR	1
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal hazardous waste facilities								
SHWS	1.000		0	0	0	0	NR	0
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	1	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
AUL	0.500		0	0	0	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
HIST LF	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
INVENTORY	0.500		0	0	0	NR	NR	0
PART 201	1.000		0	0	0	2	NR	2
CDL	0.001		0	NR	NR	NR	NR	0
DEL PART 201	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
PEAS	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	1	NR	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS PROJECT	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	1	NR	NR	NR	1
PFAS ECHO FIRE TRAIN	0.250		0	0	NR	NR	NR	0
PFAS PT 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST FINDER RELEASE	0.500		0	0	0	NR	NR	0
UST FINDER	0.250		0	0	NR	NR	NR	0
E MANIFEST	0.250		0	1	NR	NR	NR	1
PFAS	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM	0.250		0	0	NR	NR	NR	0
AIRS	0.001		0	NR	NR	NR	NR	0
ASBESTOS	0.001		0	NR	NR	NR	NR	0
BEA	0.500		0	0	0	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
LEAD	0.001		0	NR	NR	NR	NR	0
MANIFEST	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
SSCUP	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
ABAND AIRFIELDS	0.500		0	0	0	NR	NR	0
ENVIRO	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA PART 201	0.001		0	NR	NR	NR	NR	0
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	5	0	2	0	7

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
WSW
1/8-1/4
0.191 mi.
1007 ft.

BLOOMFIELD HILLS SCHOOL DISTRICT
1020 E SQ LAKE RD
BLOOMFIELD HILLS, MI 48304

RCRA-VSQG
E MANIFEST

1014954971
MIK602191666

Relative:
Lower

Actual:
857 ft.

RCRA Listings:

Date Form Received by Agency:	20120702
Handler Name:	Bloomfield Hills School District
Handler Address:	1020 E Sq Lake Rd
Handler City,State,Zip:	BLOOMFIELD HILLS, MI 48304
EPA ID:	MIK602191666
Contact Name:	BRUCE R COLTMAN
Contact Address:	Not reported
Contact City,State,Zip:	Not reported
Contact Telephone:	248-341-5487
Contact Fax:	248-341-5499
Contact Email:	BCOLTMAN@BLOOMFIELD.ORG
Contact Title:	Not reported
EPA Region:	05
Land Type:	District
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	1020 E SQ LAKE RD
Mailing City,State,Zip:	BLOOMFIELD HILLS, MI 48304
Owner Name: Bloomfield Hills School District	
Owner Type:	District
Operator Name: Bloomfield Hills School District	
Operator Type:	District
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	Yes
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

BLOOMFIELD HILLS SCHOOL DISTRICT (Continued) **1014954971**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20120706
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	BLOOMFIELD HILLS SCHOOL DISTRICT
Legal Status:	District
Date Became Current:	20000601
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	BLOOMFIELD HILLS SCHOOL DISTRICT
Legal Status:	District
Date Became Current:	20000601
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20120702
Handler Name:	BLOOMFIELD HILLS SCHOOL DISTRICT
Federal Waste Generator Description:	Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	Yes
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No

BLOOMFIELD HILLS SCHOOL DISTRICT (Continued) **1014954971**

Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 61111
NAICS Description: Elementary And Secondary Schools

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E MANIFEST:
Manifest Tracking Number: 012768477FLE
Last Updated Date: 20191008
Shipped Date: 20190611
Received Date: 20190619
Manifest Status: Corrected
Submission Type: DataImage5Copy
Origin Type: Service
Generator EPA ID: MIK602191666
Generator Name: Bloomfield Hills School District
Generator Location Street Number: Not reported
Generator Location Street 1: 1020 E SQ LAKE RD
Generator Location Street 2: Not reported
Generator Location City: BLOOMFIELD HILLS
Generator Location State: MI
Generator Location Zip: 48304
Generator Mail Street Number: Not reported
Generator Mail Street 1: 1020 E SQ LAKE RD
Generator Mail Street 2: Not reported
Generator Mail City: BLOOMFIELD HILLS
Generator Mail Zip: 48304
Generator Mail State: MI
Generator Contact Company Name: Not reported
Designated Facility EPA ID: MID980991566
Designated Facility Name: Eq Detroit Inc
Designated Facility Mail Street Number: Not reported
Designated Facility Mail Street 1: Not reported
Designated Facility Mail Street 2: 1923 FREDERICK ST
Designated Facility Mail City: DETROIT
Designated Facility Mail Zip: 48211
Designated Facility Mail State: MI
Designated Facility Location Street Number: Not reported
Designated Facility Location Street 1: 1923 FREDERICK ST
Designated Facility Location Street 2: Not reported
Designated Facility Location City: DETROIT
Designated Facility Location Zip: 48211
Designated Facility Location State: MI
Designated Facility Contact Company Name: Not reported
Manifest Residue Indicator: N

BLOOMFIELD HILLS SCHOOL DISTRICT (Continued) **1014954971**

Rejection Indicator: N

Transporter:
Manifest Tracking Number: 012768477FLE
Transporter Line Number: 1
Transporter EPA ID: MID059912956
Transporter Name: Sqs Inc Dba Environmental Recycling Group

Waste Line:
Manifest Tracking Number: 012768477FLE
Waste Line Number: 1
U.S. DOT Hazardous Indicator: Y
U.S. DOT ID Number: NA3082
U.S. DOT Description: Na3082, Hazardous Waste, Liquid, N.O.S., 9, Pgiii, Erg#171
Non-Hazardous Waste Description: Not reported
Number of Containers: 1
Container Type Code: CF
Container Type Description: Fiber or plastic boxes, cartons, cases
Waste Quantity: 50
Quantity Unit of Measure Code: P
Quantity Unit of Measure Description: Pounds
Waste Quantity, in Tons: 0.025
Acute Waste Quantity, in Tons: 0
Non-Acute Waste Quantity, in Tons: 0.025
Waste Quantity, in Kilograms: 22.67575
Acute Waste Quantity, in Kilograms: 0
Non-Acute Waste Quantity, in Kilorgrams: 22.67575
Management Method Code: H110
Management Method Description: STABILIZATION
Waste Residue Indicator: N
Quantity Discrepancy Indicator: N
Waste Type Discrepancy Indicator: N
Waste Density: Not reported
Waste Density Unit of Measure Code: Not reported
Waste Density Unit of Measure Description: Not reported
Form Code: Not reported
Form Code Description: Not reported
Source Code: Not reported
Source Code Description: Not reported
Waste Minimization Code: Not reported
Waste Minimization Code Description: Not reported
Consent Number: Not reported
EPA Waste Indicator: Y
Federal Waste Codes: D007, D008
Quantity Haz Kg: 22.67575
Quantity Haz Tons: 0.025
Quantity Non Haz Kg: 0
Quantity Non Haz Tons: 0
State Waste Codes: Not reported

Manifest Tracking Number: 012768477FLE
Waste Line Number: 2
U.S. DOT Hazardous Indicator: Y
U.S. DOT ID Number: NA3077
U.S. DOT Description: Na3077, Hazardous Waste, Solid, N.O.S., 9, Pgiii, Erg#171
Non-Hazardous Waste Description: Not reported

BLOOMFIELD HILLS SCHOOL DISTRICT (Continued) **1014954971**

Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	5
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.0025
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.0025
Waste Quantity, in Kilograms:	2.267575
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	2.267575
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D009
Quantity Haz Kg:	2.267575
Quantity Haz Tons:	0.0025
Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	Not reported

A2
NE
1/8-1/4
0.198 mi.
1048 ft.

DETROIT WATER & SEWERAGE, ADAMS ROAD STATION **FINDS** **1026061604**
6201 ADAMS ROAD **PFAS ECHO** **N/A**
BLOOMFIELD HILLS, MI 48304

Site 1 of 2 in cluster A

Relative:
Lower

Actual:
893 ft.

FINDS:
Registry ID: 110013867949

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
THE EMISSION INVENTORY SYSTEM (EIS) MAINTAINS AN INVENTORY OF LARGE STATIONARY SOURCES AND VOLUNTARILY-REPORTED SMALLER SOURCES OF AIR POINT POLLUTANT EMITTERS. IT CONTAINS INFORMATION ABOUT FACILITY SITES AND THEIR PHYSICAL LOCATION, EMISSIONS UNITS, EMISSIONS PROCESSES, RELEASE POINTS, CONTROL APPROACHES, AND REGULATIONS. FACILITY INVENTORY DATA ARE KEPT SEPARATE FROM THE EMISSIONS DATA AND HAVE STABLE IDENTIFIERS TO IMPROVE CONTINUITY FROM YEAR TO YEAR AND TO HELP IDENTIFY DUPLICATE OR MISSING FACILITIES

Click this hyperlink while viewing on your computer to access
additional FINDS: detail in the EDR Site Report.

DETROIT WATER & SEWERAGE, ADAMS ROAD STATION (Continued) **1026061604**

PFAS ECHO:

Facility ID:	110013867949
Name:	Detroit Water & Sewerage, Adams Road Station
Address:	Not reported
City,State,Zip:	BLOOMFIELD HILLS, MI
Latitude:	42.60962
Longitude:	-83.20873
Count:	1
County:	OAKLAND
Status:	Unknown
Region:	05
Industry:	Waste Management

ECHO Facility Report:

Facility Percent Minority:	25.627
Facility Derived Tribes:	-
Facility Population:	1839.06
EPA Programs:	-
Federal Facility:	No
Federal Agency:	-
Facility FIPS Code:	26125
Facility Indian Country Flag:	N
Facility Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Facility Derived HUC:	04090004
Facility Derived WBD:	040900040403
Facility Derived CD113:	09
Facility Derived CB2010:	261251500005013
Facility Major Flag:	-
Facility Active Flag:	-
Facility Inspection Count:	0
Facility Date Last Inspection:	-
Facility Days Last Inspection:	-
Facility Informal Count:	0
Facility Date Last Informal Action:	-
Facility Formal Action Count:	0
Facility Date Last Formal Action:	-
Facility Total Penalties:	0
Facility Penalty Count:	-
Facility Date Last Penalty:	-
Facility Last Penalty AMT:	0
Facility QTRS With NC:	-
Facility Programs With SNC:	0
Facility Compliance Status:	-
Facility SNC Flag:	N
AIR Flag:	N
NPDES Flag:	N
SDWIS Flag:	N
RCRA Flag:	N
TRI Flag:	N
GHG Flag:	N
AIR IDS:	-
CAA Permit Types:	-
CAA NAICS:	-
CAA SICS:	-
NPDES IDS:	-
CWA Permit Types:	-
CWA NAICS:	-

DETROIT WATER & SEWERAGE, ADAMS ROAD STATION (Continued) **1026061604**

CWA SICS:	-
RCRA IDS:	-
RCRA Permit Types:	-
RCRA NAICS:	-
SDWA IDS:	-
SDWA System Types:	-
SDWA Compliance Status:	-
SDWA SNC Flag:	N
TRI IDS:	-
TRI Releases Transfers:	-
TRI On Site Releases:	-
TRI Off Site Transfers:	-
TRI Reporter:	-
Facility IMP Water Flag:	-

A3 **ADAMS ROAD PUMP STATION** **AST** **A100212770**
NE **6201 N ADAMS RD** **N/A**
1/8-1/4 **BLOOMFIELD HILLS, MI 48013**
0.198 mi.
1048 ft. **Site 2 of 2 in cluster A**

Relative: AST:
Lower

Actual:
893 ft.

Name:	ADAMS ROAD PUMP STATION
Address:	6201 N ADAMS RD
City:	BLOOMFIELD HILLS
Zip:	48013
Facility ID:	91084227
Owner Name:	GREAT LAKES WATER AUTHORITY
Owner Address:	303 S. LIVERNOIS
Owner City,St,Zip:	DETROIT, MI 48013
District:	Not reported
Date of Collection:	01/11/2001
Accuracy:	100 FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Description Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
Horizontal Datum:	NAD83
Latitude:	42.6084250
Longitude:	-83.208860

Tank Id:	ATK-052286-15
Tank Status:	Currently In Use
Capacity (in gallons):	4000
Installation Date:	11/15/1999
Substance Stored:	Diesel
Removed/Closed Date:	Not reported

Tank Id:	ATK-052289-15
Tank Status:	Currently In Use
Capacity (in gallons):	4000
Installation Date:	11/15/1999
Substance Stored:	Diesel
Removed/Closed Date:	Not reported

4
East
1/8-1/4
0.206 mi.
1086 ft.

HAVERHILL OFFICE CENTRE
2950 W SQUARE LAKE RD
TROY, MI 48098

RCRA NonGen / NLR

1007100057
MIK767415581

Relative:
Lower

Actual:
886 ft.

RCRA Listings:

Date Form Received by Agency:		20011025
Handler Name:		Haverhill Office Centre
Handler Address:		2950 W Square Lake Rd
Handler City,State,Zip:		TROY, MI 48098
EPA ID:		MIK767415581
Contact Name:		AL TENBUSCH
Contact Address:		2950 W SQUARE LAKE RD
Contact City,State,Zip:		TROY, MI 48098
Contact Telephone:		248-641-7788
Contact Fax:		Not reported
Contact Email:		Not reported
Contact Title:		Not reported
EPA Region:		05
Land Type:		Private
Federal Waste Generator Description:		Not a generator, verified
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Not reported
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		2950 W SQUARE LAKE RD
Mailing City,State,Zip:		TROY, MI 48098
Owner Name:	Haverhill Office Centre	
Owner Type:		Private
Operator Name:	Haverhill Office Centre	
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
202 GPRA Corrective Action Baseline:		No
Subject to Corrective Action Universe:		No
Non-TSDFs Where RCRA CA has Been Imposed Universe:		No
Corrective Action Priority Ranking:		No NCAPS ranking
Environmental Control Indicator:		No
Institutional Control Indicator:		No

HAVERHILL OFFICE CENTRE (Continued) **1007100057**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20110303
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	HAVERHILL OFFICE CENTRE
Legal Status:	Private
Date Became Current:	20011025
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	HAVERHILL OFFICE CENTRE
Legal Status:	Private
Date Became Current:	20011025
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20011025
Handler Name:	HAVERHILL OFFICE CENTRE
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No

HAVERHILL OFFICE CENTRE (Continued) **1007100057**

Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 531312
NAICS Description: Nonresidential Property Managers

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

---

5 NNW 1/2-1 0.756 mi. 3991 ft. **3200 SOUTH BOULEVARD**
3200 SOUTH BOULEVARD
BLOOMFIELD HILLS, MI 48304

INVENTORY **S131671295**
PART 201 **N/A**

Relative: Lower
Actual: 869 ft.

INVENTORY:
Name: 3200 SOUTH BOULEVARD
Address: 3200 SOUTH BOULEVARD
City,State,Zip: BLOOMFIELD HILLS, MI 48304
Township: Bloomfield
District: Warren
Data Source: Risks Present and Require Action in Short-term
Lust Name: Not reported
Regulatory Program: 201
Release Status: Not reported
Project Manager: Ethridge, Kimberly
Latitude: 42.61966648
Longitude: -83.22513972

PART 201:
Name: 3200 SOUTH BOULEVARD
Address: 3200 SOUTH BOULEVARD
City,State,Zip: BLOOMFIELD HILLS, MI 48304
Facility ID: 63500927
Facility Status: Not reported
Latitude: 42.61966648
Source: Not reported
Longitude: -83.22513972
SAM Score: Not reported
SAM Score Date: Not reported
Township: Not reported
Range: Not reported
Section: Not reported
Quarter: Not reported
Quarter/Quarter: Not reported
Pollutants: Not reported
Location Type: 201
Work Unit: Not reported
Project Manager: Ethridge, Kimberly
Risk Condition: Risks Present and Require Action in Short-term

6
NNE
1/2-1
0.957 mi.
5051 ft.

ADAMS AND AUBURN RD DEVELOPMENT
3995 ADAMS RD AT AUBURN
AUBURN HILLS, MI 48306

AUL
PART 201
BEA

S103594529
N/A

Relative:
Lower

Actual:
860 ft.

AUL:

Name:	ADAMS AND AUBURN RD DEVELOPMENT
Address:	3995 ADAMS ROAD
City,State,Zip:	AUBURN HILLS, MI 48306
Status:	Recorded
Site Name:	South Adams Road & Auburn Road Developme
Property:	on-site location
Land Use Restriction Type:	RC
Program Type:	Part 201
Program Support Assigned User:	Nicholas Ekel
Program Support Assigned Date:	03/24/2015
Legal Description Of Property:	Site Address
Based On The Deq Ref #:	11120110011
MDEQ Reference Number:	RC-RRD-201-10-011
Property Or Description Restricted Area:	Not reported
Lead Division:	RRD
File Name Of Hyperlinked Legal Doc:	U:\\KERMIT\\11120110011.PDF
Mapped Polygons Area In Acres:	1.5896999999999999
Mapped Polygons Area In Square Miles:	0.0024
Date Data Entry Started:	04/24/2015
Date Data Entry Finished:	04/24/2015
Individual Or Staff Assoc With The Mapping:	Nicholas Ekel
Program Used To Map Restricted Features:	ArcGIS 10.2
Date Legal Paperwork Stamped/Filed/Register Of Deeds:	11/29/2010
Commercial I Land Use Restriction:	0
Commercial Ii Land Use Restriction:	0
Commercial Iii Land Use Restriction:	0
Commercial Iv Land Use Restriction:	0
Industrial Land Use Restriction:	0
Residential Land Use Restriction:	0
Recreational Land Use Restriction:	0
Multiple Land-Use Restrictions:	0
Site Specific Restrictions:	1
Groundwater Consumption Restrictions:	1
Groundwater Contact Restrictions:	0
Special Well Construction Requirements:	0
Special Building Restrictions:	0
Excavation And Soil Movement Restrictions:	0
Soil Movement Requirements:	0
There Is A Restriction On All Construction:	0
Monitoring Well Protected, No Tampering Or Removal:	0
There Is An Exposure Barrier In Place:	0
There Is A Health And Safety Plan:	0
There Is A Permanent Marker On The Site:	0
Comment:	1/19/2010, requested Christy Clark to determine if the CP wanted a Part 201 or a Part 213 reference number. 6/28/2010, CP again requested DNRE reference but request was still unclear as to which statute the restriction was being placed under. 6/30/2010,
Map Comments:	20150324 - LRUR is NOT mapped in KERMIT - Nick Ekel 20150424 - LRUR is mapped in KERMIT - Nick Ekel

PART 201:

Name:	ADAMS AND AUBURN RD DEVELOPMENT

ADAMS AND AUBURN RD DEVELOPMENT (Continued) **S103594529**

Address:	3995 ADAMS RD AT AUBURN
City,State,Zip:	AUBURN HILLS, MI 48306
Facility ID:	'63000874'
Facility Status:	Interim Response in progress
Latitude:	Not reported
Source:	Gasoline Service Station
Longitude:	Not reported
SAM Score:	Not reported
SAM Score Date:	2004-02-04
Township:	03N
Range:	10E
Section:	25
Quarter:	SE
Quarter/Quarter:	SE
Pollutants:	PCE; TCE; Xylenes; cis-1,2 DCE
Location Type:	Not reported
Work Unit:	Not reported
Project Manager:	Not reported
Risk Condition:	Not reported

BEA:

Name:	SOUTH ADAMS ROAD & AUBURN ROAD DEVELOPMENT
Address:	3995 ADAMS RD AT AUBURN
City,State,Zip:	AUBURN HILLS, MI 48306
Secondary Address:	Not reported
BEA Number:	Not reported
District:	Not reported
Date Received:	11/25/1997
Submitter Name:	Not reported
Petition Determination:	Not reported
Petition Disclosure:	Not reported
Category:	Not reported
Determination 20107A:	Not reported
Reviewer:	Not reported
Division Assigned:	Not reported
Location ID:	63000874
Submittal Type:	Not reported
Submittal Number:	B199700484LV
Approval Status:	RRD Received
Workflow Status:	System
Date Submitted:	1/31/2004
Date Completed:	Not reported
Township:	Not reported
Work Unit:	Warren
Comments:	RECORD CENTER - 895150 - BEA180
Organization:	MOBIL OIL CORPORATION
Contact:	JASON HANSON, Migrate from ERNIE
Contact Type:	Not reported
Organization Street Address:	NO. 30 OAK HOLLOW, SOUTHFIELD, MI, 48034
Organization City:	SOUTHFIELD
Organization State:	Not reported
Organization Zip Code:	48034
Organization County:	Not reported
Contact Street Address:	HANDEX OF MICHIGAN
Contact City:	WIXOM
Contact Zip Code:	48393
Contact State:	MI

ADAMS AND AUBURN RD DEVELOPMENT (Continued) **S103594529**

Name:	ADAMS AND AUBURN RD DEVELOPMENT
Address:	3995 ADAMS RD AT AUBURN
City,State,Zip:	AUBURN HILLS, MI 48306
Secondary Address:	Not reported
BEA Number:	Not reported
District:	Not reported
Date Received:	11/25/1997
Submitter Name:	Not reported
Petition Determination:	Not reported
Petition Disclosure:	Not reported
Category:	Not reported
Determination 20107A:	Not reported
Reviewer:	Not reported
Division Assigned:	Not reported
Location ID:	63000874
Submittal Type:	Baseline Environmental Assessment
Submittal Number:	B199700484LV
Approval Status:	RRD Received
Workflow Status:	Submitted
Date Submitted:	01/31/2004
Date Completed:	Not reported
Township:	Auburn Hills
Work Unit:	Warren
Comments:	RECORD CENTER - 895150 - BEA180
Organization:	Not reported
Contact:	Not reported
Contact Type:	Not reported
Organization Street Address:	Not reported
Organization City:	Not reported
Organization State:	Not reported
Organization Zip Code:	Not reported
Organization County:	Not reported
Contact Street Address:	Not reported
Contact City:	Not reported
Contact Zip Code:	Not reported
Contact State:	Not reported

ORPHAN SUMMARY

Site Name	Site Address	Zip	Database(s)

NO SITES FOUND

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: EPA
Telephone: N/A
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: EPA
Telephone: N/A
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: EPA
Telephone: N/A
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/10/2025
Date Data Arrived at EDR: 12/10/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 03/24/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 03/11/2025
Date Data Arrived at EDR: 04/02/2025
Date Made Active in Reports: 06/24/2025
Number of Days to Update: 83

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/30/2025
Date Data Arrived at EDR: 11/11/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 1

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/17/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/30/2025
Date Data Arrived at EDR: 11/11/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 1

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/17/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/01/2025
Date Data Arrived at EDR: 12/08/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 66

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

Date of Government Version: N/A
Date Data Arrived at EDR: 10/31/2013
Date Made Active in Reports: 11/20/2013
Number of Days to Update: 20

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-284-5103
Last EDR Contact: 01/07/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: No Update Planned

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Solid Waste Facilities Database

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 12/08/2025
Date Data Arrived at EDR: 12/08/2025
Date Made Active in Reports: 12/12/2025
Number of Days to Update: 4

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-4035
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Semi-Annually

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank Sites

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 11/06/2025
Date Data Arrived at EDR: 11/10/2025
Date Made Active in Reports: 01/28/2026
Number of Days to Update: 79

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-9837
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/21/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/12/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 69

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

Lists of state and tribal registered storage tanks

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 06/06/2025
Date Data Arrived at EDR: 08/26/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 78

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 03/25/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

UST 2: Underground Storage Tank Listing
A listing of underground storage tank site locations that have unknown owner information.

Date of Government Version: 01/08/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 04/09/2024
Number of Days to Update: 82

Source: Department of Licensing & Regulatory Affairs
Telephone: 517-373-1820
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

UST: Underground Storage Tank Facility List
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 09/05/2025
Date Data Arrived at EDR: 11/03/2025
Date Made Active in Reports: 01/23/2026
Number of Days to Update: 81

Source: Department of Licensing & Regulatory Affairs
Telephone: 517-373-1820
Last EDR Contact: 02/03/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Annually

AST: Aboveground Tanks
Registered Aboveground Storage Tanks.

Date of Government Version: 10/29/2025
Date Data Arrived at EDR: 11/06/2025
Date Made Active in Reports: 01/28/2026
Number of Days to Update: 83

Source: Department of Licensing & Regulatory Affairs
Telephone: 517-373-1820
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: No Update Planned

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

AUL: Engineering and Institutional Controls
A listing of sites with institutional and/or engineering controls in place.

Date of Government Version: 11/19/2025
Date Data Arrived at EDR: 11/19/2025
Date Made Active in Reports: 02/10/2026
Number of Days to Update: 83

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-4828
Last EDR Contact: 02/11/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Quarterly

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Brownfields and USTfield Site Database
All state funded Part 201 and 213 sites, as well as LUST sites that have been redeveloped by private entities using the BEA process. Be aware that this is not a list of all of the potential brownfield sites in Michigan.

Date of Government Version: 09/24/2025
Date Data Arrived at EDR: 10/14/2025
Date Made Active in Reports: 01/06/2026
Number of Days to Update: 84

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-4805
Last EDR Contact: 01/15/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

BROWNFIELDS 2: Brownfields Building and Land Site Locations
A listing of brownfield building and land site locations. The listing is a collaborative effort of Michigan Economic Development Corporation, Michigan Economic Developers Association, Detrot Edison, Detroit Area Commercial Board of Realtors

Date of Government Version: 10/13/2025
Date Data Arrived at EDR: 10/17/2025
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 82

Source: Economic Development Corporation
Telephone: 888-522-0103
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/02/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/10/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF: Inactive Solid Waste Facilities
The database contains historical information and is no longer updated.

Date of Government Version: 03/01/1997
Date Data Arrived at EDR: 02/28/2003
Date Made Active in Reports: 03/06/2003
Number of Days to Update: 6

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-4034
Last EDR Contact: 02/28/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycling Facilities
A listing of recycling center locations.

Date of Government Version: 03/17/2025
Date Data Arrived at EDR: 03/19/2025
Date Made Active in Reports: 06/02/2025
Number of Days to Update: 75

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-241-5719
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/22/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/07/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 11/13/2024
Date Made Active in Reports: 11/19/2024
Number of Days to Update: 6

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 04/04/2025
Date Data Arrived at EDR: 06/02/2025
Date Made Active in Reports: 08/12/2025
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/20/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: No Update Planned

PART 201: Part 201 Site List

A Part 201 Listed site is a location that has been evaluated and scored by the DEQ using the Part 201 scoring model. The location is or includes a "facility" as defined by Part 201, where there has been a release of a hazardous substance(s) in excess of the Part 201 residential criteria, and/or where corrective actions have not been completed under Part 201 to meet the applicable cleanup criteria for unrestricted residential use. The Part 201 List does not include all of the sites of contamination that are subject to regulation under Part 201 because owners are not required to inform the DEQ about the sites and can pursue cleanup independently. Sites of environmental contamination that are not known to DEQ are not on the list, nor are sites with releases that resulted in low environmental impact.

Date of Government Version: 01/12/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/25/2026
Number of Days to Update: 71

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-284-5103
Last EDR Contact: 01/13/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: No Update Planned

INVENTORY: Inventory of Facilities

The Inventory of Facilities has three data sources: Facilities under Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) identified through state funded or private party response activities (Projects); Facilities under Part 213, Leaking Underground Storage Tanks of the NREPA; and Facilities identified through submittals of Baseline Environmental Assessments (BEA) submitted pursuant to Part 201 or Part 213 of the NREPA. The Part 201 Projects Inventory does not include all of the facilities that are subject to regulation under Part 201 because owners are not required to inform the Department of Environmental Quality (DEQ) about the facilities and can pursue cleanup independently. Facilities that are not known to DEQ are not on the Inventory, nor are locations with releases that resulted in low environmental impact. Part 213 facilities listed here may have more than one release; a list of releases for which corrective actions have been completed and list of releases for which corrective action has not been completed is located on the Leaking Underground Storage Tanks Site Search webpage. The DEQ may or may not have reviewed and concurred with the conclusion that the corrective actions described in a closure report meets criteria. A BEA is a document that new or prospective property owners/operations disclose to the DEQ identifying the property as a facility pursuant to Part 201 and Part 213. The Inventory of BEA Facilities overlaps in part with the Part 201 Projects facilities and Part 213 facilities. There may be more than one BEA for each facility.

Date of Government Version: 01/12/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/25/2026
Number of Days to Update: 71

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-284-5136
Last EDR Contact: 01/13/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Quarterly

CDL: Clandestine Drug Lab Listing

A listing of clandestine drug lab locations.

Date of Government Version: 10/16/2025
Date Data Arrived at EDR: 10/23/2025
Date Made Active in Reports: 01/14/2026
Number of Days to Update: 83

Source: Department of Community Health
Telephone: 517-373-3740
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: No Update Planned

DEL PART 201: Delisted List of Contaminated Sites

A deleted site has been removed from the Part 201 List because information known to the DEQ at the time of the evaluation does not support inclusion on the Part 201 List. This designation is often applied to sites where changes in cleanup criteria resulted in a determination that the site no longer exceeds any applicable cleanup criterion.
A delisted site has been removed from the Part 201 List because response actions have reduced the levels of contaminants to concentrations which meet or are below the criteria for unrestricted residential use.

Date of Government Version: 01/12/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/25/2026
Number of Days to Update: 71

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-9541
Last EDR Contact: 01/13/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 04/04/2025
Date Data Arrived at EDR: 06/02/2025
Date Made Active in Reports: 08/12/2025
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/19/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Quarterly

Local Land Records

LIENS: Lien List

An Environmental Lien is a charge, security, or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon a property, including (but not limited to) liens imposed pursuant to CERCLA 42 USC * 9607(1) and similar state or local laws. In other words: a lien placed upon a property's title due to an environmental condition

Date of Government Version: 10/03/2025
Date Data Arrived at EDR: 10/07/2025
Date Made Active in Reports: 12/31/2025
Number of Days to Update: 85

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-241-7603
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/20/2026
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/07/2025
Date Data Arrived at EDR: 12/08/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 66

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

PEAS: Pollution Emergency Alerting System

Environmental pollution emergencies reported to the Department of Environmental Quality such as tanker accidents, pipeline breaks, and release of reportable quantities of hazardous substances.

Date of Government Version: 10/10/2025
Date Data Arrived at EDR: 10/16/2025
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 83

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-8427
Last EDR Contact: 01/15/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 10/22/2025
Date Data Arrived at EDR: 11/06/2025
Date Made Active in Reports: 01/12/2026
Number of Days to Update: 67

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/10/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/20/2026
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 01/29/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 12/07/2025
Date Data Arrived at EDR: 12/08/2025
Date Made Active in Reports: 02/05/2026
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA Watch List

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/12/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2024
Date Data Arrived at EDR: 11/10/2025
Date Made Active in Reports: 01/29/2026
Number of Days to Update: 80

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/12/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 01/12/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 51

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/13/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/30/2026
Date Data Arrived at EDR: 02/02/2026
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 10

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 01/01/2026
Date Data Arrived at EDR: 01/14/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 8

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 06/26/2025
Date Data Arrived at EDR: 07/01/2025
Date Made Active in Reports: 07/29/2025
Number of Days to Update: 28

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 08/12/2025
Date Data Arrived at EDR: 09/30/2025
Date Made Active in Reports: 11/24/2025
Number of Days to Update: 55

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 03/04/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/23/2025
Next Scheduled EDR Contact: 01/12/2026
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/26/2026
Date Data Arrived at EDR: 01/27/2026
Date Made Active in Reports: 02/25/2026
Number of Days to Update: 29

Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2024
Date Data Arrived at EDR: 11/19/2025
Date Made Active in Reports: 01/29/2026
Number of Days to Update: 71
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 02/20/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 02/20/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/29/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 12/31/2025
Date Data Arrived at EDR: 01/20/2026
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 44

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/20/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2025
Date Data Arrived at EDR: 12/12/2025
Date Made Active in Reports: 02/25/2026
Number of Days to Update: 75

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/25/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 02/19/2025
Date Made Active in Reports: 03/07/2025
Number of Days to Update: 16

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 01/21/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 05/15/2025
Date Data Arrived at EDR: 05/15/2025
Date Made Active in Reports: 07/29/2025
Number of Days to Update: 75

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/12/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/26/2025
Date Data Arrived at EDR: 01/05/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/08/2025
Date Data Arrived at EDR: 08/18/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 86

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/13/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 01/01/2026
Date Data Arrived at EDR: 01/06/2026
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 1
Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 04/08/2025
Date Data Arrived at EDR: 05/20/2025
Date Made Active in Reports: 08/12/2025
Number of Days to Update: 84
Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/03/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97
Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/19/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 12/04/2025
Date Data Arrived at EDR: 12/05/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 69
Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/11/2026
Next Scheduled EDR Contact: 06/15/2026
Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 06/04/2024
Date Data Arrived at EDR: 11/22/2024
Date Made Active in Reports: 02/18/2025
Number of Days to Update: 88
Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 03/03/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/07/2025
Date Data Arrived at EDR: 11/19/2025
Date Made Active in Reports: 02/05/2026
Number of Days to Update: 78
Source: EPA
Telephone: (312) 353-2000
Last EDR Contact: 02/20/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 07/31/2025
Date Data Arrived at EDR: 08/14/2025
Date Made Active in Reports: 11/04/2025
Number of Days to Update: 82
Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82
Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 02/11/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 12/13/2025
Date Data Arrived at EDR: 12/17/2025
Date Made Active in Reports: 02/25/2026
Number of Days to Update: 70
Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/06/2025
Date Data Arrived at EDR: 11/06/2025
Date Made Active in Reports: 01/12/2026
Number of Days to Update: 67
Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/10/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information
EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5
Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information
Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5
Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 11/12/2024
Date Data Arrived at EDR: 07/21/2025
Date Made Active in Reports: 10/13/2025
Number of Days to Update: 84

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS PROJECT: NORTHEASTERN UNIVERSITY PFAS PROJECT

The PFAS Contamination Site Tracker records qualitative and quantitative data from each site in a chart, specifically examining discovery, contamination levels, government response, litigation, health impacts, media coverage, and community characteristics. All data presented in the chart were extracted from government websites, such as state health departments or the Environmental Protection Agency, and news articles.

Date of Government Version: 08/21/2025
Date Data Arrived at EDR: 12/04/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 70

Source: Social Science Environmental Health Research Institute
Telephone: N/A
Last EDR Contact: 03/05/2026
Next Scheduled EDR Contact: 06/15/2026
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/19/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 4

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS ECHO FIRE TRAIN: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS PT 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/10/2017
Number of Days to Update: 63

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 09/24/2025
Next Scheduled EDR Contact: 01/12/2026
Data Release Frequency: No Update Planned

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 09/24/2025
Next Scheduled EDR Contact: 01/12/2026
Data Release Frequency: Varies

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 01/10/2026
Date Data Arrived at EDR: 01/15/2026
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 49

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 01/15/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database

US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/31/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 79

Source: Environmental Protecton Agency
Telephone: 202-564-0394
Last EDR Contact: 03/05/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Semi-Annually

UST FINDER: UST Finder Database

EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 106

Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 02/05/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Varies

E MANIFEST: Hazardous Waste Electronic Manifest System

EPA established a national system for tracking hazardous waste shipments electronically. This system, known as ?e-Manifest,? will modernize the nation?s cradle-to-grave hazardous waste tracking process while saving valuable time, resources, and dollars for industry and states.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/05/2025
Date Made Active in Reports: 12/19/2025
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 833-501-6826
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Varies

PFAS: PFAS Contaminated Sites Listing

PFAS have been widely used in numerous industrial and residential applications since the 1950a??s. Their stability and unique chemical properties produce waterproof, stain resistant, and nonstick qualities in products. They are found in some firefighting foams and a wide range of consumer products such as carpet treatments, non-stick cookware, water-resistant fabrics, food packaging materials, and personal care products.

Date of Government Version: 09/24/2025
Date Data Arrived at EDR: 11/03/2025
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 80

Source: Department of Environment, Great Lakes & Energy
Telephone: 517-284-9278
Last EDR Contact: 02/06/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Varies

AQUEOUS FOAM: Aqueous Film Forma Foam Listing

Sites with Aqueous Film Forming Foam contamination, as reported to the Department of Environment, Great Lakes & Energy. AFFF is a fire suppressant used to extinguish flammable liquid fires such as fuel fires.

Date of Government Version: 12/19/2025
Date Data Arrived at EDR: 12/29/2025
Date Made Active in Reports: 03/06/2026
Number of Days to Update: 67

Source: Department of Environment, Great Lakes & Energy
Telephone: 517-284-9278
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

AIRS: Permit and Emissions Inventory Data

Permit and emissions inventory data.

Date of Government Version: 12/03/2025
Date Data Arrived at EDR: 12/05/2025
Date Made Active in Reports: 12/18/2025
Number of Days to Update: 13

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-7074
Last EDR Contact: 03/04/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Annually

ASBESTOS: Asbestos Notification Listing

Asbestos

Date of Government Version: 12/31/2025
Date Data Arrived at EDR: 01/16/2026
Date Made Active in Reports: 02/13/2026
Number of Days to Update: 28

Source: Department of Licensing & Regulatory Affairs
Telephone: 517-284-7699
Last EDR Contact: 04/02/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Quarterly

BEA: Baseline Environmental Assessment Database

A BEA is a document that new or prospective property owners/operations disclose to the DEQ identifying the property as a facility pursuant to Part 201 and Part 213. The Inventory of BEA Facilities overlaps in part with the Part 201 Projects facilities and Part 213 facilities. There may be more than one BEA for each facility.

Date of Government Version: 11/06/2025
Date Data Arrived at EDR: 11/10/2025
Date Made Active in Reports: 01/28/2026
Number of Days to Update: 79

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-9541
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: No Update Planned

COAL ASH: Coal Ash Disposal Sites

Coal fired power plants in Southeast Michigan that have coal ash handling on site.

Date of Government Version: 12/22/2025
Date Data Arrived at EDR: 01/14/2026
Date Made Active in Reports: 03/23/2026
Number of Days to Update: 68

Source: Department of Environment, Great Lakes, and Energy
Telephone: 586-753-3754
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

DRYCLEANERS: Drycleaning Establishments

A listing of drycleaning facilities in Michigan.

Date of Government Version: 10/10/2025
Date Data Arrived at EDR: 01/06/2026
Date Made Active in Reports: 03/06/2026
Number of Days to Update: 59

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-4586
Last EDR Contact: 01/06/2026
Next Scheduled EDR Contact: 04/20/2026
Data Release Frequency: Quarterly

FIN ASSURANCE 1: Financial Assurance Information Listing

Financial assurance information.

Date of Government Version: 12/15/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 77

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-6610
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Semi-Annually

FIN ASSURANCE 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 09/17/2025
Date Data Arrived at EDR: 09/19/2025
Date Made Active in Reports: 12/12/2025
Number of Days to Update: 84

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-4034
Last EDR Contact: 03/11/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Varies

FIN ASSURANCE 3: Financial Assurance Information Listing

Financial assurance information for underground storage tank facilities.

Date of Government Version: 01/06/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/30/2026
Number of Days to Update: 76

Source: Department of Licensing & Regulatory Affairs
Telephone: 517-335-7279
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

LEAD: Lead Information Registry Listing

All properties in this registry received a lead-based paint inspection or a lead risk assessment, and a lead abatement service. A lead-based paint inspection identifies any lead present on the property. The lead risk assessment determines if any of the lead found is a hazard. Lead abatement services address or remove the lead hazards.

Date of Government Version: 11/19/2024
Date Data Arrived at EDR: 11/20/2024
Date Made Active in Reports: 02/13/2025
Number of Days to Update: 85

Source: Department of Health & Human Services
Telephone: 517-335-9390
Last EDR Contact: 02/18/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Varies

LEAD CERT: Lead Safe Housing Registry

A listing of Michigan properties included in the Lead Safe Housing Registry.

Date of Government Version: 11/24/2025
Date Data Arrived at EDR: 12/02/2025
Date Made Active in Reports: 02/18/2026
Number of Days to Update: 78

Source: Department of Community Health
Telephone: 517-335-9699
Last EDR Contact: 02/18/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Quarterly

MI MANIFEST: Hazardous Waste Manifest Data

A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage or disposal must prepare a hazardous waste manifest to accompany such shipment.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 172

Source: Department of Environment, Great Lakes & Energy
Telephone: 517-284-6838
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Annually

NPDES: List of Active NPDES Permits

General information regarding NPDES (National Pollutant Discharge Elimination System) permits and NPDES Storm Water permits.

Date of Government Version: 12/19/2025
Date Data Arrived at EDR: 12/22/2025
Date Made Active in Reports: 03/06/2026
Number of Days to Update: 74

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-241-1300
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

UIC: Underground Injection Wells Database

A listing of underground injection well locations. The UIC Program is responsible for regulating the construction, operation, permitting, and closure of injection wells that place fluids underground for storage or disposal.

Date of Government Version: 01/14/2026
Date Data Arrived at EDR: 01/15/2026
Date Made Active in Reports: 03/25/2026
Number of Days to Update: 69

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-241-1515
Last EDR Contact: 01/07/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Quarterly

WDS: Waste Data System

The Waste Data System (WDS) tracks activities at facilities regulated by the Solid Waste, Scrap Tire, Hazardous Waste, and Liquid Industrial Waste programs.

Date of Government Version: 12/08/2023
Date Data Arrived at EDR: 12/11/2023
Date Made Active in Reports: 03/05/2024
Number of Days to Update: 85

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-284-6562
Last EDR Contact: 02/04/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Varies

ENVIRO: Michigan Enviro Information

MiEnviro is permitting and compliance for air quality and water resources, including National Pollutant Discharge Elimination System (NPDES), storm water, groundwater discharge, aquatic nuisance control, Part 41 construction, medical waste registrations, and land and water interface permits.

Date of Government Version: 01/26/2026
Date Data Arrived at EDR: 01/27/2026
Date Made Active in Reports: 03/06/2026
Number of Days to Update: 38

Source: Department of Environment, Great Lakes, & Energy
Telephone: 800-662-9278
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Quarterly

DRYCLEANERS: Drycleaner Facility Listing

A listing of list of ALL Dry cleaner facilities from the Integrated Compliance Information System (ICIS).

Date of Government Version: 12/13/2025
Date Data Arrived at EDR: 12/17/2025
Date Made Active in Reports: 03/12/2026
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-254-2501
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

ABAND AIRFIELDS: Abandoned & Little-Known Airfields Listing

Abandoned and little known airfield locations, in the United States.

Date of Government Version: 03/04/2026
Date Data Arrived at EDR: 03/05/2026
Date Made Active in Reports: 03/12/2026
Number of Days to Update: 7

Source: Airfields-Freeman
Telephone: N/A
Last EDR Contact: 03/05/2026
Next Scheduled EDR Contact: 06/15/2026
Data Release Frequency: Varies

SSCUP: State Owned Sites Cleanup Program List

Public Act 380 of 1996 amended Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, PA 451 of 1994, by adding Section 20108c and creating the State Sites Cleanup Fund (SSCUF) and the State Sites Cleanup Program (SSCUP). Its intent was to fund environmental cleanups at contaminated sites where the state is a liable party as an owner or operator of the site, as defined in Section 20126 of Part 201.

Date of Government Version: 12/31/2025
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/25/2026
Number of Days to Update: 71

Source: Department of Environment, Great Lakes & Energy
Telephone: 517-284-5153
Last EDR Contact: 01/13/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA PART 201: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Michigan.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: Department of Environment, Great Lakes, and Energy
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Michigan.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Environment, Great Lakes, and Energy
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Michigan.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: Department of Environment, Great Lakes, and Energy
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 11/02/2025
Date Data Arrived at EDR: 11/03/2025
Date Made Active in Reports: 01/23/2026
Number of Days to Update: 81

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/03/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 03/25/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/22/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: No Update Planned

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/05/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 02/25/2026
Next Scheduled EDR Contact: 06/15/2026
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Day Care Centers, Group & Family Homes
Source: Bureau of REgulatory Services
Telephone: 517-373-8300

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Natural Resources
Telephone: 517-241-2254

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

1219 E SQUARE LAKE ROAD
1219 E SQUARE LAKE ROAD
BLOOMFIELD HILLS, MI 48304

TARGET PROPERTY COORDINATES

Latitude (North):	42.60609 - 42° 36' 21.92''
Longitude (West):	83.217303 - 83° 13' 2.29''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	318112.1
UTM Y (Meters):	4719242.0
Elevation:	902 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	50029850 BIRMINGHAM, MI
Version Date:	2023
North Map:	50029951 ROCHESTER, MI
Version Date:	2023

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

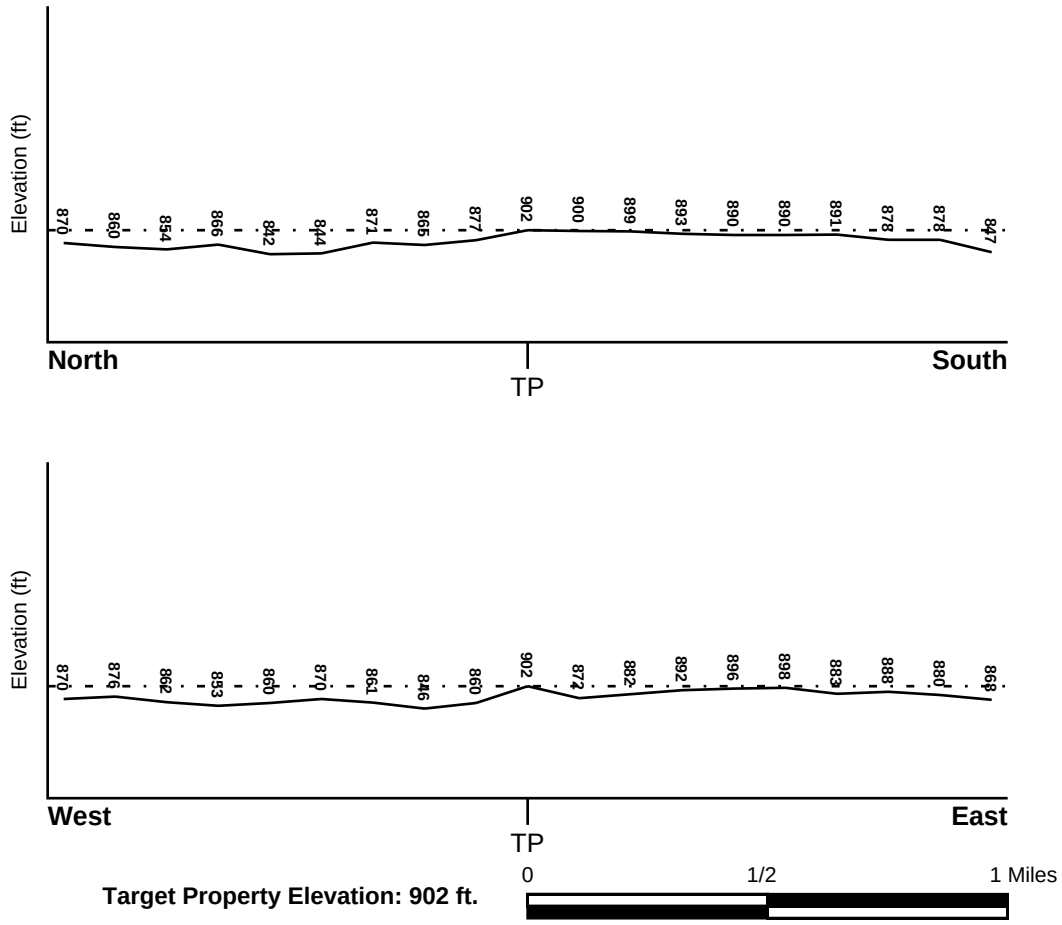
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WNW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
26125C0527F	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
26125C0526F	FEMA FIRM Flood data
26125C0528F	FEMA FIRM Flood data
26125C0529F	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
BIRMINGHAM	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

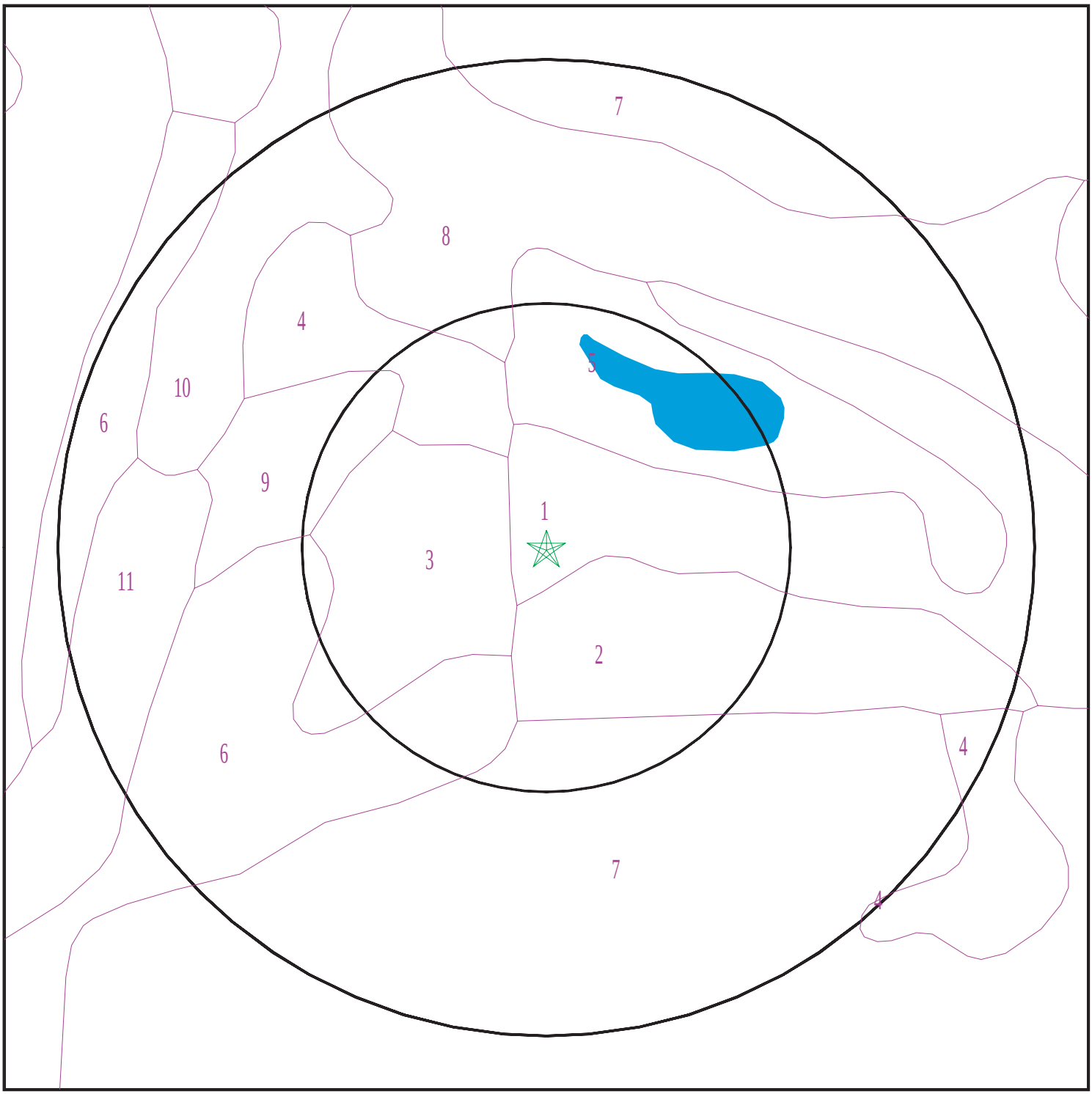
Era:	Paleozoic
System:	Mississippian
Series:	Osagean and Kinderhookian Series
Code:	M1 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 8305421.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	1219 E Square Lake Road	CLIENT:	Applied Science & Technology
ADDRESS:	1219 E Square Lake Road Bloomfield Hills MI 48304	CONTACT:	Alyssa Celano
		INQUIRY #:	8305421.2s
LAT/LONG:	42.60609 / 83.217303	DATE:	April 07, 2026 4:29 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Udipsamments

Soil Surface Texture: sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 6.5 Min: 5.1

Soil Map ID: 2

Soil Component Name: Udipsamments

Soil Surface Texture: sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 6.5 Min: 5.1

Soil Map ID: 3

Soil Component Name: Marlette

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	7 inches	22 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	22 inches	31 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
4	31 inches	59 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 4

Soil Component Name: Fox

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	16 inches	29 inches	gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
3	29 inches	59 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Map ID: 5

Soil Component Name: Aquents

Soil Surface Texture: variable

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Very poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	59 inches	variable	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 6

Soil Component Name: Fox

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	16 inches	29 inches	gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	29 inches	59 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Map ID: 7

Soil Component Name: Fox

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	16 inches	29 inches	gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	29 inches	59 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Map ID: 8

Soil Component Name: Udorthents

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	0 inches	loam	Not reported	Not reported	Max: Min:	Max: Min:
2	0 inches	59 inches	variable	Not reported	Not reported	Max: Min:	Max: Min:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 9

Soil Component Name: Oshtemo

Soil Surface Texture: stratified sand to gravelly sand

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	55 inches	59 inches	stratified sand to gravelly sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 5.1
2	0 inches	7 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 5.1
3	7 inches	18 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 5.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
4	18 inches	40 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 5.1
5	40 inches	55 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 5.1

Soil Map ID: 10

Soil Component Name: Houghton

Soil Surface Texture: muck

Hydrologic Group: Class A/D - Drained/undrained hydrology class of soils that can be drained and are classified.

Soil Drainage Class: Very poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	3 inches	muck	A-8	Highly organic soils, Peat.	Max: 42 Min: 1.4	Max: Min:
2	3 inches	59 inches	muck	A-8	Highly organic soils, Peat.	Max: 42 Min: 1.4	Max: Min:

Soil Map ID: 11

Soil Component Name: Sloan

Soil Surface Texture: silt loam

Hydrologic Group: Class B/D - Drained/undrained hydrology class of soils that can be drained and are classified.

Soil Drainage Class: Very poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 15 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
2	14 inches	50 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	50 inches	59 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
36	USGS40000482308	1/2 - 1 Mile North
56	USGS40000482271	1/2 - 1 Mile SSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

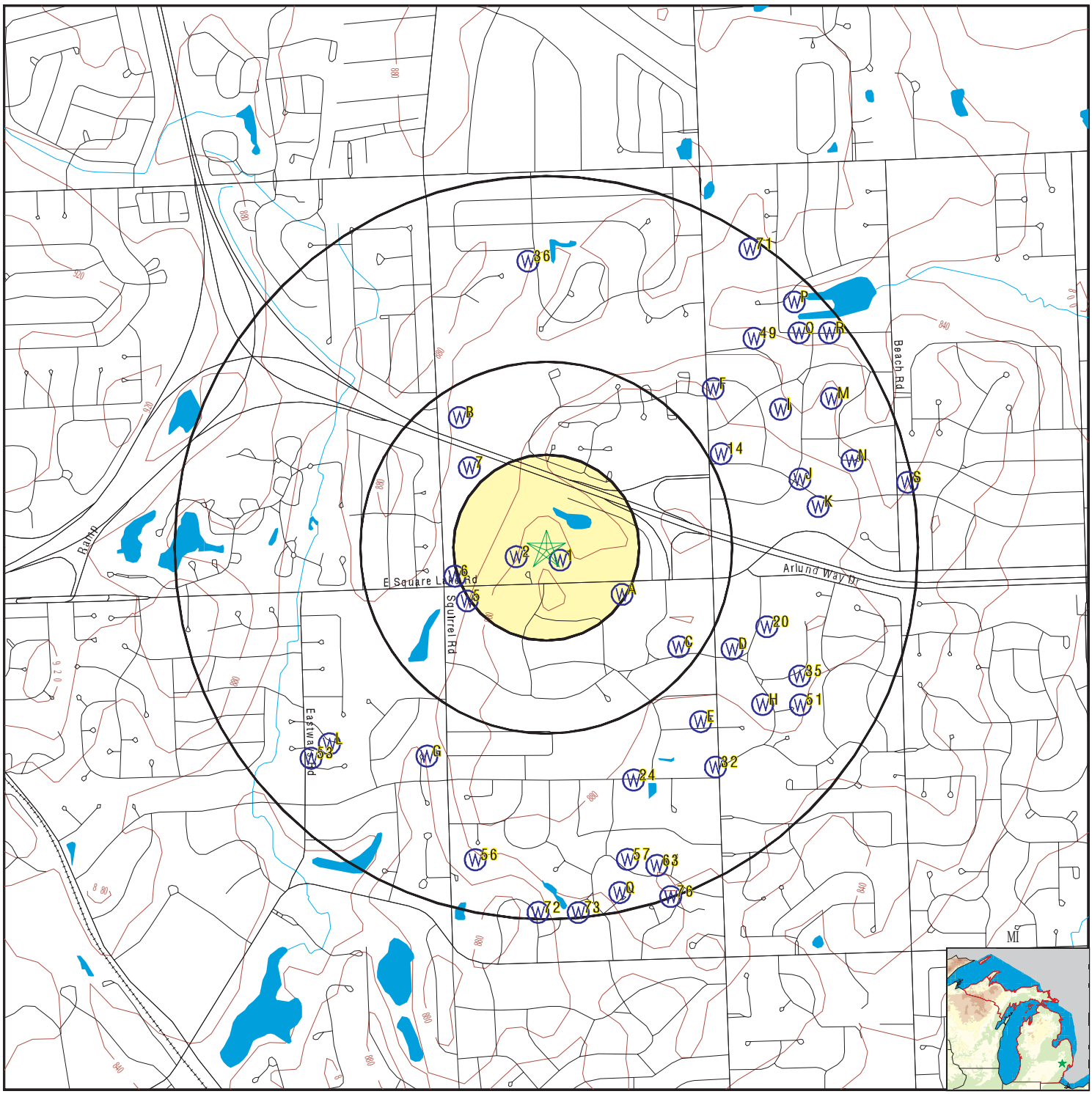
MAP ID	WELL ID	LOCATION FROM TP
1	MI6000000726091	0 - 1/8 Mile SE
2	MI6000000708699	0 - 1/8 Mile WSW
A3	MI6000000706345	1/8 - 1/4 Mile ESE
A4	MI6000000706510	1/8 - 1/4 Mile ESE
5	MI6000000693218	1/4 - 1/2 Mile SW
6	MI6000000708324	1/4 - 1/2 Mile WSW
7	MI6000000676386	1/4 - 1/2 Mile NW
B8	MI6000000701408	1/4 - 1/2 Mile NNW
B9	MI6000000692922	1/4 - 1/2 Mile NNW
C10	MI6000000676565	1/4 - 1/2 Mile SE
C11	MI6000000704504	1/4 - 1/2 Mile ESE
B12	MI6000000713954	1/4 - 1/2 Mile NW
C13	MI6000000676564	1/4 - 1/2 Mile SE
14	MI6000000676845	1/2 - 1 Mile ENE
D15	MI6000000715628	1/2 - 1 Mile ESE
D16	MI6000000735575	1/2 - 1 Mile ESE
E17	MI6000000714370	1/2 - 1 Mile SE
F18	MI6000000713977	1/2 - 1 Mile NE
F19	MI6000000714177	1/2 - 1 Mile NE
20	MI6000000735576	1/2 - 1 Mile ESE
G21	MI6000000698531	1/2 - 1 Mile SSW
E22	MI6000000676572	1/2 - 1 Mile SE
G23	MI6000000692388	1/2 - 1 Mile SSW
24	MI6000000715632	1/2 - 1 Mile SSE
H25	MI6000000735577	1/2 - 1 Mile SE
I26	MI6000000735562	1/2 - 1 Mile ENE
J27	MI6000000709464	1/2 - 1 Mile ENE
J28	MI6000000710011	1/2 - 1 Mile ENE
K29	MI6000000711393	1/2 - 1 Mile East
H30	MI6000000676852	1/2 - 1 Mile SE
K31	MI6000000711718	1/2 - 1 Mile East
32	MI6000000672714	1/2 - 1 Mile SE
I33	MI6000000676840	1/2 - 1 Mile ENE
L34	MI6000000706243	1/2 - 1 Mile SW
35	MI6000000676853	1/2 - 1 Mile ESE
L37	MI6000000706250	1/2 - 1 Mile SW
L38	MI6000000706239	1/2 - 1 Mile SW
L39	MI6000000706240	1/2 - 1 Mile SW
L40	MI6000000706238	1/2 - 1 Mile SW
L41	MI6000000706245	1/2 - 1 Mile SW
L42	MI6000000706246	1/2 - 1 Mile SW
L43	MI6000000706241	1/2 - 1 Mile SW
L44	MI6000000706251	1/2 - 1 Mile SW
L45	MI6000000706242	1/2 - 1 Mile SW
L46	MI6000000706244	1/2 - 1 Mile SW
L47	MI6000000706247	1/2 - 1 Mile SW
L48	MI6000000706249	1/2 - 1 Mile SW
49	MI6000000735570	1/2 - 1 Mile NE
L50	MI6000000706248	1/2 - 1 Mile SW
51	MI6000000676850	1/2 - 1 Mile ESE
M52	MI6000000735571	1/2 - 1 Mile ENE
53	MI6000000715635	1/2 - 1 Mile SW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
N54	MI6000000676839	1/2 - 1 Mile ENE
N55	MI6000000710433	1/2 - 1 Mile ENE
57	MI6000000676560	1/2 - 1 Mile SSE
O58	MI6000000735569	1/2 - 1 Mile NE
M59	MI6000000708409	1/2 - 1 Mile ENE
M60	MI6000000714991	1/2 - 1 Mile ENE
O61	MI6000000735568	1/2 - 1 Mile NE
O62	MI6000000676843	1/2 - 1 Mile NE
63	MI6000000715631	1/2 - 1 Mile SSE
P64	MI6000000676842	1/2 - 1 Mile NE
O65	MI6000000676844	1/2 - 1 Mile NE
Q66	MI6000000676568	1/2 - 1 Mile SSE
R67	MI6000000735572	1/2 - 1 Mile NE
Q68	MI6000000676567	1/2 - 1 Mile SSE
R69	MI6000000735565	1/2 - 1 Mile NE
P70	MI6000000676846	1/2 - 1 Mile NE
71	MI6000000676848	1/2 - 1 Mile NE
72	MI6000000676555	1/2 - 1 Mile South
73	MI6000000676566	1/2 - 1 Mile South
S74	MI6000000713733	1/2 - 1 Mile East
S75	MI6000000713947	1/2 - 1 Mile East
76	MI6000000715611	1/2 - 1 Mile SSE

PHYSICAL SETTING SOURCE MAP - 8305421.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME: 1219 E Square Lake Road ADDRESS: 1219 E Square Lake Road Bloomfield Hills MI 48304 LAT/LONG: 42.60609 / 83.217303	CLIENT: Applied Science & Technology CONTACT: Alyssa Celano INQUIRY #: 8305421.2s DATE: April 07, 2026 4:29 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
SE
0 - 1/8 Mile
Lower

MI WELLS **MI6000000726091**

WELLS:

Well ID:	63000067009	Permit #:	108-21-000023
Owner:	BLOOMFIELD HILLS SCHOOL DIST		
Well Depth (ft):	210	Well Type:	Irrigation
Other Type Info:	Not Reported	Well Status:	Active
Other Status Info:	Not Reported	Water Supply Serial #:	0
Well #:	Not Reported	Driller ID:	63-0414
Drill Method:	ROTARY	Other Method Info:	Not Reported
Construction Date:	17-AUG-21	Case Type:	PVC Plastic
Other Casing Info:	Not Reported	Case Diameter (in):	5
Case Depth (ft):	185	Screen Start Depth (ft):	185
Screen End Depth (ft):	210	Static Water Level (ft):	65
Flowing:	N	Test Drawdown Depth (ft):	210
Test Hours:	2	Test Rate:	100
Test Method:	AIR	Well Grouted:	Y
Pump Capacity (gpm):	25	Elevation (ft):	0
Specific Capacity:	0	Rock Top (ft):	0

2
WSW
0 - 1/8 Mile
Lower

MI WELLS **MI6000000708699**

WELLS:

Well ID:	63000044480	Permit #:	10813000038
Owner:	BLOOMFIELD HILLS SCHOOL DIST		
Well Depth (ft):	218	Well Type:	Irrigation
Other Type Info:	Not Reported	Well Status:	Active
Other Status Info:	Not Reported	Water Supply Serial #:	0
Well #:	Not Reported	Driller ID:	47-1924
Drill Method:	ROTARY	Other Method Info:	Not Reported
Construction Date:	07-JUN-13	Case Type:	PVC Plastic
Other Casing Info:	Not Reported	Case Diameter (in):	5
Case Depth (ft):	218	Screen Start Depth (ft):	205
Screen End Depth (ft):	218	Static Water Level (ft):	30
Flowing:	N	Test Drawdown Depth (ft):	218
Test Hours:	2	Test Rate:	100
Test Method:	AIR	Well Grouted:	Y
Pump Capacity (gpm):	25	Elevation (ft):	0
Specific Capacity:	0	Rock Top (ft):	0

A3
ESE
1/8 - 1/4 Mile
Lower

MI WELLS **MI6000000706345**

WELLS:

Well ID:	63000038578	Permit #:	10810000026
Owner:	MR KURT KAELBER	Well Depth (ft):	75
Well Type:	Irrigation	Other Type Info:	Not Reported

Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	53-0058	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	30-JUL-10
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	63
Screen Start Depth (ft):	59	Screen End Depth (ft):	75
Static Water Level (ft):	34	Flowing:	N
Test Drawdown Depth (ft):	60	Test Hours:	.5
Test Rate:	30	Test Method:	TSTPUM
Well Grouted:	Y	Pump Capacity (gpm):	18
Elevation (ft):	0	Specific Capacity:	.5
Rock Top (ft):	0		

A4
ESE
1/8 - 1/4 Mile
Lower

MI WELLS **MI6000000706510**

WELLS:

Well ID:	63000038764	Permit #:	10810000017
Owner:	MR KURT KAELBER	Well Depth (ft):	210
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	53-0058	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	27-MAY-10
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

5
SW
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000693218**

WELLS:

Well ID:	63000021005	Permit #:	0026017
Owner:	GHANS & SAHIB MALIK	Well Depth (ft):	88
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-2053	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	08-NOV-02
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	78
Screen Start Depth (ft):	78	Screen End Depth (ft):	88
Static Water Level (ft):	17	Flowing:	N
Test Drawdown Depth (ft):	25	Test Hours:	1
Test Rate:	30	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	18
Elevation (ft):	0	Specific Capacity:	0

Rock Top (ft): 0

6
WSW **MI WELLS** **MI6000000708324**
1/4 - 1/2 Mile
Lower

WELLS:

Well ID:	63000044027	Permit #:	108-13-38
Owner:	BLOOMFIELD HILLS SCHOOL DIST		
Well Depth (ft):	218	Well Type:	Irrigation
Other Type Info:	Not Reported	Well Status:	Active
Other Status Info:	Not Reported	Water Supply Serial #:	0
Well #:	Not Reported	Driller ID:	47-1924
Drill Method:	ROTARY	Other Method Info:	Not Reported
Construction Date:	07-JUN-13	Case Type:	PVC Plastic
Other Casing Info:	Not Reported	Case Diameter (in):	5
Case Depth (ft):	218	Screen Start Depth (ft):	205
Screen End Depth (ft):	218	Static Water Level (ft):	30
Flowing:	N	Test Drawdown Depth (ft):	218
Test Hours:	2	Test Rate:	100
Test Method:	AIR	Well Grouted:	Y
Pump Capacity (gpm):	25	Elevation (ft):	0
Specific Capacity:	0	Rock Top (ft):	0

7
NW **MI WELLS** **MI6000000676386**
1/4 - 1/2 Mile
Lower

WELLS:

Well ID:	63000003868	Permit #:	Not Reported
Owner:	EMMETT G MC CABE	Well Depth (ft):	54
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0414	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	25-JUL-88
Case Type:	Other	Other Casing Info:	Casing Type unknown
Case Diameter (in):	4	Case Depth (ft):	54
Screen Start Depth (ft):	49	Screen End Depth (ft):	54
Static Water Level (ft):	11	Flowing:	N
Test Drawdown Depth (ft):	45	Test Hours:	8
Test Rate:	18	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	853	Specific Capacity:	0
Rock Top (ft):	0		

B8
NNW **MI WELLS** **MI6000000701408**
1/4 - 1/2 Mile
Lower

WELLS:

Well ID:	63000032432	Permit #:	D6301670000
Owner:	Russ McClure	Well Depth (ft):	62

Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	Not Reported	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	26-SEP-01
Case Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	57
Screen Start Depth (ft):	57	Screen End Depth (ft):	62
Static Water Level (ft):	20	Flowing:	N
Test Drawdown Depth (ft):	29	Test Hours:	2
Test Rate:	20	Test Method:	TSTPUM
Well Grouted:	Y	Pump Capacity (gpm):	12
Elevation (ft):	0	Specific Capacity:	.68965517
Rock Top (ft):	0		

B9
NNW
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000692922**

WELLS:

Well ID:	63000020704	Permit #:	25731
Owner:	RUSS MCCLURE	Well Depth (ft):	62
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	Not Reported	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	26-SEP-01
Case Type:	Steel-Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	57
Screen Start Depth (ft):	57	Screen End Depth (ft):	62
Static Water Level (ft):	20	Flowing:	N
Test Drawdown Depth (ft):	29	Test Hours:	2
Test Rate:	20	Test Method:	TSTPUM
Well Grouted:	Y	Pump Capacity (gpm):	12
Elevation (ft):	0	Specific Capacity:	.68965517
Rock Top (ft):	0		

C10
SE
1/4 - 1/2 Mile
Lower

MI WELLS **MI6000000676565**

WELLS:

Well ID:	63000004048	Permit #:	Not Reported
Owner:	BARBARA ABEL	Well Depth (ft):	97
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0414	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	19-APR-91
Case Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	89	Screen End Depth (ft):	97
Static Water Level (ft):	48	Flowing:	N
Test Drawdown Depth (ft):	48	Test Hours:	2
Test Rate:	40	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0

Elevation (ft):	896	Specific Capacity:	0
Rock Top (ft):	0		

C11
ESE **MI WELLS** **MI6000000704504**
1/4 - 1/2 Mile
Higher

WELLS:

Well ID:	63000036306	Permit #:	10806000062
Owner:	ZAWAIDEH, NABIL L & NIDAL M		
Well Depth (ft):	287	Well Type:	Household
Other Type Info:	Not Reported	Well Status:	Active
Other Status Info:	Not Reported	Water Supply Serial #:	0
Well #:	Not Reported	Driller ID:	78-1607
Drill Method:	ROTARY	Other Method Info:	Not Reported
Construction Date:	11-JUN-07	Case Type:	PVC Plastic
Other Casing Info:	Not Reported	Case Diameter (in):	5
Case Depth (ft):	77	Screen Start Depth (ft):	277
Screen End Depth (ft):	287	Static Water Level (ft):	80
Flowing:	N	Test Drawdown Depth (ft):	287
Test Hours:	1	Test Rate:	75
Test Method:	AIR	Well Grouted:	Y
Pump Capacity (gpm):	25	Elevation (ft):	0
Specific Capacity:	0	Rock Top (ft):	0

B12
NW **MI WELLS** **MI6000000713954**
1/4 - 1/2 Mile
Lower

WELLS:

Well ID:	63000054094	Permit #:	10819000009
Owner:	JOHANNA SCHWENSEN	Well Depth (ft):	57
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0357	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	07-APR-19
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	47
Screen Start Depth (ft):	49	Screen End Depth (ft):	57
Static Water Level (ft):	15	Flowing:	N
Test Drawdown Depth (ft):	57	Test Hours:	1
Test Rate:	30	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	10
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

C13
SE **MI WELLS** **MI6000000676564**
1/4 - 1/2 Mile
Lower

WELLS:

Well ID:	63000004047	Permit #:	Not Reported

Owner:	GERALD SAWDON	Well Depth (ft):	100
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	30-DEC-89
Case Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	95
Screen Start Depth (ft):	95	Screen End Depth (ft):	100
Static Water Level (ft):	45	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	1
Test Rate:	25	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	889	Specific Capacity:	0
Rock Top (ft):	0		

14
ENE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676845**

WELLS:

Well ID:	63000004332	Permit #:	Not Reported
Owner:	R.W. ROCKEFELLER	Well Depth (ft):	97
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	13-SEP-74
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	89.6
Screen Start Depth (ft):	90.75	Screen End Depth (ft):	97
Static Water Level (ft):	60	Flowing:	N
Test Drawdown Depth (ft):	80	Test Hours:	2
Test Rate:	25	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	879	Specific Capacity:	0
Rock Top (ft):	0		

D15
ESE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000715628**

WELLS:

Well ID:	63000056436	Permit #:	Not Reported
Owner:	OA BIGELOW	Well Depth (ft):	96
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	06-JUL-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	95.75
Screen Start Depth (ft):	91	Screen End Depth (ft):	96
Static Water Level (ft):	58	Flowing:	N
Test Drawdown Depth (ft):	88	Test Hours:	1
Test Rate:	15	Test Method:	UNK

Well Grouted:	N	Pump Capacity (gpm):	16
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

D16
ESE **MI WELLS** **MI6000000735575**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000076545	Permit #:	Not Reported
Owner:	MR. AND MRS. CARL QUALMAN	Well Depth (ft):	277
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	07-MAY-79
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	67	Flowing:	U
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	U	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

E17
SE **MI WELLS** **MI6000000714370**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000054816	Permit #:	108-19-000055
Owner:	Joe Cracchiolo	Well Depth (ft):	93
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0414	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	12-FEB-20
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	80
Screen Start Depth (ft):	80	Screen End Depth (ft):	93
Static Water Level (ft):	35	Flowing:	N
Test Drawdown Depth (ft):	90	Test Hours:	2
Test Rate:	80	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	35
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

F18
NE **MI WELLS** **MI6000000713977**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000054126	Permit #:	276-19-000005
Owner:	JOANNA HATTINGH	Well Depth (ft):	96
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	44-2007	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	20-AUG-19
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	88
Screen Start Depth (ft):	88	Screen End Depth (ft):	96
Static Water Level (ft):	40	Flowing:	N
Test Drawdown Depth (ft):	80	Test Hours:	3
Test Rate:	40	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	20
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

F19
NE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000714177**

WELLS:

Well ID:	63000054527	Permit #:	27619000005
Owner:	MICHAEL HATTINGH	Well Depth (ft):	96
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	44-2007	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	20-AUG-19
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	88
Screen Start Depth (ft):	88	Screen End Depth (ft):	96
Static Water Level (ft):	40	Flowing:	N
Test Drawdown Depth (ft):	80	Test Hours:	3
Test Rate:	40	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	20
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

20
ESE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000735576**

WELLS:

Well ID:	63000076546	Permit #:	Not Reported
Owner:	MR. STEPHEN PAXTON	Well Depth (ft):	87
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0664	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	30-AUG-71
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	83	Screen End Depth (ft):	87
Static Water Level (ft):	28	Flowing:	U
Test Drawdown Depth (ft):	0	Test Hours:	0

Test Rate:	0	Test Method:	UNK
Well Grouted:	U	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

G21
SSW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000698531**

WELLS:

Well ID:	63000028974	Permit #:	D6301820000
Owner:	Jim Coussens	Well Depth (ft):	55
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-1607	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	07-JUL-00
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	40
Screen Start Depth (ft):	40	Screen End Depth (ft):	55
Static Water Level (ft):	15	Flowing:	N
Test Drawdown Depth (ft):	54	Test Hours:	1
Test Rate:	40	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	20
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

E22
SE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676572**

WELLS:

Well ID:	63000004055	Permit #:	Not Reported
Owner:	VELMA NAJM	Well Depth (ft):	79
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0155	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	24-MAY-72
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	71
Screen Start Depth (ft):	71	Screen End Depth (ft):	79
Static Water Level (ft):	41	Flowing:	N
Test Drawdown Depth (ft):	49	Test Hours:	6
Test Rate:	22	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	873	Specific Capacity:	0
Rock Top (ft):	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

G23
SSW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000692388**

WELLS:

Well ID:	63000020163	Permit #:	0025272
Owner:	JIM COUSSENS	Well Depth (ft):	55
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-1607	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	07-JUL-00
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	40
Screen Start Depth (ft):	40	Screen End Depth (ft):	55
Static Water Level (ft):	15	Flowing:	N
Test Drawdown Depth (ft):	54	Test Hours:	1
Test Rate:	40	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	20
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

24
SSE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000715632**

WELLS:

Well ID:	63000056440	Permit #:	Not Reported
Owner:	ROCHESTER PLUMING AND HEATING		
Well Depth (ft):	60	Well Type:	Household
Other Type Info:	Not Reported	Well Status:	Active
Other Status Info:	Not Reported	Water Supply Serial #:	0
Well #:	Not Reported	Driller ID:	63-0025
Drill Method:	Cable Tool	Other Method Info:	Not Reported
Construction Date:	09-SEP-87	Case Type:	Unknown
Other Casing Info:	Not Reported	Case Diameter (in):	0
Case Depth (ft):	0	Screen Start Depth (ft):	54
Screen End Depth (ft):	60	Static Water Level (ft):	32
Flowing:	N	Test Drawdown Depth (ft):	45
Test Hours:	1.5	Test Rate:	17
Test Method:	UNK	Well Grouted:	N
Pump Capacity (gpm):	0	Elevation (ft):	0
Specific Capacity:	0	Rock Top (ft):	0

H25
SE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000735577**

WELLS:

Well ID:	63000076547	Permit #:	Not Reported
Owner:	MR. HAROLD PARKER	Well Depth (ft):	85.5
Well Type:	Household	Other Type Info:	Not Reported

Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	11-DEC-68
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	80.5	Screen End Depth (ft):	85.5
Static Water Level (ft):	53	Flowing:	U
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

I26
ENE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000735562**

WELLS:

Well ID:	63000076532	Permit #:	Not Reported
Owner:	DR. KEVEN LYNCH	Well Depth (ft):	90
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	07-AUG-85
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	83.5	Screen End Depth (ft):	90
Static Water Level (ft):	43	Flowing:	U
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	U	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

J27
ENE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000709464**

WELLS:

Well ID:	63000045788	Permit #:	276-14-000003
Owner:	Asif Malik	Well Depth (ft):	69
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	50-2337	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	11-SEP-14
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	73
Screen Start Depth (ft):	73	Screen End Depth (ft):	81
Static Water Level (ft):	58	Flowing:	N
Test Drawdown Depth (ft):	70	Test Hours:	1
Test Rate:	25	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	20
Elevation (ft):	0	Specific Capacity:	0

Rock Top (ft): 0

J28
ENE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000710011**

WELLS:

Well ID:	63000046634	Permit #:	27614000003
Owner:	ASIF M MALIK	Well Depth (ft):	81
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	50-2337	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	11-SEP-14
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	73
Screen Start Depth (ft):	73	Screen End Depth (ft):	81
Static Water Level (ft):	58	Flowing:	N
Test Drawdown Depth (ft):	70	Test Hours:	1
Test Rate:	25	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	20
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

K29
East
1/2 - 1 Mile
Higher

MI WELLS **MI6000000711393**

WELLS:

Well ID:	63000049695	Permit #:	276-16-000003
Owner:	JOHN REID	Well Depth (ft):	102
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	44-1902	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	02-SEP-16
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	98
Screen Start Depth (ft):	98	Screen End Depth (ft):	102
Static Water Level (ft):	73	Flowing:	N
Test Drawdown Depth (ft):	95	Test Hours:	3
Test Rate:	25	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	22
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

H30
SE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676852**

WELLS:

Well ID:	63000004339	Permit #:	Not Reported
Owner:	HUGH CARNEY	Well Depth (ft):	92

Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	09-JUN-75
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	89
Screen Start Depth (ft):	86.8	Screen End Depth (ft):	92
Static Water Level (ft):	48	Flowing:	N
Test Drawdown Depth (ft):	62	Test Hours:	3
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	876	Specific Capacity:	0
Rock Top (ft):	0		

K31
East
1/2 - 1 Mile
Higher

MI WELLS **MI6000000711718**

WELLS:

Well ID:	63000050206	Permit #:	27616000003
Owner:	JOHN R REID	Well Depth (ft):	102
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	44-1902	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	02-SEP-16
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	98
Screen Start Depth (ft):	98	Screen End Depth (ft):	102
Static Water Level (ft):	73	Flowing:	N
Test Drawdown Depth (ft):	95	Test Hours:	3
Test Rate:	25	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	22
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

32
SE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000672714**

WELLS:

Well ID:	63000000150	Permit #:	Not Reported
Owner:	BEAUTIFUL SAVIOUR CHURCH	Well Depth (ft):	85
Well Type:	Other	Other Type Info:	Abandoned
Well Status:	Not Reported	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	18-0643	Drill Method:	Unknown
Other Method Info:	Not Reported	Construction Date:	30-JAN-96
Case Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	6	Case Depth (ft):	85
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	999.99	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0

Elevation (ft):	866	Specific Capacity:	0
Rock Top (ft):	0		

I33
ENE **MI WELLS** **MI6000000676840**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000004327	Permit #:	Not Reported
Owner:	GARY KOPKAU	Well Depth (ft):	55
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	05-JUL-77
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	53.8
Screen Start Depth (ft):	50	Screen End Depth (ft):	55
Static Water Level (ft):	32	Flowing:	N
Test Drawdown Depth (ft):	40	Test Hours:	1.5
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	850	Specific Capacity:	0
Rock Top (ft):	0		

L34
SW **MI WELLS** **MI6000000706243**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000038465	Permit #:	0125994
Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	21-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

35
ESE **MI WELLS** **MI6000000676853**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000004340	Permit #:	Not Reported

Owner:	DELL MANOR BUILDING	Well Depth (ft):	90
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	25-SEP-74
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	73.8
Screen Start Depth (ft):	73.83	Screen End Depth (ft):	80
Static Water Level (ft):	55	Flowing:	N
Test Drawdown Depth (ft):	71	Test Hours:	4.5
Test Rate:	13	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	889	Specific Capacity:	0
Rock Top (ft):	0		

36
North
1/2 - 1 Mile
Lower

FED USGS **USGS40000482308**

Organization ID:	USGS-MI	Organization Name:	USGS Michigan Water Science Center
Monitor Location:	02N 10E 01ABCC 01	Type:	Well
Description:	Not Reported	HUC:	04090004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Sand and gravel aquifers (glaciated regions)		
Formation Type:	Pleistocene Series	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	233
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

L37
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706250**

WELLS:

Well ID:	63000038472	Permit #:	0125999
Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	24-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

L38
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706239**

WELLS:

Well ID:	63000038461	Permit #:	0125823
Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	28-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

L39
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706240**

WELLS:

Well ID:	63000038462	Permit #:	0125991
Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	25-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

L40
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706238**

WELLS:

Well ID:	63000038460	Permit #:	0125822
Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal

Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	28-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

L41
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706245**

WELLS:

Well ID:	63000038467	Permit #:	0125996
Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	24-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

L42
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706246**

WELLS:

Well ID:	63000038468	Permit #:	0126006
Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	24-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0

Rock Top (ft):	0

L43
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706241**

WELLS:

Well ID:	63000038463	Permit #:	0125992
Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	25-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

L44
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706251**

WELLS:

Well ID:	63000038473	Permit #:	0125998
Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	24-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

L45
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706242**

WELLS:

Well ID:	63000038464	Permit #:	0125993
Owner:	Williams	Well Depth (ft):	155

Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	21-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

L46
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706244**

WELLS:

Well ID:	63000038466	Permit #:	0125995
Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	23-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

L47
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706247**

WELLS:

Well ID:	63000038469	Permit #:	0126005
Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	23-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0

Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

L48
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706249**

WELLS:

Well ID:	63000038471	Permit #:	0126003
Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	22-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

49
NE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000735570**

WELLS:

Well ID:	63000076540	Permit #:	Not Reported
Owner:	MR. ARTHUR STACHEELD	Well Depth (ft):	44.5
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	24-MAY-68
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	39.5	Screen End Depth (ft):	44.5
Static Water Level (ft):	24	Flowing:	U
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	U	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

L50
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000706248**

WELLS:

Well ID:	63000038470	Permit #:	0126004

Owner:	Williams	Well Depth (ft):	155
Well Type:	Other	Other Type Info:	Geothermal
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-2224	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	22-JUN-10
Case Type:	Not Reported	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	0	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	Not Reported
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

51
ESE **MI WELLS** **MI6000000676850**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000004337	Permit #:	Not Reported
Owner:	KARL DIEHL	Well Depth (ft):	77
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	26-MAY-76
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	72
Screen Start Depth (ft):	72	Screen End Depth (ft):	77
Static Water Level (ft):	40	Flowing:	N
Test Drawdown Depth (ft):	60	Test Hours:	4
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	876	Specific Capacity:	0
Rock Top (ft):	0		

M52
ENE **MI WELLS** **MI6000000735571**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000076541	Permit #:	Not Reported
Owner:	WILLIAM THOMAS	Well Depth (ft):	75
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	06-AUG-79
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	69.9	Screen End Depth (ft):	75
Static Water Level (ft):	37	Flowing:	U
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK

Well Grouted:	U	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

53
SW
1/2 - 1 Mile
Lower

MI WELLS **MI6000000715635**

WELLS:

Well ID:	63000056443	Permit #:	Not Reported
Owner:	CLYDE HAGERMAN	Well Depth (ft):	162
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	05-NOV-82
Case Type:	Steel-Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	154.3
Screen Start Depth (ft):	152	Screen End Depth (ft):	162
Static Water Level (ft):	15	Flowing:	N
Test Drawdown Depth (ft):	140	Test Hours:	15
Test Rate:	23	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

N54
ENE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676839**

WELLS:

Well ID:	63000004326	Permit #:	Not Reported
Owner:	WILLIAM DEWEY	Well Depth (ft):	95.5
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	26-DEC-73
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	89.8
Screen Start Depth (ft):	89.8	Screen End Depth (ft):	95.5
Static Water Level (ft):	60	Flowing:	N
Test Drawdown Depth (ft):	86	Test Hours:	3
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

N55
ENE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000710433**

WELLS:

Well ID:	63000047928	Permit #:	276-15-000006
Owner:	Philip Gaglio	Well Depth (ft):	68
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	50-2337	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	22-SEP-15
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	60
Screen Start Depth (ft):	60	Screen End Depth (ft):	68
Static Water Level (ft):	42	Flowing:	N
Test Drawdown Depth (ft):	50	Test Hours:	1
Test Rate:	35	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	20
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

56
SSW **FED USGS** **USGS40000482271**
1/2 - 1 Mile
Lower

Organization ID:	USGS-MI	Organization Name:	USGS Michigan Water Science Center
Monitor Location:	02N 10E 12CACD 01	Type:	Well
Description:	Not Reported	HUC:	04090003
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Sand and gravel aquifers (glaciated regions)		
Formation Type:	Pleistocene Series	Aquifer Type:	Not Reported
Construction Date:	19570101	Well Depth:	58
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

57
SSE **MI WELLS** **MI6000000676560**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000004043	Permit #:	Not Reported
Owner:	RANDY HALL	Well Depth (ft):	75
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0690	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	01-JUL-71
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	0
Screen Start Depth (ft):	71	Screen End Depth (ft):	75
Static Water Level (ft):	30	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	850	Specific Capacity:	0
Rock Top (ft):	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

O58
NE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000735569**

WELLS:

Well ID:	63000076539	Permit #:	Not Reported
Owner:	MACKSEY BLDG CO	Well Depth (ft):	42
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0643	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	21-JUL-69
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	38	Screen End Depth (ft):	42
Static Water Level (ft):	20	Flowing:	U
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	U	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

M59
ENE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000708409**

WELLS:

Well ID:	63000044148	Permit #:	276-13-000005
Owner:	Nina Khan	Well Depth (ft):	79
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	50-2337	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	26-AUG-13
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	71
Screen Start Depth (ft):	71	Screen End Depth (ft):	79
Static Water Level (ft):	20	Flowing:	N
Test Drawdown Depth (ft):	60	Test Hours:	1
Test Rate:	30	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	20
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

M60
ENE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000714991**

WELLS:

Well ID:	63000055664	Permit #:	276-20-00006
Owner:	NINA KAHN	Well Depth (ft):	80
Well Type:	Irrigation	Other Type Info:	Not Reported

Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	44-2007	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	02-OCT-20
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	72
Screen Start Depth (ft):	72	Screen End Depth (ft):	80
Static Water Level (ft):	30	Flowing:	N
Test Drawdown Depth (ft):	70	Test Hours:	3
Test Rate:	50	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	25
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

O61
NE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000735568**

WELLS:

Well ID:	63000076538	Permit #:	Not Reported
Owner:	MR. REDMAN	Well Depth (ft):	44
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0414	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	12-JUL-67
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	40	Screen End Depth (ft):	44
Static Water Level (ft):	14	Flowing:	U
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	U	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

O62
NE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676843**

WELLS:

Well ID:	63000004330	Permit #:	Not Reported
Owner:	RONALD DAY	Well Depth (ft):	40
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	74-0463	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	21-JAN-75
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	37
Screen Start Depth (ft):	37	Screen End Depth (ft):	40
Static Water Level (ft):	3	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	15	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	850	Specific Capacity:	0

Rock Top (ft): 0

63
SSE **MI WELLS** **MI6000000715631**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000056439	Permit #:	Not Reported
Owner:	E MEDLIN	Well Depth (ft):	247
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0027	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	07-NOV-78
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	243
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	48	Flowing:	N
Test Drawdown Depth (ft):	40	Test Hours:	9
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	15
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

P64
NE **MI WELLS** **MI6000000676842**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000004329	Permit #:	Not Reported
Owner:	DONALD BRANN	Well Depth (ft):	61
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	74-0463	Drill Method:	Unknown
Other Method Info:	Not Reported	Construction Date:	10-JAN-76
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	0
Screen Start Depth (ft):	58	Screen End Depth (ft):	61
Static Water Level (ft):	2	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	20	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	850	Specific Capacity:	0
Rock Top (ft):	0		

O65
NE **MI WELLS** **MI6000000676844**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000004331	Permit #:	Not Reported
Owner:	ART ELLIOT	Well Depth (ft):	171

Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-1654	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	10-NOV-77
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	167
Screen Start Depth (ft):	167	Screen End Depth (ft):	171
Static Water Level (ft):	1	Flowing:	N
Test Drawdown Depth (ft):	6	Test Hours:	2
Test Rate:	20	Test Method:	UNK
Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	850	Specific Capacity:	0
Rock Top (ft):	0		

Q66
SSE **MI WELLS** **MI6000000676568**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000004051	Permit #:	Not Reported
Owner:	JOHN PANTALONE	Well Depth (ft):	66.2
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	23-JAN-87
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	66.2
Screen Start Depth (ft):	61.2	Screen End Depth (ft):	66.2
Static Water Level (ft):	17	Flowing:	N
Test Drawdown Depth (ft):	40	Test Hours:	1.5
Test Rate:	25	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	850	Specific Capacity:	0
Rock Top (ft):	0		

R67
NE **MI WELLS** **MI6000000735572**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000076542	Permit #:	Not Reported
Owner:	ROSS HOMS INC.	Well Depth (ft):	51
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0817	Drill Method:	Unknown
Other Method Info:	Not Reported	Construction Date:	01-MAY-68
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	47	Screen End Depth (ft):	51
Static Water Level (ft):	15	Flowing:	U
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	U	Pump Capacity (gpm):	0

Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

Q68
SSE **MI WELLS** **MI6000000676567**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000004050	Permit #:	Not Reported
Owner:	ROBERT L DAVIS	Well Depth (ft):	55.5
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	10-MAY-85
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	51.5
Screen Start Depth (ft):	50.5	Screen End Depth (ft):	55.5
Static Water Level (ft):	17	Flowing:	N
Test Drawdown Depth (ft):	23	Test Hours:	.8
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	850	Specific Capacity:	0
Rock Top (ft):	0		

R69
NE **MI WELLS** **MI6000000735565**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000076535	Permit #:	Not Reported
Owner:	WESSEL BUILDERS	Well Depth (ft):	40
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0323	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	01-MAR-71
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	37	Screen End Depth (ft):	40
Static Water Level (ft):	0	Flowing:	U
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	U	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

P70
NE **MI WELLS** **MI6000000676846**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000004333	Permit #:	Not Reported

Owner:	FIROZA ROY	Well Depth (ft):	50
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0127	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	26-SEP-79
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	46
Screen Start Depth (ft):	46	Screen End Depth (ft):	50
Static Water Level (ft):	7	Flowing:	N
Test Drawdown Depth (ft):	20	Test Hours:	2
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	850	Specific Capacity:	0
Rock Top (ft):	0		

71
NE
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676848**

WELLS:

Well ID:	63000004335	Permit #:	Not Reported
Owner:	JOHN KANTERAKIS	Well Depth (ft):	75
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	23-APR-79
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	69.8
Screen Start Depth (ft):	72.8	Screen End Depth (ft):	75
Static Water Level (ft):	27	Flowing:	N
Test Drawdown Depth (ft):	40	Test Hours:	2
Test Rate:	30	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	850	Specific Capacity:	0
Rock Top (ft):	0		

72
South
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676555**

WELLS:

Well ID:	63000004038	Permit #:	Not Reported
Owner:	MICHAEL D JONES	Well Depth (ft):	64
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	78-1607	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	09-DEC-85
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	64
Screen Start Depth (ft):	56	Screen End Depth (ft):	64
Static Water Level (ft):	30	Flowing:	N
Test Drawdown Depth (ft):	62	Test Hours:	.5
Test Rate:	60	Test Method:	UNK

Well Grouted:	Y	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

73
South
1/2 - 1 Mile
Lower

MI WELLS **MI6000000676566**

WELLS:

Well ID:	63000004049	Permit #:	Not Reported
Owner:	CARL J ROESCH	Well Depth (ft):	124
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Unknown	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0686	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	18-MAR-69
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Case Depth (ft):	0
Screen Start Depth (ft):	120	Screen End Depth (ft):	124
Static Water Level (ft):	33	Flowing:	N
Test Drawdown Depth (ft):	40	Test Hours:	7
Test Rate:	20	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	850	Specific Capacity:	0
Rock Top (ft):	0		

S74
East
1/2 - 1 Mile
Lower

MI WELLS **MI6000000713733**

WELLS:

Well ID:	63000053708	Permit #:	276-19-000001
Owner:	Ali Taqri & Amena Taqri	Well Depth (ft):	95
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	41-1698	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	20-FEB-19
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	90
Screen Start Depth (ft):	90	Screen End Depth (ft):	96
Static Water Level (ft):	44	Flowing:	N
Test Drawdown Depth (ft):	93	Test Hours:	4
Test Rate:	75	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	25
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

S75
East
1/2 - 1 Mile
Lower

MI WELLS **MI6000000713947**

WELLS:

Well ID:	63000054086	Permit #:	27619000001
Owner:	ALI TAQRI	Well Depth (ft):	95
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	41-1698	Drill Method:	ROTARY
Other Method Info:	Not Reported	Construction Date:	15-APR-19
Case Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	5	Case Depth (ft):	90
Screen Start Depth (ft):	90	Screen End Depth (ft):	96
Static Water Level (ft):	44	Flowing:	N
Test Drawdown Depth (ft):	93	Test Hours:	4
Test Rate:	75	Test Method:	AIR
Well Grouted:	Y	Pump Capacity (gpm):	25
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

76
SSE **MI WELLS** **MI6000000715611**
1/2 - 1 Mile
Lower

WELLS:

Well ID:	63000056419	Permit #:	Not Reported
Owner:	RON SCHURMAN	Well Depth (ft):	103.5
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Active	Other Status Info:	Not Reported
Water Supply Serial #:	0	Well #:	Not Reported
Driller ID:	63-0690	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	01-JUN-71
Case Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Case Depth (ft):	0
Screen Start Depth (ft):	0	Screen End Depth (ft):	0
Static Water Level (ft):	40	Flowing:	N
Test Drawdown Depth (ft):	0	Test Hours:	0
Test Rate:	0	Test Method:	UNK
Well Grouted:	N	Pump Capacity (gpm):	0
Elevation (ft):	0	Specific Capacity:	0
Rock Top (ft):	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: MI Radon

Radon Test Results

Zipcode	Test Date	LT Sign	Result
48304	1/15/2010		1.6
48304	12/12/1998		1.5
48304	1/14/2008		1.5
48304	8/23/1997		1.4
48304	2/25/1999		2.0
48304	6/26/2006		4.3
48304	1/24/2009		4.2
48304	11/21/2003		4.0
48304	4/29/2002		4.1
48304	8/26/2004		4.0
48304	2/13/2004		4.0
48304	3/5/2008		4.0
48304	11/19/2007		4.0
48304	2/13/2006		4.4
48304	2/14/2009		4.3
48304	2/9/2009		4.3
48304	2/22/1995		4.5
48304	6/30/2000		4.4
48304	11/3/2006		4.5
48304	2/22/1995		4.3
48304	3/27/2008		7.2
48304	12/14/1994		7.6
48304	12/14/1994		7.6
48304	8/29/2000		7.2
48304	1/27/2009		7.2
48304	2/7/2004		6.8
48304	12/16/2006		6.4
48304	8/4/2001		6.2
48304	3/27/2008		6.2
48304	1/7/2008		6.1
48304	4/5/2000		6.1
48304	4/17/2004		4.9
48304	2/18/2006		5.6
48304	3/27/2004		5.2
48304	11/6/2006		5.2
48304	10/22/2007		6.0
48304	8/16/1999		5.2
48304	10/29/2009		5.5
48304	2/6/2002		4.7
48304	3/31/2008		5.4
48304	11/6/2003		4.8
48304	11/14/2009		5.8
48304	11/3/2009		5.4
48304	11/28/2008		5.4
48304	5/28/1996		5.7
48304	11/8/2003		5.3
48304			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

	4/26/2004		5.3
48304	1/11/2008		5.0
48304	6/26/1996		4.9
48304	11/21/2003		5.2
48304	11/30/2001		7.8
48304	3/29/2004		7.8
48304	9/4/2006		7.7
48304	1/31/2007		7.3
48304	11/20/2007		50.4
48304	11/18/2006		22.2
48304	1/27/2005		17.3
48304	11/3/2003		13.7
48304	4/27/2006		13.0
48304	11/4/1994		9.0
48304	5/24/2005		8.0
48304	3/21/2008		8.0
48304	11/20/2009		11.9
48304	10/5/2006		8.8
48304	5/28/2004		10.7
48304	4/25/2000		10.6
48304	2/21/2009		9.9
48304	2/9/2002		8.4
48304	1/7/2008		9.7
48304	12/14/1994		8.4
48304	9/3/2004		11.3
48304	3/5/2002		11.2
48304	2/9/2009		8.7
48304	3/3/2008		8.3
48304	1/15/2002		8.5
48304	7/22/2000		2.1
48304	1/15/2008		30.1
48304	3/2/2009		2.0
48304	5/31/1996		28.7
48304	3/18/2006		27.6
48304	11/27/2007		19.1
48304	7/24/2000		2.8
48304	2/7/2009		2.6
48304	5/23/2003		2.5
48304	4/3/2004		2.5
48304	1/24/2009		2.5
48304	3/17/2008		2.2
48304	11/10/2001		2.3
48304	4/26/1995		2.3
48304	3/3/2005		2.3
48304	3/19/2005		2.2
48304	2/17/2006		3.0
48304	12/15/2001		2.7
48304	2/26/2003		2.7
48304	6/25/2004		2.6
48304	3/12/2003		2.8
48304	11/6/2006		2.6
48304	9/2/2005		2.8
48304	9/2/2005		2.9
48304	10/27/2006		2.8
48304	4/26/2007		3.6
48304	3/22/2007	<	0.3
48304			

AREA RADON INFORMATION

	4/23/2003		3.5
48304	2/4/2008		3.5
48304	1/29/2000	<	0.3
48304	5/10/1997		3.4
48304	10/19/2004		3.4
48304	2/17/2001	<	0.3
48304	10/30/2006		3.3
48304	1/21/2008		3.2
48304	6/5/2000		3.2
48304	1/24/2009	<	0.3
48304	7/29/1996		3.9
48304	4/29/2002		3.7
48304	5/12/1997		3.1
48304	1/18/2005		3.9
48304	4/3/2000		3.9
48304	3/24/2009		3.3
48304	1/27/2009		3.7
48304	6/10/2002		1.8
48304	11/24/2007		1.7
48304	4/12/2002		1.7
48304	12/24/2001		1.7
48304	11/28/2001		1.6
48304	4/2/2002		1.6
48304	10/30/2009		1.7
48304	7/6/2007	<	0.3
48304	10/11/2005		0.5
48304	1/4/2006	<	0.3
48304	11/2/2002	<	0.3
48304	2/8/2003	<	0.3
48304	2/13/2003	<	0.3
48304	1/29/2008	<	0.3
48304	2/9/2004	<	0.3
48304	6/21/2007	<	0.3
48304	6/21/2007	<	0.3
48304	6/21/2007	<	0.3
48304	4/7/2006	<	0.3
48304	6/21/2007	<	0.3
48304	3/8/2003		0.8
48304	7/19/2003		0.8
48304	10/19/1998		0.9
48304	3/1/2005		0.7
48304	5/27/2002		0.9
48304	3/20/2006		0.8
48304	6/21/2007		0.6
48304	7/6/2007		0.6
48304	2/3/2001		0.7
48304	6/14/1999		0.6
48304	10/18/2007		0.8
48304	2/19/2008		0.8
48304	3/9/2001		0.8
48304	4/16/2007		0.9
48304	5/9/2008		0.9
48304	1/27/2010		0.6
48304	8/17/2009		0.6
48304	8/12/2000		0.9
48304	7/6/1996		0.7
48304			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

	12/17/2007	1.4
48304	4/25/2008	1.4
48304	12/23/2006	1.3
48304	3/20/2006	1.3
48304	2/1/1996	1.2
48304	8/28/2000	1.3
48304	1/24/2009	1.3
48304	6/21/2007	1.2
48304	12/24/2001	1.1
48304	2/10/2009	1.2
48304	12/15/2003	1.0
48304	5/3/2007	1.0
48304	12/17/2007	1.0
48304	8/7/2007	1.0

Federal EPA Radon Zone for OAKLAND County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for OAKLAND COUNTY, MI

Number of sites tested: 61

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.189 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.539 pCi/L	93%	7%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Natural Resources
Telephone: 517-241-2254

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Data
Source: Department of Environmental Quality
Telephone: 517-335-9218
The data in this file was obtained from Wellogic, the Michigan Department of Environmental Quality Statewide Groundwater Database (SGWD). Wellogic contains approximately 425,000 water well records found within the State of Michigan, and although it represents the best available data, it cannot be considered a complete database of all the wells or well records in existence. Locations of verified municipal and private water well sites compiled from Michigan Department of Public Health, Water Well and Pump Records. Available in the following MI counties: Calhoun, Eaton, Genesee, Ingham, Jackson, Kalamazoo, Kent, Midland, Muskegon, Oakland, Ottawaw, Saginaw, St. Clair, Washtenaw.

OTHER STATE DATABASE INFORMATION

Michigan Oil and Gas Wells
Source: Department of Environmental Quality
Telephone: 517-241-1528
Locations of oil and gas wells are compiled from permit records on file at the Geological Survey Division (GSD), Michigan Department of Natural Resources.

RADON

State Database: MI Radon
Source: Department of Environmental Quality
Telephone: 517-335-9551
Radon Test Results

Michigan Radon Test Results
Source: Department of Environmental Quality
Telephone: 517-335-8037
These results are from test kits distributed by the local health departments and used by Michigan residents. There is no way of knowing whether the devices were used properly, whether there are duplicates (or repeat verification) test (i.e., more than one sample per home), etc.

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

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EGLE

Enforcement Actions - Perfected Lien List

Contact

Katelyn Wysocki
Wysockik@Michigan.gov
517-614-2058

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Remediation and Redevelopment Division (RRD) has perfected liens on property pursuant to Section 20138 of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL 324.20101 et seq. The following is a current listing of liens perfected by the RRD on property as of the date that appears on this list. The list will be updated only when the RRD has perfected a new lien on a property or has released a lien from a property. The information provided herein cannot be construed or interpreted as legal verification that a perfected lien does not exist on a particular property, or that a lien is the only perfected lien on a property. To obtain legal verification, you must access official records from the appropriate County Register of Deeds and/or the Michigan Secretary of State when applicable.

Downloadable Excel Spreadsheet

Updated: January 22, 2026; newly added items are indicated with yellow highlight - sort by 'Date Item Posted' to see the latest postings first. Note that documents posted prior to June 2023 do not have a date item posted.

More detailed information for properties can by found in the Excel spreadsheet.

Show 10 entries

Search: Oakland

County	Township	City	Address	Lot No	Tax Code	Date Item Posted

County	Township	City	Address	Lot No	Tax Code	Date Item Posted
Oakland	Farmington	Farmington Hills	29024 Grand River	Lots 45-51	23-36-304-022	
Oakland	Waterford/ White Lake				13-07-100-008 12-12-200-007	

Showing 1 to 2 of 2 entries (filtered from 100 total entries)

Previous 1 Next

EGLE

Enforcement Actions - Perfected Lien List

Copyright State of Michigan

FOIA Center

- Home
- Find Information
- Submit a Request
- Public Archive
- My Request Center

Courts Records Requests

Courts are not subject to FOIA. If you wish to obtain documents from the Oakland County Circuit Court, Oakland County Probate Court, or 52nd District Court, you may submit a request through this System. Your request will be reviewed to determine if it can be answered. Public documents that have been filed in a case are not subject to FOIA and should not be requested through this system. Select the Find Information section to browse our frequently asked questions.

Menu

My Request

View File(s) | View Message(s)

Request / Incident Summary

Request Type:	Freedom of Information Act (FOIA) Request
Contact E-Mail:	foia@asti-env.com
Reference No:	F002401-040826
Status:	Partial Release, Partial Denial
Balance Due:	$0.00
Payments:	$0.00

	UPLOAD DATE	
Files:	04/14/2026	Records_Septic_Permit_21729_1993_File__F002401.pdf
	04/14/2026	Records_Irrigation_Well_Permit_108-21-000023_ATN_63331579_2021_File__1219_E_Square_Lk_Rd__F002401.pdf
	04/14/2026	Records_Expired_Well_Application_ATN_63330332_2021_File__1219_E_Square_Lk_Rd__F002401.pdf
	04/14/2026	Records_Well_Abandonment_Permit_108-13-000039_ATN_63226185_2013_File__1219_E_Square_Lk_Rd__F002401.pdf
	04/14/2026	Records_Irrigation_Well_Permit_108-13-000037_ATN_63225916_2013_File__1219_E_Square_Lk_Rd__F002401.pdf
	04/14/2026	Records_Expired_Septic_Application_ATN_63194806_2010__1383_E_Square_Lk_Rd__F002401.pdf
	04/08/2026	P26-0480.00_FOIA_County.pdf

Additional Information

Courts are not subject to FOIA. If you wish to obtain documents from the Oakland County Circuit Court, Oakland County Probate Court, or 52nd District Court, you may submit a request through this System. Your request will be reviewed to determine if it can be answered. Public documents that have been filed in a case are not subject to FOIA and should not be requested through this system. Select the Find Information section to browse our frequently asked questions.

Division Requesting Record(s) From:	Health Division
Type of Record(s):	Water Well and Septic System Records
Describe the Record(s) Requested:	P26-0480.00 Environmental-Health: ASTI is conducting an environmental site assessment for a site in Bloomfield Hills mailing address (Bloomfield Township legal), Michigan in Oakland County. Please advise me if there are records regarding well/septic, landfilling activity, spills/releases, 201 sites, ASTs, USTs, or other environmental concerns on the following properties. If costs exceed $25.00, please let me know before proceeding.
Preferred Method to Receive Records:	Electronic via Records Center

Save | Appeal | New Message | Cancel

Messages 3 — Print Messages (PDF)

On 4/14/2026 6:26:01 PM, Oakland County Record Center wrote:

Subject: Freedom of Information Act (FOIA) Request :: F002401-040826
Body:

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Kate Guzman, Health Officer

04/14/2026

Aliya Spotts
ASTI Environmental

10448 Citation Drive Suite 100
Brighton MI 48116
foia@asti-env.com

RE: FOIA REQUEST of April 08, 2026, Reference # F002401-040826

Your request is granted in part. You may log in to the Oakland County Records Center to view the responsive records able to be r
1901376006 and vacant 1383 E Square Lk Rd/Parcel ID 1901451004, which include the following:

For 1219 E Square Lk Rd:
- Septic Permit 21729 (issued in 1993) & its file
- Irrigation Well Permit 108-13-000038 (issued in 2013) & its file
- Well Abandonment Permit 108-13-000039 (issued in 2013) & its file
- Expired Well Application ATN 63330332 (submitted in 2021) and its file
- Irrigation Well Permit 108-21-000023 (issued in 2021) and its file

For 1383 E Square Lk Rd:
- Expired Septic Application ATN 63194806 (submitted in 2010 under its "parent" parcel ID 1901451003) and its file

No well records were found for 1383 E Square Lk Rd and no records were found for vacant parcel ID 19-01-451-002.

The property build year for 1219 E Square Lk Rd was 1938.

Please note: the final well sketches for the two irrigation well permits and one well abandonment permit for 1219 E Square Lk Rd are no longe
Health Division processed well permits through. Therefore, I have put in a request for the Public Health Sanitarian for Bloomfield Twp to recrea
completed and the recreated final sketches are attached to the Records Center for this FOIA record request, I will be in touch via email to let you

YOUR FURTHER LEGAL RIGHTS

To the extent that this response, in your opinion, constitutes a denial of your Freedom of Information Act (FOIA) rights, your statu

For FOIA denials, you may submit to the head of the public body a written appeal that specifically states the word "appeal" and id
denial. Within 10 business days after the head of the public body receives a written appeal he or she will do one of the following:

1. Reverse the denial.
2. Issue a written notice to you upholding the denial.
3. Reverse the denial in part and issue a written notice to you upholding the denial in part.
4. Under unusual circumstances, issue a notice extending for not more than 10 business days the time to respond.

You may begin a civil action in circuit court to compel the public body's disclosure of the public records within 180 days after a pu
request.

You have the right to receive attorneys' fees and damages as provided in MCL 15.240 if, after judicial review, the court determine
MCL 15.235 and orders disclosure of all or a portion of a public record.

For fee appeals, if the public body requires a fee that, in your opinion, exceeds the amount permitted under its procedures and g
head of the public body a written fee appeal for a fee reduction that specifically states the word "appeal" and identifies how the r
Within 10 business days after the head of the public body receives a written fee appeal, he or she will do one of the following:

1. Waive the fee.
2. Reduce the fee and issue a written determination to the requesting person indicating the basis for the remaining fee.
3. Uphold the fee and issue a written determination to the requesting person indicating the basis for upholding the fee.
4. If necessary, issue a notice extending for not more than 10 business days the time to respond.

Within 45 days after the head of the public body issues a written determination on the fee appeal or if the head of the public bod
begin a civil action in circuit court.

Oakland County's FOIA Procedures and Guidelines, and its Public Summary, can be found at https://www.oakgov.com/governme

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
DEPARTMENT OF HEALTH & HUMAN SERVICES

Christine Newcomb
Health Division

> On 4/8/2026 2:18:00 PM, Oakland County Record Center wrote:

> On 4/8/2026 2:17:55 PM, Aliya Spotts wrote:

Application Expired

Application for Onsite Sewage Disposal Permit

This application will be null and void if no action is taken one (1) year from date of receipt

Application Tracking Number: 63194806

Proposed Use of Septic:	Non-Residential	Application Date:	01/26/2010
Septic Type:	New	Number of persons:	200
Parcel ID:	19-01-451-003	Number of Fixtures:	0
Last Activity:	05/04/1976	Building Sqft:	8100
Plans to split parcel:	No	How many splits:	
Bedrooms:	0	Establishment Type:	School
Square Footage of Home:		Flow Rate:	2000-10,000

Property Information

Legal Description of Property:

T2N, R10E, SEC 1 THAT PART OF SE 1/4 LYING SWLY OF LINE DESC AS BEG AT PT DIST S 87-56-42 W 900.12 FT FROM SE SEC COR, TH N 42-56-42 E 255.26 FT, TH N 18-18-13 W 440.59 FT, TH N 50-48-04 W 492.42 FT, A TH N 67-02-59 W 261.91 FT, TH N 70-17-59 W 2000 FT, TO POINT OF ENDING EXC BEG AT S 1/4 COR, TH N 02-57-15 W 1082.95 FT, TH S 70-17-59 E 325.04 FT, TH S 02-57-15 E 962.46 FT, TH S 87-56-42 W 300 FT TO BEG, ALSO EXC BEG AT PT DIST S 87-56-42 W 900.12 FT FROM SE SEC COR, TH S 87-56-42 W 142.68 FT, TH N 02-03-18 W 260 FT, TH N 87-56-42 E 300 FT, TH S 18-18-13 E 82.81 FT, TH S 42-56-42 W 255.26 FT TO BEG 33.48 A 3-16-93 CORR

Subdivision Name:		Municipal Water:	Yes
Lot/Split Number:		Municipal Sewer:	No
Lot/Split Area:	0.0	Lot Number:	
Underground Utility:	Yes	Proposed Grade Changes	Yes
Underground Gas Lines	Yes	Recorded Easements:	Unknown
Total Land Area:	34.248123 Acres/1491842.9 Sqft	Existing Well on Site:	Unknown
Street Address	1383 E SQUARE LAKE RD	Sketch Mode:	Electronic
CVT:	BLOOMFIELD HILLS		
State:	MI		
Zip:	48304		

Driving Directions:

North side of Square Lake Road, west of Adams Road.

Owner Information

Name:	BLOOMFIELD HILLS SCHOOL DIST	Day Phone:	(248)341-5400
Name 2:		Evening Phone:	
Street Address:	4175 ANDOVER RD	Mobile Phone:	
CVT:	BLOOMFIELD HILLS	Fax:	
State :	MI	Pager Number:	
Zip:	48302	E-mail Address:	

Applicant Information

Applicant Type:	Engineer	Day Phone:	(248)844-5400

Name:	Spalding DeDecker Associates, Inc.	Evening Phone:	
Street Address:	905 South Boulevard East	Mobile Phone:	
CVT:	Rochester Hills	Fax:	(248)844-5404
State :	MI	Pager Number:	
Zip:	48307	E-mail Address:	mmayotte@sda-eng.com
Comments			
Michael J. Mayotte is the project engineer and contact person.			
Application captured by :			
Clerk Comments:			

1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (248) 858-1312
27725 Greenfield Rd., Southfield, MI 48076-3625 (248) 424-7191

Print Close Window

OAKLAND COUNTY MICHIGAN

Soil Evaluation - Completed

Logout

ATN - Void
Access Oakland
▷ Application(Septic)
▷ Assignment
▷ DMS
GIS
Installer Maint
Failure Eval. Form
Property Gateway
Reports
Search
▷ To Do List
E-Health Links
Wells
OCHD OakDocs

User Information:

User:	newcombc
Login:	04/14/2026 15:59
Module:	Septics

Appl | Status | Doc. Box | Create | Office | Soil | Recomnd | Review | ITracker
Final Insp. | Final Rev. | Create Letters | App. Hist. | Map | GIS

Application Expired

ATN:	63194806	**Permit:**	Not Issued **ATN Date:** 01/26/2010
Parcel ID:	19-01-451-003	**Address:**	1383 E SQUARE LAKE RD
Parcel Area:	1491842.9 Sq.Ft. / 34.248123 Acres	**City:**	BLOOMFIELD HILLS
Last Activity:	05/04/1976	**Zip:**	48304
Sub Name:		**Lot Number:**	
Septic Type:	New	**Proposed Use :**	Non-Residential
No. of Bedrooms Approved:		**No. of Persons:**	200
Establishment Type:	School	**No. of Splits:**	
Assign To:	pylarm	**Assign Date:**	

Note: * = required field.

Inspections:

Borings: Add

Boring 1

Textures: Add

* Depth:	4.00 Feet		Remove
* Soil Info:	Fill	Sand Content:	Select Sand Content
Topsoil Texture:	Select Type	Color:	Select Color
Size:	Select Size	Type:	Select Type
Wetness:	Select Wetness	Profile:	Select Profile
Soil Structure:	Select Soil Structure	Soil Horizon:	Select Soil Horizon

* Depth:	0.50 Feet		Remove
* Soil Info:	Topsoil	Sand Content:	Select Sand Content
* Topsoil Texture:	Loamy Sand	Color:	Select Color
Size:	Select Size	Type:	Select Type
Wetness:	Select Wetness	Profile:	Select Profile
Soil Structure:	Select Soil Structure	Soil Horizon:	Select Soil Horizon

* Depth: 2.50 Feet — Remove
* Soil Info: Clay — Sand Content: Select Sand Content
Topsoil Texture: Select Type — Color: Select Color
Size: Select Size — Type: Select Type
Wetness: Select Wetness — Profile: Select Profile
Soil Structure: Select Soil Structure — Soil Horizon: Select Soil Horizon

---

* Depth: 1.50 Feet — Remove
* Soil Info: Clay Loam — Sand Content: Select Sand Content
Topsoil Texture: Select Type — Color: Select Color
Size: Select Size — Type: Select Type
Wetness: Select Wetness — Profile: Select Profile
Soil Structure: Select Soil Structure — Soil Horizon: Select Soil Horizon

---

* Depth: 3.00 Feet — Remove
* Soil Info: Sandy Loam — Sand Content: Select Sand Content
Topsoil Texture: Select Type — Color: Select Color
Size: Select Size — Type: Select Type
Wetness: Select Wetness — Profile: Select Profile
Soil Structure: Select Soil Structure — Soil Horizon: Select Soil Horizon

---

* Depth: 1.00 Feet — Remove
* Soil Info: Sand — Sand Content: Select Sand Content
Topsoil Texture: Select Type — Color: Select Color
Size: Very Coarse — Type: Select Type
Wetness: Select Wetness — Profile: Select Profile
Soil Structure: Select Soil Structure — Soil Horizon: Select Soil Horizon

---

* Depth: 0.50 Feet — Remove
* Soil Info: Sand — Sand Content: Select Sand Content
Topsoil Texture: Select Type — Color: Select Color
Size: Very Coarse — Type: Select Type
Wetness: Wet — Profile: Select Profile
Soil Structure: Select Soil Structure — Soil Horizon: Select Soil Horizon

---

☑ Boring 1 — X: Y: — Remove

Boring Label : 1

* HSWT: ◉ Yes ○ No

Depth of HSWT: 12.50 Feet — HSWT Indicator: Wet

* Ground Water Observed: ◉ Yes ○ No — Observed Water: 12.50 Feet

GPS: Date: 02/03/2010 04:06 PM — Captured By: pylarm

Boring 2

Textures: Add

---

* Depth: 4.50 Feet — Remove
* Soil Info: Fill — Sand Content: Select Sand Content
Topsoil Texture: Select Type — Color: Select Color
Size: Select Size — Type: Select Type
Wetness: Select Wetness — Profile: Select Profile
Soil Structure: Select Soil Structure — Soil Horizon: Select Soil Horizon

---

* Depth: 1.00 Feet — Remove
* Soil Info: Topsoil — Sand Content: Select Sand Content
* Topsoil Texture: Sandy Loam — Color: Select Color
Size: Select Size — Type: Compacted
Wetness: Select Wetness — Profile: Select Profile
Soil Structure: Select Soil Structure — Soil Horizon: Select Soil Horizon

---

* Depth: 1.50 Feet — Remove
* Soil Info: Clay Loam — Sand Content: Select Sand Content
Topsoil Texture: Select Type — Color: Select Color
Size: Select Size — Type: Select Type
Wetness: Select Wetness — Profile: Select Profile
Soil Structure: Select Soil Structure — Soil Horizon: Select Soil Horizon

---

* Depth: 1.00 Feet — Remove
* Soil Info: Clay Loam — Sand Content: Select Sand Content
Topsoil Texture: Select Type — Color: Select Color
Size: Select Size — Type: Select Type
Wetness: Select Wetness — Profile: Select Profile
Soil Structure: Select Soil Structure — Soil Horizon: Select Soil Horizon

---

* Depth: 4.00 Feet — Remove
* Soil Info: Sand — Sand Content: Select Sand Content
Topsoil Texture: Select Type — Color: Select Color
Size: Coarse — Type: Select Type
Wetness: Select Wetness — Profile: Select Profile
Soil Structure: Select Soil Structure — Soil Horizon: Select Soil Horizon

---

* Depth: 1.00 Feet — Remove
* Soil Info: Sand — Sand Content: Select Sand Content
Topsoil Texture: Select Type — Color: Select Color
Size: Select Size — Type: Select Type
Wetness: Select Wetness — Profile: Select Profile
Soil Structure: Select Soil Structure — Soil Horizon: Select Soil Horizon

---

☑ Boring 2 X: Y: — Remove

Boring Label : 2

* HSWT: ○ Yes ◉ No

Depth of HSWT:

Select Depth

HSWT Indicator:

Select HSWT Indicator

* Ground Water Observed: ○ Yes ◉ No

Observed Water:

Inch

GPS: Date: 02/03/2010 04:21 PM

Captured By: pylarm

Boring 3

Textures: Add

---

* Depth: 4.00 Inch Remove

* Soil Info: Fill

Sand Content: Select Sand Content

Topsoil Texture: Select Type

Color: Brown

Size: Select Size

Type: Select Type

Wetness: Select Wetness

Profile: Select Profile

Soil Structure: Select Soil Structure

Soil Horizon: Select Soil Horizon

---

* Depth: 4.00 Feet Remove

* Soil Info: Fill

Sand Content: Select Sand Content

Topsoil Texture: Select Type

Color: Dark

Size: Select Size

Type: Select Type

Wetness: Select Wetness

Profile: Select Profile

Soil Structure: Select Soil Structure

Soil Horizon: Select Soil Horizon

---

* Depth: 4.00 Feet Remove

* Soil Info: Fill

Sand Content: Select Sand Content

Topsoil Texture: Select Type

Color: Brown

Size: Select Size

Type: Select Type

Wetness: Select Wetness

Profile: Select Profile

Soil Structure: Select Soil Structure

Soil Horizon: Select Soil Horizon

☑ Boring 3

X: Y: Remove

Boring Label : 3

* HSWT: ○ Yes ◉ No

Depth of HSWT:

Select Depth

HSWT Indicator:

Select HSWT Indicator

* Ground Water Observed: ○ Yes ◉ No

Observed Water:

Inch

GPS: Date: 02/03/2010 04:23 PM

Captured By: pylarm

Borings: Add

Inspection Comments:

General Site Information:

Site Considerations	Yes	No	N/A
* Is the proposed site location provided on application/sketch accurate?	◉	○	○
* Is the proposed site location acceptable?	◉	○	○
* Existing well on site?	○	○	◉
* Proposed septic location approved?	◉	○	○
If not approved, is there an acceptable location?	◉	○	○

Conditions for acceptable location:

*Is Failure Evaluation Required? Yes ○ No ◉

Failure Evaluation Form completed? ☐

Site Comments:

Review Engineering Plan required? ☐

Site evaluation by: pylarm Date: 06/17/2010

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Application Expired

Application History for 63194806:

Activity	Assigned By	Assigned To	Assigned Date	Completed By	Completed Date	Status
Sketch Received (Electronic)			01/26/2010 15:25		01/26/2010 15:25	
Application Submitted			01/26/2010 15:25	Michael J. Mayotte	01/26/2010 15:25	Completed
Office Evaluation	feneleyt	pylarm	01/29/2010 10:10			
Recommendation	feneleyt	pylarm	01/29/2010 10:10			
Site Evaluation	feneleyt	pylarm	01/29/2010 10:10			
Office Evaluation	feneleyt	pylarm	01/29/2010 10:10	pylarm	02/09/2010 12:20	In Progress
Office Evaluation	feneleyt	pylarm	01/29/2010 10:10	pylarm	02/17/2010 11:37	In Progress
Site Evaluation	feneleyt	pylarm	01/29/2010 10:10	pylarm	02/17/2010 11:50	In Progress
Office Evaluation	feneleyt	pylarm	01/29/2010 10:10	pylarm	02/17/2010 11:37	Completed
Recommendation	feneleyt	pylarm	01/29/2010 10:10	pylarm	02/17/2010 12:09	Completed
Site Evaluation	feneleyt	pylarm	01/29/2010 10:10	pylarm	02/17/2010 11:50	Completed
Evaluation Review	pylarm	hansellm	02/17/2010 12:09			
Review Letter	pylarm	hansellm	02/17/2010 12:05			Completed
Evaluation Review	pylarm	hansellm	02/17/2010 12:09	johnbraddockm	02/22/2010 14:02	Completed
Site Evaluation	walkert	pylarm	03/12/2010 16:30			
Office Evaluation	walkert	pylarm	03/12/2010 16:30			
Recommendation	walkert	pylarm	03/12/2010 16:30			
Site Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	02/17/2010 11:50	Pending
Office Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	02/17/2010 11:37	Pending
Recommendation	walkert	pylarm	03/12/2010 16:30	pylarm	02/17/2010 12:09	Pending
Site Evaluation	walkert	pylarm	03/12/2010 16:30			
Recommendation	walkert	pylarm	03/12/2010 16:30			
Office Evaluation	walkert	pylarm	03/12/2010 16:30			
Recommendation	walkert	pylarm	03/12/2010 16:30	pylarm	02/17/2010 12:09	Pending
Site Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	02/17/2010 11:50	Pending

Office Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	02/17/2010 11:37	Pending
Office Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	03/12/2010 16:49	In Progress
Site Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	03/12/2010 16:50	In Progress
Office Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	03/12/2010 16:49	Completed
Site Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	03/12/2010 16:50	Completed
Recommendation	walkert	pylarm	03/12/2010 16:30	pylarm	03/12/2010 17:02	Completed
Evaluation Review	pylarm	johnbraddockm	03/12/2010 17:02			
Evaluation Review	pylarm	johnbraddockm	03/12/2010 17:02	johnbraddockm	02/22/2010 14:02	Pending
Recommendation	walkert	pylarm	03/12/2010 16:30	johnbraddockm	03/19/2010 11:47	Completed
Site Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	03/12/2010 16:50	Completed
Office Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	03/12/2010 16:49	Completed
Evaluation Review	johnbraddockm	hansellm	03/19/2010 11:47			
Evaluation Review	johnbraddockm	hansellm	03/19/2010 11:47	johnbraddockm	02/22/2010 14:02	Pending
Site Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	03/12/2010 16:50	Returned
Office Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	03/12/2010 16:49	Returned
Recommendation	walkert	pylarm	03/12/2010 16:30	johnbraddockm	03/19/2010 11:47	Returned
Evaluation Review	johnbraddockm	hansellm	03/19/2010 11:47	johnbraddockm	03/19/2010 15:29	Completed
Office Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	06/17/2010 13:19	In Progress
Site Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	06/17/2010 13:19	In Progress
Office Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	06/17/2010 13:19	Completed
Recommendation	walkert	pylarm	03/12/2010 16:30	pylarm	06/17/2010 13:20	Completed
Site Evaluation	walkert	pylarm	03/12/2010 16:30	pylarm	06/17/2010 13:19	Completed
Evaluation Review	pylarm	johnbraddockm	06/17/2010 13:20			
Evaluation Review	pylarm	johnbraddockm	06/17/2010 13:20	johnbraddockm	03/19/2010 15:29	Pending
Evaluation Review	pylarm	johnbraddockm	06/17/2010 13:20	johnbraddockm	06/17/2010 22:37	Completed

Comments History

Comments	Created By	Created Date
1/27/10 attached inspsum screen from denial, denial paperwork not in file/tw	walkert	01/27/2010
01/26/10 prev septic denied no prev well permits/tw	walkert	01/26/2010

06/07/2010 No additional correspondnece received from the architect or engineer on this plan.	johnbraddockm	06/07/2010
3-15-10, Spoke with the architect(TMP) and engineer (Spalding DeDecker) on plans for the school. The district is hasn"t decided on a plan at this moment.	pylarm	03/15/2010
02/22/2010 Hold letter sent requesting architechtural plans for proposed facility.	johnbraddockm	02/22/2010

Comments:

Done

OAKLAND COUNTY MICHIGAN

Document Box

Logout

- ATN - Void
- Access Oakland
- ▷ Application(Septic)
- ▷ Assignment
- ▷ DMS
- GIS
- Installer Maint
- Failure Eval. Form
- Property Gateway
- Reports
- Search
- ▷ To Do List
- E-Health Links
- Wells
- OCHD OakDocs

User Information:

User:	newcombc
Login:	04/14/2026 15:59
Module:	Septics

Appl	Status	Doc. Box	Create	Office	Soil	Recomnd	Review	ITracker
Final Insp.	Final Rev.	Create Letters	App. Hist.	Map	GIS			

Application Expired

ATN:	63194806	**Permit:**	Not Issued **ATN Date:** 01/26/2010
Parcel ID:	19-01-451-003	**Address:**	1383 E SQUARE LAKE RD
Parcel Area:	1491842.9 Sq.Ft. / 34.248123 Acres	**City:**	BLOOMFIELD HILLS
Last Activity:	05/04/1976	**Zip:**	48304
Sub Name:		**Lot Number:**	
Septic Type:	New	**Proposed Use :**	Non-Residential
No. of Bedrooms Approved:		**No. of Persons:**	200
Establishment Type:	School	**No. of Splits:**	
Assign To:		**Assign Date:**	

Document Box:

Document Description	Status	Decision Date
SITESKETCH	Active	02/04/2010 15:11

Upload Site Sketch Print

Library Documents: ATN = 63194806 is 6

No.	Descriptive Name	Document Name	Created by	Created Date
1	inspsum screen from denied app	63194806[1].pdf	walkert	01/27/2010
2	Signed additional info letter	63194806[1].pdf	walkert	02/23/2010
3	Site Plan	631948060001[1].pdf	walkert	03/15/2010
4	Kitchen plans	ph[4].pdf	hoeraufp	03/16/2010
5	kitchen site plan	Bowers farm_kitchen_plan[1].pdf	pylarm	03/16/2010
6	HOLD LETTER-Additional info needed	63194806[1].pdf	kadulskik	03/26/2010

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H017 NINDSP
UPDATE PAPER RECORD LOCATION PAGE 01
00543174 SEWAGE 19-01-451-003 A5 108 01/27/10 08.45
01219 SQUARE LK

HOH

TYPE	DESCRIPTION	OPEN	CLOSE	PROF	PURGE	LOCATION
01865	SEWAGE DISPOSAL/SO	120991		00000218		
01869	SEW DISP-DENIAL/SO	122790	041991	00000218		DENIED
01865	SEWAGE DISPOSAL/SO	122790		00000218		

008 AT LAST PAGE

H049 INSPSUM
SUMMARY INSPECTION PAGE 01
01/27/10 08.46
00543174 SEWAGE 19-01-451-003 A5 108 01219 SQUARE LK

FORM	ACT	DATE	NSDI	PROF	SCORE	SYNOPSIS
SEWAGE	422	122790		00000218		DENIED

008 AT LAST PAGE

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION
Department of Health & Human Services

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

Kathleen Forzley, R.S., M.P.A., Manager
HEALTH DIVISION

February 22, 2010

BLOOMFIELD HILLS SCHOOL DIST
4175 ANDOVER RD
BLOOMFIELD HILLS MI 48302

Permit Number: Not Issued
Parcel ID: 19-01-451-003
Application Tracking Number: 63194806

RE: NEW AT 1383 E SQUARE LAKE RD, BLOOMFIELD HILLS, OAKLAND COUNTY, MI.

Dear Bloomfield Hills School District:

Your application for an on-site sewage permit is being held for additional information which will be needed before any further action can be taken by this Division. Please refer to the item(s) checked below:

_X_ Architectual plans showing classrooms and buildings locations, drawn to scale.

Please correct and resubmit to the appropriate office at your earliest convenience.

If you have any questions, please contact the Oakland County Health Division, Environmental Health Services, at the respective office listed below. Our office hours are 8:00 a.m. to 5:00 p.m., Monday through Friday. However, the field sanitarians are generally in the office between the hours of 8:30 a.m. to 10:00 a.m.

IF NO FURTHER ACTION IS TAKEN BY YOU, THE APPLICATION WILL BECOME NULL AND VOID ONE YEAR FOR THE DATE OF RECEIPT.

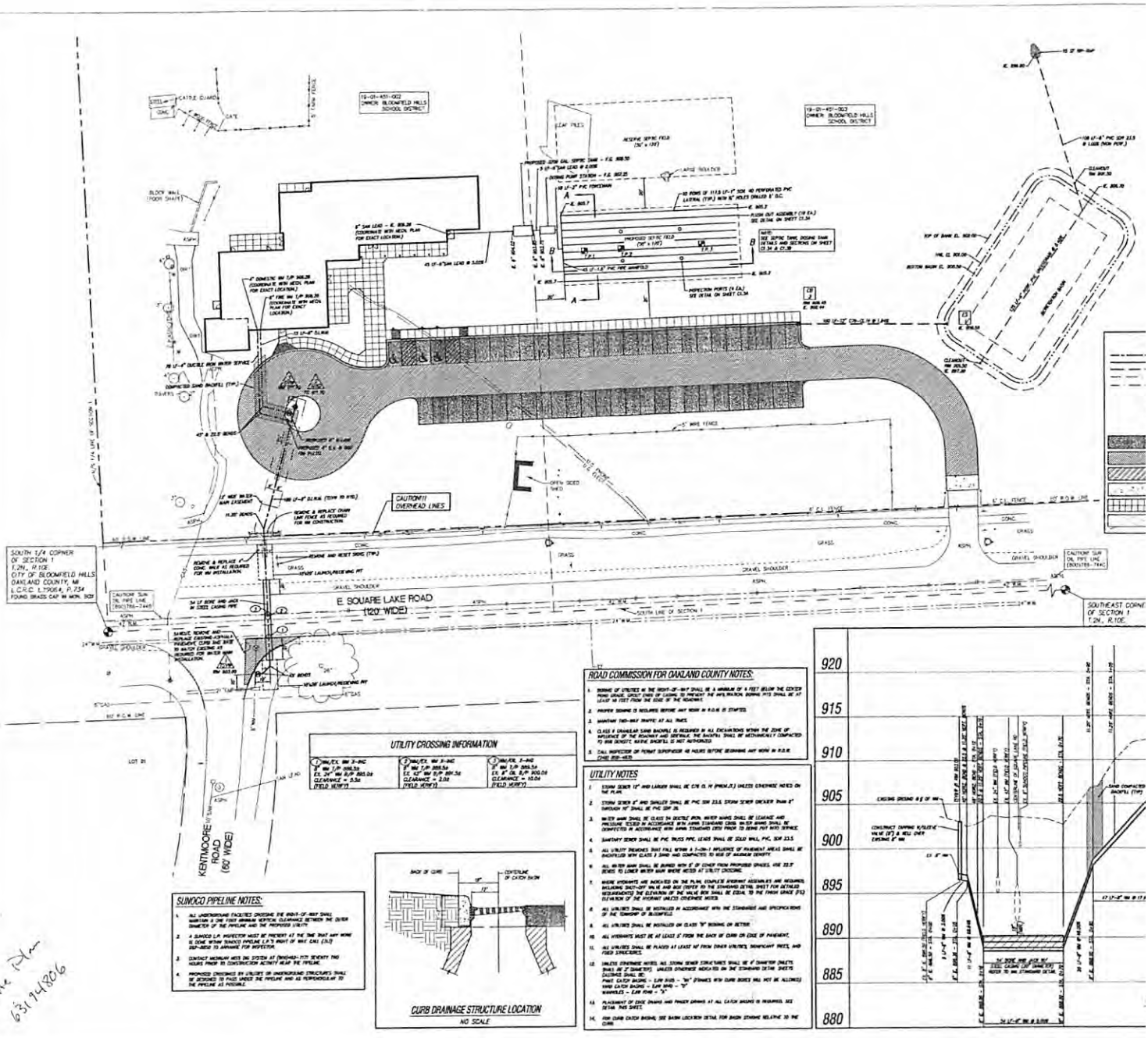
Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

M. Pylar R.S.

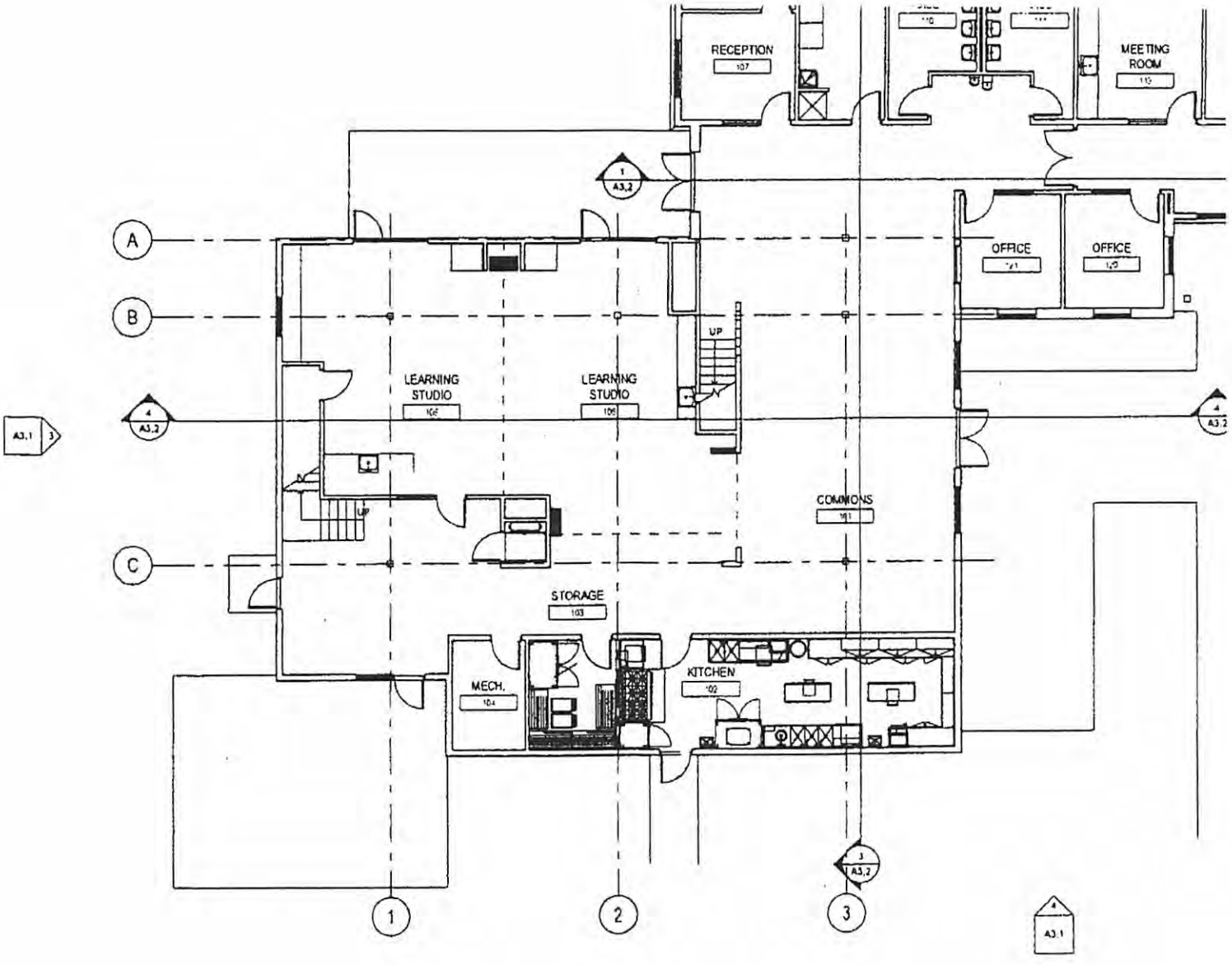
Michael G. Pylar R.S, B.S.
Senior Public Health Sanitarian
Environmental Health Services
(248) 858-1331

cc: Bloomfield Township Municipal Offices



Site Plan
6319-4806

E-01 | original source page 193 | APP 839


RECEPTION
MEETING ROOM
OFFICE
OFFICE
UP
LEARNING STUDIO
LEARNING STUDIO
COMMONS
STORAGE
MECH.
KITCHEN
A
B
C
1
2
3

63194806

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION
Department of Health & Human Services

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

Kathleen Forzley, R.S., M.P.A., Manager
HEALTH DIVISION

March 24, 2010

MR. MICHAEL J. MAYOTTE, PE
PROJECT MANAGER
SPALDING DEDECKER ASSOCIATES INC
905 SOUTH BOULEVARD EAST
ROCHESTER HILLS MI 48307

Permit Number: Not Issued
Parcel ID: 19-01-451-003
Application Tracking Number: 63194806

RE: PROPOSED NEW SEPTIC SYSTEM INSTALLATION AT 1383 E SQUARE LAKE ROAD, BLOOMFIELD HILLS. (BOWERS FARM SCHOOL HOUSE).

Dear Mr. Mayotte:

Oakland County Health Division (OCHD) recently met with you and Mr. Barber (TMP Associates, Inc.). At this meeting the following items were discussed with regard to the proposed project.

The building will facilitate the Bloomfield Hills Alternative High School with a maximum capacity of 50 students, without a cafeteria, gym or showers.

Additional Programs at the facility will include the Bloomfield Hills Bowers Farm Program that will offer educational programs to visiting District students.

At this time the project remains on **hold** pending the following actions:

- Require clarification on the scope of the food processing aspect of the working farm, specifically dairy and baked goods. Recommend that the Project Manager contact Susan Trombley at Michigan Department of Agriculture (1-800-292-3939) for plan review and licensing information.
- Confirm if the facility will be providing services during the Summer Semester to serve the community or the school district (camps or evening activities).
- Additional soil borings are required in the location of the proposed disposal system.
- Provide comparable flow data to calculate flow quantities for the proposed Farm Program. The data provided must contain actual flow data from 3 similar type and size facilities for a minimum of 12 month period.

Please contact this Division at (248) 858-1312 if you have any additional questions.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Liz Braddock, R.S., M.S.
Environmental Health Supervisor
Environmental Health Services

cc: Thomas Barber, TMP Associates Inc.
Dale Ladouceur, DNRE
Bloomfield Hills School District

Application Expired

Application for Onsite Private Water Well Permit

This application will be null and void if no action is taken one (1) year from date of receipt

Application Tracking Number: 63330332

Application Date:	04/29/2021	Parcel ID:	19-01-376-006
Well Type:	New Drinking Water Well	Last Activity:	
Subdivision Name:		Lot/Split Number:	
Total Land Area:	44.65769 Acres / 1945302.5Sqft	Lot/Split Area:	
Lot Number:			

Legal Description of Property:

T2N, R10E, SEC 1 PART OF SW 1/4 BEG AT S 1/4 COR, TH N 88-57-20 W 1335.52 FT, TH N 00-40-40 E 1405.57 FT, TH N 89-14-40 E 60.02 FT, TH S 00-40-40 W 27.01 FT, TH N 89-14-40 E 270.22 FT, TH N 00-40-40 W 145.25 FT, TH S 89-19-20 E 308.04 FT, TH N 00-10-00 W 199.04 FT, TH S 67-17-40 E 735.66 FT, TH S 00-01-00 E 1463.65 FT TO BEG EXC S 60 FT IN RD 44.79 A

Location Address

Street Address:	1219 E SQUARE LAKE RD	State:	MI
City:	BLOOMFIELD HILLS	Zip:	48304 -1544

Driving Directions:

Physical Characteristics

Municipal Water:	No	Municipal Sewer:	No
Recorded Easements :	Unknown	Proposed Grade Changes:	Unknown
Underground Utility:	Unknown	Underground Gas Lines:	Unknown

Well Information

Type of Drilling :		Existing Well on Site:	Unknown
Sketch Mode:	mailed		

Distance from Contamination Sources

Septic Tank :		Disposal Field :	
Sewer Line :	50.0 ft	Grinder Pump:	
Other :			
		Deviation from the Min. Requirements.	Unknown
		Deviation Application submitted :	No

Owner Information

Name:	BLOOMFIELD HILLS SCHOOL DIST	Day Phone:	999-999-9999
Name 2:		Evening Phone:	
Street Address:	4175 ANDOVER RD	Mobile Phone:	
CVT:	BLOOMFIELD HILLS	Fax:	
State :	MI	Pager Number:	
Zip:	48302	E-mail Address:	

Applicant Information

Name:	David J Cameron	Day Phone:	248-628-8985
Street Address:	2996 Metamora Road	Evening Phone:	
CVT:	Oxford	Mobile Phone:	

State :	MI	Fax:	
Zip:	48371	Pager Number:	
E-mail Address:			

Well Driller Information

Well Driller Reg #: 63-0414

Comments

Signed By :	DAVID CAMERON	Date :	04/29/2021
Well Education packet delivered to Applicant with instructions :			Yes
Application captured by :	wilsonman		
Clerk Comments:			

1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (248) 858-1312
27725 Greenfield Rd., Southfield, MI 48076-3625 (248) 424-7191

Print Close Window

Application Expired

Application History for 63330332:

Activity	Assigned By	Assigned To	Assigned Date	Completed By	Completed Date	Status
Sketch Received (Mail)			04/29/2021 15:59			
Application Submitted			04/29/2021 15:59	DAVID CAMERON	04/29/2021 15:59	Completed
Payment Submitted		wilsonman	04/29/2021 15:59	wilsonman	04/29/2021 15:59	Completed
Application Evaluation	wilsonman	brookste	04/29/2021 16:01			
Office Evaluation	wilsonman	brookste	04/29/2021 16:01			
Site Evaluation	wilsonman	brookste	04/29/2021 16:01			
Application Evaluation	brookste	limonv	04/30/2021 09:43			
Office Evaluation	brookste	limonv	04/30/2021 09:43			
Site Evaluation	brookste	limonv	04/30/2021 09:43			
Office Evaluation	brookste	limonv	04/30/2021 09:43			
Application Evaluation	brookste	limonv	04/30/2021 09:43			
Site Evaluation	brookste	limonv	04/30/2021 09:43			
Office Evaluation	brookste	limonv	04/30/2021 09:43	limonv	05/03/2021 06:00	In Progress
Office Evaluation	brookste	limonv	04/30/2021 09:43	limonv	05/03/2021 06:00	In Progress
Site Evaluation	brookste	limonv	04/30/2021 09:43	limonv	05/03/2021 06:00	In Progress
Office Evaluation	brookste	limonv	04/30/2021 09:43	limonv	05/03/2021 06:00	In Progress
Site Evaluation	brookste	limonv	04/30/2021 09:43	limonv	05/03/2021 06:00	In Progress
Office Evaluation	brookste	limonv	04/30/2021 09:43	limonv	05/03/2021 06:00	Completed
Application Evaluation	brookste	limonv	04/30/2021 09:43	limonv	05/03/2021 00:00	Completed
Site Evaluation	brookste	limonv	04/30/2021 09:43	limonv	05/03/2021 06:00	Completed
Evaluation Decision	limonv	fedototszkinc	05/03/2021 09:50			
Evaluation Decision	limonv	fedototszkinc	05/03/2021 09:50			Pending
Evaluation Decision	limonv	fedototszkinc	05/03/2021 09:50	fedototszkinc	05/03/2021 11:16	Completed

Water Samples History:

Letter	Collection Date	Collected By	Lab	Sample Point	Reason	Test Type

No sample data present.

Comments History

Comments	Created By	Created Date
4/30/21 spoke to Will 7346803522 operations for Bower"s School Farm, he stated this well is supposed to be for irrigation. Provided clerical number to change well application.	limonv	04/30/2021
4-29-21 Irrigation well ATN 63226185. Well abandonment ATN 63226185. Septic ATN 21729 attached.	wilsonman	04/29/2021

Comments:

Done

OAKLAND COUNTY MICHIGAN

Document Box

Logout

ATN - Void
Access Oakland
▷ Application(Well)
▷ Assignment
▷ DMS
GIS
▷ Lab Results
▷ Lab System
Property Gateway
Reports
Search
▷ To Do List
Well Log System
E-Health Links
Septics
OCHD OakDocs

User Information:

User:	newcombc
Login:	04/14/2026 16:46
Module:	Wells

Appl | Status | Doc. Box | Create | Office | Site | Recomnd | Review | ITracker
Water | Grout | Final Insp | Final Rev. | Final Rep. | Create Letters | App. Hist. | Map | GIS

Application Expired

ATN:	63330332	**Permit:**	Not Issued **ATN Date:** 04/29/2021
Parcel ID:	19-01-376-006	**Address:**	1219 E SQUARE LAKE RD
Parcel Area:	1945302.5 Sq.Ft. / 44.65769 Acres	**City:**	BLOOMFIELD HILLS
Last Activity:		**Zip:**	48304
Sub Name:		**Lot Number:**	
Well Type:	New drinking water well		
Assign To:		**Assign Date:**	

Document Box:

Document Description	Status	Decision Date
SiteSketch	Inactive	05/03/2021 09:39
SiteSketch	Active	05/03/2021 09:46

Upload Site Sketch Print

Library Documents: ATN = 63330332 is 3

No.	Descriptive Name	Document Name	Created by	Created Date
1	Well Application	63330332.pdf	wilsonman	04/29/2021
2	Septic Permit 21729	21729[1].pdf	wilsonman	04/29/2021
3	hold letter	63330332 square lake.pdf	divitol	05/05/2021

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Lot #_____

Subdivision_____

Sidwell # 19-01-376-006

OAKLAND COUNTY HEALTH DIVISION

1200 N. Telegraph Rd., Pontiac 48341-0432 (248) 858-1312
27725 Greenfield Rd., Southfield 48076-3625 (248) 424-7191
1010 E. West Maple Rd., Walled Lake 48390-3588 (248) 926-3305

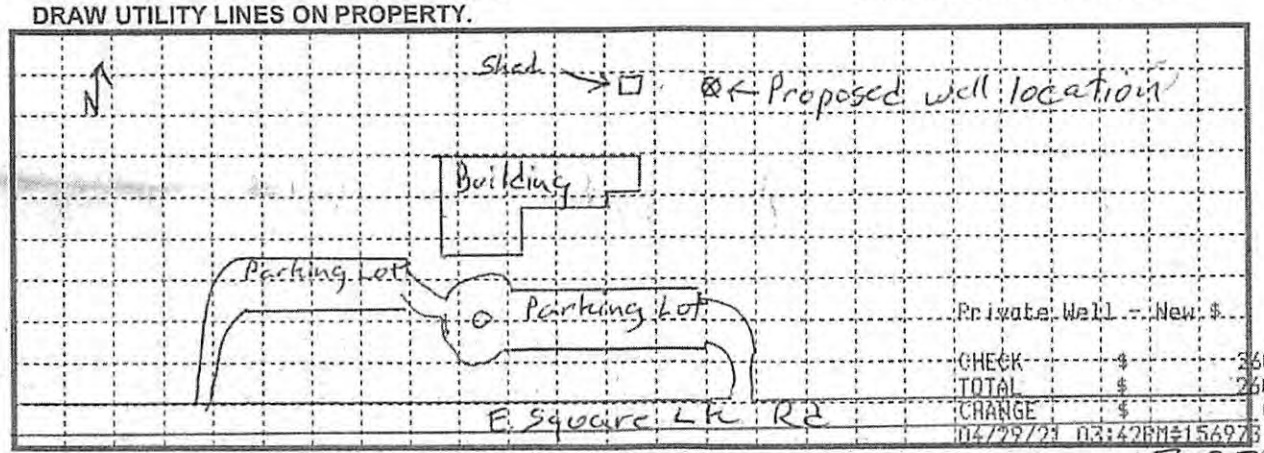
APPLICATION TO INSTALL A WELL

NOTICE: EMERGENCY REPLACEMENT WELLS REQUIRE ABANDONMENT OF THE EXISTING WELL.

NEW WELL ☒ REPLACEMENT WELL ☐ (Emergency Repair ☐ Yes ☐ No) ABANDONMENT ☐
EXTENSIVE REPAIR ☐ IRRIGATION WELL ☐ TEST WELL ☐ OTHER ☐ _____

Type: Rotary ☒ Cable tool ☐ Other ☐ _____
Township/City/Village: Bloomfield Hills Street #: 1219 Street: E. Square Lk Rd
Residential ☐ Non-Residential Building ☒ # of persons in Non-Residential Building _____
Owner: Bloomfield Hills Schools Address: 4175 Andover Rd City: Bloomfield Hills Zip: 48304
Applicant: Dave Cameron Address: 2996 Metamora Rd City: Oxford Zip: 48371
Well Contractor: John Cameron & Son W.D. Inc Reg #: 63-0414 Phone: 248-568-8959
Closest point from well to sources of contamination: Septic Tank: _____ ft. Disposal Field: _____ ft.
Sewer Line: 50' + ft. Grinder Pump: _____ ft. Other (_____) _____ ft.
Proposed use of well: Private ☐ Type I ☐ Type II ☐ Type III ☐ Other ☒ Irrigation
THE UNDERSIGNED ACKOWLEDGES THEY WILL DELIVER A WELL EDUCATION PACKET TO THE WELL OWNER
SIGNED: David Cameron DATE: 4-26-21 PHONE: 248-568-8959
(Application will be returned if not signed)

1. LOCATE NEIGHBORING AND PROPOSED WELL AND SEPTIC TANK/FIELD ON GRAPH BELOW.
2. DRAW UTILITY LINES ON PROPERTY.
3. INDICATE DIRECTION NORTH.
4. NAME OF FRONTING ROADS.



156973

SITE EVALUATION DATE:_____ ENVIRONMENTALIST:_____

WELL PERMIT

PERMIT: APPROVED ☐ DENIED ☐ HOLD ☐
ENVIRONMENTALIST:_____ DATE:_____

1. Call for grout inspection when work begins.
2. Required isolation distances must be verified by the installer.
3. Call for final inspection upon completion of the well
4. Submit well log or plugging record within 60 days of well completion.

SPECIAL CONDITIONS/WELL DEPTH REQUIREMENT:_____

- This well permit does not ensure approval of a sewage disposal permit. A well installation may reduce or eliminate an approved sewage disposal area resulting in denial of an application for a sewage disposal permit.
- Installation must comply with Michigan Water Well Construction and Pump Installation Code, Part 127 Act 368 of the Public Acts of 1978, as amended, and rules and Act 399 of 1976 as amended and Administrative Rules.

THIS PERMIT IS VOID TWO (2) YEARS FROM DATE OF ISSUE

OFFICE ONLY Distribution: Original - File Copy - Owner/Applicant Copy - Township Copy - Septic

A:\EHS\EHS-142B.DOC 13D Rev. 2/25/05
Reprint 1/29/09

The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin, age or disability. State and federal eligibility requirements apply for certain programs.

DATE ISSUED:_____ PERMIT:_____ TOWNSHIP: 03330332
CORRESPONDING SEPTIC PERMIT #:_____ DATE ISSUED:_____

NP found ✓

OAKLAND COUNTY HEALTH DIVISION — **NOTICE**
1200 N. Telegraph Rd., Pontiac 48341
27725 Greenfield Rd., Southfield, 48076

Lot# _____ Subdivision _____

Sidwell# 19-01-376-006 545535 ✓

APPLICATION
FOR PERMIT TO INSTALL OR REPAIR A SEWAGE DISPOSAL SYSTEM

Floor drains are prohibited unless -
(1) They are connected to a sanitary sewer;
(2) They are connected to a holding tank; or
(3) A state groundwater discharge permit has been obtained.

(Township, Village, City) Bloomfield Township No. 1219 Square Lake Road Street

New Home _____ No. of Bedrooms _____ Repair of System _____

Non-Residential Building Type Learning & Activities Building No. of Persons 20

Owner Bltd. Hills Board of Maintenance Dept. Address 4220 Andover Rd. Bloomfield Hills Zip 48302

Applicant O.E.M. Associates Address 28700 Ryan Rd. City Warren Zip 48092

SIGNED: R.E. Olivieri Telephone No. (313) 751-0880

Plans Approval is contingent upon the Bloomfield Hills engineer establishing all grades, making sufficient inspections during project construction to assure compliance with plans and providing this office with a signed statement to that effect. A final inspection by the Health Division is required.
Signed _____ Date 3/23/93

SUBSOILS DATA: Make at least two borings into the soil about twenty-five (25) feet apart to at least a depth of seven and one-half feet in the area of the planned drain field. Soil borings for dry well installation must be at least twelve (12) feet deep.

Hole #1	Hole #2	Hole #3	Hole #4
3 In. Topsoil bk. loam	____ In. Topsoil ____	____ In. Topsoil ____	____ In. Topsoil dk. loam
3 Ft. of silt clay loam	____ Ft. of Same	____ Ft. of Same	____ Ft. of
2 1/2 Ft. of silt clay loam	____ Ft. of ____	____ Ft. of ____	____ Ft. of 1, 2 & 3
____ Ft. of grey	____ Ft. of ____	____ Ft. of ____	____ Ft. of ____
Grnd. Water at 3 1/3 Ft.	Grnd. Water at ____ Ft.	Grnd. Water at ____ Ft.	Grnd. Water at 4 Ft.

BORING LOCATIONS MUST BE INDICATED ON ACCOMPANYING PLOT PLAN — REPORTED SOIL CONDITIONS

CONFIRMED? YES ☑ NO ☐ Environmentalist David J. McKeta Date 5-14-93

PERMIT

Two-Compartment Tank Recommended

Size of Septic Tank 2000 (2 comp) Gals; Lineal feet Drain Tile _____; Trench width _____ In.;
Spacing C. to C. _____ Ft.; OR Drainage Bed consisiting of 4000 w/ 706 lineal ft. 5 ft. on center Sq. Ft. or _____ Drywells
of _____ Gals. each with _____ Ft. of stone totaling _____ Sq. Ft. of Absorption Area _____.

Stipulations are listed below. The location and system design are indicated on attached scaled drawing which is part of this permit.

1. Locate drain field: See engineered plan
   Cut Drainage Bed 50% (100%) Scars by topsoil Ft. to _____
3. CALL FOR A CUTDOWN INSPECTION PRIOR TO BACKFILLING Yes - after scarifying soil
   Date of Mid-Inspection _____ by _____.
4. Backfill with Clean, Coarse Sand to Grade of Tile Field 2NS or equivalent - 2 ft. under entire field
5. Other Describe: ① Install system per Hubbell, Roth & Clark plan 93265 date 6-30-93 revised 7-9-93. ② Article 3 Sanitary Code will apply where plan is not specific. ③ Call for final inspection by engineer and by this office. permit assumes limitations of use as stipulated on plan and is null and void with any changes

If Denied, Indicate Reasons: _____

PERMIT: Approved ☒ Denied ☐ Hold ☐ Environmentalist David J. McKeta Date 5-19-93

Approval 7/14/93 David J. McKeta

ACT 53 - P.A. 1974 Requires the applicant to notify the public utilities prior to excavation.

THIS PERMIT IS VOID TWO (2) YEARS FROM DATE OF ISSUE

POST ON JOB

EHS-14-2 Rev. 6/87

BLOOMFIELD DATE OF ISSUE 5-19-93 PERMIT NO. 003279

OAKLAND COUNTY HEALTH DIVISION

1200 North Telegraph Road
Pontiac, Michigan 48341
Telephone 858-1312

P 036 095 384
CERTIFIED MAIL

27725 Greenfield Road
Southfield, Michigan 48076
Telephone 424-7191

Maintenance Dept Bloomfield Hills
Board of Education
4220 Andover
Bloomfield Hills, MI 48302

LOT ____ SUBDIVISION ____
ACREAGE-SIDWELL 19-01-376-006
STREET 1219 E. Square Lake C.V.T. 108

Your application for a permit to install an on-site sewerage system is denied. Denial is based upon a field inspection of the property which included an evaluation of the subsurface soils as well as water table elevations. The factors considered adverse for such a system are checked below to help you understand the reasons for denial.

- ✓ Dense clay subsoils exist to 6 feet with a saturated condition observed.
- ____ Dense clay subsoils exist to at least ____ feet below grade.
- ✓ Unsuitable soils consisting of peat, muck and/or marl were observed.
- ✓ Ground water table is too high, being 33" - 4 feet below grade.
- ____ The lot size or shape is such that adequate separation of water well and sewerage systems cannot be provided.
- ____ The area is subject to flooding or ponding of surface water.
- ____ Onsite soils cannot fully protect the source of well water. (No Aquaclude demonstrated.)
- ____ Other: ____

Should you wish to pursue this matter further, proceed with the directions following the indicated section below:

✓ Section A - It is suggested that you contract with a professional engineer to evaluate your property and determine whether a sewerage system could be designed and installed which would function properly under the adverse conditions that exist on your property. Plans should then be submitted to this division for review. If the engineer's proposed system is acceptable, your application for a permit will be approved. The system would then have to be constructed exactly as shown on the engineered drawings. After installation, the engineer would be required to submit a letter to us verifying the installation was according to his plans.

If the engineer's plan does not satisfactorily answer the reasons for denial, you have the right to appeal to the Sanitary Code Appeal Board. This appeal must be requested by you in writing, accompanied by a fee of $50.00, within 30 days from the date of this letter. Unless this process is initiated within 30 days, your application will expire and you will receive a $10.00 refund.

____ Section B - You may appeal this denial to the Water Resources Commission (WRC). To initiate action, you must file an application for a state discharge permit with the WRC. You may request the application by writing to the Michigan Department of Natural Resources, Waste Management Division, P.O. Box 30028, Lansing, Michigan, 48909 (Phone: (517) 373-8147). The application must be accompanied by an explanation of your reasons for appeal, the details of your proposal and the statement of the relief requested. The provisions of Act 245 and rules promulgated thereunder, regarding processing of discharge permits, shall apply.

Please contact this division if you need further assistance or have additional questions.

Yours truly,

0002178

OAKLAND COUNTY HEALTH DIVISION

David J. Mikola

DATE May 19, 1993

Sanitarian/Environmental Health Services

cc: Building Department
Applicant
Equalization

WPM/EHS 14-9 (Rev. 9/90)
EHS-DISC #9a

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Maintenance Dept Bloomfield Hills
Board of Education
4220 Andover
Bloomfield Hills, MI 48302

4a. Article Number
P 036 095 384

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
5-24-93

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
X Diane Bennett

PS Form **3811**, December 1991 ☆ U.S.G.P.O. : 1992-307-530 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

UNITED STATES POSTAL SERVICE

Official Business

PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, $300



Print your name, address and ZIP Code here

Denial
19-01-376-006
Blm Twp

OAKLAND COUNTY HEALTH DIVISION
Field Road
Michigan 48076

O.E.M. ASSOCIATES, INC.
28700 Ryan Road
Warren, Michigan 48092
Phone: (313) 751-0880
Fax: (313) 751-1404

ARCHITECTS - ENGINEERS

00021729

March 31, 1993

Oakland County Health Department
27725 Greenfield
Southfield, Michigan 48075

Attention: Mr. Dave Mickola

RE: Learning & Activities Facility
At Bloomfield Hills Schools Farm
Bloomfield Hills Schools
1219 E. Square Lake Road

Plan Review??

Dear Sir:

Enclosed please find our check for $80 to cover the fee for the required Perk Test for the proposed Learning & Activities Facility at Bloomfield Hills Schools Farm.

We talked to Dave Norkis and he suggested we also submit the following information to you:

1. The building will be used as a part-time classroom and community activities building. - Exercise classes - ?? nature of comm. activities
2. The building will be used as a classroom two hours per day, five days a week. The classroom size will be approximately twenty students. 20 students/day - specify
3. The laboratory sinks shown on the Floor Plan will be used for various student experiments. The only toxic materials to be disposed down the sinks would be a small amount of acid. specify
4. The shower shown on the Plans would be used for possible students accidents, such as a student falling into a pile of animal waste. The residential washer and dryer which are shown would also be used in such an event.
5. The kitchen sink shown on the Drawings would be used for coffee making and cup washing. The sink also shows a proposed garbage disposal. If this presents a problem, the garbage disposal can be removed from the project. food preparation
6. The building will have three water closets; one urinal; and two lavatories.

00052729

7. The activities program for the building usage is unclear at this time. It is difficult to give a population count for the building; however, it is safe to say the building will be used by approximately 20 to 25 people a day for 5 hours, 5 days a week, 9 months a year.

If you would like further information, please let us know.

Yours truly,

O.E.M. ASSOCIATES, INC.

Robert E. Olivieri
Mechanical Engineer

REO/dw

cc: John Humble

O.E.M. ASSOCIATES, INC.
28700 Ryan Road
Warren, Michigan 48092
Phone: (313) 751-0880
Fax: (313) 751-1404
ARCHITECTS - ENGINEERS

00002729

April 21, 1993

Oakland County Health Department
27725 Greenfield
Southfield, Michigan 48075

20 students X 17.2 gpd
= 352/2 =

Attention: Mr. Dave Mikkola

RE: Learning & Activities Facility
at Bloomfield Hills Schools Farm
Bloomfield Hills Schools
1219 E. Square Lake Road

Dear Sir:

We are writing this letter to answer your questions pertaining to our letter to you dated March 31, 1993.

The Classroom size for the proposed building will be twenty students per day for two hours duration, for five days a week.

The lab sink will be used for the following:

1. Biological dissections
2. Water quality tests

No acids will be used in the Classrooms. The only substances that will be used in experiments are a few drops of Phenol Red and Menthol Blue. Because of this, the neutralizing sump will be deleted from our project.

There will be no food preparation at the building. The garbage disposer will be used solely for the elimination of possible food scraps from a teacher's lunch. The room where the disposer is located is actually a Teacher's Lounge.

As we discussed, the building population should be approximately 20 to 25 people, 5 hours a day, 5 days a week, 12 months a year.

We hope this answers your questions. If we can be of further help, please contact us.

Sincerely,

O.E.M. ASSOCIATES, INC.

R E Olivieri /dw

Robert E. Olivieri

REO/dw

cc: John Humble

COPIES	DRAWING OR SHEET NO'S:	DESCRIPTION
1		ENGINEERS FINAL INSPECTION LETTER
3		PHOTOGRAPHS

THESE ARE TRANSMITTED as checked below:

- ☒ For approval
- ☐ For your information & use
- ☐ As requested
- ☐ For review and comment
- ☐ For color selection
- ☐ Approved as submitted
- ☐ Approved as noted
- ☐ Returned for corrections
- ☐ Not approved
- ☐ Resubmit _____ copies for approval
- ☐ Submit _____ copies for distribution
- ☐ Return _____ corrected prints

P.R.S. CONTRACTING, Inc.
899 WEST BALTIMORE
P. O. BOX 02758
DETROIT, MICHIGAN 48202
313/873-6220 • FAX: 313/873-4703

LETTER OF TRANSMITTAL

DATE 12-21-93	OUR JOB NO.
ARCH. JOB/DWG. NO.	YOUR JOB NO.
RE: PERMIT # 21729	
BOYERS FARM	
TRADE:	

OAKLAND COUNTY HEALTH DEPT,
27725 GREENFIELD RD.
SOUTHFIELD, MI. 48076

ATTENTION: MORRIS JAMES

GENTLEMEN:

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Job Plans ☐ Specifications ☐ Addendum ☐ Bulletin
☐ Copy of letter ☐ Sample(s) ☐ Brochure ☐ Report ☐ _____

COPIES	DRAWING OR SHEET NO'S:	DESCRIPTION
1		ENGINEERS FINAL INSPECTION LETTER
3		PHOTOGRAPHS

THESE ARE TRANSMITTED as checked below:

☒ For approval ☐ For color selection ☐ Not approved
☐ For your information & use ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ As requested ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ For review and comment ☐ Returned for corrections ☐ Return _____ corrected prints
☐ FOR BIDS DUE _____ 19_____ ☐ Plans & Spec's. to be returned.
☐ _____

REMARKS _____

XEROX COPY TO _____

WHITE – ADDRESSEE
YELLOW – OFFICE
PINK – FIELD

SIGNED: Carol A Cool

If enclosures are not as noted, kindly notify us at once.

PRINCIPALS
James W. Hubbell
M. David Waring
Donald R. McCormack
Clarence W. Hubbell
Thomas E. Biehl
George E. Hubbell, II
Peter T. Roth
Gerald F. Knapp
Walter H. Alix

HRC
HUBBELL, ROTH & CLARK, INC.
CONSULTING ENGINEERS

ASSOCIATES
James E. Beuerle
David Brody
David McPhee
Thomas H. Ritchie
Frederick C. Navarre
Arnold Lucilen
Gary J. Tressel
Lawrence R. Ancypa
Kenneth A. Melchior
Dennis M. Monsere
Curt A. Christeson
Randal L. Ford

December 21, 1993

Oakland County Health Division
27725 Greenfield Road
Southfield, Michigan 48076

Attention: Mr. Morris James

Re: Final Inspection Letter — HRC Job No. 93265.02
Learning and Activities Building Septic System
Charles Bower Farm Site
Bloomfield Hills Schools
O.C.H.D. Permit No. 21729

Gentlemen:

On behalf of the Bloomfield Hills Schools and their General Contractor on the subject project, P.R.S. Contracting, Inc., we submit this letter of final inspection for the building septic system.

Our office has made site visits during construction of the septic system, and authorizes that said improvements were completed in accordance with the approved plans issued by our office, and the conditions contained within the Oakland County Health Division Permit No. 21729.

Please contact our office, should you have any questions regarding this matter.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.

David C. Love

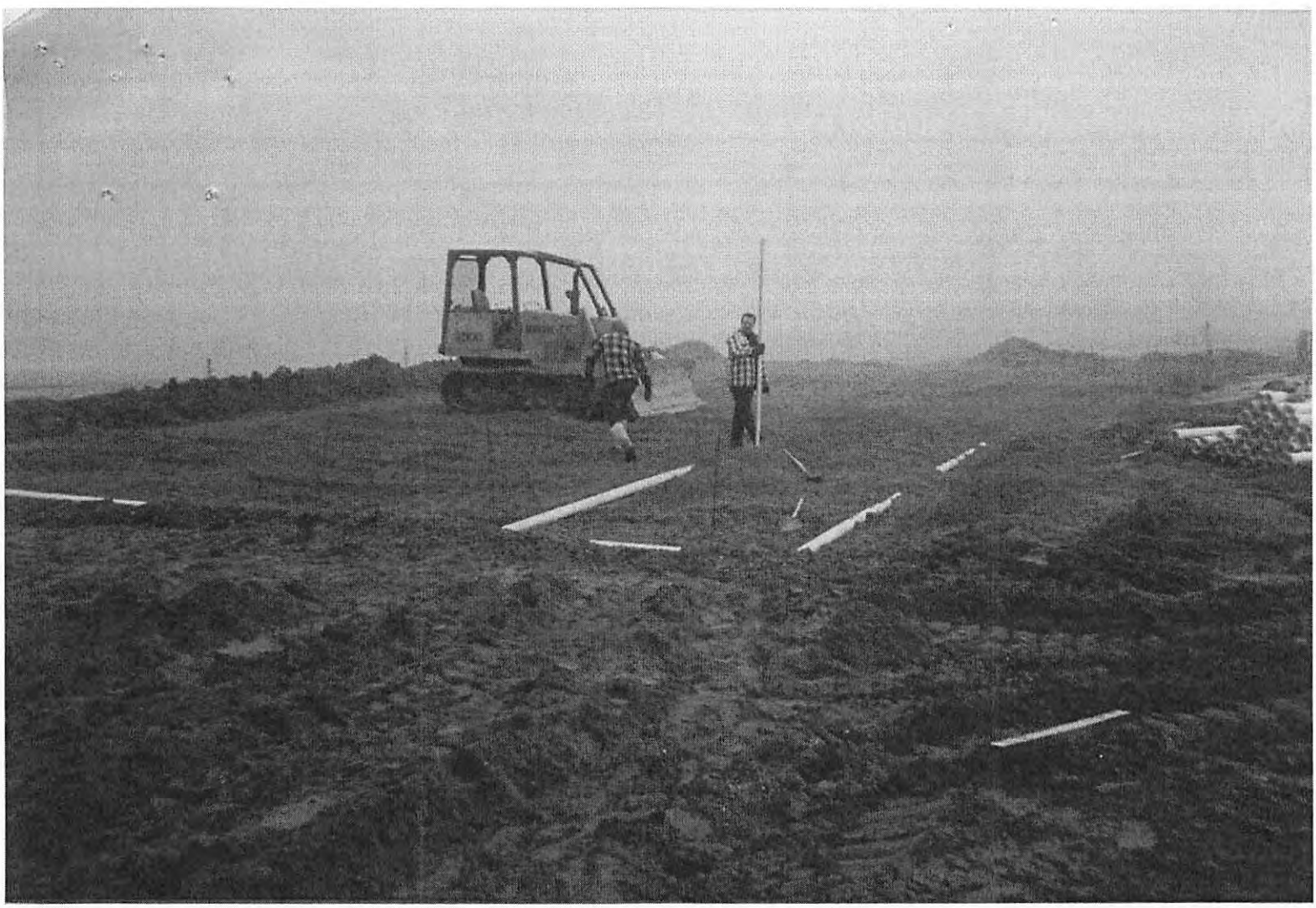
David C. Love, P.E.

DCL/kc

pc: Bloomfield Hills Schools; Jack Humble
P.R.S. Contracting, Inc.; Carol Cool

Corporate Office: 555 Hulet Drive • Bloomfield Hills, MI • (313) 338-9241 • FAX: 313-338-2592
Corporate Mailing Address: P. O. Box 824 • Bloomfield Hills, MI 48303-0824

E-01 | original source page 212 | APP 858



PERMIT # 21729

26 10 1 N-1-2 2

LAYING OF PIPE



PERMIT # 21729

26 10 : N-1-22

SOUTH WEST CORNER OF FIELD
SHOWING RELATION OF SAND BED TO
SCARIFY DEPTH & BUILDING



PERMIT # 21729

LOOKING NORTHEAST ACROSS FIELD
SHOWING RELATION OF SAND TO SCARIFY DEPTH
STAKES WERE MARKED AT TWO FOOT DEPTH

1219 E. Square Lake Rd.

INSTRUCTIONS: **SCALED PLOT PLAN FOR PERMIT NO.** 00021729

Sec. 3.2, Article III "Sanitary Code", Oakland County Health Division requires scaled plot plan providing the following information.

(1) Lot Size FARM (2) North _____ (3) Fronting Roads Square Lk (4) Grade Changes _____

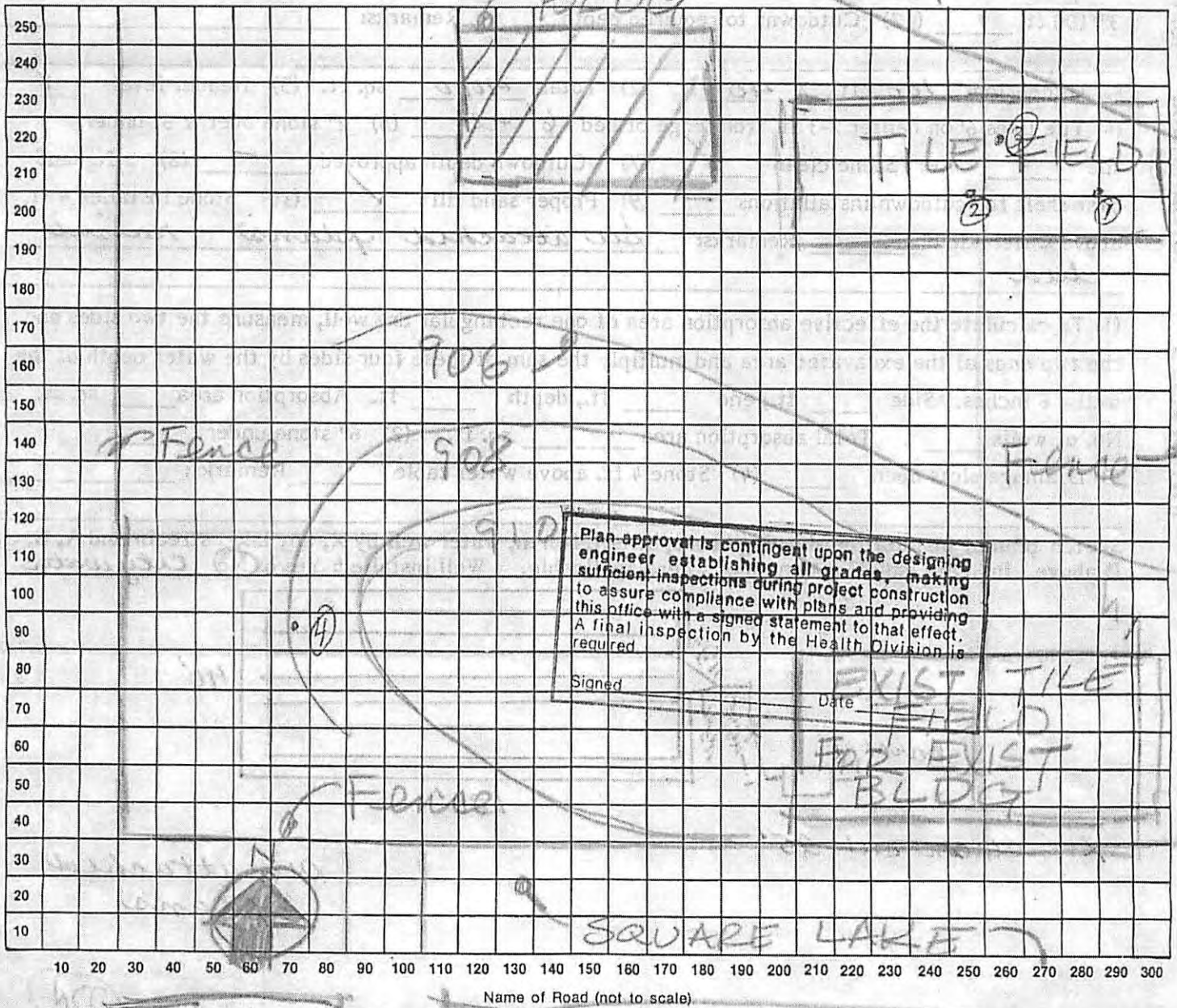
(5) Any Easements _____ (6) Building Location, Size 40x90 (7) Water Well Location CITY WATER

(8) Septic Tank, Drain Field ✓ (9) Water and Septic Tank Systems — Adjoining Properties _____

(10) Fronting Lake-Stream _____ (11) Driveway _____ (12) Utility Lines _____

Please Note: Subject property will be identified by boundary markers.

Recommended Scale ¼" = 10' — If otherwise, please indicate.



Lot No. KENTWOOD Subdivision S Pt. of E 1/2 Sec 1 T2N R10E Signed REQuiere

City, Village, Township BLOOMFIELD TOWNSHIP Date APRIL 2, 1993

EHS 14-3(4/89)

FINAL INSPECTION

INDICATE WHEN APPLICABLE THE FOLLOWING

(a) Received engineer's signed affidavit regarding inspection and approval ( )

(b) Surveyor's level used to check inches of fall in tile lines (List fall on sketch or plan) ( )

(A) SEPTIC TANK

(1) Septic tank size 2000 gals. (2) Outlet "T: or "L: checked ✓ (3) Tank level ✓

(4) Tank/cover free of cracks ✓ (5) Outlet sealed 360° ✓ (6) Isolation distances:

(a) Well — (b) Foundation 14' Remarks: city water

(B) TILE FIELD

(1) Header level _____ (2) Header installed on compact sand ____ (3) Number of drain lines _____

(4) Drain line length _____ ft. (5) Footer _____ ft. (6) Total lineal _____ ft.

(7) Trench width _____ in. (8) 2" stone over and 6" under tile _____ (9) Stone clean _____

(10) Stone installed at least 4 ft. above water table _____ (11) Grade of tile lines not greater than 3"/100 ft. _____ (12) Cutdowns to required depth _____ Remarks: _____

(C) DRAINAGE BED

(1) Dimensions 100 ft. X 40 ft. (2) Total 4000 sq. ft. (3) Header level ✓

(4) Tile lines 6' on center 2-3 ft. from edge of bed 6' +2' (5) 2" stone over & 6" under tile ✓ (6) Stone clean ✓ (7) Cutdown depth approved — (8) 2 ft. sand over shelf for cutdown installations — (9) Proper sand fill ✓ (10) Stone installed 4 ft. above water table _____ Remarks: See attached plans - raised bed

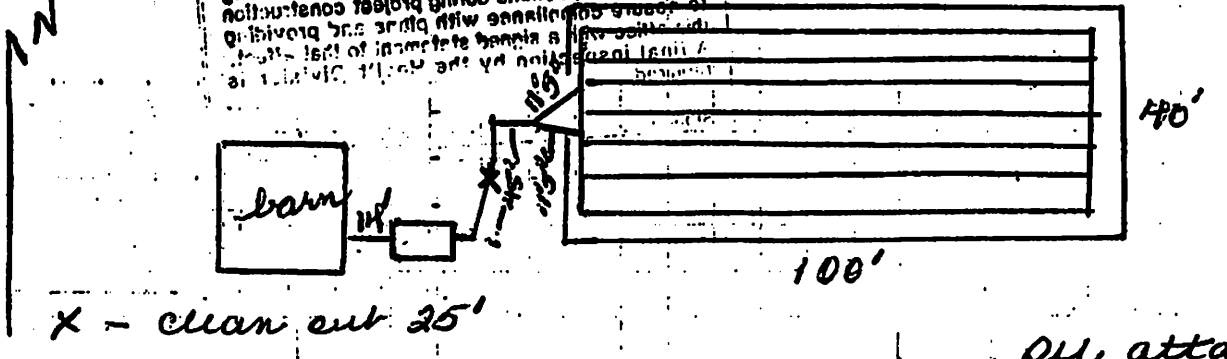
(D) DRYWELLS

(1) To calculate the effective absorption area of one rectangular dry well, measure the two sides and the two ends of the excavated area and multiply the sum of these four sides by the water depth of the well + 6 inches. Side _____ ft., end _____ ft., depth _____ ft. Absorption area _____ sq. ft.

No. of wells _____ . Total absorption area _____ sq. ft. (2) 6" stone under _____

(3) Drainage slots open _____ (4) Stone 4 ft. above water table _____ Remarks: _____

Sketch plan of installation showing house, street, North, water well by X, any lake, stream and A, B, C, D above. Indicate isolation distances where applicable. Well installed: Yes or (No) city water



See attached plans

DN

E. Square Lake Rd.

Approved ✓ Disapproved _____ Date: 12/27/93

Installer Dawada Environmentalist Morris James

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

May 4, 2021

BLOOMFIELD HILLS SCHOOL DIST
4175 ANDOVER RD
BLOOMFIELD HILLS MI 48302

Permit Number: Not Issued
Parcel ID: 19-01-376-006
Application Tracking Number: 63330332

RE: NEW DRINKING WATER WELL AT 1219 E SQUARE LAKE RD, BLOOMFIELD HILLS, OAKLAND COUNTY, MI.

Dear Bloomfield Hills School Dist:

Application for an on-site drinking water well permit is being held for additional information which will be needed before any further action can be taken by this Division.

The well is intended to be used as an irrigation well. Resubmit an application for an irrigation well.

Please correct and resubmit to the appropriate office at your earliest convenience.

Please contact the Oakland County Health Division with any questions at 248 858-1312. Our office hours are 8:00 a.m. to 5:00 p.m., Monday through Friday. However, the field sanitarians are generally in the office between the hours of 8:30 a.m. to 10:00 a.m.

IF NO FURTHER ACTION IS TAKEN BY YOU, THE APPLICATION WILL BECOME NULL AND VOID ONE YEAR FROM THE DATE OF RECEIPT.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Vanessa Limon
Public Health Sanitarian
Environmental Health Services

cc: Bloomfield Hills Municipal Offices

Application for Onsite Private Water Well Permit

This application will be null and void if no action is taken one (1) year from date of receipt

Application Tracking Number: 63225916

Application Date:	05/23/2013	Parcel ID:	19-01-376-006
Well Type:	Irrigation Well	Last Activity:	
Subdivision Name:		Lot/Split Number:	
Total Land Area:	44.65769 Acres / 1945302.5Sqft	Lot/Split Area:	
Lot Number:			

Legal Description of Property:

T2N, R10E, SEC 1 PART OF SW 1/4 BEG AT S 1/4 COR, TH N 88-57-20 W 1335.52 FT, TH N 00-40-40 E 1405.57 FT, TH N 89-14-40 E 60.02 FT, TH S 00-40-40 W 27.01 FT, TH N 89-14-40 E 270.22 FT, TH N 00-40-40 W 145.25 FT, TH S 89-19-20 E 308.04 FT, TH N 00-10-00 W 199.04 FT, TH S 67-17-40 E 735.66 FT, TH S 00-01-00 E 1463.65 FT TO BEG EXC S 60 FT IN RD 44.79 A

Location Address

Street Address:	1219 E SQUARE LAKE RD	State:	MI
City:	BLOOMFIELD HILLS	Zip:	48304 -1544

Driving Directions:

Well Information

Type of Drilling :	Rotary	Existing Well on Site:	Yes
Sketch Mode:	sent electronically		

Distance from Contamination Sources

Septic Tank :		Disposal Field :	
Sewer Line :		Grinder Pump:	
Other :			

Deviation from the Min. Requirements.	No
Deviation Application submitted :	No

Owner Information

Name:	BLOOMFIELD HILLS SCHOOL DIST	Day Phone:	248-341-5487
Name 2:		Evening Phone:	
Street Address:	4175 ANDOVER RD	Mobile Phone:	
CVT:	BLOOMFIELD HILLS	Fax:	
State :	MI	Pager Number:	
Zip:	48302	E-mail Address:	

Applicant Information

Name:	keller well drilling, inc	Day Phone:	810-227-2550
Street Address:	5615 chilson	Evening Phone:	
CVT:	howell	Mobile Phone:	
State :	MI	Fax:	
Zip:	48843	Pager Number:	

E-mail Address: kellerwd@earthlink.net

Well Driller Information

Well Driller Reg #: 19-27

Comments

Signed By :	dave keller	Date :	05/23/2013
I have downloaded and read the Well Education Packet			Yes
Application captured by :			
Clerk Comments:			

1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (248) 858-1312
27725 Greenfield Rd., Southfield, MI 48076-3625 (248) 424-7191

Print Close Window

PERMIT TO INSTALL AN ON-SITE WATER WELL SYSTEM

PERMIT #: 108-13-000038 **Issue Date:** 05/28/2013 15:25

APPLICATION TRACKING #: 63225916 **APPLICATION RECEIPT DATE:** 05/23/2013 11:31
PARCEL ID #: 19-01-376-006 **PARCEL CREATION DATE:**

PROPERTY ADDRESS: 1219 E SQUARE LAKE RD BLOOMFIELD HILLS, MI 48304 **SUBDIVISION NAME:**
WELL INFORMATION: **Type of Well:** Irrigation Well **Type of Drilling:** Rotary

OWNER:		APPLICANT:	
Name:	BLOOMFIELD HILLS SCHOOL DIST	**Name:**	keller well drilling, inc
Address:	4175 ANDOVER RD BLOOMFIELD HILLS, MI 48302	**Address:**	5615 chilson howell, MI 48843
Phone:	Home: Work: (248)341-5487	**Phone:**	Home: Work: (810)227-2550

PERMIT APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

Minimum Isolation Distances to be Maintained:

Keep well at least 50 feet from any animal or poultry yard.

Special Conditions:

A water supply system shall be operated and maintained in a manner to prevent cross-connections and contamination of the water supply.

Keep well at least 150 feet from all chemical storage.

An irrigation well shall not be used to augment any bodies of water.

Any augmenting discharge of groundwater to a regulated lake or stream is required to obtain DEQ Part 301, Inland Lakes & Streams and Part 303, Wetlands Protection permits.

Owner may be required to comply with other applicable laws, regulations, ordinances, and codes related to the water supply at this location

Special Sampling: **Frequency:**

Comments:

OTHER PERMIT CONDITIONS:

- Required isolation distances must be met.
- Call for grout inspection when work begins.
- Call for water sample collection and final inspection upon completion of the well. Satisfactory bacteriological and nitrate samples results are mandatory.
- Well log and/or abandonment records must be submitted within 60 days of well completion and/or plugging activity.
- Installation must comply with Michigan Water Well Construction and Pump Installation Code, Part 127, Act 368 of the Public Acts of 1978 as amended, and rules, and Act 399 of 1976 as amended and administrative rules.
- ACT 53 - P.A. 1974 requires the applicant to notify the public utilities prior to excavation. In addition you must call 1-800-MISS DIG to locate public underground utilities.

THIS PERMIT IS VOID AFTER TWO (2) YEARS FROM DATE OF ISSUE

Sanitarian: Teresa Brooks **Supervisor:** Laura Riddell

Disclaimer: The Oakland County Health Division will not deny participation in its programs based on race, sex, religion national origin, age or disability. State and federal eligibility requirements apply for certain programs.

NORTH OAKLAND HEALTH CENTER
1200 N. TELEGRAPH RD.
PONTIAC, MI 48341-0432
General Information 248-858-1280

SOUTH OAKLAND HEALTH CENTER
27725 GREENFIELD RD.
SOUTHFIELD, MI 48076-3663
General Information 248-424-7000

PERMIT#: 108-13-000038
Parcel ID: 19-01-376-006
Application Tracking Number: 63225916

Property Address:

1219 E SQUARE LAKE RD
BLOOMFIELD HILLS MI 48304



Disclaimer: The information provided herewith has been compiled from recorded deeds, plats, tax maps, surveys and other public records. It is not a legally recorded map or survey and is not intended to be used as one. Users should consult the information sources mentioned above when questions arise.

NORTH OAKLAND HEALTH CENTER
1200 N. TELEGRAPH RD.
PONTIAC, MI 48341-0432
General Information 248-858-1280

SOUTH OAKLAND HEALTH CENTER
27725 GREENFIELD RD.
SOUTHFIELD, MI 48076-3663
General Information 248-424-7000

OAKLAND COUNTY MICHIGAN

Inspection Tracker - Completed

Logout

ATN - Void
Access Oakland
▷ Application(Well)
▷ Assignment
▷ DMS
GIS
▷ Lab Results
▷ Lab System
Property Gateway
Reports
Search
▷ To Do List
Well Log System
E-Health Links
Septics
OCHD OakDocs

User Information:

User:	newcombc
LogIn:	04/14/2026 16:26
Module:	Wells

Appl | Status | Doc. Box | Create | Office | Site | Recomnd | Review | ITracker
Water | Grout | Final Insp | Final Rev. | Final Rep. | Create Letters | App. Hist. | Map | GIS

ATN: 63225916 **Permit:** 108-13-000038 **ATN Date:** 05/23/2013
Parcel ID: 19-01-376-006 **Address:** 1219 E SQUARE LAKE RD
Parcel Area: 1945302.5 Sq.Ft. / 44.65769 Acres **City:** BLOOMFIELD HILLS
Last Activity: **Zip:** 48304
Sub Name: **Lot Number:**
Well Type: Irrigation Well
Assign To: **Assign Date:**

Inspection Select a inspection type Add

Inspection Type	Nbr	Fee	payment Status	Paid Date	Fee Arrears
Site Visit	1	$0.00	N/A	N/A	$0.00
Insp Comments			**Driller Name:**		
Inspected By: brookste			**Inspected dt:** 05/24/2013		
Submitted By: brookste			**Submitted dt:** 05/28/2013		
Grout	1	$0.00	N/A	N/A	$0.00 ✗
Insp Comments			**Driller Name:** keller		
Inspected By: morrism			**Inspected dt:** 06/05/2013		
Submitted By: morrism			**Submitted dt:** 06/07/2013		
Final	1	$0.00	N/A	N/A	$0.00
Insp Comments			**Driller Name:** keller		
needs pit abdn, apvd backflow, tank to be in avpd locatin,					
Inspected By: brookste			**Inspected dt:** 06/18/2013		
Submitted By: brookste			**Submitted dt:** 06/19/2013		
Site Visit	2	$0.00	N/A	N/A	$0.00 ✗

Insp Comments
verified well head 10ft from pit, see pic

Driller Name:

Inspected By: brookste
Inspected dt: 06/21/2013
Submitted By: brookste
Submitted dt: 06/25/2013

Final	2	$0.00	N/A	N/A	$0.00	✕

Insp Comments
PVB installed

Driller Name:

Inspected By: brookste
Inspected dt: 05/29/2014
Submitted By: brookste
Submitted dt: 05/30/2014

Total	**$0.00**	**$0.00**

Print

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OAKLAND COUNTY MICHIGAN

Final Inspection- Completed

Logout

ATN - Void
Access Oakland
▷ Application(Well)
▷ Assignment
▷ DMS
GIS
▷ Lab Results
▷ Lab System
Property Gateway
Reports
Search
▷ To Do List
Well Log System
E-Health Links
Septics
OCHD OakDocs

User Information:

User: newcombc
Login: 04/14/2026 16:26
Module: Wells

Appl | Status | Doc. Box | Create | Office | Site | Recomnd | Review | ITracker
Water | Grout | Final Insp | Final Rev. | Final Rep. | Create Letters | App. Hist. | Map | GIS

ATN: 63225916 **Permit:** 108-13-000038 **ATN Date:** 05/23/2013
Parcel ID: 19-01-376-006 **Address:** 1219 E SQUARE LAKE RD
Parcel Area: 1945302.5 Sq.Ft. / 44.65769 Acres **City:** BLOOMFIELD HILLS
Last Activity: **Zip:** 48304
Sub Name: **Lot Number:**
Well Type: Irrigation Well
Assign To: brookste **Assign Date:**

Existing Well Information	From Application	Yes	No
* Existing well on site?	Yes	◉	○
* Was the well properly abandoned?		◉	○
Have you received the Verification of Serviceable Use?		○	○

Comments:

*Well Log Received ? Yes Date 06/12/2013
Well Log Decision: Accepted Date: 08/07/2013 14:08

Well Isolation Parameters

Isolation	Approved? Yes	No	Dist.in Ft./Comments
* Water Well Location	◉	○	
* Same Location as approved on Permit	◉	○	
* Accessible for maintenance/ Repair	◉	○	

Isolation Distance From Permit	Approved? Yes	No	Dist.in Ft./Comments
*Keep well at least 50 feet from any animal or poultry yard.	◉	○	electric fence 50ft around well head

Isolation Distance: Septic Add

Isolation	Approved? Yes	No	Dist.in Ft./Comments

Well Construction Parameters

E-01 | original source page 228 | APP 874

Parameter	Approved? Yes	No	Measurement/Comments
* Casing Terminates: Above grade	◉	○	Ht. above grade 14.00 in
* Well Casing Material: Plastic	◉	○	Casing Size 5.00 in.
* Minimum Well Depth met	◉	○	Well Depth 218.00 ft.
* Well Cap	◉	○	well seal
* Annular space or caving absent around casing	◉	○	
* Screened Vent	◉	○	○ NA
Flowing Well properly constructed	○	○	◉ NA

Special Construction Parameters From Permit	Approved? Yes	No	Measurement/Comments
*A water supply system shall be operated and maintained in a manner to prevent cross-connections and contamination of the water supply.	◉	○	asse 1015 dbcheck not apvd, 5/29/14 PVB instal
*Keep well at least 150 feet from all chemical storage.	◉	○	
*An irrigation well shall not be used to augment any bodies of water.	◉	○	
*Any augmenting discharge of groundwater to a regulated lake or stream is required to obtain DEQ Part 301, Inland Lakes & Streams and Part 303, Wetlands Protection permits.	◉	○	
*Owner may be required to comply with other applicable laws, regulations, ordinances, and codes related to the water supply at this location	◉	○	

Subdivision Restrictions From Permit	Approved? Yes	No	Measurement/Comments
NONE			

Well Inside

Well Inside Parameter	Approved? Yes	No	Comments
Electrical Conduit	◉	○	
Sample Tap	◉	○	
Min 160psi pressure rating	◉	○	
Type of Pump: Submersible	◉	○	
Storage Tank type: Buried	◉	○	Location: Inaccessible
Water Piping matl.: Plastic:PE	◉	○	○ Unknown
Protected Suction Line	○	○	◉ NA
Is Pressure relief valve required?	◉	○	○ NA
Is Pressure relief valve provided?	◉	○	
Is Pressure relief valve approved?	◉	○	

Well Driller Info

Grout Inspection	Well Driller
1	Keller Well Drilling Inc(47-2284)

Final Inspection Comments

8/22/13 bob long spoke w anita DEQ, typo on apvd list 5L7 should be FL7, DEQ to update apvd list
corrected: provided downward turned vent, buried tank for apvd location, provided PVB

Final Inspection by: brookste Date 06/18/2013 00:00 Hours

*Final Inspn. Recommendation

Final Approval Recommended Date : 09/05/2014 08:34

Print

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Application History for 63225916:

Activity	Assigned By	Assigned To	Assigned Date	Completed By	Completed Date	Status
Sketch Received (Electronic)			05/23/2013 11:31		05/23/2013 11:31	
Payment Submitted			05/23/2013 11:31		05/23/2013 11:31	Completed
Application Submitted			05/23/2013 11:31	dave keller	05/23/2013 11:31	Completed
Site Evaluation	gibbonse	brookste	05/24/2013 08:33			ATN63225916/irrigation well site eval/bloomfield/119 e square lake.eg
Office Evaluation	gibbonse	brookste	05/24/2013 08:33			ATN63225916/irrigation well site eval/bloomfield/119 e square lake.eg
Application Evaluation	gibbonse	brookste	05/24/2013 08:33			ATN63225916/irrigation well site eval/bloomfield/119 e square lake.eg
Office Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/24/2013 06:00	In Progress
Office Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/24/2013 06:00	In Progress
Site Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/24/2013 06:00	In Progress
Site Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/24/2013 06:00	In Progress
Office Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/24/2013 06:00	In Progress
Site Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/24/2013 06:00	In Progress
Site Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/24/2013 06:00	Completed
Application Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/28/2013 00:00	Completed
Office Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/24/2013 06:00	Completed
Evaluation Decision	brookste	riddelll	05/28/2013 09:58			
Evaluation Decision	brookste	riddelll	05/28/2013 09:58			Pending
Application Evaluation	gibbonse	brookste	05/24/2013 08:33			Returned
Site Evaluation	gibbonse	brookste	05/24/2013 08:33			Returned
Office Evaluation	gibbonse	brookste	05/24/2013 08:33			Returned
Evaluation Decision	brookste	riddelll	05/28/2013 09:58	riddelll	05/28/2013 11:29	Completed
Application Evaluation	riddelll	brookste	05/28/2013 11:29	brookste	05/28/2013 00:00	Returned to Sanitarian
Office Evaluation	riddelll	brookste	05/28/2013 11:29	brookste	05/24/2013 06:00	Returned to Sanitarian
Site Evaluation	riddelll	brookste	05/28/2013 11:29	brookste	05/24/2013 06:00	Returned to Sanitarian
Office Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/24/2013 06:00	In Progress
Site Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/24/2013 06:00	In Progress

Office Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/24/2013 06:00	Completed
Application Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/28/2013 00:00	Completed
Site Evaluation	gibbonse	brookste	05/24/2013 08:33	brookste	05/24/2013 06:00	Completed
Evaluation Decision	brookste	riddelll	05/28/2013 11:49			
Evaluation Decision	brookste	riddelll	05/28/2013 11:49	riddelll	05/28/2013 11:29	Pending
Evaluation Decision	brookste	riddelll	05/28/2013 11:49	riddelll	05/28/2013 15:25	Completed
Grout Inspection	barnesg	brookste	06/05/2013 11:33			63225916/grout/bloomfield/1219 e square lk rd/keller well drilling/brian keller/810-227-2550/gb
Grout Inspection	barnesg	brookste	06/05/2013 11:33			63225916/grout/bloomfield/1219 e square lk rd/keller well drilling/brian keller/810-227-2550/gb
Final Inspection	barnesg	brookste	06/05/2013 11:34			63225916/final/bloomfield/1219 e square lk rd/keller well drilling/brian keller/810-227-2550/gb
Final Inspection	barnesg	brookste	06/05/2013 11:34			63225916/final/bloomfield/1219 e square lk rd/keller well drilling/brian keller/810-227-2550/gb
Grout Inspection	brookste	morrism	06/05/2013 12:47			63225916/grout/bloomfield/1219 e square lk rd/keller well drilling/brian keller/810-227-2550/gb
Grout Inspection	brookste	morrism	06/05/2013 12:47	morrism	06/05/2013 00:00	In Progress
Final Inspection	hoeraufp	brookste	06/12/2013 16:05			
Final Inspection	hoeraufp	brookste	06/12/2013 16:05			In Progress
Review Letter	brookste	riddelll	06/20/2013 12:29			Completed
Well Log Review		brookste	07/31/2013 12:59			Pending
Well Log Review		brookste	07/31/2013 12:59			Accepted
Review Letter	brookste	riddelll	06/20/2013 12:29			Pending
Review Letter	brookste	riddelll	06/20/2013 12:29			Completed
Final Inspection	hoeraufp	brookste	06/12/2013 16:05			In Progress
Final Inspection	hoeraufp	brookste	06/12/2013 16:05			In Progress
Final Inspection	hoeraufp	brookste	06/12/2013 16:05			In Progress
Final Approval Decision	brookste	riddelll	05/30/2014 08:17			
Final Approval Decision	brookste	riddelll	05/30/2014 08:17			Pending
Grout Inspection	brookste	morrism	06/05/2013 12:47	morrism	06/05/2013 00:00	Completed
Final Inspection	hoeraufp	brookste	06/12/2013 16:05	brookste	05/30/2014 08:17	Completed

Well Log Review		brookste	07/31/2013 12:59	brookste	05/30/2014 08:17	Completed
Final Approval Decision	brookste	riddelll	05/30/2014 08:17	lupuc	09/03/2014 16:47	Completed
Grout Inspection	brookste	morrism	06/05/2013 12:47	morrism	06/05/2013 00:00	Returned
Final Inspection	hoeraufp	brookste	06/12/2013 16:05	brookste	05/30/2014 08:17	Returned
Well Log Review		brookste	07/31/2013 12:59	brookste	05/30/2014 08:17	Returned
Water Sample	lupuc		09/03/2014 16:47			Returned To Sanitarian
Final Inspection	lupuc	brookste	09/03/2014 16:47	brookste	05/30/2014 08:17	Returned To Sanitarian
Grout Inspection	lupuc	morrism	09/03/2014 16:47	morrism	06/05/2013 00:00	Returned To Sanitarian
Well Log Review	lupuc	brookste	09/03/2014 16:47	brookste	05/30/2014 08:17	Returned To Sanitarian
Grout Inspection	brookste	morrism	06/05/2013 12:47	morrism	09/04/2014 08:54	In Progress
Grout Inspection	brookste	morrism	06/05/2013 12:47	morrism	09/04/2014 08:54	Completed
Final Inspection	hoeraufp	brookste	06/12/2013 16:05	brookste	09/04/2014 09:16	Completed
Well Log Review		brookste	07/31/2013 12:59	brookste	09/04/2014 09:16	Completed
Final Approval Decision	brookste	kaighenj	09/04/2014 09:16			
Final Approval Decision	brookste	kaighenj	09/04/2014 09:16	lupuc	09/03/2014 16:47	Pending
Grout Inspection	brookste	morrism	06/05/2013 12:47	morrism	09/04/2014 08:54	Returned
Final Inspection	hoeraufp	brookste	06/12/2013 16:05	brookste	09/04/2014 09:16	Returned
Well Log Review		brookste	07/31/2013 12:59	brookste	09/04/2014 09:16	Returned
Final Approval Decision	brookste	kaighenj	09/04/2014 09:16	lupuc	09/05/2014 07:31	Completed
Grout Inspection	lupuc	morrism	09/05/2014 07:31	morrism	09/04/2014 08:54	Returned To Sanitarian
Well Log Review	lupuc	brookste	09/05/2014 07:31	brookste	09/04/2014 09:16	Returned To Sanitarian
Water Sample	lupuc		09/05/2014 07:31			Returned To Sanitarian
Final Inspection	lupuc	brookste	09/05/2014 07:31	brookste	09/04/2014 09:16	Returned To Sanitarian
Final Inspection	hoeraufp	brookste	06/12/2013 16:05	brookste	09/04/2014 09:16	In Progress
Grout Inspection	brookste	morrism	06/05/2013 12:47	morrism	09/05/2014 08:30	In Progress
Grout Inspection	brookste	morrism	06/05/2013 12:47	morrism	09/05/2014 08:30	Completed
Final Inspection	hoeraufp	brookste	06/12/2013 16:05	brookste	09/05/2014 08:34	Completed

Well Log Review		brookste	07/31/2013 12:59	brookste	09/05/2014 08:34	Completed
Final Approval Decision	brookste	kaighenj	09/05/2014 08:34			
Final Approval Decision	brookste	kaighenj	09/05/2014 08:34	lupuc	09/05/2014 07:31	Pending
Final Approval Decision	brookste	kaighenj	09/05/2014 08:34	lupuc	09/15/2014 12:46	Completed
Well Log Review	lupuc	brookste	09/15/2014 12:46	brookste	09/05/2014 08:34	Approved
Water Sample	lupuc		09/15/2014 12:46			Approved
Grout Inspection	lupuc	morrism	09/15/2014 12:46	morrism	09/05/2014 08:30	Approved
Final Inspection	lupuc	brookste	09/15/2014 12:46	brookste	09/05/2014 08:34	Approved

Permit History

Activity	Recommended By	Completed By	Decision Date	Comments
Amended	brookste	riddelll	05/28/2013 15:25	C

Water Samples History:

Letter	Collection Date	Collected By	Lab	Sample Point	Reason	Test Type

No sample data present.

Comments History

Comments	Created By	Created Date
dave keller called with questions about letter and notice of corrections. tank location is not avpd even if seasonally removed per lupu &part 127. left vm for keller.	brookste	07/10/2013
6-24-13 printed out Violation letter/ph	hoeraufp	06/24/2013
7/16/2013 certified letter returned unclaimed	brookste	08/08/2013
driller called: backflow corrected, vent added, same tank buried	brookste	08/16/2013
bob long spoke w anita DEQ, typo on apvd list 5L7 should be FL7, DEQ to update apvd list	brookste	08/22/2013
spoke w driller last wk. new backflow on order but system winterized at this time	brookste	10/15/2013
5-24-13 Septic permit 21729 no previous well permits found.eg	gibbonse	05/24/2013
no concerns on env mapper	brookste	05/24/2013
spoke w lupu & laura. called driller regarding 50ft isolation from pasture.	brookste	05/28/2013
create violation letter for incorrect backflow	brookste	09/13/2013
create construction violation letter	brookste	06/20/2013
spoke w driller. he will replace the ASSE 1015. violation not sent at this time	brookste	09/17/2013
checked with groundwater san, no concerns	brookste	05/24/2013
log to richard	brookste	06/19/2013
6-12-13 Rec"d faxed well log from Keller drilling. Sacnned, sent to T Brooks/ tj	johnsontw	06/12/2013

Comments:

Submit Print Reset Done

OAKLAND COUNTY MICHIGAN

Document Box

Logout

- ATN - Void
- Access Oakland
- ▷ Application(Well)
- ▷ Assignment
- ▷ DMS
- GIS
- ▷ Lab Results
- ▷ Lab System
- Property Gateway
- Reports
- Search
- ▷ To Do List
- Well Log System
- E-Health Links
- Septics
- OCHD OakDocs

User Information:

User:	newcombc
Login:	04/14/2026 16:26
Module:	Wells

Appl	Status	Doc. Box	Create	Office	Site	Recomnd	Review	ITracker
Water	Grout	Final Insp	Final Rev.	Final Rep.	Create Letters	App. Hist.	Map	GIS

ATN:	63225916	**Permit:**	108-13-000038 **ATN Date:** 05/23/2013
Parcel ID:	19-01-376-006	**Address:**	1219 E SQUARE LAKE RD
Parcel Area:	1945302.5 Sq.Ft. / 44.65769 Acres	**City:**	BLOOMFIELD HILLS
Last Activity:		**Zip:**	48304
Sub Name:		**Lot Number:**	
Well Type:	Irrigation Well		
Assign To:		**Assign Date:**	

Document Box:

Document Description	Status	Decision Date
SiteSketch	Inactive	05/24/2013 09:32
SiteSketch	Active	05/28/2013 08:41
Well Permit Document	Active	05/28/2013 15:25
FinalSketch	Active	06/20/2013 11:52
New Well Log Document	Active	08/07/2013 14:08

Upload Site Sketch Print

Library Documents: ATN = 63225916 is 20

No.	Descriptive Name	Document Name	Created by	Created Date
1	Septic Permit 21729	21729.pdf	gibbonse	05/28/2013
2	Engineer Plans for Septic Permit 21729	21729.pdf	gibbonse	05/28/2013
3	Well Log 1st Submittal	63225916.pdf	johnsontw	06/12/2013
4	water line	potable water line psi 160.jpg	brookste	06/20/2013
5	new well set up	well set up sq lk.jpg	brookste	06/20/2013
6	50ft fence	fenced well.jpg	brookste	06/20/2013
7	unapproved asse 1015	asse 1015.jpg	brookste	06/20/2013
8	unabdn old pit	old well pit.jpg	brookste	06/20/2013
9	disconnected blue tank	blue tank in pit.jpg	brookste	06/20/2013
10	disconnet 2nd tank	2nd old tank in pit.jpg	brookste	06/20/2013
11	well head 10ft from pit	well measurement.jpg	brookste	06/25/2013
12	Well violation letter	63225916.pdf	hoeraufp	06/25/2013
13	Returned Certified Mail	63225916.pdf	gibbonse	07/16/2013
14	deq apvd list	equipapprovalllist_206196_7.pdf	brookste	08/22/2013
15	tank product list	fl_features.pdf	brookste	08/22/2013
16	corrected well seal vent	vent well sea sq lkl.jpg	brookste	09/06/2013
17	buried tank	buried tank sq lk.jpg	brookste	09/06/2013
18	pvb 1	pvb 1.jpg	brookste	05/30/2014
19	pvb 2	pvb 2.jpg	brookste	05/30/2014
20	Final Approval Letter	63225916.pdf	kadulskik	09/17/2014

NP found

OAKLAND COUNTY HEALTH DIVISION
1200 N. Telegraph Rd., Pontiac 48341
27725 Greenfield Rd., Southfield, 48076

NOTICE 04/09/93 Floor drains are prohibited unless -
(1) They are connected to a sanitary sewer;
(2) They are connected to a holding tank; or
(3) A state groundwater discharge permit has been obtained.

LOT# _____
Subdivision _____
Sidwell# 19-01-376-006
545535

APPLICATION
FOR PERMIT TO INSTALL OR REPAIR A SEWAGE DISPOSAL SYSTEM

(Township, Village, City) Bloomfield Township No. 1219 E. Square Lake Road Street

New Home _____ No. of Bedrooms _____ Repair of System _____

Non-Residential Building Type Learning & Activities Building No. of Persons 20

Owner Bfld. Hills Board of Education Address 4220 Maintenance Dept. Rd. City Bfld. Hills Zip 48302

Applicant O.E.M. Associates Address 28700 Ryan City Roseville Zip 48092

SIGNED: K.E. Olivieri Telephone No. is (313) 751-0880

Plan approval is contingent upon the Bfld. Hills engineer establishing all grades, making sufficient inspections during project construction to assure compliance with plans and providing this office with a signed statement to that effect. A final inspection by the Health Division is required.
Signed _____ Date 3/23/93

SUBSOILS DATA: Make at least two borings into the soil about twenty-five (25) feet apart to at least a depth of seven and one-half feet in the area of the planned drain field. Soil borings for dry well installation must be at least twelve (12) feet deep.

Hole #1	Hole #2	Hole #3	Hole #4
3 In. Topsoil bk. loam	In. Topsoil	In. Topsoil	In. Topsoil OA
3 Ft. of silty clay loam	Ft. of Same	Ft. of Same	Ft. of Same
2 1/2 Ft. of silt clay loam	Ft. of	Ft. of	Ft. of 1, 2 1/2
Ft. of grey	Ft. of	Ft. of	Ft. of
Grnd. Water at 3 1/2 Ft.	Grnd. Water at Ft.	Grnd. Water at Ft.	Grnd. Water at 4 Ft.

BORING LOCATIONS MUST BE INDICATED ON ACCOMPANYING PLOT PLAN REPORTED SOIL CONDITIONS

CONFIRMED? YES ☒ NO ☐ Environmentalist David J. McKibbin Date 5-11-93

PERMIT

Two-Compartment Tank Recommended

Size of Septic Tank 2000 (2 comp) Gals; Lineal feet Drain Tile _____ ; Trench width _____ In.;

Spacing C. to C. _____ Ft.; OR Drainage Bed consisiting of 4000 w/ 706 lineal ft. 5 ft. on center Sq. Ft. or _____ Drywells

of _____ Gals. each with _____ Ft. of stone totaling _____ Sq. Ft. of Absorption Area _____

Stipulations are listed below. The location and system design are indicated on attached scaled drawing which is part of this permit.

Signed _____ Date _____
Plan approval is contingent upon the Bfld. Hills engineer establishing all grades, making sufficient inspections during project construction to assure compliance with plans and providing this office with a signed statement to that effect. A final inspection by the Health Division is required.

1. Locate drain field: See engineered plan
   Cut Drainage Bed 50% (100%) Scarify topsoil Ft. to _____
3. CALL FOR A CUTDOWN INSPECTION PRIOR TO BACKFILLING Yes - after scarifying topsoil
   Date of Mid-Inspection _____ by _____
4. Backfill with Clean, Coarse Sand to Grade of Tile Field 2NS or equivalent - 2 ft. under entire field
5. Other Describe: ① Install system per Hubbell, Roth & Clark plan 93265 date 6-30-93 revised 7-9-93. ② Article 3 Sanitary Code will apply where plan is not specific. ③ Call for final inspection by engineer and by this office. ④ permit assumes limitations of use as stipulated on plan and is null and void with any changes

If Denied, Indicate Reasons: _____

PERMIT: Approved ☒ Denied ☐ Hold ☐ Environmentalist David J. McKibbin Date 5-19-93

Approval 7/14/93 David J. McKibbin bb

ACT 53 - P.A. 1974 Requires the applicant to notify the public utilities prior to excavation.

THIS PERMIT IS VOID TWO (2) YEARS FROM DATE OF ISSUE

EHS-14-2 Rev. 6/87

POST ON JOB

BLMFLD 5-19-93 DATE OF ISSUE PERMIT NO. 003720

OAKLAND COUNTY HEALTH DIVISION
1200 North Telegraph Road
Pontiac, Michigan 48341
Telephone 858-1312

27725 Greenfield Road
Southfield, Michigan 48076
Telephone 424-7191

P 036 095 384
CERTIFIED MAIL

Maintenance Dept Bloomfield Hills
Board of Education
4220 Andover
Bloomfield Hills, MI 48302

LOT ____ SUBDIVISION ____
ACREAGE-SIDWELL 19-01-376-006
STREET 1219 E. Square Lake Rd. C.V.T. 108

Your application for a permit to install an on-site sewerage system is denied. Denial is based upon a field inspection of the property which included an evaluation of the subsurface soils as well as water table elevations. The factors considered adverse for such a system are checked below to help you understand the reasons for denial.

- ✓ Dense clay subsoils exist to 6 feet with a saturated condition observed.
- ____ Dense clay subsoils exist to at least ____ feet below grade.
- ✓ Unsuitable soils consisting of peat, muck and/or marl were observed.
- ✓ Ground water table is too high, being 33" - 4 feet below grade.
- ____ The lot size or shape is such that adequate separation of water well and sewerage systems cannot be provided.
- ____ The area is subject to flooding or ponding of surface water.
- ____ Onsite soils cannot fully protect the source of well water. (No Aquaclude demonstrated.)
- ____ Other: ____

Should you wish to pursue this matter further, proceed with the directions following the indicated section below:

✓ Section A – It is suggested that you contract with a professional engineer to evaluate your property and determine whether a sewerage system could be designed and installed which would function properly under the adverse conditions that exist on your property. Plans should then be submitted to this division for review. If the engineer's proposed system is acceptable, your application for a permit will be approved. The system would then have to be constructed exactly as shown on the engineered drawings. After installation, the engineer would be required to submit a letter to us verifying the installation was according to his plans.

If the engineer's plan does not satisfactorily answer the reasons for denial, you have the right to appeal to the Sanitary Code Appeal Board. This appeal must be requested by you in writing, accompanied by a fee of $50.00, within 30 days from the date of this letter. Unless this process is initiated within 30 days, your application will expire and you will receive a $10.00 refund.

____ Section B – You may appeal this denial to the Water Resources Commission (WRC). To initiate action, you must file an application for a state discharge permit with the WRC. You may request the application by writing to the Michigan Department of Natural Resources, Waste Management Division, P.O. Box 30028, Lansing, Michigan, 48909 (Phone: (517) 373-8147). The application must be accompanied by an explanation of your reasons for appeal, the details of your proposal and the statement of the relief requested. The provisions of Act 245 and rules promulgated thereunder, regarding processing of discharge permits, shall apply.

Please contact this division if you need further assistance or have additional questions.

Yours truly,

00021729

OAKLAND COUNTY HEALTH DIVISION

David J. Mikkola
Sanitarian/Environmental Health Services

DATE May 19 1993

cc: Building Department
Applicant
Equalization

WPM/EHS 14-9 (Rev. 9/90)
EHS-DISC #9a

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Maintenance Dept Bloomfield Hills
Board of Education
4220 Andover
Bloomfield Hills, MI 48302

4a. Article Number
P 036 095 384

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
5-24-93

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
D Bruce Beaure

PS Form **3811**, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

UNITED STATES POSTAL SERVICE

Official Business

PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, $300

U.S.MAIL

Print your name, address and ZIP Code here

Denial
19-01-376-006
Blm Twp

OAKLAND COUNTY HEALTH DIVISION
[illegible] Road
Southfield, Michigan 48076

O.E.M. ASSOCIATES, INC.
28700 Ryan Road
Warren, Michigan 48092
Phone: (313) 751-0880
Fax: (313) 751-1404

ARCHITECTS - ENGINEERS

00021729

March 31, 1993

Oakland County Health Department
27725 Greenfield
Southfield, Michigan 48075

Attention: Mr. Dave Mickola

RE: Learning & Activities Facility
At Bloomfield Hills Schools Farm
Bloomfield Hills Schools
1219 E. Square Lake Road

Plan Review??

Dear Sir:

Enclosed please find our check for $80 to cover the fee for the required Perk Test for the proposed Learning & Activities Facility at Bloomfield Hills Schools Farm.

We talked to Dave Norkis and he suggested we also submit the following information to you:

1. The building will be used as a part-time classroom and community activities building. - exercise classes - ?? nature of comm. activities

2. The building will be used as a classroom two hours per day, five days a week. The classroom size will be approximately twenty students. 20 students/day - specify

3. The laboratory sinks shown on the Floor Plan will be used for various student experiments. The only toxic materials to be disposed down the sinks would be a small amount of acid. specify

4. The shower shown on the Plans would be used for possible students accidents, such as a student falling into a pile of animal waste. The residential washer and dryer which are shown would also be used in such an event.

5. The kitchen sink shown on the Drawings would be used for coffee making and cup washing. The sink also shows a proposed garbage disposal. If this presents a problem, the garbage disposal can be removed from the project. food preparation

6. The building will have three water closets; one urinal; and two lavatories.

00024729

7. The activities program for the building usage is unclear at this time. It is difficult to give a population count for the building; however, it is safe to say the building will be used by approximately 20 to 25 people a day for 5 hours, 5 days a week, 9 months a year.

If you would like further information, please let us know.

Yours truly,

O.E.M. ASSOCIATES, INC.

Robert E. Olivieri
Mechanical Engineer

REO/dw

cc: John Humble

O.E.M. ASSOCIATES, INC.
28700 Ryan Road
Warren, Michigan 48092
Phone: (313) 751-0880
Fax: (313) 751-1404
ARCHITECTS - ENGINEERS

0000 2729

April 21, 1993

Oakland County Health Department
27725 Greenfield
Southfield, Michigan 48075

20 students X 17.2 gpd
= 352/2 =

Attention: Mr. Dave Mikkola

RE: Learning & Activities Facility
at Bloomfield Hills Schools Farm
Bloomfield Hills Schools
1219 E. Square Lake Road

Dear Sir:

We are writing this letter to answer your questions pertaining to our letter to you dated March 31, 1993.

The Classroom size for the proposed building will be twenty students per day for two hours duration, for five days a week.

The lab sink will be used for the following:

1. Biological dissections
2. Water quality tests

No acids will be used in the Classrooms. The only substances that will be used in experiments are a few drops of Phenol Red and Menthol Blue. Because of this, the neutralizing sump will be deleted from our project.

There will be no food preparation at the building. The garbage disposer will be used solely for the elimination of possible food scraps from a teacher's lunch. The room where the disposer is located is actually a Teacher's Lounge.

As we discussed, the building population should be approximately 20 to 25 people, 5 hours a day, 5 days a week, 12 months a year.

We hope this answers your questions. If we can be of further help, please contact us.

Sincerely,

O.E.M. ASSOCIATES, INC.

R E Olivieri/dw

Robert E. Olivieri

REO/dw

cc: John Humble

COPIES	DRAWING OR SHEET NO'S.	DESCRIPTION
1		ENGINEERS FINAL INSPECTION LETTER
3		PHOTOGRAPHS

THESE ARE TRANSMITTED as checked below:

- ☒ For approval
- ☐ For your information & use
- ☐ As requested
- ☐ For review and comment
- ☐ For color selection
- ☐ Approved as submitted
- ☐ Approved as noted
- ☐ Returned for corrections
- ☐ Not approved
- ☐ Resubmit _____ copies for approval
- ☐ Submit _____ copies for distribution
- ☐ Return _____ corrected prints

P.R.S. CONTRACTING, Inc.
899 WEST BALTIMORE
P. O. BOX 02758
DETROIT, MICHIGAN 48202
313/873-6220 • FAX: 313/873-4703

LETTER OF TRANSMITTAL

DATE 12-21-93	OUR JOB NO.
ARCH. JOB/DWG. NO.	YOUR JOB NO.

RE: PERMIT # 21729

BOWERS FARM

TRADE:

OAKLAND COUNTY HEALTH DEPT,
27725 GREENFIELD RD
SOUTHFIELD, MI. 48076

ATTENTION: MORRIS JAMES

GENTLEMEN:

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Job Plans ☐ Specifications ☐ Addendum ☐ Bulletin
☐ Copy of letter ☐ Sample(s) ☐ Brochure ☐ Report ☐ _____

COPIES	DRAWING OR SHEET NO'S:	DESCRIPTION
1		ENGINEERS FINAL INSPECTION LETTER
3		PHOTOGRAPHS

THESE ARE TRANSMITTED as checked below:

☒ For approval ☐ For color selection ☐ Not approved
☐ For your information & use ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ As requested ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ For review and comment ☐ Returned for corrections ☐ Return _____ corrected prints
☐ FOR BIDS DUE _____ 19____ ☐ Plans & Spec's. to be returned.
☐ _____

REMARKS _____

XEROX COPY TO _____

WHITE – ADDRESSEE
YELLOW – OFFICE
PINK – FIELD

SIGNED: Carol A Cool

If enclosures are not as noted, kindly notify us at once.

PRINCIPALS
James W. Hubbell
M. David Waring
Donald R. McCormack
Clarence W. Hubbell
Thomas E. Biehl
George E. Hubbell, II
Peter T. Roth
Gerald F. Knapp
Walter H. Alix

HRC
HUBBELL, ROTH & CLARK, INC.
CONSULTING ENGINEERS

ASSOCIATES
James E. Beuerle
David Brody
David McPhee
Thomas H. Ritchie
Frederick C. Navarre
Arnold Luallen
Gary J. Tressel
Lawrence R. Ancypa
Kenneth A. Melchior
Dennis M. Monsere
Curt A. Christeson
Randal L. Ford

December 21, 1993

Oakland County Health Division
27725 Greenfield Road
Southfield, Michigan 48076

Attention: Mr. Morris James

Re: Final Inspection Letter — HRC Job No. 93265.02
Learning and Activities Building Septic System
Charles Bower Farm Site
Bloomfield Hills Schools
O.C.H.D. Permit No. 21729

Gentlemen:

On behalf of the Bloomfield Hills Schools and their General Contractor on the subject project, P.R.S. Contracting, Inc., we submit this letter of final inspection for the building septic system.

Our office has made site visits during construction of the septic system, and authorizes that said improvements were completed in accordance with the approved plans issued by our office, and the conditions contained within the Oakland County Health Division Permit No. 21729.

Please contact our office, should you have any questions regarding this matter.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.

David C. Love

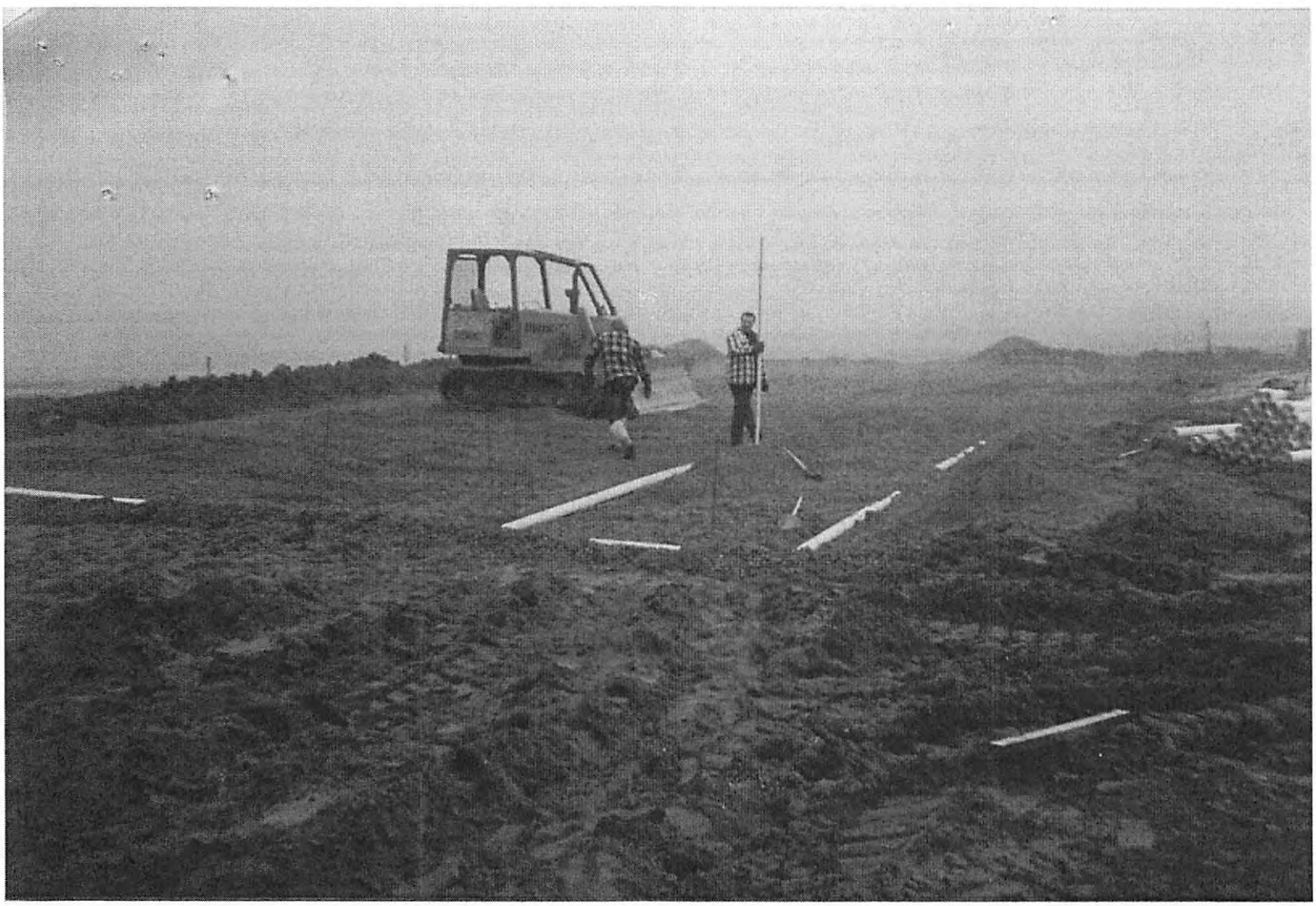
David C. Love, P.E.

DCL/kc

pc: Bloomfield Hills Schools; Jack Humble
P.R.S. Contracting, Inc.; Carol Cool

Corporate Office: 555 Hulet Drive • Bloomfield Hills, MI • (313) 338-9241 • FAX: 313-338-2592
Corporate Mailing Address: P. O. Box 824 • Bloomfield Hills, MI 48303-0824

E-01 | original source page 245 | APP 891



PERMIT # 21729

26 10 1 N-1-2 2

LAYING OF PIPE



PERMIT # 21729

26 10 1 N-1-22

SOUTH WEST CORNER OF FIELD
SHOWING RELATION OF SAND BED TO
SCARIFY DEPTH & BUILDING



PERMIT # 21729

LOOKING NORTHEAST ACROSS FIELD
26 10 1 N-1-22
SHOWING RELATION OF SAND TO SCARIFY DEPTH
STAKES WERE MARKED AT TWO FOOT DEPTH

1219 E. Square Lake Rd.

INSTRUCTIONS: **SCALED PLOT PLAN FOR PERMIT NO.** 00021729

Sec. 3.2, Article III "Sanitary Code", Oakland County Health Division requires scaled plot plan providing the following information.

(1) Lot Size FARM (2) North _____ (3) Fronting Roads Square Lk (4) Grade Changes _____

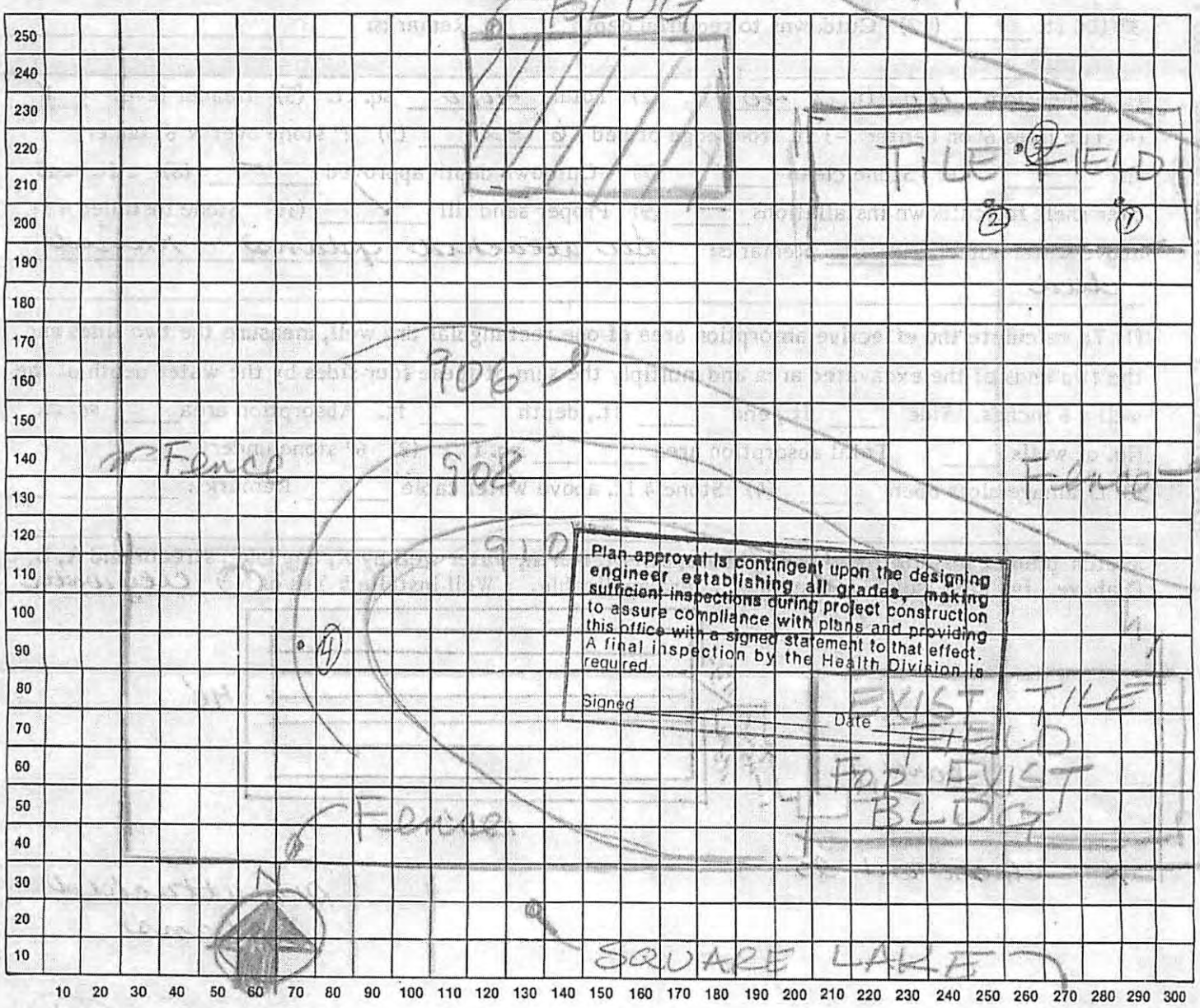
(5) Any Easements _____ (6) Building Location, Size 40x90 (7) Water Well Location CITY WATER

(8) Septic Tank, Drain Field _____ (9) Water and Septic Tank Systems — Adjoining Properties _____

(10) Fronting Lake-Stream _____ (11) Driveway _____ (12) Utility Lines _____

Please Note: Subject property will be identified by boundary markers.

Recommended Scale ¼" = 10' — If otherwise, please indicate.



Name of Road (not to scale)

Lot No. KENTWOOD Subdivision S Pt. of E 1/2 Sec 1 T2N R10E Signed RE Owner

City, Village, Township BLOOMFIELD TOWNSHIP Date APRIL 2, 1993

EHS 14-3(4/89)

FINAL INSPECTION

INDICATE WHEN APPLICABLE THE FOLLOWING

(a) Received engineer's signed affidavit regarding inspection and approval ( )

(b) Surveyor's level used to check inches of fall in tile lines (List fall on sketch or plan) ( )

(A) SEPTIC TANK

(1) Septic tank size 2000 gals. (2) Outlet "T: or "L: checked ✓ (3) Tank level ✓

(4) Tank/cover free of cracks ✓ (5) Outlet sealed 360° ✓ (6) Isolation distances:

(a) Well — (b) Foundation 14' Remarks: city water

(B) TILE FIELD

(1) Header level _____ (2) Header installed on compact sand ____ (3) Number of drain lines _____

(4) Drain line length _____ ft. (5) Footer _____ ft. (6) Total lineal _____ ft.

(7) Trench width _____ in. (8) 2" stone over and 6" under tile _____ (9) Stone clean _____

(10) Stone installed at least 4 ft. above water table _____ (11) Grade of tile lines not greater than 3"/100 ft. _____ (12) Cutdowns to required depth _____ Remarks: _____

(C) DRAINAGE BED

(1) Dimensions 100 ft. X 40 ft. (2) Total 4000 sq. ft. (3) Header level ✓

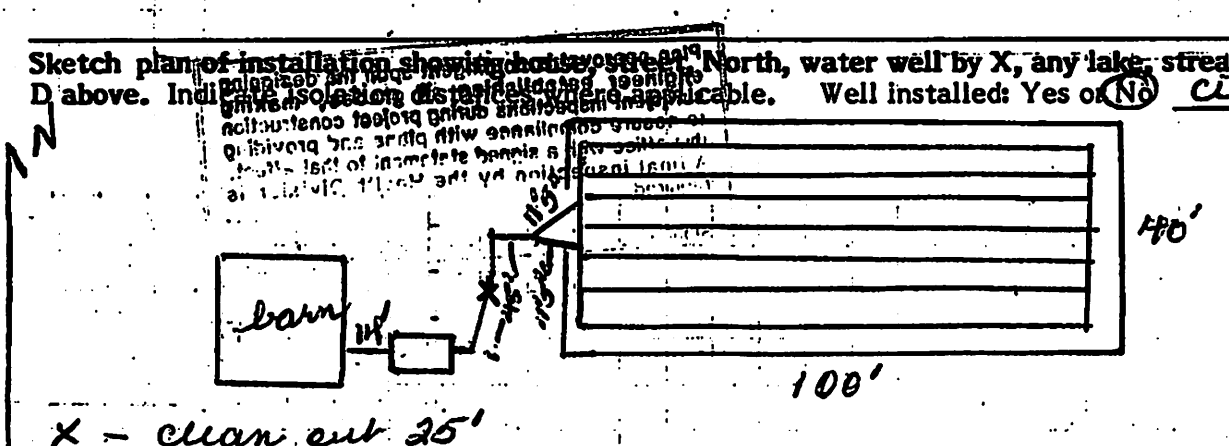
(4) Tile lines 6' on center 2-3 ft. from edge of bed 6' +2' (5) 2" stone over & 6" under tile ✓ (6) Stone clean ✓ (7) Cutdown depth approved — (8) 2 ft. sand over shelf for cutdown installations — (9) Proper sand fill ✓ (10) Stone installed 4 ft. above water table _____ Remarks: See attached plans - raised bed

(D) DRYWELLS

(1) To calculate the effective absorption area of one rectangular dry well, measure the two sides and the two ends of the excavated area and multiply the sum of these four sides by the water depth of the well + 6 inches. Side _____ ft., end _____ ft., depth _____ ft. Absorption area _____ sq. ft. No. of wells _____ . Total absorption area _____ sq. ft. (2) 6" stone under _____

(3) Drainage slots open _____ (4) Stone 4 ft. above water table _____ Remarks: _____

Sketch plan of installation showing house, street, North, water well by X, any lake, stream and A, B, C, D above. Indicate isolation distances where applicable. Well installed: Yes or No city water



X - clean out 25'

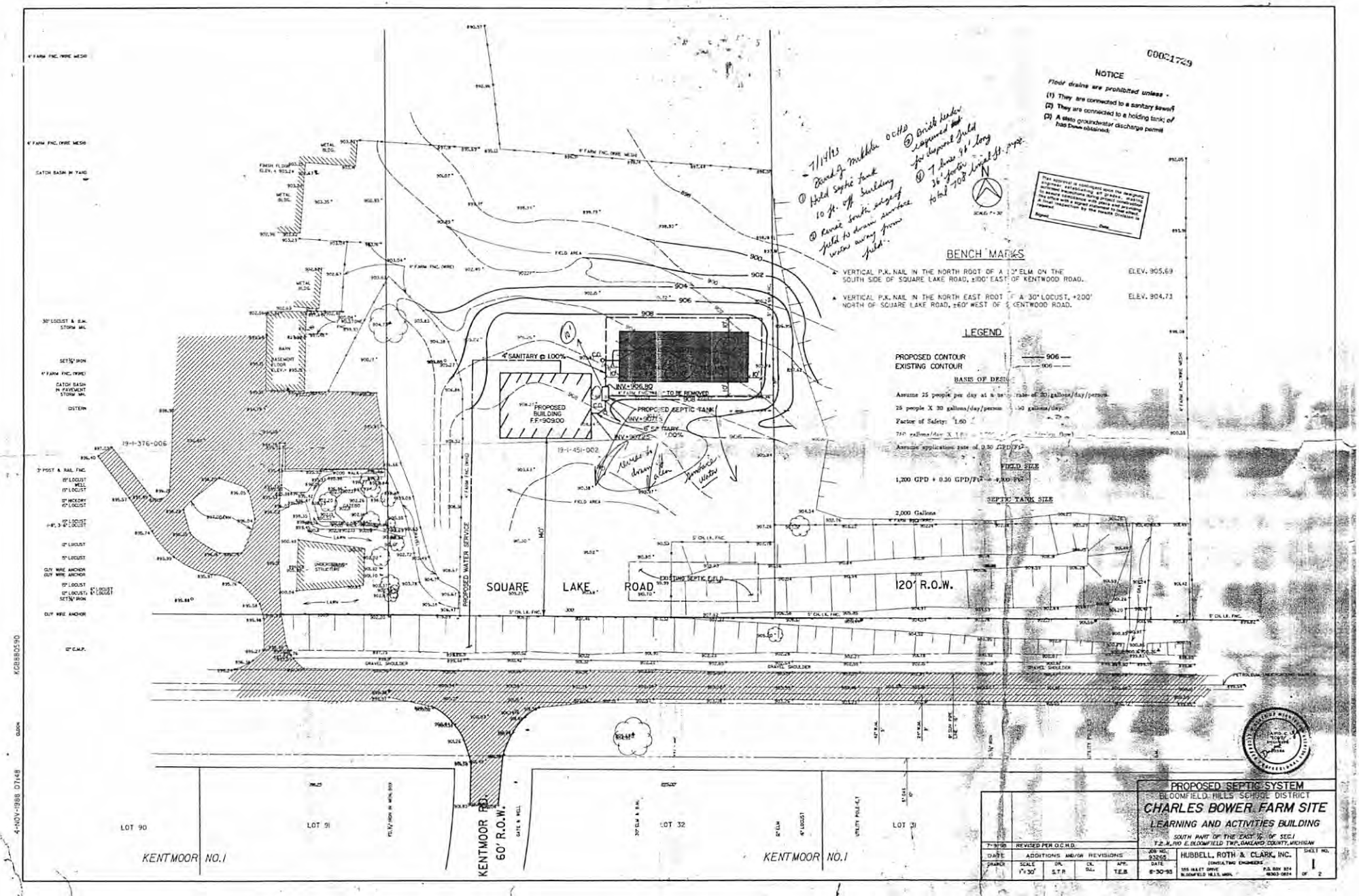
See attached plans

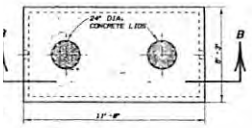
DN

E. Square Lake Rd.

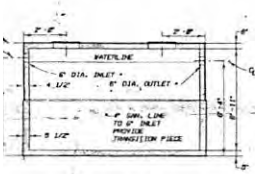
Approved ✓ Disapproved _____ Date: 12/27/93

Installer Dawada Environmentalist Morris James

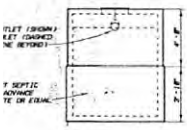

00021729
NOTICE
Floor drains are prohibited unless -
(1) They are connected to a sanitary sewer
(2) They are connected to a holding tank; or
(3) A state groundwater discharge permit has been obtained.
BENCH MARKS
VERTICAL P.K. NAIL IN THE NORTH ROOT OF A 30" ELM ON THE SOUTH SIDE OF SQUARE LAKE ROAD, ±100' EAST OF KENTWOOD ROAD. ELEV. 905.69
VERTICAL P.K. NAIL IN THE NORTH EAST ROOT OF A 30" LOCUST, +200' NORTH OF SQUARE LAKE ROAD, ±60' WEST OF KENTWOOD ROAD. ELEV. 904.73
LEGEND
PROPOSED CONTOUR
EXISTING CONTOUR
BASIS OF DESIGN
Assume 25 people per day at a rate of 30 gallons/day/person
25 people X 30 gallons/day/person = 750 gallons/day
Factor of Safety: 1.60
Acreage application rate of 0.30 GPD/FT²
FIELD SIZE
1,200 GPD ÷ 0.30 GPD/FT² = 4,000 FT²
SEPTIC TANK SIZE
2,000 Gallons
4" SANITARY @ 1.00%
INV.=906.80
TO BE REMOVED
PROPOSED SEPTIC TANK
INV.=905.25
6" SANITARY @ 1.00%
INV.=905.25
PROPOSED BUILDING F.F.=909.00
EXISTING SEPTIC FIELD
PROPOSED WATER SERVICE
SQUARE LAKE ROAD
120' R.O.W.
KENTMOOR RD.
60' R.O.W.
KENTMOOR NO. 1
KENTMOOR NO. 1
LOT 90
LOT 91
LOT 32
LOT 31
19-1-376-006
19-1-451-002
PROPOSED SEPTIC SYSTEM
BLOOMFIELD HILLS SCHOOL DISTRICT
CHARLES BOWER FARM SITE
LEARNING AND ACTIVITIES BUILDING
SOUTH PART OF THE EAST ½ OF SEC. 1
T.2 N., R.10 E. BLOOMFIELD TWP., OAKLAND COUNTY, MICHIGAN
7-31-95 REVISED PER O.C.H.D.
DATE ADDITIONS AND/OR REVISIONS
DRAWN SCALE 1"=30' DR. S.T.R CK. D.J.L. APP. T.E.S
JOB NO. 93265
DATE 6-30-95
HUBBELL, ROTH & CLARK, INC.
CONSULTING ENGINEERS
555 HULET DRIVE BLOOMFIELD HILLS, MICH. P.O. BOX 824 48303-0824
SHEET NO. 1 OF 2



PLAN

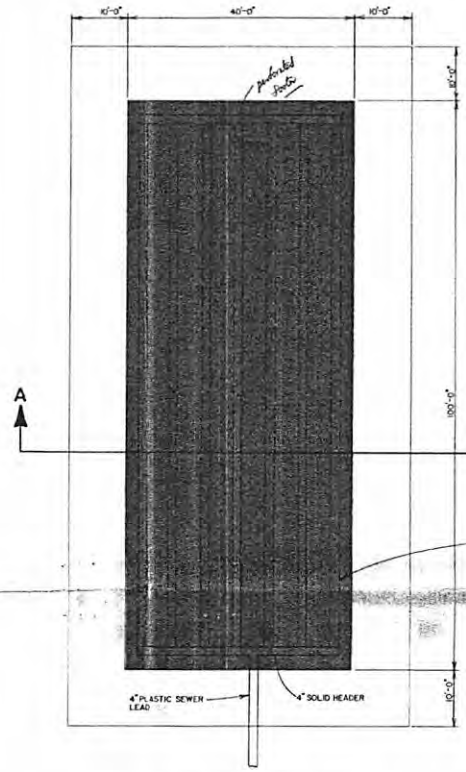


SECTION B-B

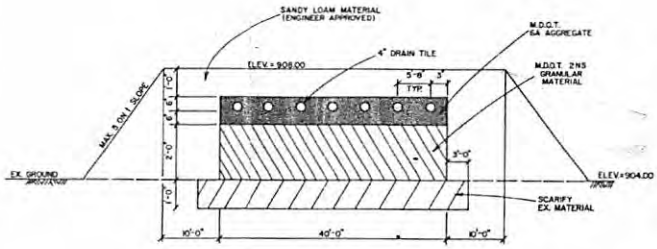


END ELEVATION (TYP.)

SEPTIC TANK DETAILS
NO SCALE



PLAN OF SEPTIC FIELD
NO SCALE



SECTION "A-A"
NO SCALE

NOTES:

1. THE SEPTIC TANK SHALL BE A TWO COMPARTMENT PRECAST REINFORCED CONCRETE SEPTIC TANK WITH A CAPACITY OF NOT LESS THAN 2000 GALLONS, CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH OAKLAND COUNTY HEALTH DEPARTMENT STANDARDS. THE TANK WALLS AND ROOF SHALL BE DESIGNED TO SUPPORT THE DEAD LOADS AS INDICATED ON THE DRAWINGS PLUS A SUPERIMPOSED H-20 TRUCK LOAD.
2. THE TILE FIELD AREA SHALL BE SCARIFIED TO A DEPTH OF 12 INCHES BELOW EXISTING GRADE. CARE SHALL BE TAKEN DURING THIS PROCESS TO AVOID COMPACTING ANY ADJACENT AREAS.
3. A UNIFORM LAYER OF MDOT 2NS GRANULAR MATERIAL SHALL BE INSTALLED AS SHOWN.
4. A UNIFORM LAYER OF MDOT 6A AGGREGATE SHALL BE INSTALLED WITH THE 4 INCH TILE LOCATED AS SHOWN.
5. PRIOR TO BACKFILLING OVER THE 6A AGGREGATE A LAYER OF STRAW OR OTHER SUITABLE POROUS MATERIAL SHALL BE PLACED OVER THE STONE.
6. THE EXCAVATION SHALL BE BACKFILLED TO GRADES, DIMENSIONS, AND SLOPES SHOWN WITH SANDY LOAM MATERIAL APPROVED BY THE ENGINEER. TOPSOIL SHALL BE SPREAD UNIFORMLY OVER THE AREA AND THE AREA SHALL BE SEEDED PER SPECIFICATIONS.
7. CONSTRUCTION OF THE PROPOSED SEPTIC FIELD WILL NOT BE PERMITTED DURING PERIODS OF WET WEATHER.
8. THE PROPOSED SEPTIC FIELD AREA SHALL BE FENCED OFF AT ALL TIMES DURING CONSTRUCTION.
9. THE OWNER'S ENGINEER SHALL INSPECT AND APPROVE ALL PHASES OF CONSTRUCTION OF THE PROPOSED SEPTIC SYSTEM.
10. COMMUNITY USE OF THE PROPOSED LEARNING AND ACTIVITIES BUILDING SHALL NOT BE PERMITTED.
11. PLANNED USE OF THE FACILITY SHALL BE FOR CONDUCTING REGULAR CLASS SESSIONS, CONSISTING OF APPROXIMATELY 25 STUDENTS AND INSTRUCTORS, 8 HOURS PER DAY, 5 DAYS PER WEEK DURING SCHOOL YEAR.
12. LABORATORY USE AT THE FACILITY SHALL BE LIMITED TO SIMPLE WATER ANALYSIS (pH TESTING, BACTERIAL COUNTS, ETC.).

DAVID C. LOTH ENGINEER 21344

DATE	ADDITIONS and/or REVISIONS
7-9-93	REVISED PER O.C.H.D.

DRAWER	SCALE	DR.	CK.	APP.
	AS NOTED	S.T.P.	D.E.	T.E.B.

PROPOSED SEPTIC DETAILS
BLOOMFIELD HILLS SCHOOL DISTRICT
CHARLES BOWER FARM SITE
LEARNING AND ACTIVITIES BUILDING
SOUTH PART OF THE EAST ½ OF SEC.1
T.2 N., R.10 E., BLOOMFIELD TWP., OAKLAND COUNTY, MICHIGAN

JOB No. 93255
DATE 6-30-93

HUBBELL, ROTH & CLARK, INC.
CONSULTING ENGINEERS
555 HULET DRIVE P.O. BOX 824
BLOOMFIELD HILLS, MICHIGAN 48303-0824

SHEET No. 2 OF 2

63225916

RECEIVED
JUN 12 2013

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Wellogic

Import ID:

Tax No: 19-01-376-006	Permit No: 108-13-38	County: Oakland			Township: Bloomfield	
		Town/Range: 02N 10E	Section: 1	Well Status: Active	WSSN:	Source ID/Well No:

Well ID: 63000044027

Elevation:
Latitude: 42.604452
Longitude: -83.214728
Method of Collection: GPS Std Positioning Svc SA Off

Distance and Direction from Road Intersection: NORTHEAST CORNER OF SWUIRREL AND SQUARE LAKJE ROAD

Well Owner: BLOOMFIELD HILLS SCHOOL DIST

Well Address:	Owner Address:
4175 ANDOVER RD BLOOMFIELD HILLS, MI 48304	4175 ANDOVER RD BLOOMFIELD HILLS, MI 48304

Drilling Method: Rotary
Well Depth: 218.00 ft. Well Use: Irrigation
Well Type: Replacement Date Completed: 6/7/2013

Casing Type: PVC plastic Height: 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting: None

Diameter: 5.00 in. to 206.00 ft. depth SDR: 21.00
5.00 in. to 218.00 ft. depth SDR: 17.00

Borehole: 9.00 in. to 218.00 ft. depth

Pump Installed: Yes Pump Installation Only: No
Pump Installation Date: 6/10/2013 HP: 1.50
Manufacturer: Franklin Electric Pump Type: Submersible
Model Number: 25SDAP1.5P4 Pump Capacity: 25 GPM
Drop Pipe Length: 88.00 ft. Pump Voltage: 230
Drop Pipe Diameter: 1.00 in. Drilling Record ID:
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Flex-Lite-Flexcon
Model Number: FL7 Tank Capacity: 20.0 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 30.00 ft. Below Grade
Well Yield Test: Yield Test Method: Air
Pumping level 218.00 ft. after 2.00 hrs. at 100 GPM

Formation Description	Thickness	Depth to Bottom
Brown Clay	23.00	23.00
Brown Sand & Gravel	30.00	53.00
Grey Sand	5.00	58.00
Gray Clay & Gravel	132.00	190.00
Gray Sand Fine	28.00	218.00

Screen Installed: Yes Filter Packed: Yes
Screen Diameter: 5.00 in. Blank:
Screen Material Type: PVC-slotted

Slot	Length	Set Between
12.00	13.00 ft.	205.00 ft. and 218.00 ft.

Fittings: None

Well Grouted: Yes Grouting Method: Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	21.00	Retarder	0.00 ft. to 200.00 ft.

Geology Remarks:

Wellhead Completion: 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Septic tank	200 ft.	East

Drilling Machine Operator Name: BRIAN KELLER
Employment: Employee
Pump Installer: JON KELLER

Contractor Type: Water Well Drilling Contractor Reg No: 47-1924
Business Name: Keller Well Drilling Inc
Business Address: 5615 Chilson, Howell, MI, 48843

Abandoned Well Plugged: Yes

Casing Diameter: 4 in. Casing Removed: No
Plugging Material: Bentonite chips/pellets
No. of Bags: 5.50 Well Depth: 44 ft.

Water Well Contractor's Certification

This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.

Signature of Registered Contractor Date

General Remarks:
Other Remarks:

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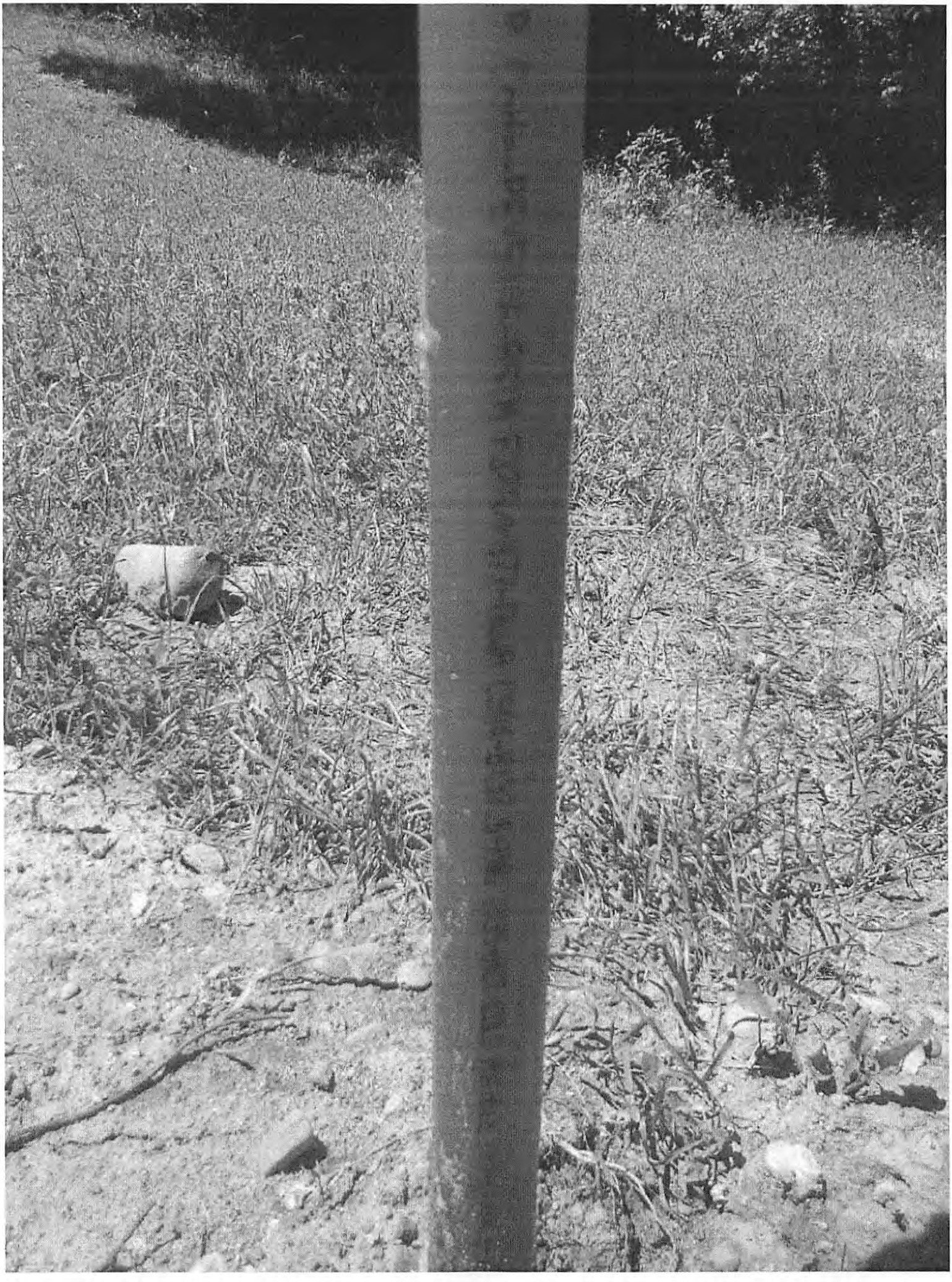



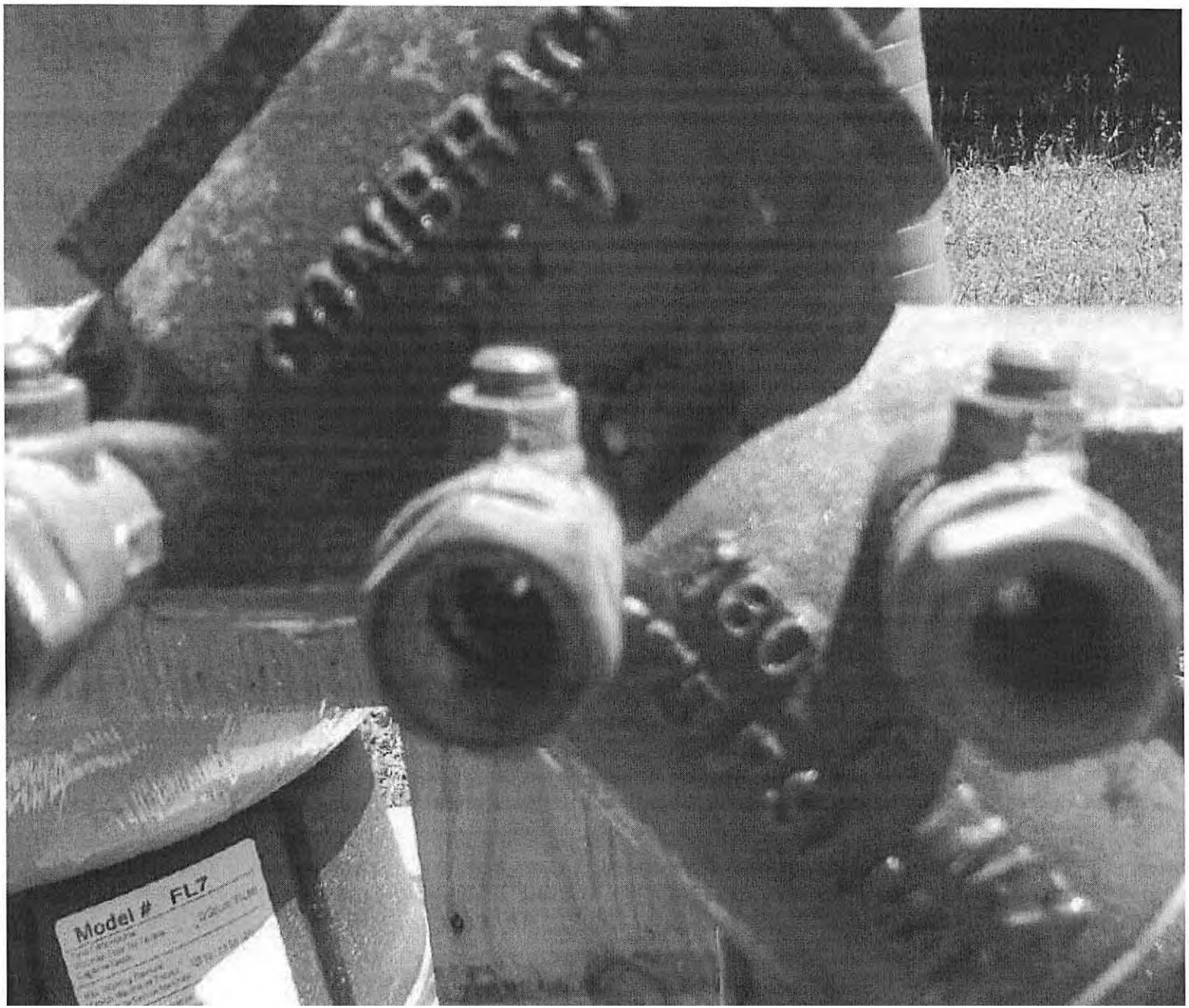
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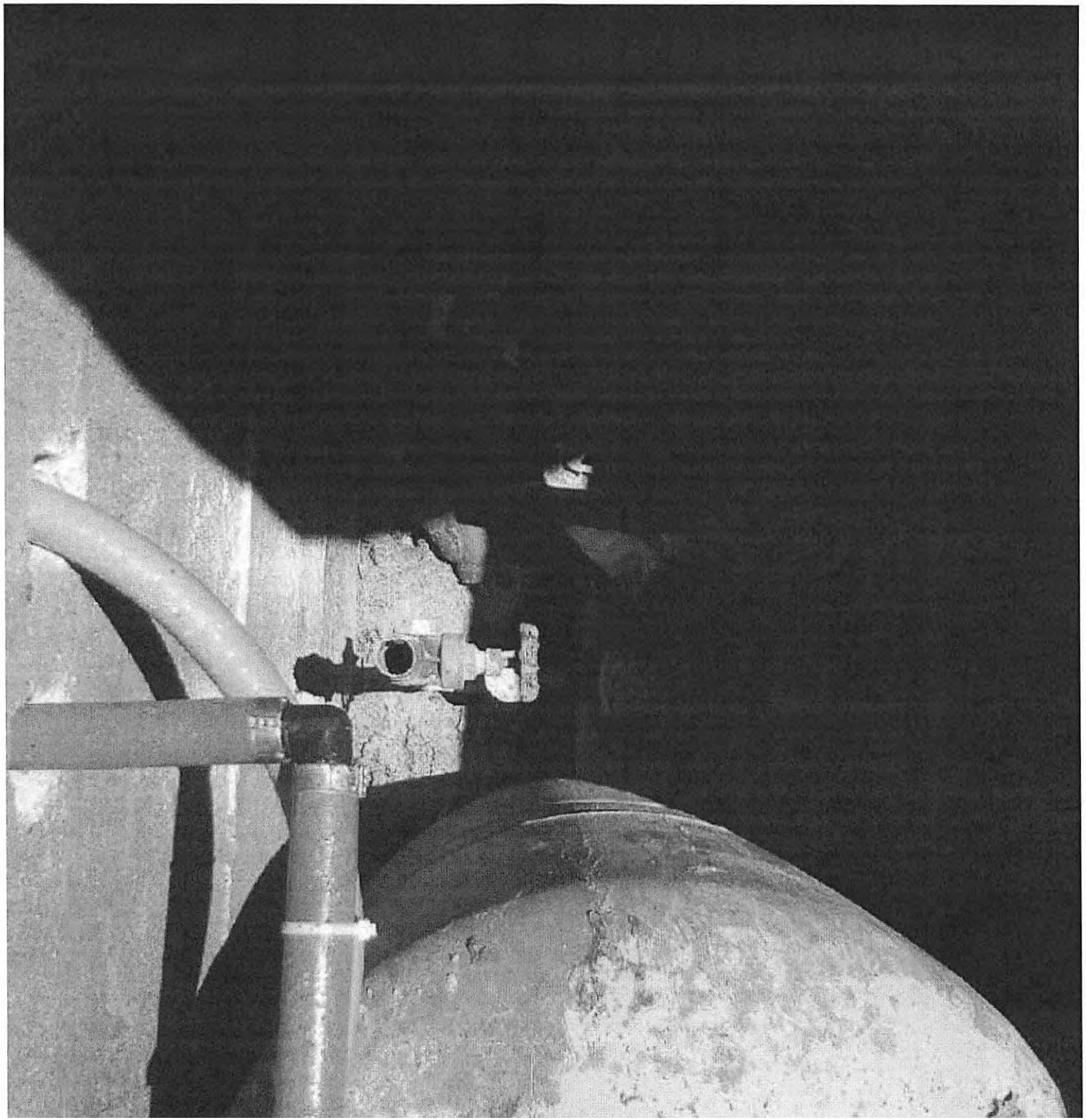

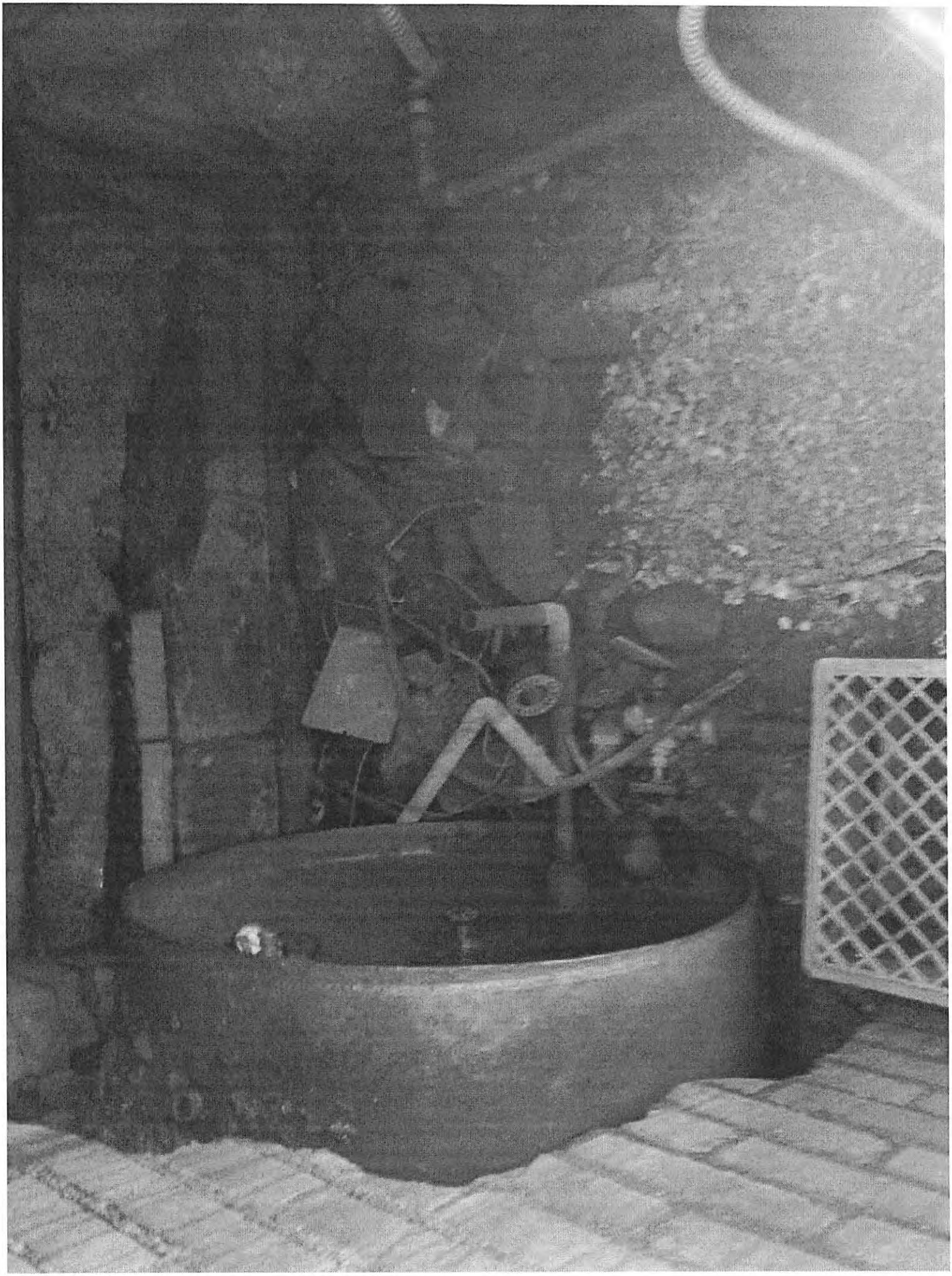


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OAKLAND COUNTY MICHIGAN
HEALTH DIVISION
Department of Health & Human Services
oakgov.com/health

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

Kathleen Forzley, RS, MPA, Manager
HEALTH DIVISION

CERTIFIED MAIL

June 20, 2013

KELLER WELL DRILLING INC(47-2284)
BRIAN M KELLER
5615 CHILSON
HOWEL MI 48843

Permit Number: 108-13-000038
Parcel ID: 19-01-376-006
Application Tracking Number: 63225916

RE: IRRIGATION WELL AT 1219 E SQUARE LAKE RD, BLOOMFIELD HILLS, OAKLAND COUNTY, MI.

Dear Brian M Keller:

The Oakland County Health Division has reasonable grounds to believe there has been a violation of Part 127, Act 368, P.A. of 1978, or the rules, regulations, or construction code adopted under the act, and/or Article X of the Oakland County Sanitary Code at the above listed property. Pursuant to Section 12714 of Part 127, Act 368, P.A. of 1978 and Article X, a review of our files and field activities disclosed the following deficiencies:

(X) (R 325.1657): The well does not have a downward turned screened vent.
(X) (R 325.1656): The pressure/storage tank is in an unapproved location.
(X)(R325.1674a): The ASSE 1015 double check valve backflow device installed is not the proper backflow for this application.

Pursuant to Section 12709 of Part 127, Act 368, P.A. of 1978 and/or Article X, you are hereby ordered to within 30 days of this letter:

1) Provide a 3/4 inch vent that is screened, pointed downward and terminates not less than 12 inches above the ground surface.
2) The pressure tank shall be installed in an approved pump room or well house.
3) Provide a pressure vacuum breaker or RPZ backflow assembly.

You are further advised that pursuant to Section 12715 of Part 127, Act 368, P.A. of 1978, and/or Section 5, Article I of the Oakland County Sanitary Code, any person who is convicted of the violation of any provision of the Act or any rule, regulation, or

construction code adopted under the Act, or any order of the director of the health department, is guilty of a misdemeanor.

Please contact the appropriate Health Division office with any questions. Office hours are 8:00 a.m. to 5:00 p.m., Monday through Friday. However, the field sanitarians are generally in the office between the hours of 8:00 a.m. to 10:00 a.m.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Teresa Brooks, R.S.
Senior Public Health Sanitarian
Environmental Health Services

cc: Bloomfield Township
DEQ Well Construction Unit
Driller File
Property Owner
First Class Mail

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS FOLD AT DOTTED LINE

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Keller Well
Brian Keller
5615 Chilson
Howell MI 48843

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number
(Transfer from service label) 7007 2560 0001 2715 8892

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

OAKLAND
COUNTY MICHIGAN
Health Division
L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

BUILDING 34 EAST
1200 N TELEGRAPH RD DEPT 432
PONTIAC MI 48341 0432

CERTIFIED MAIL™

7007 2560 0001 2715 8892

FIRST CLASS

Hasler

016H26501200
$06.11⁰
08/26/2013
Mailed From 48340
US POSTAGE

KELLER WELL DRILLING
BRIAN KELLYER
5615 CHILSON
HOWELL MI 48843

NIXIE 462 DE 1009 0007/10/13

RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD

BC: 48341043299 *1353-09838-26-38

48343743513699

Michigan Department of Environmental Quality
Office of Drinking Water and Municipal Assistance

WATER WELL EQUIPMENT APPROVED LIST

Pitless Well Adapters and Units

ADVANCE PUMP EQUIPMENT COMPANY
- 21" SINGLE MODEL THREAD-ON UNIT - SUBMERSIBLE - 4"-8" CASING
- EZ WELD-X1-5"-6" CASING
- WELD-ON ADAPTER KIT - SUBMERSIBLE - 4"-8" CASING

BOSCOTT, INC.
- CLEAR WELL CLAMP-ON PITLESS ADAPTER 4"

DAYTON PRECISION MANUFACTURING COMPANY
- DPM-004 C CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-6" CASING

DICKEN MANUFACTURING COMPANY
- KLEAR-KASE CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-6" CASING

DUPLEX (WHITEWATER MANUFACTURING COMPANY)
- TYPE 1060 SUB THREAD-ON UNIT - SUBMERSIBLE - 4"-6" CASING
- TYPE 2015 SUB THREAD-ON UNIT - SUBMERSIBLE - 4"-6" CASING
- TYPE 1060 SW THREAD-ON UNIT - SHALLOW WELL JET - 2" CASING
- TYPE 1060 J4C THREAD-ON UNIT - DEEP WELL JET - 4" CASING (Out of Production)
- TYPE 1060 PJ-C THREAD-ON UNIT - DEEP WELL SINGLE PIPE PACKER - 2"- 3" CASING (3" Out of Production)
- TYPE 2000 PJ2-C THREAD-ON UNIT - BACKTAPPED-DEEP WELL SINGLE PIPE PACKER - 2" CASING (Out of Production)
- TYPE 2000 SW THREAD-ON UNIT - BACKTAPPED - SHALLOW WELL JET - 2" CASING (Out of Production)

FLOW-RITE PRODUCTS COMPANY, DIVISION OF BRADLYN INDUSTRIES
- CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-6" CASING

MAASS, MANUFACTURING
- MODEL B WELD-ON ADAPTER - SUBMERSIBLE - 4"-8" CASING
- MODEL BX THREAD-ON UNIT - SUBMERSIBLE - 4"-8" CASING
- MODEL CD THREAD-ON UNIT - BACKTAPPED - DEEP WELL SINGLE PIPE PACKER JET - 2" CASING (Out of Production)
- MODEL CS THREAD-ON UNIT - BACKTAPPED - SHALLOW WELL JET - 2" CASING (Out of Production)
- MODEL J WELD-ON ADAPTER - SUBMERSIBLE - 4"-18" CASING
- MODEL JC CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-7" CASING
- MODEL MB WELD OR THREAD-ON UNIT - SUBMERSIBLE - 8"-26" CASING

MARTINSON MANUFACTURING COMPANY, INC.
- C-SERIES CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-6" CASING

MERRILL MANUFACTURING
- SP THREAD-ON UNIT - SUBMERSIBLE - 4"-8" CASING
- SDP W/CONCENTRIC COUPLING THREAD-ON UNIT - SHALLOW WELL JET - 4"-8" CASING
- SPK CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-10" CASING
- MCK CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-6" CASING

MONITOR, BAKER MANUFACTURING COMPANY
- FIBERLOC POLYMER CAMPSITES PITLESS KIT - 4"-5" CASING
- PS THREAD-ON UNIT - SUBMERSIBLE - 4"-10" CASING
- PS WELD-ON UNIT - SUBMERSIBLE 12"-26" CASING
- PJ CONCENTRIC THREAD-ON UNIT - SHALLOW WELL JET - 2"-3" casing
- PJ THREAD-ON UNIT - DEEP WELL SINGLE PIPE PACKER JET - 2"-3" CASING (Out of Production)
- PJ THREAD-ON UNIT - TWO-PIPE DEEP WELL JET - 4"-6" CASING (Out of Production)
- PR THREAD-ON UNIT - RECIPROCATING (ROD) PUMP - 3"-6" CASING
- PL SNAPPY CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-6" CASING
- PL SNAPPY WELD-ON ADAPTER - SUBMERSIBLE - 4"-6" CASING
- 6123BEZ WELD-ON ADAPTER – SUBMERSIBLE – 5", 6" I.D. AND 7" O.D. CASING
- 8123BEZ WELD-ON ADAPTER – SUBMERSIBLE – 8", 10" AND 12" I.D. CASING

PAULUS PLASTIC COMPANY
- PAULUS PLASTIC PITLESS ADAPTER - 4"-5" CASING

SEARS, ROEBUCK & COMPANY, (MANUFACTURED BY BRADLYN INDUSTRIES)
- CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-6" CASING

WELLS, INC.
- SAFETY-SEAL SERIES A CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-6" CASING
- SAFETY-SEAL SERIES P CLAMP-ON ADAPTER - SUBMERSIBLE - 5" PLASTIC CASING ONLY
- JA 4-1 3/4X 1C CLAMP-ON ADAPTER - TWO PIPE DEEP WELL JET - 4" CASING

WHITEWATER MANUFACTURING COMPANY
- MODEL 52 SU WELD OR THREAD-ON UNIT - SUBMERSIBLE - 4"-20" CASING

Items marked with a plus (+) have been added to the list since the last revision.

Michigan Department of Environmental Quality
Office of Drinking Water and Municipal Assistance

WATER WELL EQUIPMENT APPROVED LIST

MODEL 1J2 CONCENTRIC WELD-ON UNIT-DEEP WELL SINGLE PIPE PACKER JET - 2" CASING
MODEL 2J CONCENTRIC WELD OR THREAD-ON UNIT - TWO PIPE DEEP WELL JET - 4"-6" CASING (Out of Production)
ACE WELD-ON ADAPTER - SUBMERSIBLE - 4"-8" CASING (Out of Production)
QUICKY CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-6" CASING (Out of Production)
MODEL 51-C SUBURBAN CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-6" CASING (Out of Production)
ACE CLAMP-ON ADAPTER - 4"-6" CASING (Out of Production)

WILLIAMS PRODUCTS DIVISION, KLASING INDUSTRIES, INC.
M SUB 3 CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-6" CASING
EZ-UP PITLESS COUPLING - 4"-5" CASING
LIFT-OUT SEAL CLAMP-ON ADAPTER - TWO PIPE DEEP WELL JET - 4"-6" CASING
LIFT-OUT SEAL CLAMP-ON ADAPTER - SUBMERSIBLE - 4"-10" CASING

Well Caps

The following well caps/seals meet the requirements set forth in R325.1657A of Part 127, Act 368 PA 1978 Administrative Rules. Caps and venting requirements became effective May 1, 1985. Vents must be installed on all wells except those having deep well, single pipe, packer jet installations or on flowing wells.

A & B DIE CASTING 6" Only	**FLOW-RITE** WATERTIGHT CAP	**MONITOR (BAKER)** 3" CAP* (FOR 2" SWJ PITLESS UNIT) TURTLE 4"-7" CAP WATERTIGHT CAP[1]
BOSCOTT, INC., 4"-6"	**HARVARD** WTC[1]	**PAULUS** PLASTIC WELL CLOSURE 4"-5"
BROTHERS CASTING WATERTIGHT 6"	**LUNDE FOUNDRY, INC.** L-04 L-05 L-06	**W.D.B., Inc** WTC Well Cap
CAMPBELL WTC	**MAASS[2]** 4"-12"WT	**WELLS** WT WC SC
CAMPBELL-MARTINSON LX41 LX51 LX61	**MERRILL** WC 4"-8" WCA 4"-6" WCB 4"-10" WCD 4"-6" WCM 6" WCO 4"-6" WCP 5"-6"	**WHITEWATER** MODEL 100 (Out of Production) MODEL 200 (Out of Production) MODEL 300
DAYTON WATERTIGHT CAP	**MIDWEST-DICKEN[2]** WTCC 4"-8" 359 WELL SEAL 2" 459SW CABLE SEAL W/VENT CAP[1]	**WILLIAMS** WTV
DUPLEX 3" CAP FOR 2" SWJ PITLESS UNIT (Out of Production)		

[1]Caps have separate vents which must be threaded into cap
[2]These companies are now called MAASS Midwest

Hand Pumps

The hand pumps listed below meet the requirements of Rule 153 of Part 127, Act 368 PA of 1978 and may be used on public or private water supplies. These hand pumps have a closed spout, directed downward, and a pump rod that operates through a stuffing box and packing nut.

DEEP WELL HAND PUMPS (LIFT CYLINDER REQUIRED)
COLUMBIANA FIGURE 80[3], SINGLE ACTING FORCE PUMP
DEMPSTER MODEL 210F AND 226F FORCE PUMP; MODEL 23F AND MODEL 40F
HELLER-ALLER (SEE HITZER INC)
HITZER INC MODEL 50-L[3], 50-A[3], AND ASB FORCE PUMP (FORMERLY "HELLER-ALLER")
MONITOR BAKER MODEL 11HD, 11HDS[4], 12HD, AND 12HDS[4] FORCE PUMP STAND
MONITOR BAKER MODEL 1DFHC, 1DFHCS[4], 1DFHF, AND 11 DFHFS[4] DRINKING FOUNTAIN STAND

Items marked with a plus (+) have been added to the list since the last revision.

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WATER WELL EQUIPMENT APPROVED LIST

ROBBINS & MYERS MODELS 1V12, 2V12 ROTARY HAND[5]

SHALLOW WELL HAND PUMPS (LIFT CYLINDER BUILT INTO PUMP)
COLUMBIANA FIGURE 55-3 HOUSE FORCE PUMP
HELLER-ALLER (SEE HITZER INC)
HITZER INC FIGURE PHB HOUSE FORCE PUMP (FORMERLY "HELLER-ALLER")

[3]These hand pumps use the drop pipe into the well as the pump base or may be threaded onto a 2" well casing by using a 2" x 1.25" reducer. If the drop pipe is used as a pump base, the opening between the drop pipe and well casing must be sealed using a well cap base and sanitary well seal.
[4]These hand pumps include a shroud which provides additional sanitary protection by enclosing the pump rod and packing nut.
[5]This pump operates with a rotating pump rod and has a hand operated gear box rather than a lever fulcrum type handle operating type handle operating a reciprocating pump rod through a packing nut.

Yard Hydrants

The following frost-proof yard hydrants do not use a stop-and-waste valve and are approved for installation on any water supply. Yard hydrants with buried stop-and-waste valve are prohibited on all types of water supplies, under Section P1501.1.1 of Article 15 of the Michigan Plumbing code, R325.1674A of Part 127, Act 368 PA 1978 Administrative Rules, and Rule 1108(3) of Act 399, PA 1976.

CAMPBELL - SANITARY YARD HYDRANT (SYH)

HIDE-DRANT CORPORATION – HIDE-DRANT MODEL 99 YARD HYDRANT (model number change, see below)
HIDE 7501-7503 HIDE SS2750 HIDE 104-108

HOEPTNER PERFECTED PRODUCTS - FREEZE FLOW SANITARY YARD HYDRANT
STANDARD FREEZE FLOW SANITARY YARD HYDRANT
EXECUTIVE FREEZE FLOW SANITARY YARD HYDRANT

MERRILL MFG. CO. - H-3000 SERIES WITH HEATING CABLE AND NO DRAIN HOLE

MURDOCK, INC. - EXPELO - SANITARY POST WATER HYDRANT

SIMMONS MANUFACTURING COMPANY – SIMMONS SANITARY YARD HYDRANT

WHITEWATER MFG. CO. - MODEL 256 FREEZE-PROOF/POLLUTION-PROOF YARD HYDRANT (Out of Production)

WOODFORD MFG. CO. - MODEL S1 FREEZE-PROOF/POLLUTION-PROOF YARD HYDRANT (Out of Production)
MODEL S2 SANITARY HYDRANT (Out of Production)
MODEL S3 SANITARY HYDRANT
MODEL S4H SANITARY HYDRANT

Buried Pressure Tanks

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HORIZONTAL UNDERGROUND PRESSURE TANK</td></tr>
<tr><td colspan="2">BWS-116-120
BWS-116-220
BWS-116-315</td><td colspan="2">BWS-116-500
BWS-116-1000
BWS-116-1500</td></tr>
<tr><td colspan="4">AMTROL, INC.
WELL-X-TROL "UG" (UNDERGROUND TANK)</td></tr>
<tr><td colspan="4">A. O. SMITH
Aqua Air Underground Tank, State Industries Company, Perma-Air Diaphragm Tank, Reliance, Wellsaver</td></tr>
<tr><td>AD 36
AD 36S</td><td>PAD 14
PAD 31
PAD 32
PAD 96
PAD 119</td><td>PCM 20
PCM 36S
PCM 52
PCM 88</td><td>SBD 14
SBD 20
SBD 32
SBD 36S
SBD 52
SBD 86
SBD 96
SBD 119</td></tr>
<tr><td>LPT 14
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LPT 36S
LPT 52
LPT 86
LPT 119</td><td>LLT 25</td><td>LMT 20
LMT 36S
LMT 52
LMT 86</td><td>SPMD 14
SPMD 20
SPMD 32
SPMD 36S
SPMD 52
SPMD 86
SPMD 96
SPMD 119</td></tr>
</table>

Items marked with a plus (+) have been added to the list since the last revision.

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Michigan Department of Environmental Quality
Office of Drinking Water and Municipal Assistance

WATER WELL EQUIPMENT APPROVED LIST

CLAYTON MARK
PRECHARGED UNDERGROUND TANK

FLEXCON INDUSTRIES
WELL-RITE BG SERIES
WR 60BG WR 100BG WR 140BG
FLEX-LITE PRESSURE TANKS
FL5 5L7 FL12 FL17 FL22 FL28 FL30 FL40

IN-WELL TECHNOLOGIES
Fits into 4-inch, 5-inch, 6-inch, or larger wells
NT-30SS 3 5/8-inch dia, 102-inch length
NT-40SS 4 ½-inch dia, 48-inch length

MEDALIST MFG. CO.
PERMA PRESSURE II
AVU-H
TUVM

MERRILL MFG. CO.
ULTIMATE BURIED TANK (POLYURETHANE FOAM ENCASED)

MONITOR (BAKER MFG. CO.)
TUVWF
TUVWM (Out of Production)

PENTAIR WATER TREATMENT *WELL-MATE, ProSource*

WM-4 LP (Out of Production)	WM-14WB	+PSC-14-4
WM-6 UG (Out of Production)	WM-4	+PSC-30-9
WM-9 UG (Out of Production)	WM-6	+PSC-48-14
WM-12 UG (Out of Production)	WM-9	+PSC-80-23
WM-10LP	WM-12	+PSC-119-35
WM-6LP	WM-23	+PSC-85-25
WM-35WB		+PSC-60-20
WM-25WB		+PSC-35-10
WM-20WB		+PSC-20-6

STA-RITE INDUSTRIES
FIBERWOUND

SR20-6S – 20 GALLONS	SR60-18 – 60 GALLONS
SR35-10S – 35 GALLONS	SR85-25 – 85 GALLONS
SR48-14S – 48 GALLONS	SR119-35 – 119 GALLONS

THE AMERICAN GRANBY CO.
HARVARD CHAMPION UG SERIES (UNDERGROUND TANK)

TITAN INDUSTRIES, INC.
Combo Tank

WHITEWATER MFG. CO.
PAT (PITLESS ADAPTER TANK) 60 – 1,500 GALLONS

Items marked with a plus (+) have been added to the list since the last revision.

FL sell sheet final mech 2-17-09:Layout 1 2/17/09 1:40 PM Page 1

INNOVATION ISN'T JUST WRAPPING FIBERGLASS AROUND OLD WELL TANK TECHNOLOGY.

[INTRODUCING THE NEW FLEX-LITE WITH CAD-2]



Precision injection molded domes for uniform wall thickness and consistent engineered dome profiles.

Reinforced with durable, continuous strand fiberglass and sealed from the environment with weather resistant epoxy resin. Suitable for underground installation.

High tech spin welding process permanently fuses precision injection molded domes to the extruded cylinder.

SUPER SIZED

Our larger tank sizes offer greater drawdown capacity.

Flexcon's patented CAD-2 controlled action diaphragm design enables the tank's water chamber to be sized for the optimum drawdown capacity of each tank.

CAD-2

New CAD-2 diaphragm technology: strong 100% butyl diaphragm and copolymer polypropylene lower water chamber for maximum water and air separation.

Rugged base engineered to withstand maximum loads and extreme environmental conditions.

Tough, injection molded, rigid PVC connection for easy installation and lifetime performance.

Unlike other composite tanks that hide tired old bag technology in a plastic shell, the Flex-Lite FL composite tank uses the latest evolution of the field proven controlled action diaphragm design that Flexcon introduced in Well-Rite steel tanks in 1988.

The Flex-Lite FL series' improved CAD-2 diaphragm design is stronger and won't crease and wear out like bag designs. It features a chlorine resistant 100% butyl diaphragm with a precision molded copolymer polypropylene lower water chamber for superior air and water separation.

This patented design allows each size tank to have a properly sized water chamber, matched to the drawdown performance of that tank. When it comes to performance and durability, the CAD-2 system cannot be beat.

So if you are looking for the proven performance of a Flexcon steel tank in a lightweight composite design, Flex-Lite FL is the answer.

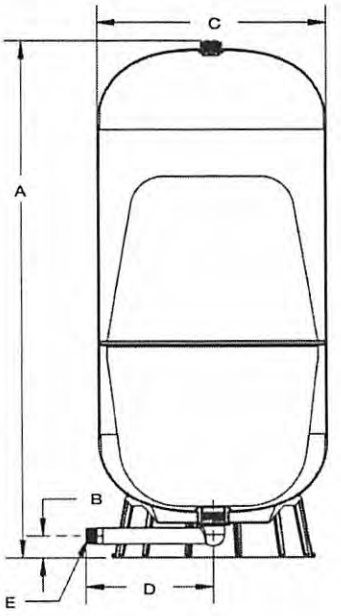
FLEXCON INDUSTRIES

The Reliable Source®

Patent Pending

©2009 Flexcon Industries

FLEX-LITE® FL/CAD-2



MATERIALS OF CONSTRUCTION

- *Top and bottom domes:* Injection molded copolymer polypropylene
- *Shell:* Extruded copolymer polypropylene
- *Outer shell:* Fiberglass-wound, coated with epoxy resin
- *Water chambers:* Top diaphragm is 100% butyl rubber, lower water chamber is copolymer polypropylene
- *Base:* Copolymer polypropylene
- *Connection:* Rigid Schedule 80 PVC
- *Air valve:* Brass valve with o-ring seal
- *Warranty:* 5 year limited

COMPOSITE TANK DIMENSIONS

Model	Total Tank Volume		A Height		B Floor to CL		C Diameter		D CL to fitting end		E Connection	Total Weight	
	gal	liters	in	cm	in	cm	in	cm	in	cm		lbs	kilos
FL 5	15	56.8	25.6	64.0	1.75	4.4	16.5	41.9	9.4	23.9	1" NPT	19.0	8.6
FL 7	22	83.3	34.1	84.1	1.75	4.4	16.5	41.9	9.4	23.9	1" NPT	24.0	10.9
FL 12	35	132.5	48.9	121.7	1.75	4.4	16.5	41.9	9.4	23.9	1" NPT	33.5	15.2
FL 13SQ	38	143.8	29.75	74.7	2.25	5.7	24.2	61.5	11.9	30.2	1 1/4" sch 80	38.0	15.9
FL 17	50	189.3	43.3	109.0	2.25	5.7	21.4	54.4	11.9	30.2	1 1/4" NPT	47.0	21.3
FL 22	65	246.0	51.3	129.3	2.25	5.7	21.4	54.4	11.9	30.2	1 1/4" NPT	58.0	26.3
FL 28	82	310.4	64.7	163.3	2.25	5.7	21.4	54.4	11.9	30.2	1 1/4" NPT	69.5	31.5
FL 30	90	340.7	57.0	143.8	2.25	5.7	24.2	61.5	13.4	34.0	1 1/4" NPT	77.0	34.9
FL 40	119	450.4	72.1	182.1	2.25	5.7	24.2	61.5	13.4	34.0	1 1/4" NPT	99.5	45.1

Maximum working pressure 125 psig. Maximum working temperature, internal & external 120° F. Tank pre-charge 38 psig.

QUICK SIZING CHART

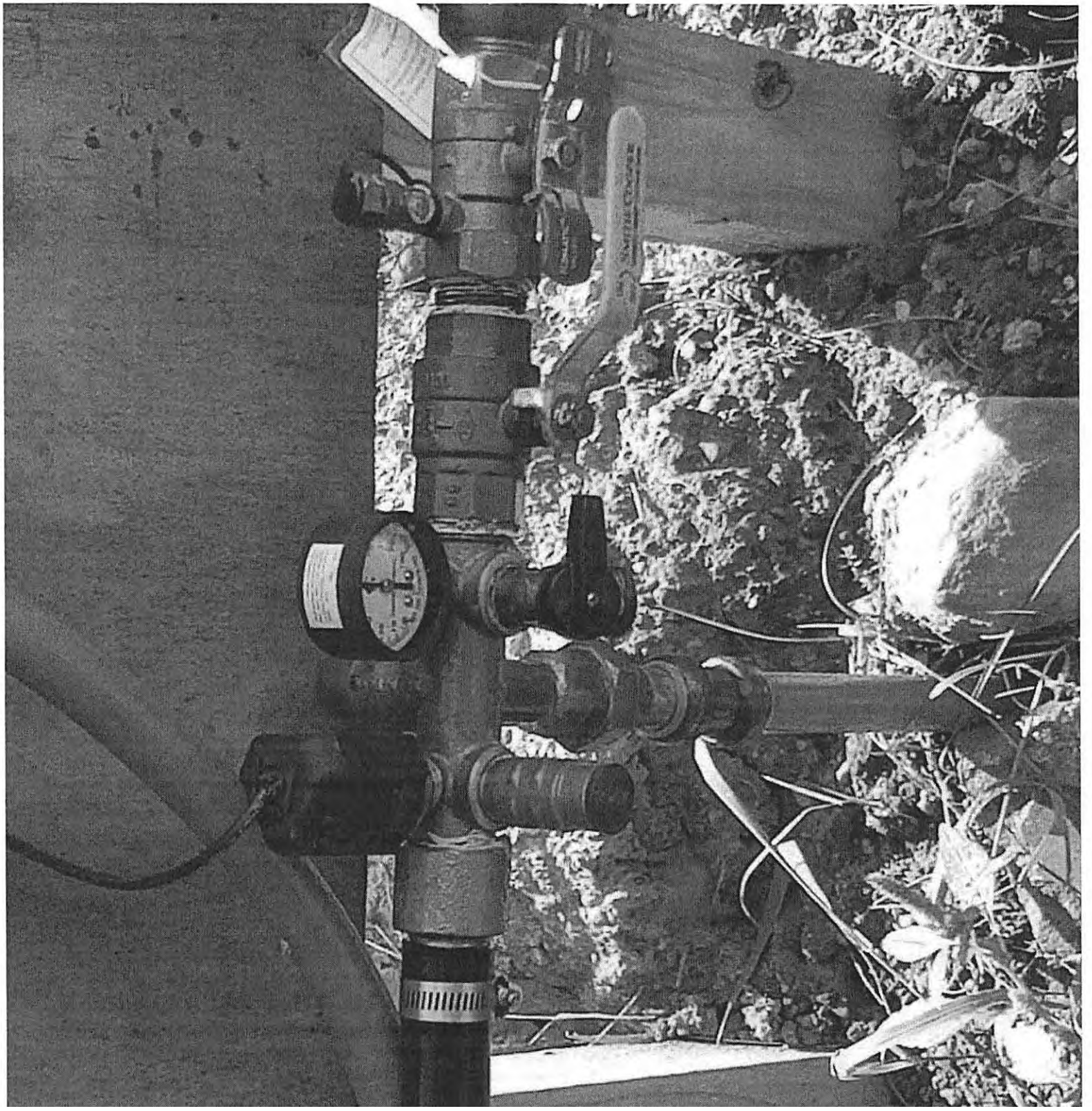
Model	Total Tank Volume		Total Drawdown* 20/40		30/50		40/60	
	gal	liters	gal	liters	gal	liters	gal	liters
FL 5	15	56.8	6.00	24.1	5.1	20.4	4.4	17.7
FL 7	22	83.3	8.80	32.2	7.5	27.2	6.5	23.6
FL 12	35	132.5	14.10	52.3	11.9	44.2	10.3	38.3
FL 13SQ	38	143.8	13.89	51.8	11.8	44.0	10.5	39.4
FL 17	50	189.3	20.10	76.4	17.0	64.6	14.7	56.0
FL 22	65	246.0	26.10	100.5	22.1	85.0	19.1	73.6
FL 28	82	310.4	33.00	120.7	27.9	102.0	24.1	88.4
FL 30	90	340.7	36.20	136.7	30.6	115.6	26.5	100.1
FL 40	119	450.4	47.90	181.0	40.5	153.0	35.0	132.5

*Total drawdown assumes tank pre-charge set at 2 psi below cut-in pressure. Drawdown can be affected by many factors, including temperature, pressure, and elevation.

> www.flexconind.com
> 781-986-2424
> 300 Pond Street
> Randolph, MA 02368

FLEXCON INDUSTRIES
The Reliable Source®







OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE L. BROOKS PATTERSON

Kathleen Forzley, Manager
(248) 858-1280 | health@oakgov.com

September 15, 2014

BLOOMFIELD HILLS SCHOOL DIST
1219 E SQUARE LAKE RD
BLOOMFIELD HILLS MI 48304

Permit Number: 108-13-000038
Parcel ID: 19-01-376-006
Application Tracking Number: 63225916

RE: FINAL REPORT FOR IRRIGATION WELL AT 1219 E SQUARE LAKE RD, BLOOMFIELD HILLS, OAKLAND COUNTY, MI.

Dear Bloomfield Hills School Dist:

Existing Well Information		**From Application**
Existing well on site?	Yes	Yes
Was the well properly abandoned?	Yes	
Have you received the Verification of Serviceable Use?		
Comments:		
Well Log Received ?	Yes	Date: 06/12/2013
Well Isolation Parameters		
Isolation	**Approved?**	**Dist.In Ft./Comments**
Water Well Location	Yes	
Same Location as approved on Permit	Yes	
Accessible for maintenance/ Repair	Yes	
Isolation Distance From Permit	**Approved?**	**Dist.in Ft./Comments**
Keep well at least 50 feet from any animal or poultry yard.	Yes	electric fence 50ft around well head
Isolation Distance		
Isolation	**Approved?**	**Dist.in Ft./Comments**
NONE		
Well Construction Parameters		
Parameter	**Approved?**	**Measurement/Comments**
12 inches Above grade	Yes	Ht. above grade 14.00 in
Plastic	Yes	Casing Size 5.00 in.

Minimum Well Depth met	Yes	Well Depth 218.00 ft.
Well Cap	Yes	well seal
Annular space or caving absent around casing	Yes	
Screened Vent	Yes	
Flowing Well properly constructed	N/A	
Special Construction Parameters From Permit	**Approved?**	**Measurement/Comments**
A water supply system shall be operated and maintained in a manner to prevent cross-connections and contamination of the water supply.	Yes	
Keep well at least 150 feet from all chemical storage.	Yes	
An irrigation well shall not be used to augment any bodies of water.	Yes	
Any augmenting discharge of groundwater to a regulated lake or stream is required to obtain DEQ Part 301, Inland Lakes & Streams and Part 303, Wetlands Protection permits.	Yes	
Owner may be required to comply with other applicable laws, regulations, ordinances, and codes related to the water supply at this location	Yes	
Subdivision Restrictions From Permit	**Approved?**	**Measurement/Comments**
NONE		
Description	**Approved?**	**Measurement/Comments**
Well Inside		
Well Inside Parameter	**Approved?**	**Comments**
Electrical Conduit	Yes	
Sample Tap	Yes	
Min 160psi pressure rating	Yes	
Submersible	Yes	
Burried	Yes	Inaccessible
Plastic:PE	Yes	
Protected Suction Line	N/A	
Is Pressure relief valve required?	Yes	
Is Pressure relief valve provided?	Yes	
Is Pressure relief valve approved?	Yes	
Final Inspection Comments:		
8/22/13 bob long spoke w anita DEQ, typo on apvd list 5L7 should be FL7, DEQ to update apvd list corrected: provided downward turned vent, buried tank for apvd location, provided PVB		
Well Driller Info		
Grout Inspection	**Well Driller**	

1	Keller Well Drilling Inc(47-2284)
Final Inspection by : brookste	Date: 06/18/2013
Final Inspn. Recommendation:Approve	Date: 09/05/2014 08:34

Please contact the appropriate office with any questions. Our office hours are 8:30 a.m. to 5:00 p.m., Monday through Friday. However, the field sanitarians are generally in the office between the hours of 8:30 a.m. to 10:00 a.m.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Teresa Brooks, R.S.

Teresa Brooks, R.S.
Senior Public Health Sanitarian
Environmental Health Services

cc: Bloomfield Township

Application for Onsite Private Water Well Permit

This application will be null and void if no action is taken one (1) year from date of receipt

Application Tracking Number: 63331579

Application Date:	05/11/2021	Parcel ID:	19-01-376-006
Well Type:	Irrigation Well	Last Activity:	
Subdivision Name:		Lot/Split Number:	
Total Land Area:	44.65769 Acres / 1945302.5Sqft	Lot/Split Area:	
Lot Number:			

Legal Description of Property:

T2N, R10E, SEC 1 PART OF SW 1/4 BEG AT S 1/4 COR, TH N 88-57-20 W 1335.52 FT, TH N 00-40-40 E 1405.57 FT, TH N 89-14-40 E 60.02 FT, TH S 00-40-40 W 27.01 FT, TH N 89-14-40 E 270.22 FT, TH N 00-40-40 W 145.25 FT, TH S 89-19-20 E 308.04 FT, TH N 00-10-00 W 199.04 FT, TH S 67-17-40 E 735.66 FT, TH S 00-01-00 E 1463.65 FT TO BEG EXC S 60 FT IN RD 44.79 A

Location Address

Street Address:	1219 E SQUARE LAKE RD	State:	MI
City:	BLOOMFIELD HILLS	Zip:	48304 -1544

Driving Directions:

Well Information

Type of Drilling :		Existing Well on Site:	Unknown
Sketch Mode:	mailed		

Distance from Contamination Sources

Septic Tank :		Disposal Field :	
Sewer Line :	50.0 ft	Grinder Pump:	
Other :			

Deviation from the Min. Requirements.	Unknown
Deviation Application submitted :	No

Owner Information

Name:	BLOOMFIELD HILLS SCHOOL DIST	Day Phone:	999-999-9999
Name 2:		Evening Phone:	
Street Address:	4175 ANDOVER RD	Mobile Phone:	
CVT:	BLOOMFIELD HILLS	Fax:	
State :	MI	Pager Number:	
Zip:	48302	E-mail Address:	

Applicant Information

Name:	David J Cameron	Day Phone:	248-628-8985
Street Address:	2996 Metamora Road	Evening Phone:	
CVT:	Oxford	Mobile Phone:	
State :	MI	Fax:	
Zip:	48371	Pager Number:	
E-mail Address:			

Well Driller Information

Well Driller Reg #: 63-0414

Comments

Signed By :	DAVID CAMERON	Date :	05/11/2021
Well Education packet delivered to Applicant with instructions :			Yes
Application captured by :	daileyp		
Clerk Comments:			

1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (248) 858-1312
27725 Greenfield Rd., Southfield, MI 48076-3625 (248) 424-7191

Print Close Window

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

PERMIT TO INSTALL AN ON-SITE WATER WELL SYSTEM

PERMIT #: **108-21-000023** **Issue Date:** **05/18/2021 08:18**

APPLICATION TRACKING #: 63331579 **APPLICATION RECEIPT DATE:** 05/11/2021 07:10
PARCEL ID #: 19-01-376-006 **PARCEL CREATION DATE:**

PROPERTY ADDRESS: 1219 E SQUARE LAKE RD BLOOMFIELD HILLS, MI 48304 **SUBDIVISION NAME:**
WELL INFORMATION: **Type of Well:** Irrigation Well **Type of Drilling:**

OWNER:		**APPLICANT:**	
Name:	BLOOMFIELD HILLS SCHOOL DIST	**Name:**	David J Cameron
Address:	4175 ANDOVER RD BLOOMFIELD HILLS, MI 48302	**Address:**	2996 Metamora Road Oxford, MI 48371
Phone:	Home: Work: (999)999-9999	**Phone:**	Home: Work: (248)628-8985

PERMIT APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

Minimum Isolation Distances to be Maintained:

Greater than 50 feet from storm drains.
Keep well at least 50 feet from any sewage pump chamber, grease trap or sump pit receiving laundry waste.
Keep well at least 10 feet from any surface water (lake, stream, pond, ditch, etc.
Keep well at least 10 feet from any buried gravity sewer with approved watertight joints (Sch 40 PVC, cast iron or ductile iron).
Keep well at least 50 feet from any buried pressure sewer or gravity sewer of unknown construction.
Keep well at least 50 feet from any animal or poultry yard.
Keep well at least 150 feet from any agricultural chemical/fertilizer storage or prep area.

Special Conditions:

R 325.1656 A pressure tank shall be installed in an approved pump room, well house, crawl space, basement offset or basement.
This permit is for direct connection to an irrigation system. Augmentation of a body of water has additional requirements that would need to be met before final approval.

OTHER PERMIT CONDITIONS:

- Required isolation distances must be met.
- Call for grout inspection when work begins.
- Call for water sample collection and final inspection upon completion of the well. Satisfactory bacteriological and nitrate samples results are mandatory.
- Well log and/or abandonment records must be submitted within 60 days of well completion and/or plugging activity.
- Installation must comply with Michigan Water Well Construction and Pump Installation Code, Part 127, Act 368 of the Public Acts of 1978 as amended, and rules, and Act 399 of 1976 as amended and administrative rules.
- ACT 53 - P.A. 1974 requires the applicant to notify the public utilities prior to excavation. In addition you must call 1-800-MISS DIG to locate public underground utilities.

THIS PERMIT IS VOID AFTER TWO (2) YEARS FROM DATE OF ISSUE

Sanitarian: Teresa Brooks **Supervisor:** Christy Fedototszkin

SEE PAGE 2 FOR SPECIAL CONDITIONS AND ADDITIONAL REQUIREMENTS

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

PERMIT#: 108-21-000023
Parcel ID: 19-01-376-006
Application Tracking Number: 63331579

Property Address:

1219 E SQUARE LAKE RD
BLOOMFIELD HILLS MI 48304

Special Conditions:

Keep well at least 150 feet from all chemical storage. This includes chemicals used to treat the irrigation well water.

A water supply system shall be operated and maintained in a manner to prevent cross-connections and contamination of the water supply. An adequate backflow device is required when a well is connected to an irrigation system. An RPZ may be needed.

Owner may be required to comply with other applicable laws, regulations, ordinances, and codes related to the water supply at this location.

The pumping capacity shall not exceed 70 GPM without a passing registration in the DEQ Large Quantity Withdrawal Tool.

Special Sampling: **Frequency:**

Comments:

Disclaimer: The Oakland County Health Division will not deny participation in its programs based on race, sex, religion national origin, age or disability. State and federal eligibility requirements apply for certain programs.

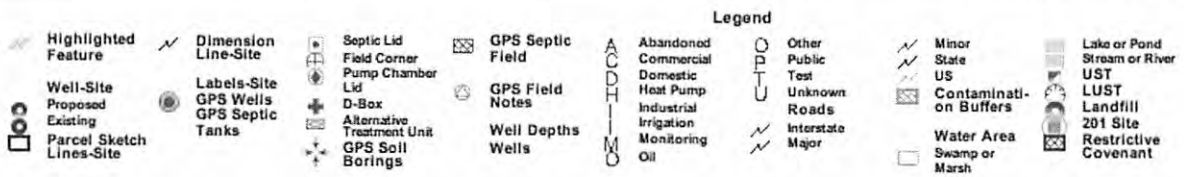
Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

PERMIT#: 108-21-000023
Parcel ID: 19-01-376-006
Application Tracking Number: 63331579

Property Address:

1219 E SQUARE LAKE RD
BLOOMFIELD HILLS MI 48304





Disclaimer: The information provided herewith has been compiled from recorded deeds, plats, tax maps, surveys and other public records. It is not a legally recorded map or survey and is not intended to be used as one. Users should consult the information sources mentioned above when questions arise.

OAKLAND COUNTY MICHIGAN

Inspection Tracker - Completed

Logout

ATN - Void
Access Oakland
▷ Application(Well)
▷ Assignment
▷ DMS
GIS
▷ Lab Results
▷ Lab System
Property Gateway
Reports
Search
▷ To Do List
Well Log System
E-Health Links
Septics
OCHD OakDocs

User Information:

User:	newcombc
Login:	04/14/2026 16:46
Module:	Wells

Appl | Status | Doc. Box | Create | Office | Site | Recomnd | Review | ITracker
Water | Grout | Final Insp | Final Rev. | Final Rep. | Create Letters | App. Hist. | Map | GIS

ATN:	63331579	**Permit:**	108-21-000023 **ATN Date:** 05/11/2021
Parcel ID:	19-01-376-006	**Address:**	1219 E SQUARE LAKE RD
Parcel Area:	1945302.5 Sq.Ft. / 44.65769 Acres	**City:**	BLOOMFIELD HILLS
Last Activity:		**Zip:**	48304
Sub Name:		**Lot Number:**	
Well Type:	Irrigation Well		
Assign To:		**Assign Date:**	

Inspection Select a inspection type ▾ Add

Inspection Type	Nbr	Fee	payment Status	Paid Date	Fee Arrears
Site Visit	1	$0.00	N/A	N/A	$0.00 ✕
Insp Comments			**Driller Name:**	cameron	
Inspected By:	brookste		**Inspected dt:**	05/12/2021	
Submitted By:	brookste		**Submitted dt:**	05/13/2021	
Grout	1	$0.00	N/A	N/A	$0.00
Insp Comments	had to pull casing- not making enough water at appx 75ft. not		**Driller Name:**	cameron	
Inspected By:	brookste		**Inspected dt:**	08/10/2021	
Submitted By:	brookste		**Submitted dt:**	08/11/2021	
Grout	2	$0.00	N/A	N/A	$0.00 ✕
Insp Comments			**Driller Name:**	cameron	
Inspected By:	dunajc		**Inspected dt:**	08/11/2021	
Submitted By:	brookste		**Submitted dt:**	08/12/2021	
Final	1	$0.00	N/A	N/A	$0.00 ✕
Insp Comments			**Driller Name:**		
Inspected By:	brookste		**Inspected dt:**	10/21/2021	
Submitted By:	brookste		**Submitted dt:**	10/22/2021	

Total	**$0.00**	**$0.00**

Print

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OAKLAND COUNTY MICHIGAN

Final Inspection- Completed

Logout

ATN - Void
Access Oakland
▷ Application(Well)
▷ Assignment
▷ DMS
GIS
▷ Lab Results
▷ Lab System
Property Gateway
Reports
Search
▷ To Do List
Well Log System
E-Health Links
Septics
OCHD OakDocs

User Information:

User: newcombc
Login: 04/14/2026 16:46
Module: Wells

Appl | Status | Doc. Box | Create | Office | Site | Recomnd | Review | ITracker
Water | Grout | Final Insp | Final Rev. | Final Rep. | Create Letters | App. Hist. | Map | GIS

ATN:	63331579	**Permit:**	108-21-000023 **ATN Date:** 05/11/2021
Parcel ID:	19-01-376-006	**Address:**	1219 E SQUARE LAKE RD
Parcel Area:	1945302.5 Sq.Ft. / 44.65769 Acres	**City:**	BLOOMFIELD HILLS
Last Activity:		**Zip:**	48304
Sub Name:		**Lot Number:**	
Well Type:	Irrigation Well		
Assign To:	brookste	**Assign Date:**	

Existing Well Information	From Application	Yes	No
* Existing well on site?	Unknown	◉	○
* Was the well properly abandoned?		○	◉
* Have you received the Verification of Serviceable Use?		○	◉

* Comments:
another irrigation well on other side of property

*Well Log Received ? Yes Date 09/23/2021
Well Log Decision: Well Log not recieved Date:

Well Isolation Parameters

Isolation	Approved? Yes	No	Dist.in Ft./Comments
* Water Well Location	◉	○	
* Same Location as approved on Permit	◉	○	
* Accessible for maintenance/ Repair	◉	○	

Isolation Distance From Permit	Approved? Yes	No	Dist.in Ft./Comments
*Greater than 50 feet from storm drains.	◉	○	
*Keep well at least 50 feet from any sewage pump chamber, grease trap or sump pit receiving laundry waste.	◉	○	
*Keep well at least 10 feet from any surface water [lake, stream, pond, ditch, etc.	◉	○	
*Keep well at least 10 feet from any buried gravity sewer with approved	◉	○	

watertight joints [Sch 40 PVC, cast iron or ductile iron].			
*Keep well at least 50 feet from any buried pressure sewer or gravity sewer of unknown construction.	◉	○	
*Keep well at least 50 feet from any animal or poultry yard.	◉	○	pasture moved
*Keep well at least 150 feet from any agricultural chemical/fertilizer storage or prep area.	◉	○	no chm for treatment or within 150ft

Isolation Distance: Septic Add

Isolation	Approved? Yes	No	Dist.in Ft./Comments

Well Construction Parameters

Parameter	Approved? Yes	No	Measurement/Comments
* Casing Terminates: Above grade	◉	○	Ht. above grade 12.00 in
* Well Casing Material: Plastic	◉	○	Casing Size 5.00 in.
* Minimum Well Depth met	◉	○	Well Depth 210.00 ft.
* Well Cap	◉	○	
* Annular space or caving absent around casing	◉	○	
* Screened Vent	◉	○	○ NA
Flowing Well properly constructed	○	○	◉ NA

Special Construction Parameters From Permit	Approved? Yes	No	Measurement/Comments
*R 325.1656 A pressure tank shall be installed in an approved pump room, well house, crawl space, basement offset or basement.	◉	○	in shed
*This permit is for direct connection to an irrigation system. Augmentation of a body of water has additional requirements that would need to be met before final approval.	◉	○	irrigation only
*Keep well at least 150 feet from all chemical storage. This includes chemicals used to treat the irrigation well water.	◉	○	no chm for treatment or within 150ft
*A water supply system shall be operated and maintained in a manner to prevent cross-connections and contamination of the water supply. An adequate backflow device is required when a well is connected to an irrigation system. An RPZ may be needed.	◉	○	RPZ
*Owner may be required to comply with other applicable laws, regulations, ordinances, and codes related to the water supply at this location.	◉	○	
*The pumping capacity shall not exceed 70 GPM without a passing registration in the DEQ Large Quantity Withdrawal Tool.	◉	○	per log 25gpm

Subdivision Restrictions From Permit	Approved? Yes	No	Measurement/Comments
NONE			

Well Inside

Well Inside Parameter	Approved? Yes	No	Comments
Electrical Conduit	◉	○	
Sample Tap	◉	○	
Min 160psi pressure rating	◉	○	
Type of Pump: Submersible	◉	○	
Storage Tank type: Captive Air	◉	○	Location: Well House
Water Piping matl.: Plastic:PE	◉	○	○ Unknown
Protected Suction Line	○	○	◉ NA
Is Pressure relief valve required?	◉	○	○ NA
Is Pressure relief valve provided?	◉	○	
Is Pressure relief valve approved?	◉	○	

Well Driller Info

Grout Inspection	Well Driller
1	David J Cameron(63-0414)
2	David J Cameron(63-0414)

Final Inspection Comments

no storm sewer in area. surface water 500ft to north. gravity sewer blg to grinder 200ft SW. pressure sewer line 220ft SW. no chm installed.

Final Inspection by: brookste Date 10/21/2021 00:00 Hours

*Final Inspn. Recommendation

Final Approval Recommended Date : 10/27/2021 08:24

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Application History for 63331579:

Activity	Assigned By	Assigned To	Assigned Date	Completed By	Completed Date	Status
Sketch Received (Mail)			05/11/2021 07:10			
Payment Submitted		daileyp	05/11/2021 07:10	daileyp	05/11/2021 07:10	Completed
Application Submitted			05/11/2021 07:10	DAVID CAMERON	05/11/2021 07:10	Completed
Site Evaluation	daileyp	brookste	05/11/2021 07:15			
Application Evaluation	daileyp	brookste	05/11/2021 07:15			
Office Evaluation	daileyp	brookste	05/11/2021 07:15			
Office Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/13/2021 06:00	In Progress
Site Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/12/2021 06:00	In Progress
Office Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/13/2021 06:00	In Progress
Site Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/12/2021 06:00	In Progress
Office Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/13/2021 06:00	In Progress
Site Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/12/2021 06:00	Completed
Office Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/13/2021 06:00	Completed
Application Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/14/2021 00:00	Completed
Evaluation Decision	brookste	fedototszkinc	05/14/2021 13:34			
Evaluation Decision	brookste	fedototszkinc	05/14/2021 13:34			Pending
Application Evaluation	daileyp	brookste	05/11/2021 07:15			Returned
Office Evaluation	daileyp	brookste	05/11/2021 07:15			Returned
Site Evaluation	daileyp	brookste	05/11/2021 07:15			Returned
Evaluation Decision	brookste	fedototszkinc	05/14/2021 13:34	fedototszkinc	05/17/2021 10:30	Completed
Office Evaluation	fedototszkinc	brookste	05/17/2021 10:30	brookste	05/13/2021 06:00	Returned to Sanitarian
Application Evaluation	fedototszkinc	brookste	05/17/2021 10:30	brookste	05/14/2021 00:00	Returned to Sanitarian
Site Evaluation	fedototszkinc	brookste	05/17/2021 10:30	brookste	05/12/2021 06:00	Returned to Sanitarian
Office Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/13/2021 06:00	In Progress
Site Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/12/2021 06:00	In Progress
Site Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/12/2021 06:00	Completed

Office Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/13/2021 06:00	Completed
Application Evaluation	daileyp	brookste	05/11/2021 07:15	brookste	05/18/2021 00:00	Completed
Evaluation Decision	brookste	fedototszkinc	05/18/2021 08:16			
Evaluation Decision	brookste	fedototszkinc	05/18/2021 08:16	fedototszkinc	05/17/2021 10:30	Pending
Evaluation Decision	brookste	fedototszkinc	05/18/2021 08:16	fedototszkinc	05/18/2021 08:18	Completed
Grout Inspection	wilsonman	brookste	08/10/2021 09:55			
Final Inspection	wilsonman	brookste	08/10/2021 09:56			
Grout Inspection	wilsonman	brookste	08/10/2021 09:55	brookste	08/10/2021 00:00	In Progress
Grout Inspection	wilsonman	brookste	08/10/2021 09:55	brookste	08/11/2021 00:00	In Progress
Final Inspection	wilsonman	brookste	08/10/2021 09:56			In Progress
Final Inspection	wilsonman	brookste	08/10/2021 09:56			In Progress
Final Inspection	wilsonman	brookste	08/10/2021 09:56			In Progress
Final Inspection	wilsonman	brookste	08/10/2021 09:56			In Progress
Final Inspection	wilsonman	brookste	08/10/2021 09:56			In Progress
Grout Inspection	wilsonman	brookste	08/10/2021 09:55	brookste	08/11/2021 00:00	Completed
Final Inspection	wilsonman	brookste	08/10/2021 09:56	brookste	10/22/2021 09:38	Completed
Final Approval Decision	brookste	fedototszkinc	10/22/2021 09:38			
Final Approval Decision	brookste	fedototszkinc	10/22/2021 09:38			Pending
Grout Inspection	wilsonman	brookste	08/10/2021 09:55	brookste	08/11/2021 00:00	Returned
Final Inspection	wilsonman	brookste	08/10/2021 09:56	brookste	10/22/2021 09:38	Returned
Final Approval Decision	brookste	fedototszkinc	10/22/2021 09:38	fedototszkinc	10/25/2021 11:17	Completed
Water Sample	fedototszkinc		10/25/2021 11:17			Returned To Sanitarian
Final Inspection	fedototszkinc	brookste	10/25/2021 11:17	brookste	10/22/2021 09:38	Returned To Sanitarian
Well Log Receipt	fedototszkinc		10/25/2021 11:17	brookste	10/22/2021 09:38	Returned To Sanitarian
Grout Inspection	fedototszkinc	brookste	10/25/2021 11:17	brookste	08/11/2021 00:00	Returned To Sanitarian
Grout Inspection	wilsonman	brookste	08/10/2021 09:55	brookste	10/25/2021 14:21	In Progress
Final Inspection	wilsonman	brookste	08/10/2021 09:56	brookste	10/22/2021 09:38	In Progress
Grout Inspection	wilsonman	brookste	08/10/2021 09:55	brookste	10/25/2021 14:21	Completed
Final Inspection	wilsonman	brookste	08/10/2021 09:56	brookste	10/27/2021 08:24	Completed

Final Approval Decision	brookste	fedototszkinc	10/27/2021 08:24			
Final Approval Decision	brookste	fedototszkinc	10/27/2021 08:24	fedototszkinc	10/25/2021 11:17	Pending
Final Approval Decision	brookste	fedototszkinc	10/27/2021 08:24	fedototszkinc	10/27/2021 08:41	Completed
Water Sample	fedototszkinc		10/27/2021 08:41			Approved
Grout Inspection	fedototszkinc	brookste	10/27/2021 08:41	brookste	10/25/2021 14:21	Approved
Well Log Receipt	fedototszkinc		10/27/2021 08:41	brookste	10/27/2021 08:24	Approved
Final Inspection	fedototszkinc	brookste	10/27/2021 08:41	brookste	10/27/2021 08:24	Approved

Permit History

Activity	Recommended By	Completed By	Decision Date	Comments
Amended	brookste	fedototszkinc	05/18/2021 08:18	C

Water Samples History:

Letter	Collection Date	Collected By	Lab	Sample Point	Reason	Test Type

No sample data present.

Comments History

Comments	Created By	Created Date
No well or septic records found.	daileyp	05/11/2021

Comments:

Submit Print Reset Done

OAKLAND COUNTY MICHIGAN

Document Box

Logout

- ATN - Void
- Access Oakland
- ▷ Application(Well)
- ▷ Assignment
- ▷ DMS
- GIS
- ▷ Lab Results
- ▷ Lab System
- Property Gateway
- Reports
- Search
- ▷ To Do List
- Well Log System
- E-Health Links
- Septics
- OCHD OakDocs

User Information:

User: newcombc
Login: 04/14/2026 16:46
Module: Wells

Appl	Status	Doc. Box	Create	Office	Site	Recomnd	Review	ITracker
Water	Grout	Final Insp	Final Rev.	Final Rep.	Create Letters	App. Hist.	Map	GIS

ATN: 63331579 **Permit:** 108-21-000023 **ATN Date:** 05/11/2021
Parcel ID: 19-01-376-006 **Address:** 1219 E SQUARE LAKE RD
Parcel Area: 1945302.5 Sq.Ft. / 44.65769 Acres **City:** BLOOMFIELD HILLS
Last Activity: **Zip:** 48304
Sub Name: **Lot Number:**
Well Type: Irrigation Well
Assign To: **Assign Date:**

Document Box:

Document Description	Status	Decision Date
SiteSketch	Inactive	05/11/2021 08:47
SiteSketch	Active	05/14/2021 13:32
Well Permit Document	Active	05/18/2021 08:18
FinalSketch	Active	10/22/2021 09:25

Upload Site Sketch Print

Library Documents: ATN = 63331579 is 6

No.	Descriptive Name	Document Name	Created by	Created Date
1	Application	63331579.pdf	daileyp	05/11/2021
2	1219 Square Lake Road_Reference Map	1219 Square Lake Road_Reference Map.pdf	brookste	05/14/2021
3	well log	63331579.pdf	divitol	09/28/2021
4	63000067009 EGLE LOG	63000067009 EGLE LOG.pdf	brookste	10/21/2021
5	well head	sq lake well.jpg	brookste	10/22/2021
6	Final Irrigation Letter	63331579 final.pdf	pintrickn	10/28/2021

Add documents to library

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Lot #_____

Subdivision_____

Sidwell # 19-01-376-006

OAKLAND COUNTY HEALTH DIVISION

1200 N. Telegraph Rd., Pontiac 48341-0432 (248) 858-1312
27725 Greenfield Rd., Southfield 48076-3625 (248) 424-7191
1010 E. West Maple Rd., Walled Lake 48390-3588 (248) 926-3305

APPLICATION TO INSTALL A WELL

NOTICE: EMERGENCY REPLACEMENT WELLS REQUIRE ABANDONMENT OF THE EXISTING WELL.

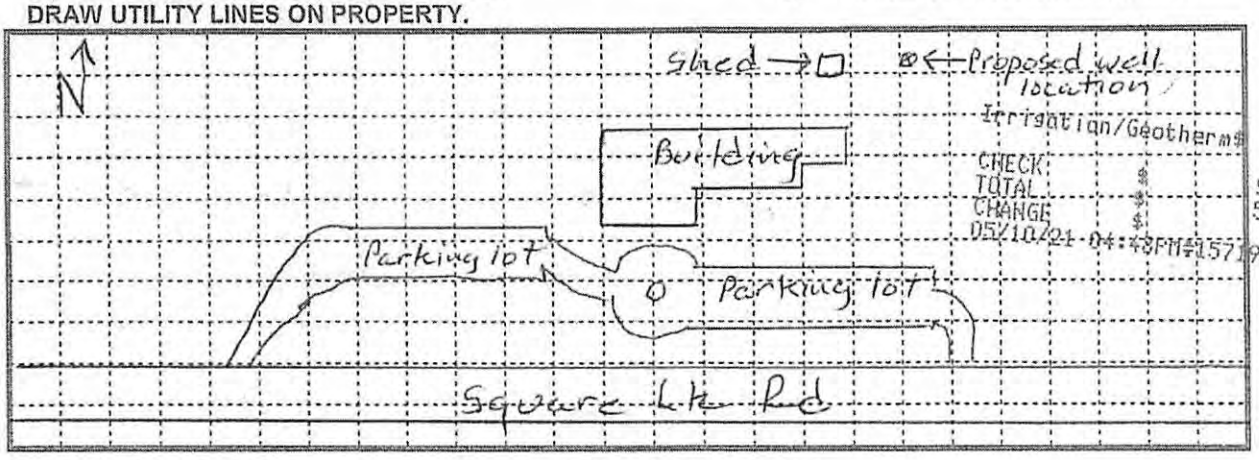
NEW WELL ☐ REPLACEMENT WELL ☐ (Emergency Repair ☐ Yes ☐ No) ABANDONMENT ☐
EXTENSIVE REPAIR ☐ IRRIGATION WELL ☒ TEST WELL ☐ OTHER ☐ _____

Type: Rotary ☒ Cable tool ☐ Other ☐ _____
Township/City/Village: Bloomfield Hills Street #: 1219 Street: E. Square Lk Rd
Residential ☐ Non-Residential Building ☒ # of persons in Non-Residential Building 0
Owner: Bloomfield Hills Schools Address: 4175 Andover City: Bloomfield Hills Zip: 48304
Applicant: David Cameron Address: 2996 Matamora Rd City: Oxford Zip: 48371
Well Contractor: John Cameron & Son W.D. Inc Reg #: 63-0414 Phone: 248-568-8959
Closest point from well to sources of contamination: Septic Tank: — ft. Disposal Field: — ft.
Sewer Line: 50' + ft. Grinder Pump: — ft. Other (_____) _____ ft.
Proposed use of well: Private ☐ Type I ☐ Type II ☐ Type III ☐ Other ☒ Irrigation

THE UNDERSIGNED ACKNOWLEDGES THEY WILL DELIVER A WELL EDUCATION PACKET TO THE WELL OWNER.

SIGNED: David Cameron DATE: 5-4-21 PHONE: 248-568-8959
(Application will be returned if not signed)

1. LOCATE NEIGHBORING AND PROPOSED WELL AND SEPTIC TANK/FIELD ON GRAPH BELOW.
2. DRAW UTILITY LINES ON PROPERTY.
3. INDICATE DIRECTION NORTH.
4. NAME OF FRONTING ROADS.



SITE EVALUATION DATE:_____ ENVIRONMENTALIST:_____

WELL PERMIT

PERMIT: APPROVED ☐ DENIED ☐ HOLD ☐
ENVIRONMENTALIST:_____ DATE:_____

1. Call for grout inspection when work begins.
2. Required isolation distances must be verified by the installer.
3. Call for final inspection upon completion of the well.
4. Submit well log or plugging record within 60 days of well completion.

SPECIAL CONDITIONS/WELL DEPTH REQUIREMENT:_____

- This well permit does not ensure approval of a sewage disposal permit. A well installation may reduce or eliminate an approved sewage disposal area resulting in denial of an application for a sewage disposal permit.
- Installation must comply with Michigan Water Well Construction and Pump Installation Code, Part 127 Act 368 of the Public Acts of 1978, as amended, and rules and Act 399 of 1976 as amended and Administrative Rules.

THIS PERMIT IS VOID TWO (2) YEARS FROM DATE OF ISSUE

DATE ISSUED:_____ PERMIT:_____ TOWNSHIP:_____
CORRESPONDING SEPTIC PERMIT #:_____ DATE ISSUED:_____

250.00

U333157

OFFICE ONLY Distribution: Original - File Copy - Owner/Applicant Copy - Township Copy - Septic

A:\EHS\EHS-142B.DOC 13D Rev. 2/25/05
Reprint 1/29/09

The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin, age or disability. State and federal eligibility requirements apply for certain programs.

MAP LE
Map Scale
Map Date:
Data Date
Sources: I
Utility, Riv
Disclaimer:
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was compiled
accuracy and is
be used as on
that arise from
Reference Map
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DEQ

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 of 1978 PA 368, as amended. Failure to comply is a misdemeanor.

TAX NUMBER	PERMIT NUMBER
17-01-376-006	108-21-0000 22

LATITUDE	LONGITUDE	COUNTY	TOWNSHIP
		OAKLAND	BLOOMFIELD

DISTANCE & DIRECTION FROM ROAD INTERSECTION
WEST OF ADAMS RD.
NORTH SIDE OF
SQUIRE LAKE RD

WELL STREET ADDRESS, CITY/ZIP
1211 SQUIRE LAKE RD
BLOOMFIELD HILLS, MI
48304

WSSN	SOURCE ID/ WELL NO.	SECTION	TOWN NO.	RANGE NO.
		1	T2N	R10E

WELL OWNER NAME BLOOMFIELD HILLS SCHOOL DIST.
ADDRESS 4175 ANDOVER RD.
CITY/ZIP BLOOMFIELD HILLS, MI 48302
Owner Address Same As Well Address? ☐ Yes ☒ No

DRILLING METHOD
☒ Rotary ☐ Cable Tool ☐ Hollow Rod
☐ Jetted ☐ Auger/Bored ☐ Other
☐ Rotary w/Casing Hammer ☐ Cable Tool w/Casing Hammer

WELL DEPTH 210 ft.

WELL USE
☐ Household ☐ Type I Public
☐ Heat Pump-Supply ☒ Irrigation ☐ Type II Public
☐ Heat Pump-Return ☐ Industrial ☐ Type III Public
☐ Other ☐ Test Well

DATE COMPLETED 8 / 17 / 21

WELL TYPE
☒ New ☐ Replacement
☐ Dry Hole ☐ Boring (Uncased) ☐ Deepening

CASING Type ☒ Plastic ☐ Steel-Black ☐ Steel-Galvanized ☐ Other
Joint ☒ Glued ☐ Spline ☐ Welded ☐ Threaded
Diameter 2 in. to 185 ft. depth 21 SDR
in. to ft. depth SDR
Height Above Grade 1 ft. Fittings ☐ Drive Shoe ☐ Shale Packer

BOREHOLE Diameter 8 3/4 in. to 210 ft. depth
in. to ft. depth

STATIC WATER LEVEL 65 ft. Below Grade ☐ Flowing Flow Rate Before Control G.P.M.

WELL YIELD TEST
Pumping Level 210 ft. after 2 hrs. pumping at 100 G.P.M.
☒ Air ☐ Bailer ☐ Plunger ☐ Test Pump

SCREEN ☐ Not Installed ☒ Filter-Packed Diameter 2 in.
Material ☐ Stainless Steel ☒ Plastic ☐ Other
Slot 25 Length 25 ft. From 185 ft. To 210 ft.
Slot Length ft. From ft. To ft.
INSTALLATION ☐ Telescoped ☒ Attached
FITTINGS ☐ Neoprene Packer ☐ Bremer Check
BLANK ☐ above ft. Other

WELL GROUTED From 0 ft. To 175 ft.
☒ Bentonite Slurry ☐ Bentonite Dry Granular ☐ Neat Cement
☐ Neat Cement with Bentonite ☐ Concrete No. of Bags 25
Additives ☐ Lost Circulation Material ☐ Accelerator ☐ Retarder
METHOD ☒ Grout pipe outside casing ☐ Driven dry grout
☐ Grout pipe inside casing ☐ Displacement plug

WELLHEAD COMPLETION ☒ Pitless Adapter ☒ 12 in. Above Grade
☐ Basement Offset ☐ Well House

NEAREST SOURCE OF POSSIBLE CONTAMINATION
Type PASTURE Distance 50 ft. Direction NORTH
Type Distance ft. Direction

ABANDONED WELL PLUGGED ☐ Yes ☐ No
Latitude Longitude
Casing Diameter in. Depth ft.
PLUGGING MATERIAL ☐ Neat Cement ☐ Bentonite Slurry
☐ Cement/ Bentonite Slurry ☐ Concrete Grout ☐ Bentonite Chips
No. of Bags Casing Removed? ☐ Yes ☐ No

REMARKS

RECEIVED
SEP 23 2021
BY

ATTENTION WELL OWNER: FILE WITH DEED

PUMP ☐ Not Installed ☐ Pump Installation Only
Manufacturer FRANKLIN
Pump Type ☒ Submersible ☐ Jet ☐ Other
Model Number 25S10M1_M1 HP 1 1/2 Volts 230
Pump Capacity 20 G.P.M. ☐ Drawdown Seal Installed
Length of Drop Pipe 190 ft. Diameter of Drop Pipe 1 1/4 in.

PRESSURE TANK ☐ Not Installed ☐ Buried
Type ☒ Diaphragm/Bladder ☐ Galvanized
Manufacturer WELL MATE Model WM6
Total Tank Capacity 14.5 gal. ☒ Pressure Relief Valve Installed

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
BROWN SAND & GRAVEL	18	18
GRAY CLAY & GRAVEL	12	30
GRAY MED. COARSE SAND	14	45
COARSE SAND & GRAVEL	30	75
GRAY CLAY & GRAVEL	27	102
GRAVEL & CLAY	8	110
FINE SAND	12	122
FINE SAND W/CLAY STREAMS	3	125
MED. SAND & GRAVEL	85	210
USE SECOND SHEET IF NECESSARY		

DRILLING MACHINE OPERATOR ☒ Employee ☐ Subcontractor
Name DAVID CAMERON

PUMP INSTALLER (If different from drilling machine operator.)
Name

WATER WELL CONTRACTOR'S CERTIFICATION:
This well and/or pump installation was performed under my registration.
JOHN CAMERON & SON — 65 0414
Registered Business Name W. C., INC. — Registration No.
Address 2196 MILFORD RD.
City/State/Zip HOWELL, MI 48855
David Cameron — 8-22-21
Signature of Registered Contractor — Date

EQP-2017 (07/16)

LOCAL HEALTH DEPT COPY 03331579

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Wellogic

Import ID:

Tax No: 19-01-376-006	Permit No: 108-21-000023	County: Oakland	Township: Bloomfield

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
02N 10E	1	Active		

Well ID: 63000067009

Elevation:

Latitude: 42.605602

Longitude: -83.216572

Method of Collection: GPS Differential (DGPS)

Distance and Direction from Road Intersection:
WEST OF ADAMS RD. NORTH SIDE OF SQUARE LK RD

Well Owner: BLOOMFIELD HILLS SCHOOL DIST

Well Address:	Owner Address:
1219 E SQAURE LK RD BLOOMFIELD HILLS, MI 48304	4175 ANDOVER RD BLOOMFIELD, MI 48302

Drilling Method: Rotary
Well Depth: 210.00 ft. **Well Use:** Irrigation
Well Type: New **Date Completed:** 8/17/2021

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting:

Diameter: 5.00 in. to 185.00 ft. depth SDR: 21.00

Borehole: 8.75 in. to 210.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 8/17/2021 **HP:** 1.50
Manufacturer: Franklin Electric **Pump Type:** Submersible
Model Number: 255DAP15P4 **Pump Capacity:** 25 GPM
Drop Pipe Length: 80.00 ft. **Pump Voltage:** 230
Drop Pipe Diameter: 1.25 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Well-Mate
Model Number: WM6 **Tank Capacity:** 19.8 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 65.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 210.00 ft. after 2.00 hrs. at 100 GPM

Screen Installed: Yes **Filter Packed:** Yes
Screen Diameter: 5.00 in. **Blank:**
Screen Material Type: PVC-wire wrapped
Screen Installation Type: Attached

Slot	Length	Set Between
25.00	25.00 ft.	185.00 ft. and 210.00 ft.

Fittings: Bottom plug

Formation Description	Thickness	Depth to Bottom
Brown Silt & Gravel	18.00	18.00
Gray Clay & Gravel	13.00	31.00
Gray Sand Coarse	14.00	45.00
Sand & Gravel Coarse	30.00	75.00
Gray Clay & Gravel	87.00	162.00
Gravel & Clay	8.00	170.00
Sand Fine	12.00	182.00
Sand Fine W/Clay	3.00	185.00
Sand & Gravel Medium	25.00	210.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	20.00	None	0.00 ft. to 185.00 ft.

Wellhead Completion: Pitless adapter, 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Animal yard/Feedlot	55 ft.	North

Geology Remarks:

Drilling Machine Operator Name: DAVID CAMERON
Employment: Employee

Contractor Type: Water Well Drilling Contractor **Reg No:** 63-0414
Business Name: JOHN CAMERON & SON WELL DRILLING INC
Business Address: 2996 METAMORA, OXFORD, MI, 48371

Water Well Contractor's Certification

This well and/or pump installation was performed under my registration.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks:

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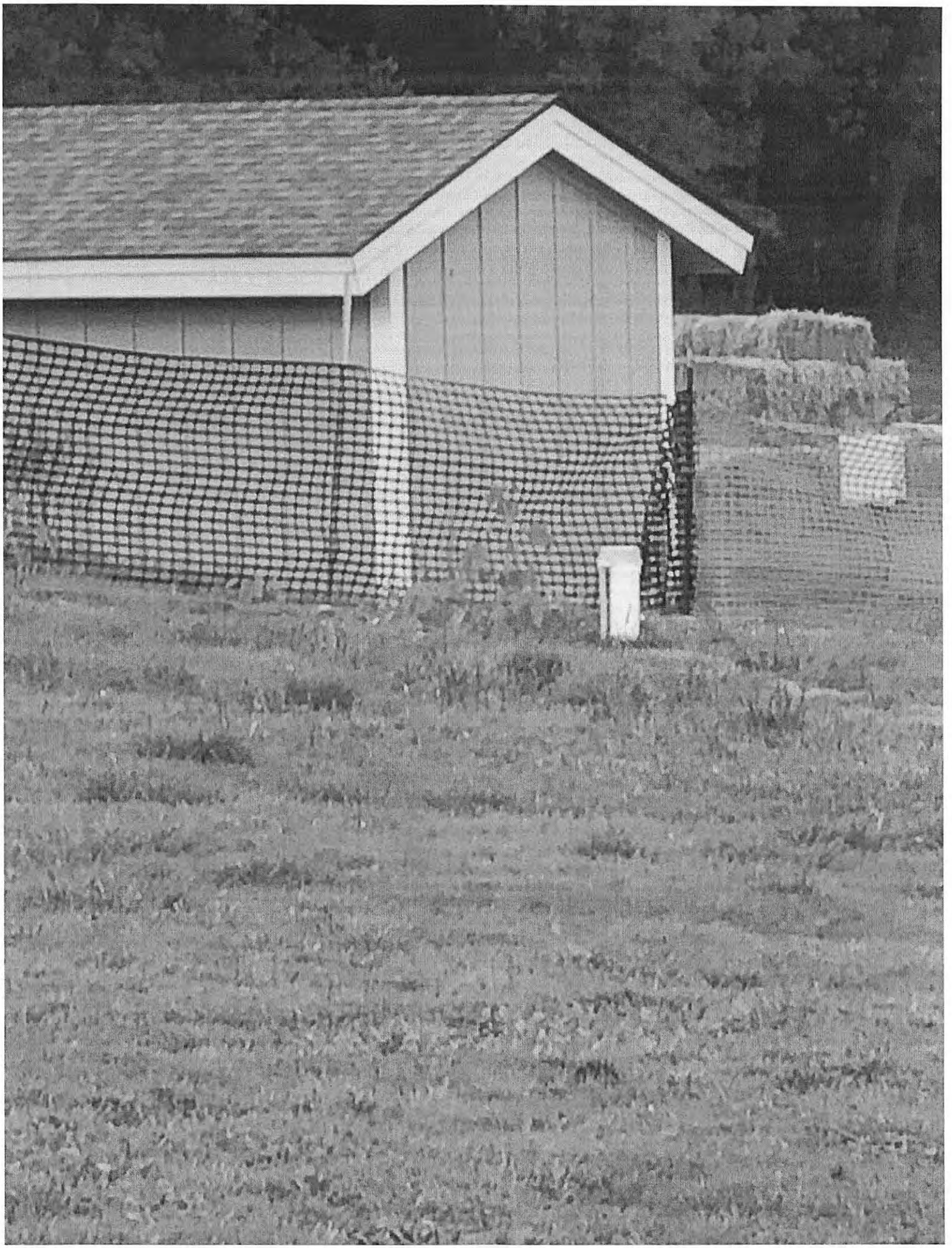


OAKLAND COUNTY MICHIGAN

HEALTH DIVISION

OAKLAND COUNTY EXECUTIVE DAVID COULTER

Leigh-Anne Stafford, Health Officer
(248) 858-1280 | health@oakgov.com

October 27, 2021

BLOOMFIELD HILLS SCHOOL DIST
4175 ANDOVER RD
BLOOMFIELD HILLS, MI 48302-1903

Permit Number: 108-21-000023
Parcel ID: 19-01-376-006
Application Tracking Number: 63331579

Re: **FINAL REPORT FOR IRRIGATION WELL AT 1219 E SQUARE LAKE RD, BLOOMFIELD HILLS, OAKLAND COUNTY, MI.**

Dear BLOOMFIELD HILLS SCHOOL DIST :

Existing Well Information		From Application
Existing well on site?	Yes	Unknown
Was the well properly abandoned?	No	
Have you received the Verification of Serviceable Use?	No	
Comments: another irrigation well on other side of property		
Well Log Received ?	Yes	Date: 09/23/2021
Well Isolation Parameters		
Isolation	**Approved?**	**Dist.in Ft./Comments**
Water Well Location	Yes	
Same Location as approved on Permit	Yes	
Accessible for maintenance/ Repair	Yes	
Isolation Distance From Permit	**Approved?**	**Dist.in Ft./Comments**
Greater than 50 feet from storm drains.	Yes	
Keep well at least 50 feet from any sewage pump chamber, grease trap or sump pit receiving laundry waste.	Yes	
Keep well at least 10 feet from any surface water [lake, stream, pond, ditch, etc.	Yes	
Keep well at least 10 feet from any buried gravity sewer with approved watertight joints [Sch 40 PVC, cast iron or ductile iron].	Yes	
Keep well at least 50 feet from any buried pressure sewer or gravity sewer of unknown construction.	Yes	
Keep well at least 50 feet from any animal or poultry yard.	Yes	pasture moved
Keep well at least 150 feet from any agricultural chemical/fertilizer storage or prep area.	Yes	no chm for treatment or within 150ft
Isolation Distance		
Isolation	**Approved?**	**Dist.in Ft./Comments**
NONE		

Well Construction Parameters		
Parameter	**Approved?**	**Measurement/Comments**
12 inches Above grade	Yes	Ht. above grade 12.00 in
Plastic	Yes	Casing Size 5.00 in.
Minimum Well Depth met	Yes	Well Depth 210.00 ft.
Well Cap	Yes	
Annular space or caving absent around casing	Yes	
Screened Vent	Yes	
Flowing Well properly constructed	N/A	
Special Construction Parameters From Permit	**Approved?**	**Measurement/Comments**
R 325.1656 A pressure tank shall be installed in an approved pump room, well house, crawl space, basement offset or basement.	Yes	
This permit is for direct connection to an irrigation system. Augmentation of a body of water has additional requirements that would need to be met before final approval.	Yes	
Keep well at least 150 feet from all chemical storage. This includes chemicals used to treat the irrigation well water.	Yes	
A water supply system shall be operated and maintained in a manner to prevent cross-connections and contamination of the water supply. An adequate backflow device is required when a well is connected to an irrigation system. An RPZ may be needed.	Yes	
Owner may be required to comply with other applicable laws, regulations, ordinances, and codes related to the water supply at this location.	Yes	
The pumping capacity shall not exceed 70 GPM without a passing registration in the DEQ Large Quantity Withdrawal Tool.	Yes	
Subdivision Restrictions From Permit	**Approved?**	**Measurement/Comments**
NONE		
Description	**Approved?**	**Measurement/Comments**
Well Inside		
Well Inside Parameter	**Approved?**	**Comments**
Electrical Conduit	Yes	
Sample Tap	Yes	
Min 160psi pressure rating	Yes	
Submersible	Yes	
Captive Air	Yes	Well House
Plastic:PE	Yes	
Protected Suction Line	N/A	
Is Pressure relief valve required?	Yes	
Is Pressure relief valve provided?	Yes	
Is Pressure relief valve approved?	Yes	
Final Inspection Comments:		
no storm sewer in area. surface water 500ft to north. gravity sewer blg to grinder 200ft SW. pressure sewer line 220ft		

SW. no chm installed.	
Well Driller Info	
Grout Inspection	**Well Driller**
1	David J Cameron(63-0414)
2	David J Cameron(63-0414)
Final Inspection by : brookste	Date: 10/21/2021
Final Inspn. Recommendation:Approve	Date: 10/27/2021 08:24

Please contact the appropriate office with any questions. Our office hours are 8:30 a.m. to 5:00 p.m., Monday through Friday. However, the field sanitarians are generally in the office between the hours of 8:30 a.m. to 10:00 a.m.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Teresa Brooks, RS

Teresa Brooks, RS
Senior Public Health Sanitarian
Environmental Health Services

cc: Bloomfield Township

SEWAGE 19-01-376-006

00545535

1219 E SQUARE LAKE RD

BLOOMFIELD TWP

BLOOMFIELD HILLS

Record Description	Client Alias	Synopsis	Lot #s	Subdivision Name	Opened	Closed
SEWAGE DISPOSAL/SO	SEWAGE 21729	2000ST 4000DB ENG PLANS			5/19/93	
SEWAGE DISPOSAL/SO	SEWAGE 21729	APP AS SPEC/DAVADA			5/19/93	

E-01 | original source page 301 | APP 947

NP found

LOT# _____

Subdivision: _____

Sidwell# 19-01-376-006

545535

OAKLAND COUNTY HEALTH DIVISION
1200 N. Telegraph Rd., Pontiac 48341
27725 Greenfield Rd., Southfield, 48076

NOTICE

Floor drains are prohibited unless -
(1) They are connected to a sanitary sewer;
(2) They are connected to a holding tank; or
(3) A state groundwater discharge permit has been obtained.

APPLICATION
FOR PERMIT TO INSTALL OR REPAIR A SEWAGE DISPOSAL SYSTEM

(Township, Village, City) Bloomfield Township No. 1219 Street E. Square Lake Rd

New Home _____ No. of Bedrooms _____ Repair of System ⇒ E. Square Lake Rd

Non-Residential Building Type Learning & Activities Building No. of Persons 20

Owner Bfld. Hills Board of Maintenance Dept. Educ. Address 4220 Andover Rd. Bloomfield Hills Zip 48302

Applicant O.E.M. Associates Address 28700 Ryan Rd. City Warren Zip 48092

SIGNED: R.E. Olivieri Date 3/23/93 Telephone No. is (313) 751-0880

Plans approval is contingent upon the design engineer establishing an engineer's certificate of sufficient inspections during project construction to assure compliance with plans and providing this office with a signed statement to that effect. A final inspection by the Health Division is required.

Signed _____ Date _____

SUBSOILS DATA: Make at least two borings into the soil about twenty-five (25) feet apart to at least a depth of seven and one-half feet in the area of the planned drain field. Soil borings for dry well installation must be at least twelve (12) feet deep.

Hole #1	Hole #2	Hole #3	Hole #4
3 In. Topsoil bk. loam	_____ In. Topsoil _____	_____ In. Topsoil _____	_____ In. Topsoil as above
3 Ft. of silt clay loam	_____ Ft. of same	_____ Ft. of same	_____ Ft. of 1, 2 & 3
2 1/2 Ft. of silt clay loam	_____ Ft. of	_____ Ft. of	_____ Ft. of
_____ Ft. of grey	_____ Ft. of	_____ Ft. of	_____ Ft. of
Grnd. Water at 3 1/2 Ft.	Grnd. Water at _____ Ft.	Grnd. Water at _____ Ft.	Grnd. Water at 4 Ft.

BORING LOCATIONS MUST BE INDICATED ON ACCOMPANYING PLOT PLAN REPORTED SOIL CONDITIONS

CONFIRMED? YES ☒ NO ☐ Environmentalist David J. Nicklas Date 5-11-93

Two-Compartment Tank Recommended

PERMIT

Size of Septic Tank 2000 (2 comp) Gals; Lineal feet Drain Tile _____; Trench width _____ In.;

Spacing C. to C. _____ Ft.; OR Drainage Bed consisiting of 4000 w/ 706 lineal ft. 5 ft. on center Sq. Ft. or _____ Drywells

of _____ Gals. each with _____ Ft. of stone totaling _____ Sq. Ft. of Absorption Area _____.

Stipulations are listed below. The location and system design are indicated on attached scaled drawing which is part of this permit.

Signed _____ Date _____
A final inspection by the Health Division is required.
This office with a signed statement to that effect.
To assure compliance with plans and providing
sufficient inspections during project construction
engineering establishing all grades, making
Plans approval is contingent upon the design

1. Locate drain field: see engineered plan
   Cut Drainage Bed 50% (100%) scarify topsoil Ft. to _____
3. CALL FOR A CUTDOWN INSPECTION PRIOR TO BACKFILLING yes - after excavating topsoil
   Date of Mid-Inspection _____ by _____
4. Backfill with Clean, Coarse Sand to Grade of Tile Field 2NS or equivalent - 2 ft. under entire field
5. Other Describe: ① Install System per Hubbell, Roth & Clark plan 93265 date 6-30-93 revised 7-9-93. ② Article 3 Sanitary Code will apply where plan is not specific ③ Call for final inspection by engineer and by this office ④ permit assumes limitations of use as stipulated on plan and is null and void with any changes

If Denied, Indicate Reasons: _____

PERMIT: Approved ☒ Denied ☐ Hold ☐ Environmentalist David J. Nicklas Date 5-19-93

Approval 7/14/93 David J. Nicklas bp

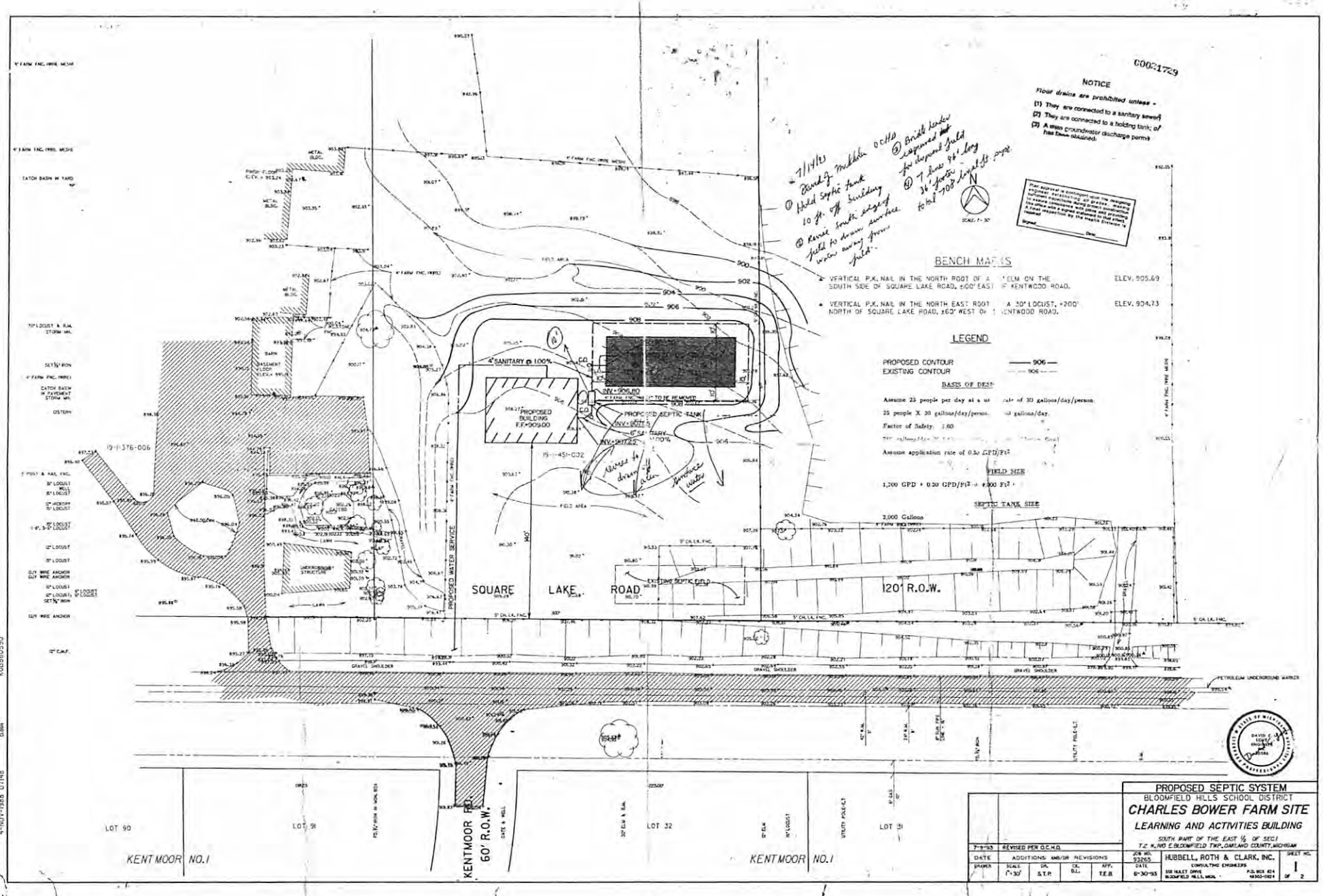
ACT 53 - P.A. 1974 Requires the applicant to notify the public utilities prior to excavation.

THIS PERMIT IS VOID TWO (2) YEARS FROM DATE OF ISSUE

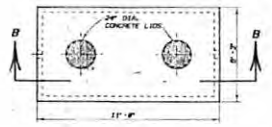
EHS-14-2 Rev. 6/87

POST ON JOB

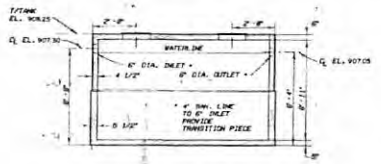
BLOOMFIELD DATE OF ISSUE 5-19-93 PERMIT NO. 000-1259



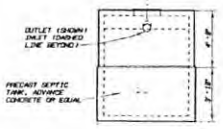
E-01 | original source page 303 | APP 949



PLAN



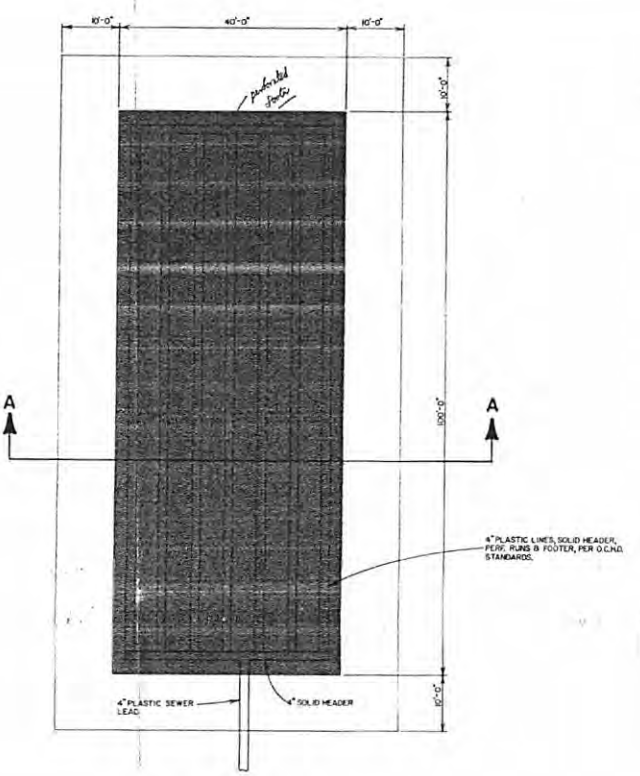
SECTION B-B



END ELEVATION (TYP.)

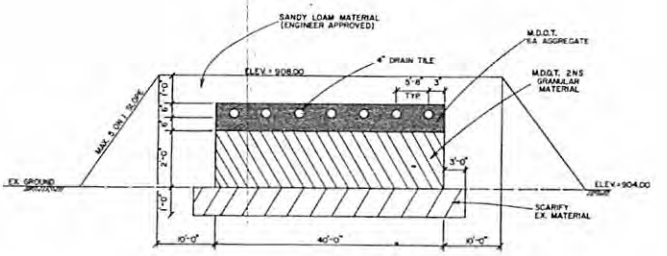
SEPTIC TANK DETAILS

NO SCALE



PLAN @ SEPTIC FIELD

NO SCALE



SECTION "A-A"

NO SCALE

7-9-93	REVISE
DATE	ADD
DRAWER	SCALE AS NOTE

E-01 | original source page 304 | APP 950

OAKLAND COUNTY HEALTH DIVISION

1200 North Telegraph Road
Pontiac, Michigan 48341
Telephone 858-1312

P 036 095 384
CERTIFIED MAIL

27725 Greenfield Road
Southfield, Michigan 48076
Telephone 424-7191

Maintenance Dept Bloomfield Hills
Board of Education
4220 Andover
Bloomfield Hills, MI 48302

LOT ____ SUBDIVISION ____
ACREAGE-SIDWELL 19-01-376-006
STREET 1219 E. Square Lake Rd C.V.T. 108

Your application for a permit to install an on-site sewerage system is denied. Denial is based upon a field inspection of the property which included an evaluation of the subsurface soils as well as water table elevations. The factors considered adverse for such a system are checked below to help you understand the reasons for denial.

- ✓ Dense clay subsoils exist to 6 feet with a saturated condition observed.
- ____ Dense clay subsoils exist to at least ____ feet below grade.
- ✓ Unsuitable soils consisting of peat, muck and/or marl were observed.
- ✓ Ground water table is too high, being 33" - 4 feet below grade.
- ____ The lot size or shape is such that adequate separation of water well and sewerage systems cannot be provided.
- ____ The area is subject to flooding or ponding of surface water.
- ____ Onsite soils cannot fully protect the source of well water. (No Aquaclude demonstrated.)
- ____ Other: ____

Should you wish to pursue this matter further, proceed with the directions following the indicated section below:

✓ Section A - It is suggested that you contract with a professional engineer to evaluate your property and determine whether a sewerage system could be designed and installed which would function properly under the adverse conditions that exist on your property. Plans should then be submitted to this division for review. If the engineer's proposed system is acceptable, your application for a permit will be approved. The system would then have to be constructed exactly as shown on the engineered drawings. After installation, the engineer would be required to submit a letter to us verifying the installation was according to his plans.

If the engineer's plan does not satisfactorily answer the reasons for denial, you have the right to appeal to the Sanitary Code Appeal Board. This appeal must be requested by you in writing, accompanied by a fee of $50.00, within 30 days from the date of this letter. Unless this process is initiated within 30 days, your application will expire and you will receive a $10.00 refund.

____ Section B - You may appeal this denial to the Water Resources Commission (WRC). To initiate action, you must file an application for a state discharge permit with the WRC. You may request the application by writing to the Michigan Department of Natural Resources, Waste Management Division, P.O. Box 30028, Lansing, Michigan, 48909 (Phone: (517) 373-8147). The application must be accompanied by an explanation of your reasons for appeal, the details of your proposal and the statement of the relief requested. The provisions of Act 245 and rules promulgated thereunder, regarding processing of discharge permits, shall apply.

Please contact this division if you need further assistance or have additional questions.

Yours truly,

00021789

OAKLAND COUNTY HEALTH DIVISION

David J. Mikkola
Sanitarian/Environmental Health Services

DATE May 19, 1993

cc: Building Department
Applicant
Equalization

WPM/EHS 14-9 (Rev. 9/90)
EHS-DISC #9a

UNITED STATES POSTAL SERVICE

Official Business

21729



Print your name, address and ZIP Code here

Denial
19-01-376-006
Blm Twp

OAKLAND COUNTY HEALTH DIVISION
[illegible] Field Road
[illegible], Michigan 48076

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Maintenance Dept Bloomfield Hills
Board of Education
4220 Andover
Bloomfield Hills, MI 48302

4a. Article Number

P 036 095 384

4b. Service Type

☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

5-24-93

5. Signature (Addressee)

6. Signature (Agent)

Diane Bravare

8. Addressee's Address (Only if requested and fee is paid)

PS Form **3811**, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

O.E.M. ASSOCIATES, INC.
28700 Ryan Road
Warren, Michigan 48092
Phone: (313) 751-0880
Fax: (313) 751-1404

ARCHITECTS - ENGINEERS

March 31, 1993

Oakland County Health Department
27725 Greenfield
Southfield, Michigan 48075

Attention: Mr. Dave Mickola

RE: Learning & Activities Facility
At Bloomfield Hills Schools Farm
Bloomfield Hills Schools
1219 E. Square Lake Road

Plan Review??

Dear Sir:

Enclosed please find our check for $80 to cover the fee for the required Perk Test for the proposed Learning & Activities Facility at Bloomfield Hills Schools Farm.

We talked to Dave Norkis and he suggested we also submit the following information to you:

1. The building will be used as a part-time classroom and community activities building. - exercise classes. → ?? nature of comm. activities

2. The building will be used as a classroom two hours per day, five days a week. The classroom size will be approximately twenty students. 20 students/day - specify

3. The laboratory sinks shown on the Floor Plan will be used for various student experiments. The only toxic materials to be disposed down the sinks would be a small amount of acid. specify

4. The shower shown on the Plans would be used for possible students accidents, such as a student falling into a pile of animal waste. The residential washer and dryer which are shown would also be used in such an event.

5. The kitchen sink shown on the Drawings would be used for coffee making and cup washing. The sink also shows a proposed garbage disposal. If this presents a problem, the garbage disposal can be removed from the project. food preparation?

6. The building will have three water closets; one urinal; and two lavatories.

7. The activities program for the building usage is unclear at this time. It is difficult to give a population count for the building; however, it is safe to say the building will be used by approximately 20 to 25 people a day for 5 hours, 5 days a week, 9 months a year.

If you would like further information, please let us know.

Yours truly,

O.E.M. ASSOCIATES, INC.

Robert E. Olivieri
Mechanical Engineer

REO/dw

cc: John Humble

O.E.M. ASSOCIATES, INC.
28700 Ryan Road
Warren, Michigan 48092
Phone: (313) 751-0880
Fax: (313) 751-1404

ARCHITECTS - ENGINEERS

April 21, 1993

Oakland County Health Department
27725 Greenfield
Southfield, Michigan 48075

20 students X 17.2 gpd
= 352/2 =

Attention: Mr. Dave Mikkola

RE: Learning & Activities Facility
at Bloomfield Hills Schools Farm
Bloomfield Hills Schools
1219 E. Square Lake Road

Dear Sir:

We are writing this letter to answer your questions pertaining to our letter to you dated March 31, 1993.

The Classroom size for the proposed building will be twenty students per day for two hours duration, for five days a week.

The lab sink will be used for the following:

1. Biological dissections
2. Water quality tests

No acids will be used in the Classrooms. The only substances that will be used in experiments are a few drops of Phenol Red and Menthol Blue. Because of this, the neutralizing sump will be deleted from our project.

There will be no food preparation at the building. The garbage disposer will be used solely for the elimination of possible food scraps from a teacher's lunch. The room where the disposer is located is actually a Teacher's Lounge.

As we discussed, the building population should be approximately 20 to 25 people, 5 hours a day, 5 days a week, 12 months a year.

We hope this answers your questions. If we can be of further help, please contact us.

Sincerely,

O.E.M. ASSOCIATES, INC.

R E Olivieri /dw

Robert E. Olivieri

REO/dw

cc: John Humble

P.R.S. CONTRACTING, Inc.
899 WEST BALTIMORE
P. O. BOX 02758
DETROIT, MICHIGAN 48202
313/873-6220 • FAX: 313/873-4703

LETTER OF TRANSMITTAL

DATE 12-21-93	OUR JOB NO.
ARCH. JOB/DWG. NO.	YOUR JOB NO.
RE: PERMIT # 21729	
BOWERS FARM	
TRADE:	

OAKLAND COUNTY HEALTH DEPT.
27725 GREENFIELD RD.
SOUTHFIELD, MI. 48076

ATTENTION: MORRIS JAMES

GENTLEMEN:

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Job Plans ☐ Specifications ☐ Addendum ☐ Bulletin
☐ Copy of letter ☐ Sample(s) ☐ Brochure ☐ Report ☐ _____

COPIES	DRAWING OR SHEET NO'S:	DESCRIPTION
1		ENGINEERS FINAL INSPECTION LETTER
3		PHOTOGRAPHS

THESE ARE TRANSMITTED as checked below:

☒ For approval ☐ For color selection ☐ Not approved
☐ For your information & use ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ As requested ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ For review and comment ☐ Returned for corrections ☐ Return _____ corrected prints
☐ FOR BIDS DUE _____ 19_____ ☐ Plans & Spec's. to be returned.
☐ _____

REMARKS _____

XEROX COPY TO _____

WHITE – ADDRESSEE
YELLOW – OFFICE
PINK – FIELD

SIGNED: Carol A Cool

If enclosures are not as noted, kindly notify us at once.

PRINCIPALS
James W. Hubbell
M. David Waring
Donald R. McCormack
Clarence W. Hubbell
Thomas E. Biehl
George E. Hubbell, II
Peter T. Roth
Gerald F. Knapp
Walter H. Alix

HRC
HUBBELL, ROTH & CLARK, INC.
CONSULTING ENGINEERS

ASSOCIATES
James E. Beuerle
David Brody
David McPhee
Thomas H. Ritchie
Frederick C. Navarre
Arnold Lualien
Gary J. Tressel
Lawrence R. Ancypa
Kenneth A. Melchior
Dennis M. Monsere
Curt A. Christeson
Randal L. Ford

December 21, 1993

Oakland County Health Division
27725 Greenfield Road
Southfield, Michigan 48076

Attention: Mr. Morris James

Re: Final Inspection Letter — HRC Job No. 93265.02
Learning and Activities Building Septic System
Charles Bower Farm Site
Bloomfield Hills Schools
O.C.H.D. Permit No. 21729

Gentlemen:

On behalf of the Bloomfield Hills Schools and their General Contractor on the subject project, P.R.S. Contracting, Inc., we submit this letter of final inspection for the building septic system.

Our office has made site visits during construction of the septic system, and authorizes that said improvements were completed in accordance with the approved plans issued by our office, and the conditions contained within the Oakland County Health Division Permit No. 21729.

Please contact our office, should you have any questions regarding this matter.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.

David C. Love

David C. Love, P.E.

DCL/kc

pc: Bloomfield Hills Schools; Jack Humble
P.R.S. Contracting, Inc.; Carol Cool

Corporate Office: 555 Hulet Drive • Bloomfield Hills, MI • (313) 338-9241 • FAX: 313-338-2592
Corporate Mailing Address: P. O. Box 824 • Bloomfield Hills, MI 48303-0824

E-01 | original source page 312 | APP 958

1219 E. Square Lake Rd.

INSTRUCTIONS: **SCALED PLOT PLAN FOR PERMIT NO.** 0002179

Sec. 3.2, Article III "Sanitary Code", Oakland County Health Division requires scaled plot plan providing the following information.

(1) Lot Size FARM (2) North _____ (3) Fronting Roads Square Lk (4) Grade Changes _____

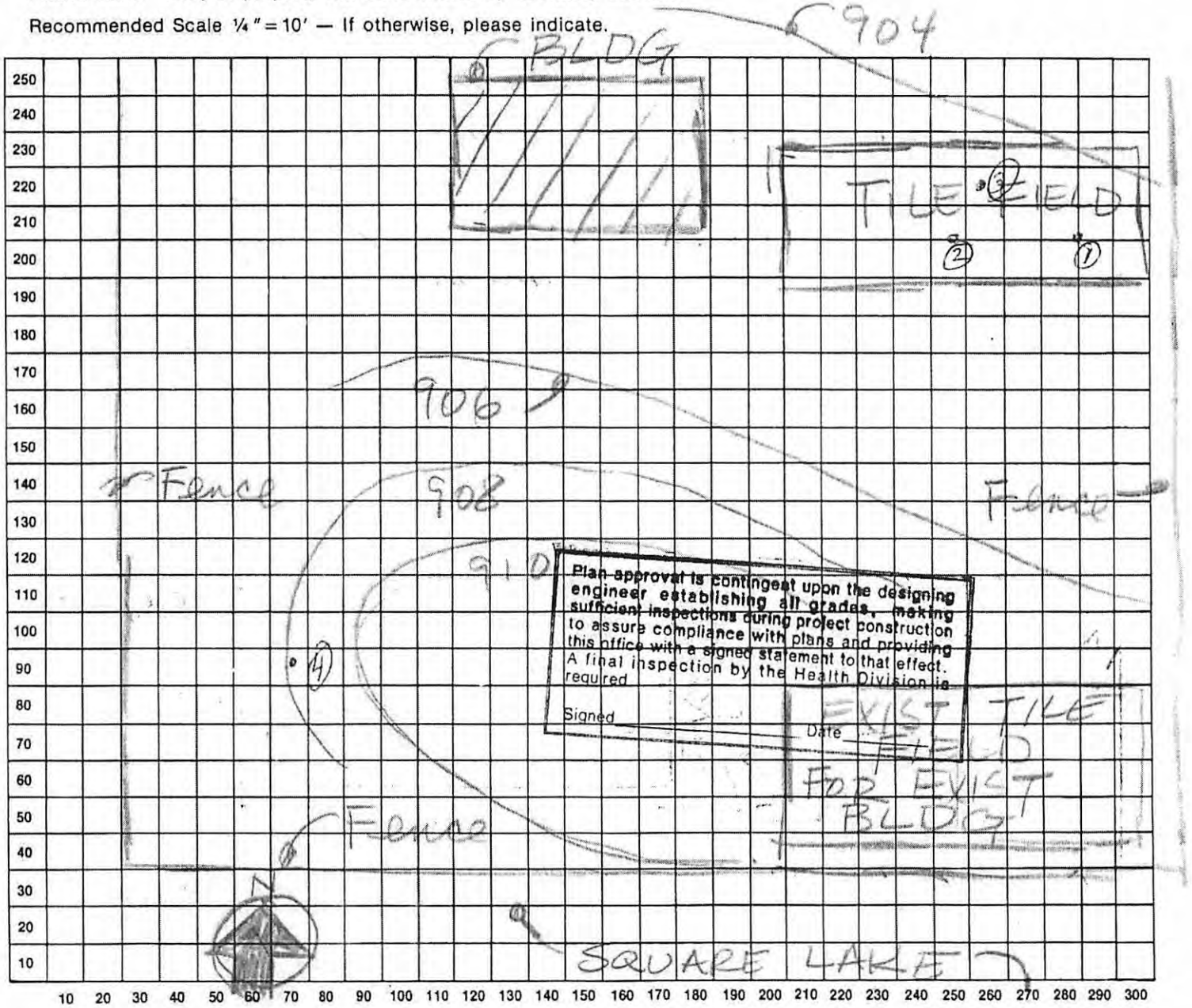
(5) Any Easements _____ (6) Building Location, Size 40x90 (7) Water Well Location CITY WATER

(8) Septic Tank, Drain Field ✓ (9) Water and Septic Tank Systems — Adjoining Properties _____

(10) Fronting Lake-Stream _____ (11) Driveway _____ (12) Utility Lines _____

Please Note: Subject property will be identified by boundary markers.

Recommended Scale ¼" = 10' — If otherwise, please indicate.



Name of Road (not to scale)

Lot No. KENT WOOD Subdivision S Pt. of E 1/2 Sec 1 T2N R10E Signed RE Olivieri

City, Village, Township BLOOMFIELD TOWNSHIP Date APRIL 2, 1993

EHS 14-3(4/89)

FINAL INSPECTION

INDICATE WHEN APPLICABLE THE FOLLOWING

(a) Received engineer's signed affidavit regarding inspection and approval ( )

(b) Surveyor's level used to check inches of fall in tile lines (List fall on sketch or plan) ( )

(A) SEPTIC TANK

(1) Septic tank size 2000 gals. (2) Outlet "T: or "L: checked ✓ (3) Tank level ✓

(4) Tank/cover free of cracks ✓ (5) Outlet sealed 360° ✓ (6) Isolation distances:

(a) Well — (b) Foundation 14' Remarks: city water

(B) TILE FIELD

(1) Header level _____ (2) Header installed on compact sand ____ (3) Number of drain lines _____

(4) Drain line length _____ ft. (5) Footer _____ ft. (6) Total lineal _____ ft.

(7) Trench width _____ in. (8) 2" stone over and 6" under tile _____ (9) Stone clean _____

(10) Stone installed at least 4 ft. above water table _____ (11) Grade of tile lines not greater than 3"/100 ft. _____ (12) Cutdowns to required depth _____ Remarks: _____

(C) DRAINAGE BED

(1) Dimensions 100 ft. X 40 ft. (2) Total 4000 sq. ft. (3) Header level ✓

(4) Tile lines 6' on center 2-3 ft. from edge of bed 6' +2' (5) 2" stone over & 6" under tile ✓ (6) Stone clean ✓ (7) Cutdown depth approved — (8) 2 ft. sand over shelf for cutdown installations — (9) Proper sand fill ✓ (10) Stone installed 4 ft. above water table _____ Remarks: See attached plans - raised bed

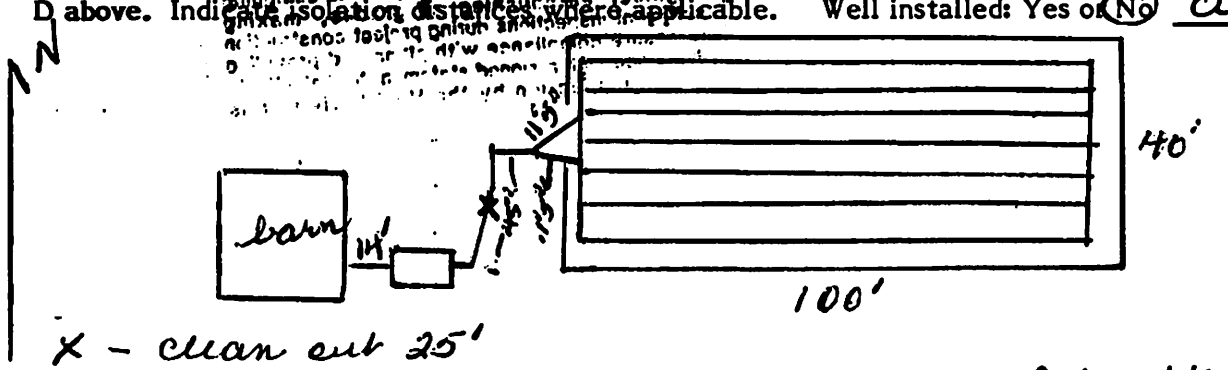
(D) DRYWELLS

(1) To calculate the effective absorption area of one rectangular dry well, measure the two sides and the two ends of the excavated area and multiply the sum of these four sides by the water depth of the well + 6 inches. Side _____ ft., end _____ ft., depth _____ ft. Absorption area _____ sq. ft.

No. of wells _____ . Total absorption area _____ sq. ft. (2) 6" stone under _____

(3) Drainage slots open _____ (4) Stone 4 ft. above water table _____ Remarks: _____

Sketch plan of installation showing house, street, North, water well by X, any lake, stream and A, B, C, D above. Indicate isolation distances where applicable. Well installed: Yes or (No) city water



See attached plans

DN

E. Square Lake Rd.

Approved ✓ Disapproved _____ Date: 12/27/93

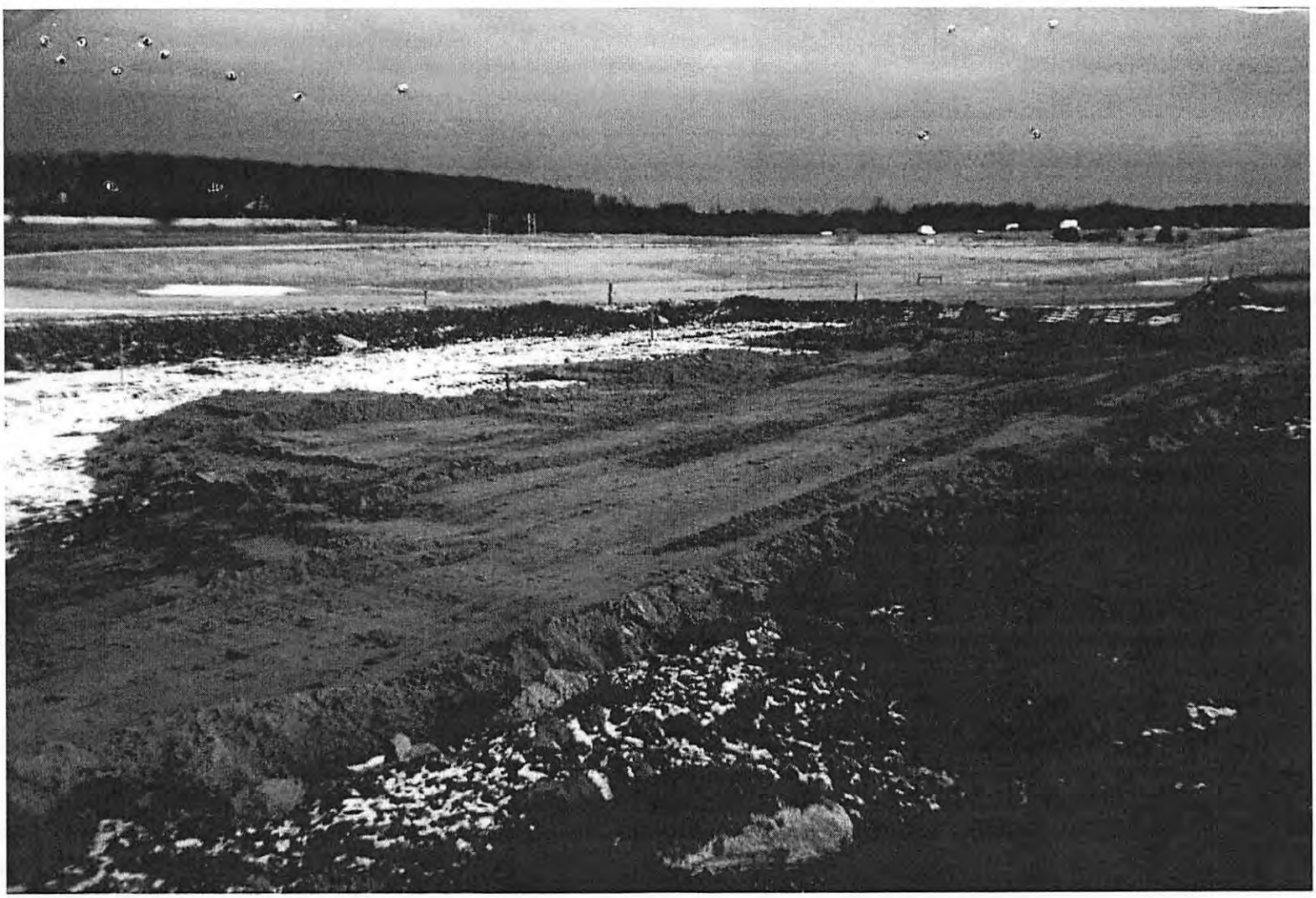
Installer Dawada Environmentalist Morris James





PERMIT # 21729

SOUTH WEST CORNER OF FIELD
SHOWING RELATION OF SAND BED TO
SCARIFY DEPTH & BUILDING



PERMIT # 21759

LOOKING NORTHEAST ACROSS FIELD
SHOWING RELATION OF SAND TO SCARIFY DEPTH
STAKES WERE MARKED AT TWO FOOT DEPTH

Application for Onsite Private Water Well Permit

This application will be null and void if no action is taken one (1) year from date of receipt

Application Tracking Number: 63226185

Application Date:	06/03/2013	Parcel ID:	19-01-376-006
Well Type:	Well Abandonment	Last Activity:	
Subdivision Name:		Lot/Split Number:	
Total Land Area:	44.65769 Acres / 1945302.5Sqft	Lot/Split Area:	
Lot Number:			

Legal Description of Property:

T2N, R10E, SEC 1 PART OF SW 1/4 BEG AT S 1/4 COR, TH N 88-57-20 W 1335.52 FT, TH N 00-40-40 E 1405.57 FT, TH N 89-14-40 E 60.02 FT, TH S 00-40-40 W 27.01 FT, TH N 89-14-40 E 270.22 FT, TH N 00-40-40 W 145.25 FT, TH S 89-19-20 E 308.04 FT, TH N 00-10-00 W 199.04 FT, TH S 67-17-40 E 735.66 FT, TH S 00-01-00 E 1463.65 FT TO BEG EXC S 60 FT IN RD 44.79 A

Location Address

Street Address:	1219 E SQUARE LAKE RD	State:	MI
City:	BLOOMFIELD HILLS	Zip:	48304 -1544

Driving Directions:

Well Information

Flowing Well:	No	Sketch Mode:	sent electronically

Owner Information

Name:	BLOOMFIELD HILLS SCHOOL DIST	Day Phone:	248-341-5487
Name 2:		Evening Phone:	
Street Address:	4175 ANDOVER RD	Mobile Phone:	
CVT:	BLOOMFIELD HILLS	Fax:	
State :	MI	Pager Number:	
Zip:	48302	E-mail Address:	

Applicant Information

Name:	dave keller	Day Phone:	810-227-2550
Street Address:	5615 chilson	Evening Phone:	
CVT:	howell	Mobile Phone:	
State :	MI	Fax:	
Zip:	48843	Pager Number:	

E-mail Address: kellerwd@earthlink.net

Well Driller Information

Well Driller Reg #: 47-1924

Comments

Signed By :	dave keller	Date :	06/03/2013
I have downloaded and read the Well Education Packet			Yes
Application captured by :			
Clerk Comments:			

1200 N. Telegraph Rd., Pontiac, MI 48341-0432 (248) 858-1312
27725 Greenfield Rd., Southfield, MI 48076-3625 (248) 424-7191

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION
Department of Health & Human Services

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

Kathleen Forzley, R.S., M.P.A., Manager
HEALTH DIVISION

oakgov.com/health

PERMIT TO PLUG AN ABANDONED WELL

PERMIT #: 108-13-000039 **Issue Date:** 06/05/2013 12:35

APPLICATION TRACKING #: 63226185 **APPLICATION RECEIPT DATE:** 06/03/2013 14:43
PARCEL ID #: 19-01-376-006 **PARCEL CREATION DATE:**

PROPERTY ADDRESS: 1219 E SQUARE LAKE RD BLOOMFIELD HILLS, MI 48304 **SUBDIVISION NAME:**
WELL INFORMATION: **Type of Well:** Well Abandonment **Type of Drilling:**

OWNER:		APPLICANT:	
Name:	BLOOMFIELD HILLS SCHOOL DIST	**Name:**	dave keller
Address:	4175 ANDOVER RD BLOOMFIELD HILLS, MI 48302	**Address:**	5615 chilson howell, MI 48843
Phone:	Home: Work: (248)341-5487	**Phone:**	Home: Work: (810)227-2550

PERMIT APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

Special Conditions:

If applicable, proper abandonment of a flowing well shall stop flow by plugging the well with neat cement or concrete grout.

Comments:

OTHER PERMIT CONDITIONS:

- Well log and/or abandonment records must be submitted within 60 days of well completion and/or plugging activity.
- Installation must comply with Michigan Water Well Construction and Pump Installation Code, Part 127, Act 368 of the Public Acts of 1978 as amended, and rules, and Act 399 of 1976 as amended and administrative rules.
- ACT 53 - P.A. 1974 requires the applicant to notify the public utilities prior to excavation. In addition you must call 1-800-MISS DIG to locate public underground utilities.

Abandonment process needs to be performed by a licensed well driller

THIS PERMIT IS VOID AFTER TWO (2) YEARS FROM DATE OF ISSUE

Sanitarian: Teresa Brooks **Supervisor:** Laura Riddell

Disclaimer: The Oakland County Health Division will not deny participation in its programs based on race, sex, religion national origin, age or disability. State and federal eligibility requirements apply for certain programs.

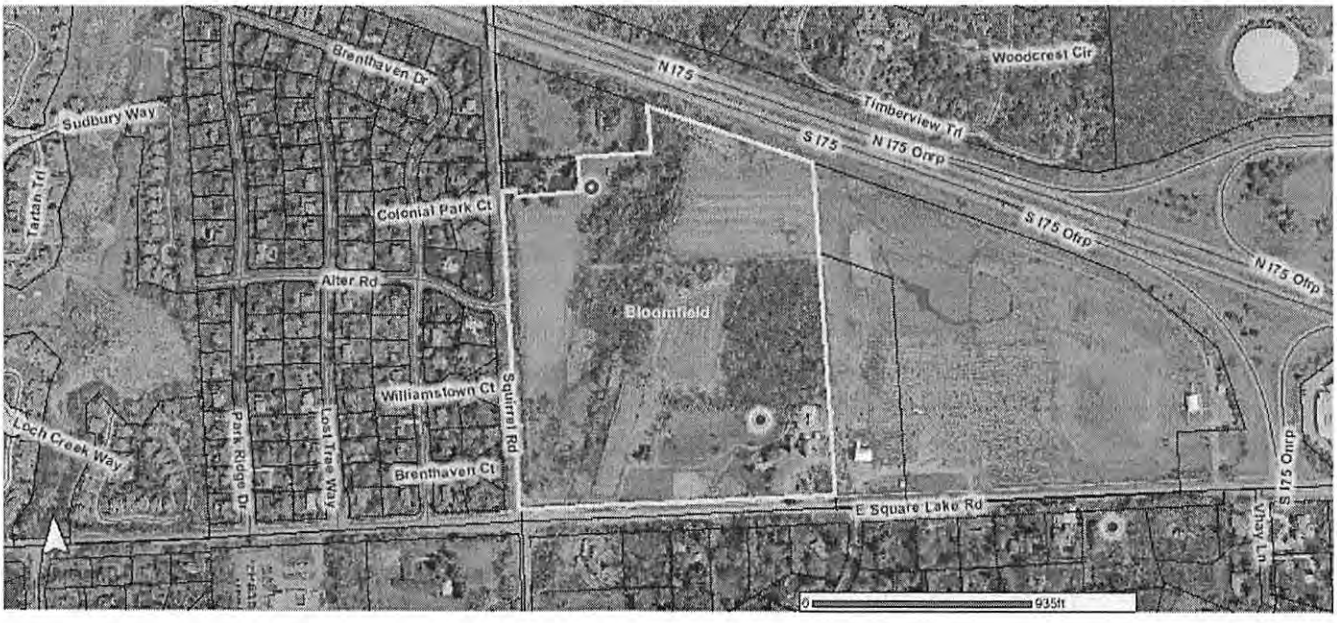
NORTH OAKLAND HEALTH CENTER
1200 N. TELEGRAPH RD.
PONTIAC, MI 48341-0432
General Information 248-858-1280

SOUTH OAKLAND HEALTH CENTER
27725 GREENFIELD RD.
SOUTHFIELD, MI 48076-3663
General Information 248-424-7000

PERMIT#: 108-13-000039
Parcel ID: 19-01-376-006
Application Tracking Number: 63226185

Property Address:

1219 E SQUARE LAKE RD
BLOOMFIELD HILLS MI 48304



Legend

Highlighted Feature
Well-Applicant
Applicant Proposed Existing
GPS Wells
Roads
Interstate
Major
Minor
State
US
Water Area
Swamp or Marsh
Lake or Pond
Stream or River
2010 True Color Aerial Imagery

Disclaimer: The information provided herewith has been compiled from recorded deeds, plats, tax maps, surveys and other public records. It is not a legally recorded map or survey and is not intended to be used as one. Users should consult the information sources mentioned above when questions arise.

NORTH OAKLAND HEALTH CENTER
1200 N. TELEGRAPH RD.
PONTIAC, MI 48341-0432
General Information 248-858-1280

SOUTH OAKLAND HEALTH CENTER
27725 GREENFIELD RD.
SOUTHFIELD, MI 48076-3663
General Information 248-424-7000

OAKLAND COUNTY MICHIGAN

Final Inspection- Completed

Logout

ATN - Void
Access Oakland
▷ Application(Well)
▷ Assignment
▷ DMS
GIS
▷ Lab Results
▷ Lab System
Property Gateway
Reports
Search
▷ To Do List
Well Log System
E-Health Links
Septics
OCHD OakDocs

User Information:

User: newcombc
Login: 04/14/2026 16:26
Module: Wells

Appl Water | Status Grout | Doc. Box Final Insp | Create Final Rev. | Office Final Rep. | Site Create Letters | Recomnd App. Hist. | Review Map | ITracker GIS

ATN: 63226185 **Permit:** 108-13-000039 **ATN Date:** 06/03/2013
Parcel ID: 19-01-376-006 **Address:** 1219 E SQUARE LAKE RD
Parcel Area: 1945302.5 Sq.Ft. / 44.65769 Acres **City:** BLOOMFIELD HILLS
Last Activity: **Zip:** 48304
Sub Name: **Lot Number:**
Well Type: Well Abandonment
Assign To: brookste **Assign Date:**

Existing Well Information	From Application	Yes	No
* Existing well on site?		◉	○
* Was the well properly abandoned?		◉	○
Have you received the Verification of Serviceable Use?		○	○

Comments:

*Abandonment Log Received ?	*Date Received	*Date Plugged
Yes	06/12/2013	06/07/2013

Well Inside Parameter	Yes	No
*Were there any construction violations observed?	○	◉
Were there any construction violations corrected?	○	○

Final Inspection Comments

Well Driller: Keller Well Drilling Inc 47-1924

Final Inspection by: brookste Date 08/07/2013 06:00 Hours

*Final Inspn. Recommendation: Accepted Date : 08/07/2013 13:03

Print

Application History for 63226185:

Activity	Assigned By	Assigned To	Assigned Date	Completed By	Completed Date	Status
Sketch Received (Electronic)			06/03/2013 14:43		06/03/2013 14:43	
Application Submitted			06/03/2013 14:43	dave keller	06/03/2013 14:43	Completed
Application Evaluation	gibbonse	brookste	06/04/2013 12:03			ATN63226185/well aband site eval/bloomfield/1219 e square lk rd.eg
Office Evaluation	gibbonse	brookste	06/04/2013 12:03			ATN63226185/well aband site eval/bloomfield/1219 e square lk rd.eg
Site Evaluation	gibbonse	brookste	06/04/2013 12:03			ATN63226185/well aband site eval/bloomfield/1219 e square lk rd.eg
Final Inspection	gibbonse	brookste	06/04/2013 12:03			ATN63226185/well aband final/bloomfield/1219 E square lk rd.eg
Office Evaluation	gibbonse	brookste	06/04/2013 12:03	brookste	06/05/2013 06:00	In Progress
Site Evaluation	gibbonse	brookste	06/04/2013 12:03			Completed
Office Evaluation	gibbonse	brookste	06/04/2013 12:03	brookste	06/05/2013 06:00	Completed
Application Evaluation	gibbonse	brookste	06/04/2013 12:03	brookste	06/05/2013 00:00	Completed
Evaluation Decision	brookste	riddelll	06/05/2013 08:32			
Evaluation Decision	brookste	riddelll	06/05/2013 08:32			Pending
Evaluation Decision	brookste	riddelll	06/05/2013 08:32	riddelll	06/05/2013 12:35	Completed
Well Log Review		brookste	07/31/2013 12:59			Pending
Well Log Review		brookste	07/31/2013 12:59			Accepted
Final Inspection	gibbonse	brookste	06/04/2013 12:03	brookste	08/07/2013 13:03	Completed
Final Approval Decision	brookste	riddelll	08/07/2013 13:03			
Final Approval Decision	brookste	riddelll	08/07/2013 13:03			Pending
Final Approval Decision	brookste	riddelll	08/07/2013 13:03	riddelll	09/16/2013 14:43	Completed
Final Inspection	riddelll	brookste	09/16/2013 14:43	brookste	08/07/2013 13:03	Approved
Grout Inspection	riddelll		09/16/2013 14:43			Approved
Water Sample	riddelll		09/16/2013 14:43			Approved
Well Log Review	riddelll	brookste	09/16/2013 14:43			Approved

Permit History

Activity	Recommended By	Completed By	Decision Date	Comments
Amended	brookste	riddelll	06/05/2013 12:35	C

Water Samples History:

Letter	Collection Date	Collected By	Lab	Sample Point	Reason	Test Type

No sample data present.

Comments History

Comments	Created By	Created Date
6-12-13 Rec""d faxed well log from Keller drilling. Sacnned, sent to T Brooks/ tj (per new irr well app history)	brookste	08/07/2013
9-17-13 attached final approval letter.eg	gibbonse	09/17/2013
6-4-13 Well permit ATN63225916, Septic permit 21729.eg	gibbonse	06/04/2013
logs to richard	brookste	06/19/2013

Comments:

Submit Print Reset Done

OAKLAND COUNTY MICHIGAN

Document Box

Logout

- ATN - Void
- Access Oakland
- ▷ Application(Well)
- ▷ Assignment
- ▷ DMS
- GIS
- ▷ Lab Results
- ▷ Lab System
- Property Gateway
- Reports
- Search
- ▷ To Do List
- Well Log System
- E-Health Links
- Septics
- OCHD OakDocs

User Information:

User:	newcombc
Login:	04/14/2026 16:26
Module:	Wells

Appl	Status	Doc. Box	Create	Office	Site	Recomnd	Review	ITracker
Water	Grout	Final Insp	Final Rev.	Final Rep.	Create Letters	App. Hist.	Map	GIS

ATN:	63226185	**Permit:**	108-13-000039 **ATN Date:** 06/03/2013
Parcel ID:	19-01-376-006	**Address:**	1219 E SQUARE LAKE RD
Parcel Area:	1945302.5 Sq.Ft. / 44.65769 Acres	**City:**	BLOOMFIELD HILLS
Last Activity:		**Zip:**	48304
Sub Name:		**Lot Number:**	
Well Type:	Well Abandonment		
Assign To:		**Assign Date:**	

Document Box:

Document Description	Status	Decision Date
SiteSketch	Active	06/05/2013 08:31
Well Permit Document	Active	06/05/2013 12:35
Abandonment Well Log Document	Active	08/07/2013 12:56

Upload Site Sketch Print

Library Documents: ATN = 63226185 is 3

No.	Descriptive Name	Document Name	Created by	Created Date
1	Septic Permit 21729	21729[1].pdf	gibbonse	06/04/2013
2	Eng Plan for Septic Permit 21729	21729A[1].pdf	gibbonse	06/04/2013
3	Final approval letter	63226185.pdf	gibbonse	09/17/2013

Add documents to library

© 2002-2026 Oakland County, Michigan

NP found ka

LOT# _____

Subdivision _____

Sidwell# 19-01-376-006

545535

OAKLAND COUNTY HEALTH DIVISION
1200 N. Telegraph Rd., Pontiac 48341
27725 Greenfield Rd., Southfield, 48076

APPLICATION
FOR PERMIT TO INSTALL OR REPAIR A SEWAGE DISPOSAL SYSTEM

NOTICE
Flare drains are prohibited unless -
(1) They are connected to a sanitary sewer;
(2) They are connected to a holding tank; or
(3) A state groundwater discharge permit has been obtained.

(Township, Village, City) Bloomfield Township No. 1219 Street E. Square Lake Road

New Home _____ No. of Bedrooms _____ Repair of System _____

Non-Residential Building Type Learning & Activities Building No. of Persons 20

Owner Bld. Hills Board of Maintenance Dept. Address 4220 Auburn Rd. City Bloomfield Hills Zip 48302

Applicant O.E.M. Associates Address 28700 Ryan City Roseville Zip 48092

SIGNED: R.E. Olivieri Telephone No. (313) 751-0880

Plan approval is contingent upon the designing engineer establishing BOCHH the designing sufficient inspections during project construction to assure compliance with plans and providing this office with a signed statement to that effect. A final inspection by the Health Division is required.
Signed _____ Date 3/23/93

SUBSOILS DATA: Make at least two borings into the soil about twenty-five (25) feet apart to at least a depth of seven and one-half feet in the area of the planned drain field. Soil borings for dry well installation must be at least twelve (12) feet deep.

Hole #1	Hole #2	Hole #3	Hole #4
3 In. Topsoil bk. loam	In. Topsoil	In. Topsoil	In. Topsoil dk. loam
3 Ft. of silt clay loam	Ft. of None	Ft. of None	Ft. of
2 1/2 Ft. of silt clay loam	Ft. of	Ft. of	Ft. of 1, 2 & 3
Ft. of grey	Ft. of	Ft. of	Ft. of
Grnd. Water at 3 1/2 Ft.	Grnd. Water at Ft.	Grnd. Water at Ft.	Grnd. Water at 4 Ft.

BORING LOCATIONS MUST BE INDICATED ON ACCOMPANYING PLOT PLAN REPORTED SOIL CONDITIONS

CONFIRMED? YES ☒ NO ☐ Environmentalist David J. McKeller Date 5-11-93

PERMIT

Two-Compartment Tank Recommended

Size of Septic Tank 2000 (2 comp) Gals; Lineal feet Drain Tile _____; Trench width _____ In.;

Spacing C. to C. _____ Ft.; OR Drainage Bed consisiting of 4000 w/ 706 lineal ft. 5 ft. on center Sq. Ft. or _____ Drywells

of _____ Gals. each with _____ Ft. of stone totaling _____ Sq. Ft. of Absorption Area _____.

Stipulations are listed below. The location and system design are indicated on attached scaled drawing which is part of this permit.

1. Locate drain field: See engineered plan
   Cut Drainage Bed 50% (100%) Scarify topsoil Ft. to _____
3. CALL FOR A CUTDOWN INSPECTION PRIOR TO BACKFILLING yes - after excavating complete
   Date of Mid-Inspection _____ by _____.
4. Backfill with Clean, Coarse Sand to Grade of Tile Field 2NS or equivalent - 2 ft. under entire field
5. Other Describe: ① Install system per Hubbell, Roths Clark plan 93265 date 6-30-93 revised 7-9-93- ② Article 3 Sanitary Code will apply where plan is not specific ③ Call for final inspection by engineer and by this office permit assumes limitations of use as stipulated on plan and is null and void with any changes

If Denied, Indicate Reasons: _____

PERMIT: Approved ☒ Denied ☐ Hold ☐ Environmentalist David J. McKeller Date 5-19-93

Approval 7/14/93 David J. McKeller bb

ACT 53 - P.A. 1974 Requires the applicant to notify the public utilities prior to excavation.

THIS PERMIT IS VOID TWO (2) YEARS FROM DATE OF ISSUE

EHS-14-2 Rev. 6/87

POST ON JOB

BLOOMFIELD 5-14-93 DATE OF ISSUE PERMIT No. 00534759

OAKLAND COUNTY HEALTH DIVISION

1200 North Telegraph Road
Pontiac, Michigan 48341
Telephone 858-1312

P 036 095 384
CERTIFIED MAIL

27725 Greenfield Road
Southfield, Michigan 48076
Telephone 424-7191

Maintenance Dept Bloomfield Hills
Board of Education
4220 Andover
Bloomfield Hills, MI 48302

LOT ____ SUBDIVISION ____
ACREAGE-SIDWELL 19-01-376-006
STREET 1219 E. Square Lake C.V.T. 108

Your application for a permit to install an on-site sewerage system is denied. Denial is based upon a field inspection of the property which included an evaluation of the subsurface soils as well as water table elevations. The factors considered adverse for such a system are checked below to help you understand the reasons for denial.

- ✓ Dense clay subsoils exist to 6 feet with a saturated condition observed.
- ____ Dense clay subsoils exist to at least ____ feet below grade.
- ✓ Unsuitable soils consisting of peat, muck and/or marl were observed.
- ✓ Ground water table is too high, being 33" - 4 feet below grade.
- ____ The lot size or shape is such that adequate separation of water well and sewerage systems cannot be provided.
- ____ The area is subject to flooding or ponding of surface water.
- ____ Onsite soils cannot fully protect the source of well water. (No Aquaclude demonstrated.)
- ____ Other: ____

Should you wish to pursue this matter further, proceed with the directions following the indicated section below:

✓ Section A - It is suggested that you contract with a professional engineer to evaluate your property and determine whether a sewerage system could be designed and installed which would function properly under the adverse conditions that exist on your property. Plans should then be submitted to this division for review. If the engineer's proposed system is acceptable, your application for a permit will be approved. The system would then have to be constructed exactly as shown on the engineered drawings. After installation, the engineer would be required to submit a letter to us verifying the installation was according to his plans.

If the engineer's plan does not satisfactorily answer the reasons for denial, you have the right to appeal to the Sanitary Code Appeal Board. This appeal must be requested by you in writing, accompanied by a fee of $50.00, within 30 days from the date of this letter. Unless this process is initiated within 30 days, your application will expire and you will receive a $10.00 refund.

____ Section B - You may appeal this denial to the Water Resources Commission (WRC). To initiate action, you must file an application for a state discharge permit with the WRC. You may request the application by writing to the Michigan Department of Natural Resources, Waste Management Division, P.O. Box 30028, Lansing, Michigan, 48909 (Phone: (517) 373-8147). The application must be accompanied by an explanation of your reasons for appeal, the details of your proposal and the statement of the relief requested. The provisions of Act 245 and rules promulgated thereunder, regarding processing of discharge permits, shall apply.

Please contact this division if you need further assistance or have additional questions.

Yours truly,

0002172

OAKLAND COUNTY HEALTH DIVISION

David J. McKola DATE May 19, 1993

Sanitarian, Environmental Health Services

cc: Building Department
Applicant
Equalization

WPM/EHS 14-9 (Rev. 9/90)
EHS-DISC #9a

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Maintenance Dept Bloomfield Hills
Board of Education
4220 Andover
Bloomfield Hills, MI 48302

4a. Article Number
P 036 095 384

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
5-24-93

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
Diane Bourre

PS Form **3811**, December 1991 ☆ U.S.G.P.O. : 1992-307-530 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

UNITED STATES POSTAL SERVICE

Official Business

PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, $300

U.S.MAIL

Print your name, address and ZIP Code here

Denial
19-01-376-006
Blm Twp

OAKLAND COUNTY HEALTH DIVISION
[illegible] Scott Field Road
[illegible] Michigan 48076

O.E.M. ASSOCIATES, INC.
28700 Ryan Road
Warren, Michigan 48092
Phone: (313) 751-0880
Fax: (313) 751-1404

ARCHITECTS - ENGINEERS

00021729

March 31, 1993

Oakland County Health Department
27725 Greenfield
Southfield, Michigan 48075

Attention: Mr. Dave Mickola

RE: Learning & Activities Facility
At Bloomfield Hills Schools Farm
Bloomfield Hills Schools
1219 E. Square Lake Road

Plan Review ??

Dear Sir:

Enclosed please find our check for $80 to cover the fee for the required Perk Test for the proposed Learning & Activities Facility at Bloomfield Hills Schools Farm.

We talked to Dave Norkis and he suggested we also submit the following information to you:

- exercise classes -

1. The building will be used as a part-time classroom and community activities building. → ?? nature of comm. activities

2. The building will be used as a classroom two hours per day, five days a week. The classroom size will be approximately twenty students. 20 students/day - } specify

3. The laboratory sinks shown on the Floor Plan will be used for various student experiments. The only toxic materials to be disposed down the sinks would be a small amount of acid. } specify

4. The shower shown on the Plans would be used for possible students accidents, such as a student falling into a pile of animal waste. The residential washer and dryer which are shown would also be used in such an event.

5. The kitchen sink shown on the Drawings would be used for coffee making and cup washing. The sink also shows a proposed garbage disposal. If this presents a problem, the garbage disposal can be removed from the project. food preparation

6. The building will have three water closets; one urinal; and two lavatories.

00024729

7. The activities program for the building usage is unclear at this time. It is difficult to give a population count for the building; however, it is safe to say the building will be used by approximately 20 to 25 people a day for 5 hours, 5 days a week, 9 months a year.

If you would like further information, please let us know.

Yours truly,

O.E.M. ASSOCIATES, INC.

Robert E. Olivieri
Mechanical Engineer

REO/dw

cc: John Humble

O.E.M. ASSOCIATES, INC.
28700 Ryan Road
Warren, Michigan 48092
Phone: (313) 751-0880
Fax: (313) 751-1404
ARCHITECTS - ENGINEERS

0002729

April 21, 1993

Oakland County Health Department
27725 Greenfield
Southfield, Michigan 48075

20 students X 17.2 gpd
= 352/2 =

Attention: Mr. Dave Mikkola

RE: Learning & Activities Facility
at Bloomfield Hills Schools Farm
Bloomfield Hills Schools
1219 E. Square Lake Road

Dear Sir:

We are writing this letter to answer your questions pertaining to our letter to you dated March 31, 1993.

The Classroom size for the proposed building will be twenty students per day for two hours duration, for five days a week.

The lab sink will be used for the following:

1. Biological dissections
2. Water quality tests

No acids will be used in the Classrooms. The only substances that will be used in experiments are a few drops of Phenol Red and Menthol Blue. Because of this, the neutralizing sump will be deleted from our project.

There will be no food preparation at the building. The garbage disposer will be used solely for the elimination of possible food scraps from a teacher's lunch. The room where the disposer is located is actually a Teacher's Lounge.

As we discussed, the building population should be approximately 20 to 25 people, 5 hours a day, 5 days a week, 12 months a year.

We hope this answers your questions. If we can be of further help, please contact us.

Sincerely,

O.E.M. ASSOCIATES, INC.

REO/dw

Robert E. Olivieri

cc: John Humble

COPIES	DRAWING OR SHEET NO'S:	DESCRIPTION
1		ENGINEERS FINAL INSPECTION LETTER
3		PHOTOGRAPHS

THESE ARE TRANSMITTED as checked below:

- ☒ For approval
- ☐ For your information & use
- ☐ As requested
- ☐ For review and comment
- ☐ For color selection
- ☐ Approved as submitted
- ☐ Approved as noted
- ☐ Returned for corrections
- ☐ Not approved
- ☐ Resubmit _____ copies for approval
- ☐ Submit _____ copies for distribution
- ☐ Return _____ corrected prints

P.R.S. CONTRACTING, Inc.
899 WEST BALTIMORE
P. O. BOX 02758
DETROIT, MICHIGAN 48202
313/873-6220 • FAX: 313/873-4703

LETTER OF TRANSMITTAL

DATE 12-21-93	OUR JOB NO.
ARCH. JOB/DWG. NO.	YOUR JOB NO.
RE: PERMIT # 21729	
BOYERS FARM	
TRADE:	

OAKLAND COUNTY HEALTH DEPT,
27725 GREENFIELD RD
SOUTHFIELD, MI. 48076

ATTENTION: MORRIS JAMES

GENTLEMEN:

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Job Plans ☐ Specifications ☐ Addendum ☐ Bulletin
☐ Copy of letter ☐ Sample(s) ☐ Brochure ☐ Report ☐ _____

COPIES	DRAWING OR SHEET NO'S:	DESCRIPTION
1		ENGINEERS FINAL INSPECTION LETTER
3		PHOTOGRAPHS

THESE ARE TRANSMITTED as checked below:

☒ For approval ☐ For color selection ☐ Not approved
☐ For your information & use ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ As requested ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ For review and comment ☐ Returned for corrections ☐ Return _____ corrected prints
☐ FOR BIDS DUE _____ 19____ ☐ Plans & Spec's. to be returned.
☐ _____

REMARKS _____

XEROX COPY TO _____

WHITE – ADDRESSEE
YELLOW – OFFICE
PINK – FIELD

SIGNED: Carol A Cool

If enclosures are not as noted, kindly notify us at once.

PRINCIPALS
James W. Hubbell
M. David Waring
Donald R. McCormack
Clarence W. Hubbell
Thomas E. Biehl
George E. Hubbell, II
Peter T. Roth
Gerald F. Knapp
Walter H. Alix

HRC
HUBBELL, ROTH & CLARK, INC.
CONSULTING ENGINEERS

ASSOCIATES
James E. Beuerle
David Brody
David McPhee
Thomas H. Ritchie
Frederick C. Navarre
Arnold Ludlen
Gary J. Tressel
Lawrence R. Ancypa
Kenneth A. Melchior
Dennis M. Monsere
Curt A. Christeson
Randal L. Ford

December 21, 1993

Oakland County Health Division
27725 Greenfield Road
Southfield, Michigan 48076

Attention: Mr. Morris James

Re: Final Inspection Letter — HRC Job No. 93265.02
Learning and Activities Building Septic System
Charles Bower Farm Site
Bloomfield Hills Schools
O.C.H.D. Permit No. 21729

Gentlemen:

On behalf of the Bloomfield Hills Schools and their General Contractor on the subject project, P.R.S. Contracting, Inc., we submit this letter of final inspection for the building septic system.

Our office has made site visits during construction of the septic system, and authorizes that said improvements were completed in accordance with the approved plans issued by our office, and the conditions contained within the Oakland County Health Division Permit No. 21729.

Please contact our office, should you have any questions regarding this matter.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.

David C. Love

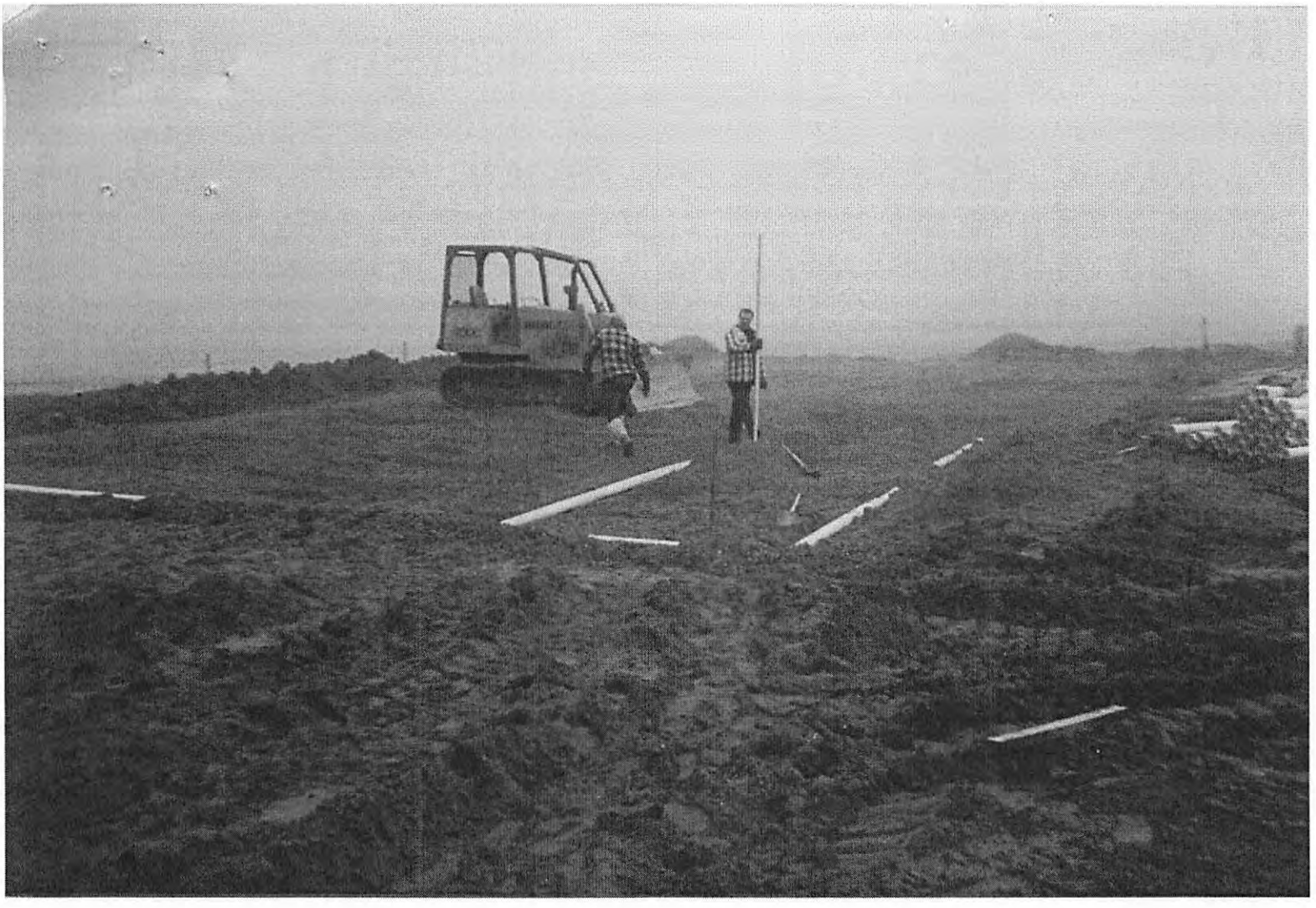
David C. Love, P.E.

DCL/kc

pc: Bloomfield Hills Schools; Jack Humble
P.R.S. Contracting, Inc.; Carol Cool

Corporate Office: 555 Hulet Drive • Bloomfield Hills, MI • (313) 338-9241 • FAX: 313-338-2592
Corporate Mailing Address: P. O. Box 824 • Bloomfield Hills, MI 48303-0824

E-01 | original source page 335 | APP 981



PERMIT # 21729

26 10 1 N-1-2 2

LAYING OF PIPE



PERMIT # 21729

26 10 1 N-1-2 2

SOUTH WEST CORNER OF FIELD
SHOWING RELATION OF SAND BED TO
SCARIFY DEPTH & BUILDING



PERMIT # 21729

LOOKING NORTHEAST ACROSS FIELD
26 10 1 N-1-2 2
SHOWING RELATION OF SAND TO SCARIFY DEPTH
STAKES WERE MARKED AT TWO FOOT DEPTH

1219 E. Square Lake Rd.

INSTRUCTIONS: **SCALED PLOT PLAN FOR PERMIT NO.** 00031729

Sec. 3.2, Article III "Sanitary Code", Oakland County Health Division requires scaled plot plan providing the following information.

(1) Lot Size FARM (2) North _____ (3) Fronting Roads Square Lk (4) Grade Changes _____

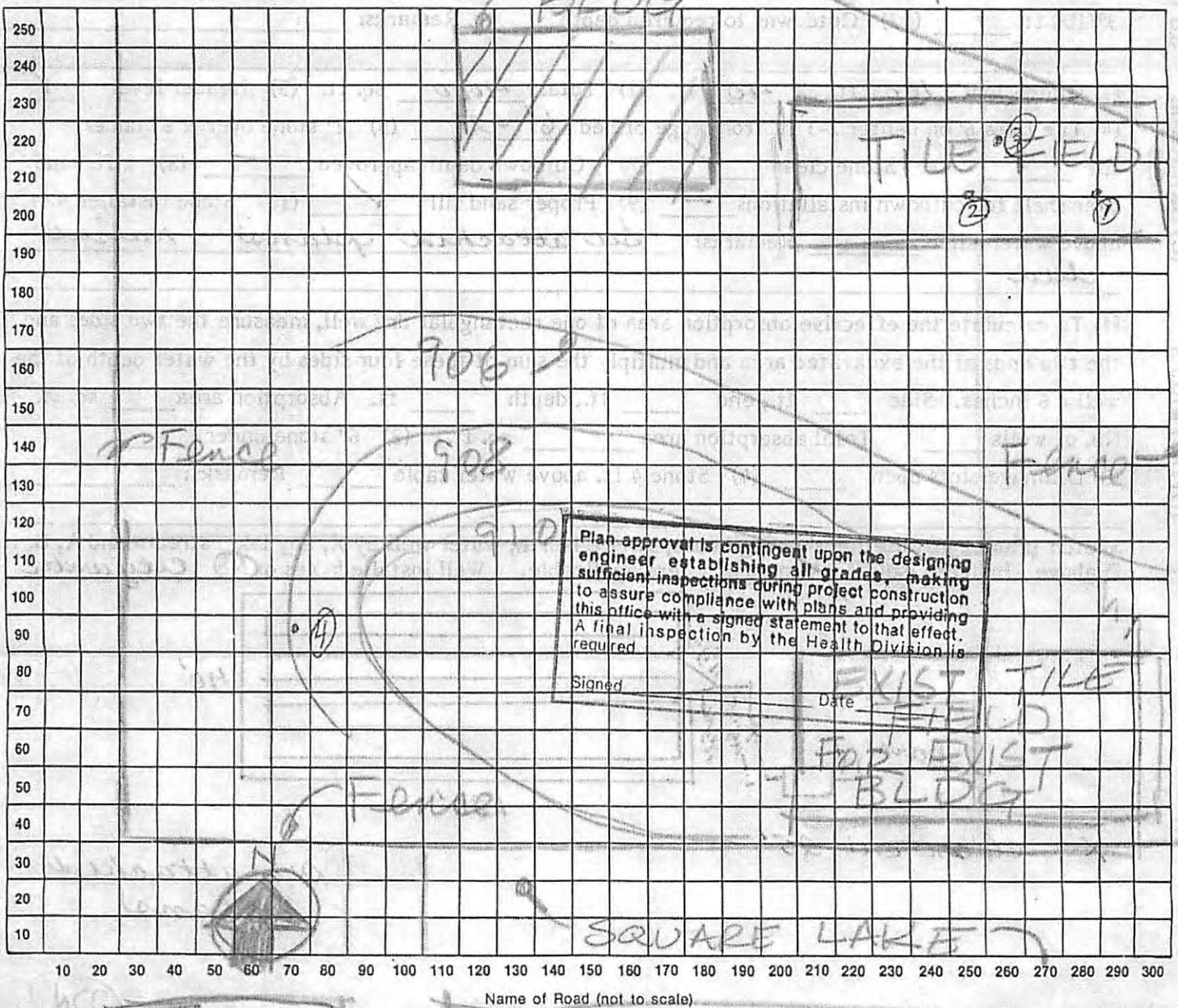
(5) Any Easements _____ (6) Building Location, Size 40x90 (7) Water Well Location CITY WATER

(8) Septic Tank, Drain Field ✓ (9) Water and Septic Tank Systems — Adjoining Properties _____

(10) Fronting Lake-Stream _____ (11) Driveway _____ (12) Utility Lines _____

Please Note: Subject property will be identified by boundary markers.

Recommended Scale ¼" = 10' — If otherwise, please indicate.



10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300

Name of Road (not to scale)

Lot No. KENT WOOD Subdivision S Pt. of E 1/2 Sec 1 T2N R10E Signed RE Olivieri

City, Village, Township BLOOMFIELD TOWNSHIP Date APRIL 2, 1993

EHS 14-3(4/89)

FINAL INSPECTION

INDICATE WHEN APPLICABLE THE FOLLOWING

(a) Received engineer's signed affidavit regarding inspection and approval ( )

(b) Surveyor's level used to check inches of fall in tile lines (List fall on sketch or plan) ( )

(A) SEPTIC TANK

(1) Septic tank size 2000 gals. (2) Outlet "T: or "L: checked ✓ (3) Tank level ✓

(4) Tank/cover free of cracks ✓ (5) Outlet sealed 360° ✓ (6) Isolation distances:

(a) Well — (b) Foundation 14' Remarks: city water

(B) TILE FIELD

(1) Header level _____ (2) Header installed on compact sand ____ (3) Number of drain lines _____

(4) Drain line length _____ ft. (5) Footer _____ ft. (6) Total lineal _____ ft.

(7) Trench width _____ in. (8) 2" stone over and 6" under tile _____ (9) Stone clean _____

(10) Stone installed at least 4 ft. above water table _____ (11) Grade of tile lines not greater than 3"/100 ft. _____ (12) Cutdowns to required depth _____ Remarks: _____

(C) DRAINAGE BED

(1) Dimensions 100 ft. X 40 ft. (2) Total 4000 sq. ft. (3) Header level ✓

(4) Tile lines 6' on center 2-3 ft. from edge of bed 6' +2' (5) 2" stone over & 6" under tile ✓ (6) Stone clean ✓ (7) Cutdown depth approved — (8) 2 ft. sand over shelf for cutdown installations — (9) Proper sand fill ✓ (10) Stone installed 4 ft. above water table _____ Remarks: See attached plans - raised bed

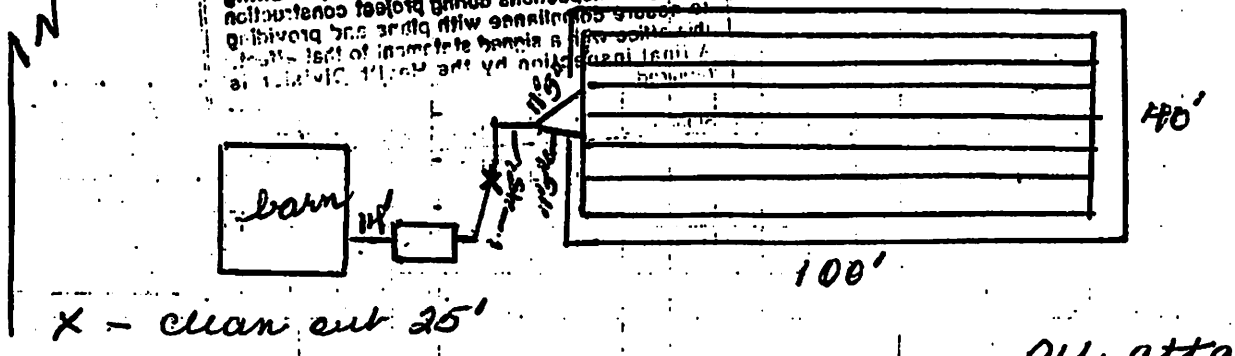
(D) DRYWELLS

(1) To calculate the effective absorption area of one rectangular dry well, measure the two sides and the two ends of the excavated area and multiply the sum of these four sides by the water depth of the well + 6 inches. Side _____ ft., end _____ ft., depth _____ ft. Absorption area _____ sq. ft.

No. of wells _____ . Total absorption area _____ sq. ft. (2) 6" stone under _____

(3) Drainage slots open _____ (4) Stone 4 ft. above water table _____ Remarks: _____

Sketch plan of installation showing house, street, North, water well by X, any lake, stream and A, B, C, D above. Indicate isolation distances where applicable. Well installed: Yes or (No) city water



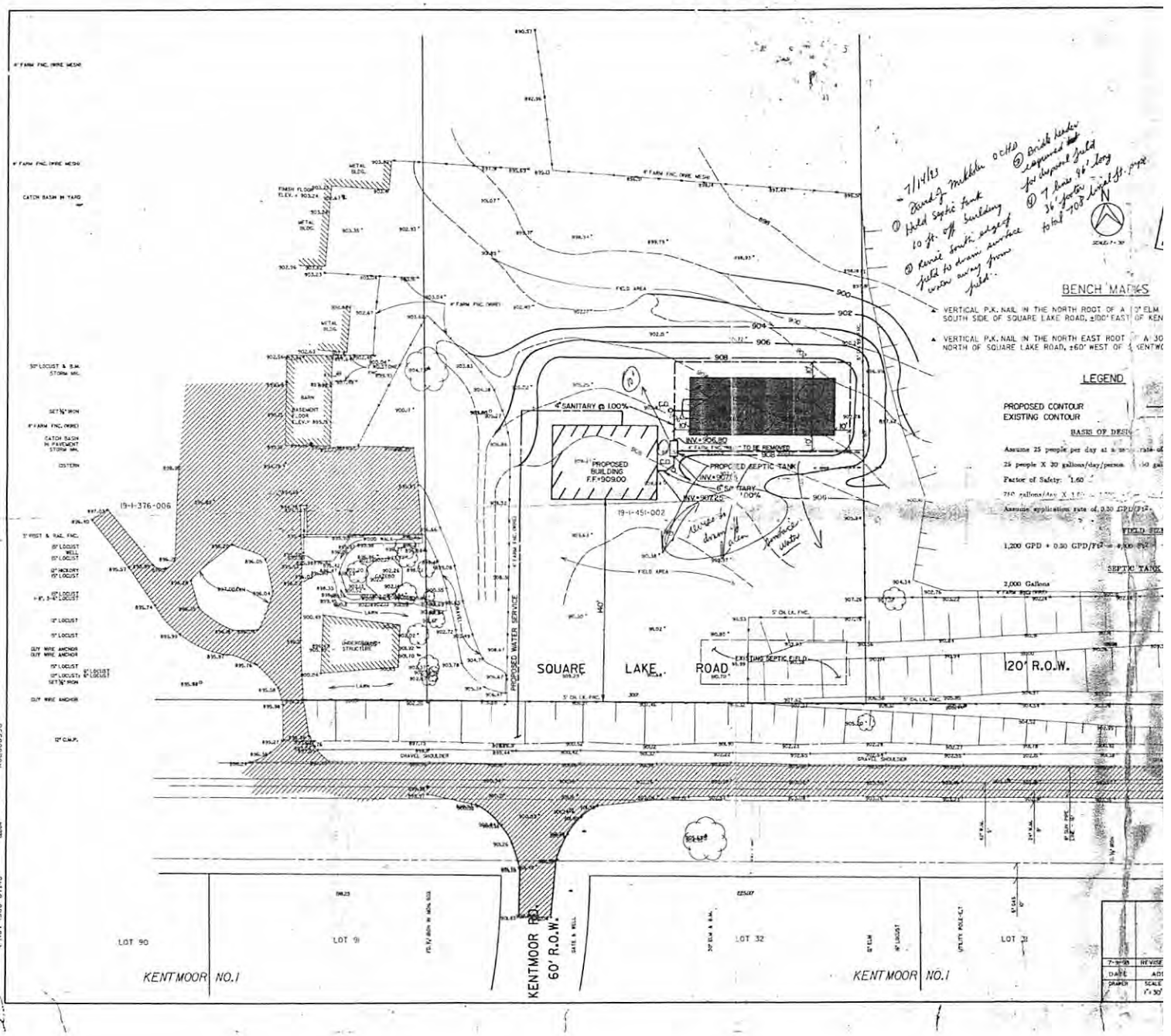
See attached plans

DN

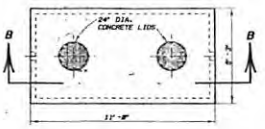
E. Square Lake Rd.

Approved ✓ Disapproved _____ Date: 12/27/93

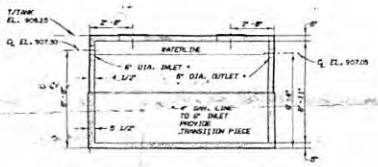
Installer Dawada Environmentalist Morris James



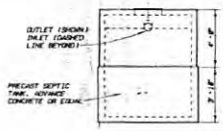
E-01 | original source page 344 | APP 990



PLAN



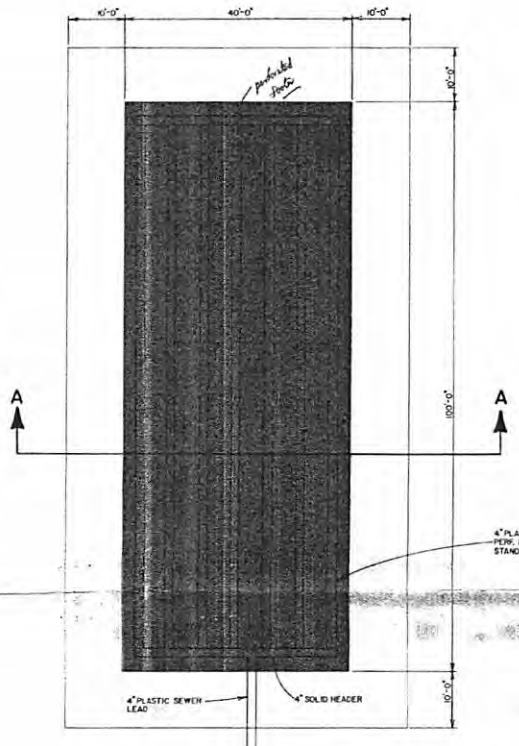
SECTION B-B



END ELEVATION (TYP.)

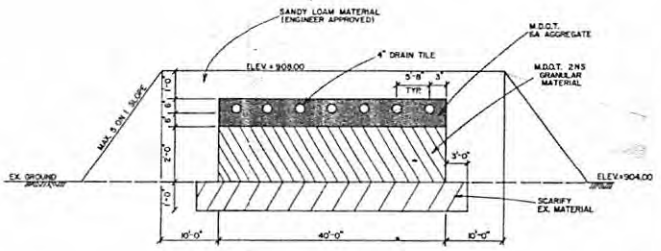
SEPTIC TANK DETAILS

NO SCALE



PLAN @ SEPTIC FIELD

NO SCALE



SECTION "A-A"

NO SCALE

7-9-93	REVIS
DATE	AD
DRAWER	SCA
	AS NO

E-01 | original source page 345 | APP 991

OAKLAND COUNTY MICHIGAN
HEALTH DIVISION
Department of Health & Human Services

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

Kathleen Forzley, RS, MPA, Manager
HEALTH DIVISION

oakgov.com/health

September 16, 2013

BLOOMFIELD HILLS SCHOOL DIST
1219 E SQUARE LAKE RD
BLOOMFIELD HILLS MI 48304

Permit Number: 108-13-000039
Parcel ID: 19-01-376-006
Application Tracking Number: 63226185

Re: **FINAL REPORT FOR WELL ABANDONMENT AT 1219 E SQUARE LAKE RD, BLOOMFIELD HILLS, OAKLAND COUNTY, MI.**

Dear Bloomfield Hills School Dist:

Existing Well Information		From Application
Existing well on site?	Yes	
Was the well properly abandoned?	Yes	
Have you received the Verification of Serviceable Use?		
Comments:		
Abandonment Log Received ?	Yes	Date: 06/12/2013
Well Inside Parameter		
Were there any construction violations observed?	No	
Were there any construction violations corrected?		
Final Inspection Comments:		
Well Driller Info		
Well Driller:	Keller Well Drilling Inc 47-1924	
Final Inspection by : brookste	Date: 08/07/2013	
Final Inspn. Recommendation: Accepted	Date : 08/07/2013 13:03	

Please contact the appropriate office with any questions. Our office hours are 8:30 a.m. to 5:00 p.m., Monday through Friday. However, the field sanitarians are generally in the office between the hours of 8:30 a.m. to 10:00 a.m.

Sincerely,

OAKLAND COUNTY HEALTH DIVISION
Department of Health and Human Services

Teresa Brooks, R.S.
Teresa Brooks, R.S.
Senior Public Health Sanitarian
Environmental Health Services

cc: Bloomfield Township

NORTH OAKLAND HEALTH CENTER
1200 NORTH TELEGRAPH ROAD
PONTIAC MICHIGAN 48341-0432
General Information 248-858-1280

SOUTH OAKLAND HEALTH CENTER
27725 GREENFIELD ROAD
SOUTHFIELD MICHIGAN 48076-3663
General Information 248-424-7000

Request 26-356 Closed

Dates

Received
April 08, 2026 via web

Staff assigned

Departments
No departments available

Point of contact
Catarina Yankey

Request

P26-0480.00

-ASTI Environmental is conducting an environmental assessment and respectfully request any:

-Assessing Department records regarding historical and current assessing records and field sheets;

-Building Department records regarding any building permits, site plans, sketches, code violations, and

inspections; and

-Fire Department records regarding any reports of spills/releases, above ground and underground storage tanks, landfilling, fires, and Hazmat incidents.

If costs exceed $50.00, please let me know before proceeding. Thank you.

Timeline | Documents

Request closed

Anyone with access to this request

Hello,

Your FOIA Request was sent to three departments for review; below are their responses.

1. **Building Department:** Request granted partially. A document has been uploaded to your file.
   - All Building permits from 2000 to present can be found on www.bsaonline.com. Attached to this request is a list from Cornerstone with permits issued prior to 2000. If the requester would like copies of any of these permits, the Building Dept. will estimate the fee amount for copies.
2. **Assessing Department:** Request granted. A document has been uploaded to your file.
3. **Fire Department:** No records pertaining to your request.

- **REMINDER**: You will need to log into your account in order to view your documents. If this is your first time using this portal, click the link to Finish Creating an Account.

Please view the link of the Notice of Your Rights under the FOIA.

A copy of the Township's Procedures and Guidelines as well as our Written Public Summary may be found on the Township website at Bloomfield Twp, MI - Request for Public Records.

Sincerely,

Catarina Yankey

FOIA Coordinator Designee

April 15, 2026, 12:11pm by Staff

Department assignment

Anyone with access to this request

Removed: General Records.

April 9, 2026, 11:05am by Staff

Department assignment

Anyone with access to this request

General Records

April 8, 2026, 2:08pm by the requester

Request opened

Anyone with access to this request

Request received via web

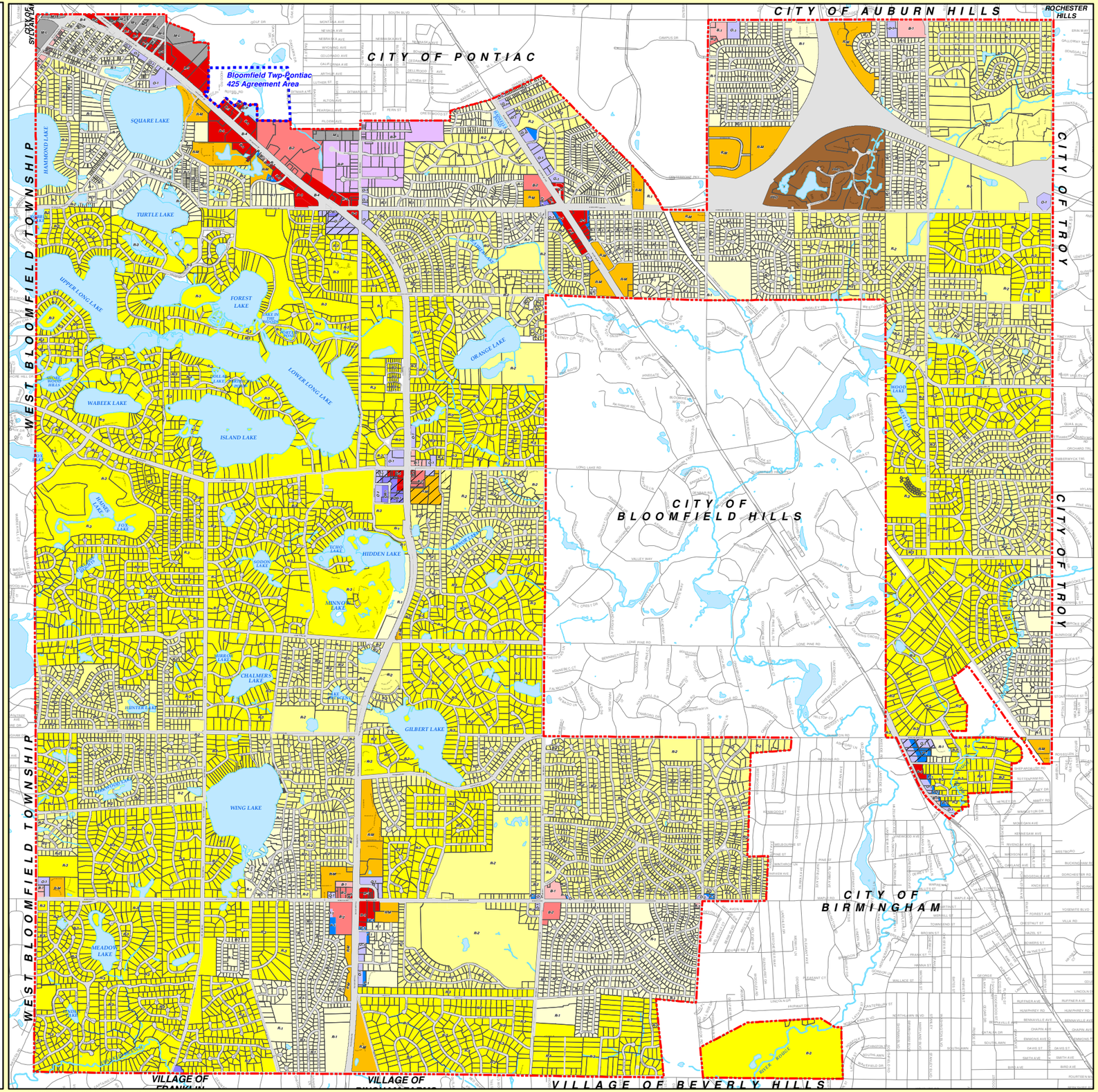
April 8, 2026, 2:08pm by the requester

FAQS
Help
Privacy
Terms
Bloomfield Township

CIVICPLUS
NextRequest

Square	Lk			Section 1	19-01-376-006	E94-00547	A94-2179	Electrical
Square	Lk			Section 1	19-01-376-006	M93-01029	A93-3565	Mechanica
Square	Lk			Section 1	19-01-376-006	B93-0615	A93-1396	Building
Square	Lk			Section 1	19-01-376-006	M92-00131	A92-0494	Mechanica
Square	Lk			Section 1	19-01-376-006	E92-00099	A92-0360	Electrical
Square	Lk			Section 1	19-01-376-006	P92-00051	A92-0341	Plumbing
Square	Lk			Section 1	19-01-376-006	E92-00041	A92-0118	Electrical
Square	Lk			Section 1	19-01-376-006	W92-0005	A92-0109	Water Ser
Square	Lk			Section 1	19-01-376-006	B92-0026	A92-0097	Building
Square	Lk			Section 1	1219 Square	89-6327		Electrical

Bloomfield Township - Zoning Map



LEGEND

Zoning Designations		Acres	Percent of Total:
R-1	ONE FAMILY RESIDENTIAL DISTRICT	2,013	14.5 %
R-2	ONE FAMILY RESIDENTIAL DISTRICT	3,846	27.8 %
R-3	ONE FAMILY RESIDENTIAL DISTRICT	6,799	49.1 %
R-M	MULTIPLE FAMILY RESIDENTIAL DISTRICT	332	2.4 %
PRD	PLANNED RESIDENTIAL DEV DISTRICT	170	1.2 %
B-1	LOCAL BUSINESS DISTRICT	39	0.3%
B-2	COMMUNITY BUSINESS DISTRICT	102	0.7 %
B-3	GENERAL BUSINESS DISTRICT	155	1.1 %
B-4	PLANNED BUSINESS DISTRICT*	NA	NA %
O-1	OFFICE BUILDING DISTRICT	129	1.0 %
OR-1	OFFICE RETAIL DISTRICT	15	0.1 %
M-X	MIXED USE OVERLAY DISTRICT	NA	NA %
R-P	RESEARCH PARK DISTRICT	116	0.8 %
P-1	VEHICULAR PARKING DISTRICT	83	0.6 %
M-L	LIGHT MANUFACTURING DISTRICT	57	0.4 %
		13,856	*100%*

* PLANNED BUSINESS DISTRICT (B-4) - Properties located along the corridor of Telegraph Road (US 24), North of Square Lake Road, with frontage or direct access to Telegraph Road. See Zoning Ordinance Section 42-3.1.16.

- PARCEL BOUNDARY
- RIGHT-OF-WAY
- LAKE OR POND
- STREAM OR RIVER
- SWAMP OR MARSH
- STREAM OR RIVERS
- PONTIAC 425 AGREEMENT BOUNDARY
- TOWNSHIP BOUNDARY

Map Publish Date:
January 11, 2018

Sources:
Bloomfield Township GIS
Bloomfield Township Planning
Oakland County GIS Utility

Prepared by:
Bloomfield Township GIS

0 1,600 3,200 6,400 Feet

Scale: 1 inch = 3,200 feet

The information provided here is intended for reference purposes only. It was compiled from a variety of available sources with varying degrees of accuracy. It is not a legally recorded map or survey and is not intended to be used as one. Bloomfield Township assumes no responsibility for errors that arise from the use of the data.

Map Name: MAP NAME DEFAULT - Project Path: T:\03_MAPPROJECTS\PLANNING\ZONING\ZONING_11X17.MXD - Map Date: January 11, 2018

APPENDIX E

Historical Research Documentation
EDR Aerial Photo Decade Package
EDR Sanborn Report
EDR City Directory Image Report
EDR Historical Topo Map Report

1219 E Square Lake Road

1219 E Square Lake Road

Bloomfield Hills, MI 48304

Inquiry Number: 8305421.8

April 07, 2026

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

04/07/26

Site Name:

1219 E Square Lake Road
1219 E Square Lake Road
Bloomfield Hills, MI 48304
EDR Inquiry # 8305421.8

Client Name:

Applied Science & Technology
10448 Citation Drive
Brighton, MI 48116
Contact: Alyssa Celano

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2024	1"=500'	Flight Year: 2024	USDA/NAIP
2020	1"=500'	Flight Year: 2020	USDA/NAIP
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1999	1"=500'	Acquisition Date: March 28, 1999	USGS/DOQQ
1997	1"=500'	Flight Date: May 04, 1997	DTE
1987	1"=500'	Flight Date: June 17, 1987	USDA
1983	1"=500'	Flight Date: May 05, 1983	USDA
1976	1"=500'	Flight Date: March 25, 1976	USDA
1972	1"=500'	Flight Date: July 01, 1972	USDA
1967	1"=500'	Flight Date: May 12, 1967	DTE
1956	1"=500'	Flight Date: May 07, 1956	DTE
1952	1"=500'	Flight Date: April 25, 1952	DTE
1949	1"=500'	Flight Date: May 03, 1949	DTE
1940	1"=500'	Flight Date: September 05, 1940	USDA
1937	1"=500'	Flight Date: September 27, 1937	USDA

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

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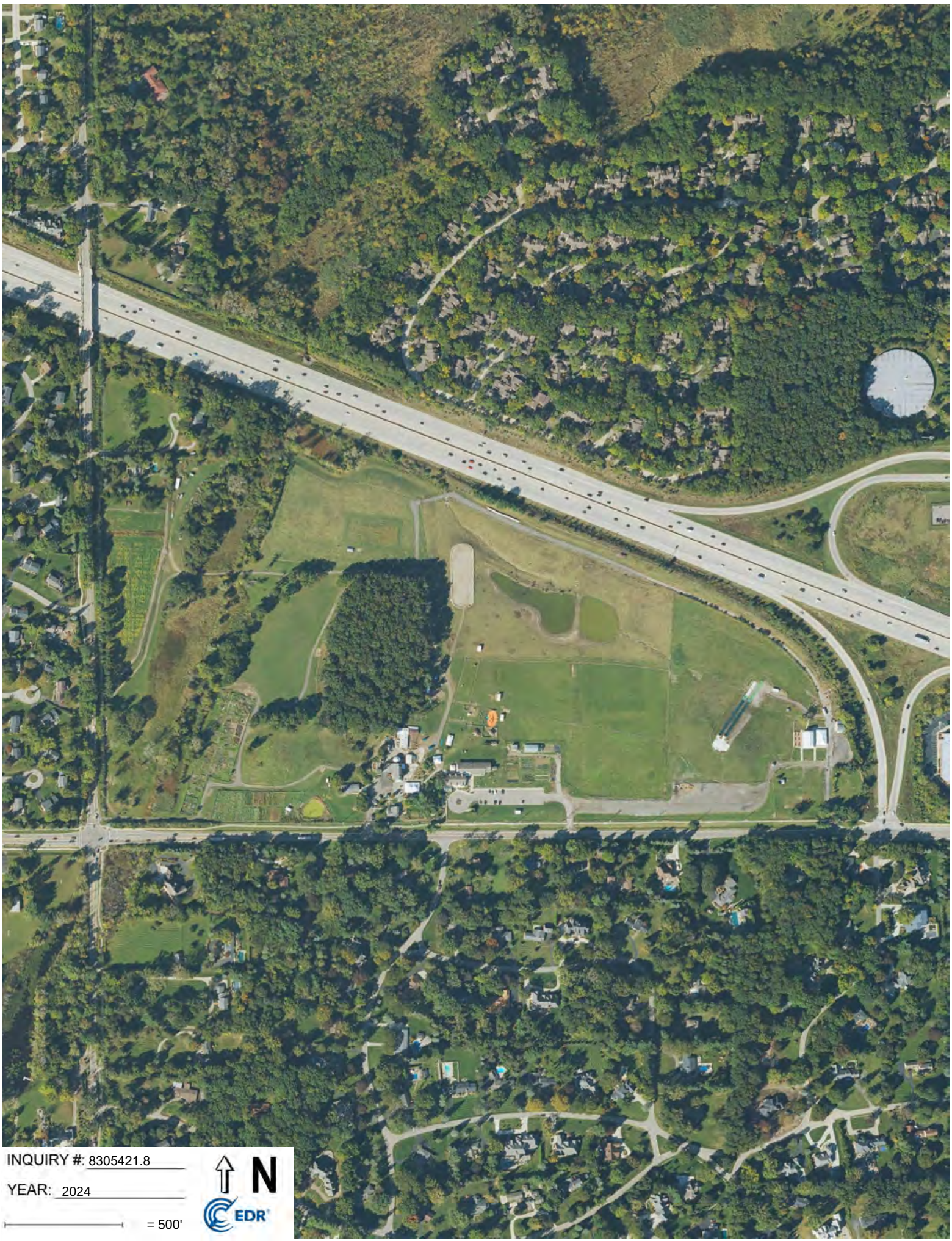
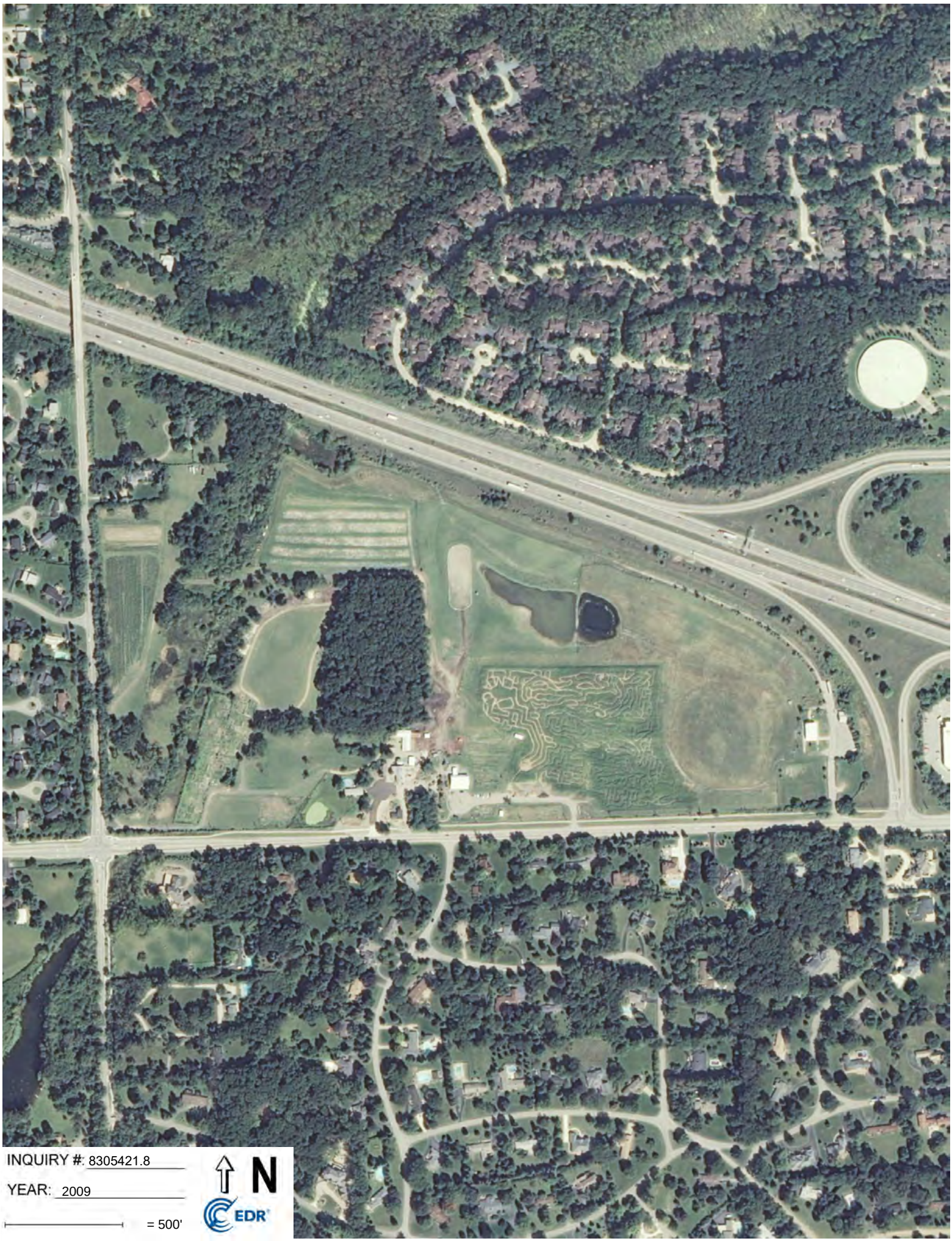

INQUIRY #: 8305421.8
YEAR: 2024
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 2020
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 2016
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 2012
= 500'
N
EDR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YEAR: 2009
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 2006
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 1999
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 1997
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 1987
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 1983
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 1976
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 1972
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 1967
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 1956
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 1952
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 1949
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 1940
= 500'
N
EDR


INQUIRY #: 8305421.8
YEAR: 1937
= 500'
N
EDR

1219 E Square Lake Road

1219 E Square Lake Road

Bloomfield Hills, MI 48304

Inquiry Number: 8305421.3

April 07, 2026

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

04/07/26

Site Name:

1219 E Square Lake Road
1219 E Square Lake Road
Bloomfield Hills, MI 48304
EDR Inquiry # 8305421.3

Client Name:

Applied Science & Technology
10448 Citation Drive
Brighton, MI 48116
Contact: Alyssa Celano

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Applied Science & Technology were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 993D-4A6F-B2F2

PO # NA

Project P26-0480.00

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 993D-4A6F-B2F2

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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LIGHTBOX

LightBox City Directory Report

1219 E Square Lake Road

1219 E Square Lake Road
Bloomfield Hills, MI 48304
Inquiry Number: 8305421.5
April 7, 2026

TABLE OF CONTENTS

LIGHTBOX LIVE

Open LightBox Live to access data, tools, and advanced analytics in one online platform.
https://lightbox.live/environmental/analysis/1044c628-4e93-427f-932c-2a2903f1b8af

SECTION

Executive Summary ---------- page 1

Findings ---------- page 4

Thank you for your business.
Please contact LightBox at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

The LightBox City Directory Report is designed to assist environmental professionals in evaluating potential liabilities on select properties resulting from past activities. The report includes a search of available business directory data at approximately five-year intervals.

SOURCES

Through agreements with major city directory publishers, including Cole Information, InfoUSA, and Bresser, as well as our own collections (Haines & Stewart), the LightBox City Directory Report offers comprehensive national coverage.

LightBox is authorized to reproduce and redistribute all works featured in this report. The purchaser of this LightBox City Directory Report may include it in their final report(s).

This report includes a search of the following sources:

Year	Source
2024	Cole Information
2022	Cole Information, Data Axle
2017	Cole Information
2014	Cole Information, Data Axle
2010	Cole Information
2005	Cole Information, Data Axle
2000	Cole Information, Data Axle
1998	Cole Information
1997	Polk Directory Co
1995	Cole Information
1992	Cole Information
1991	Michigan Bell Telephone Company
1989	Polk Directory Co
1987	Bressers
1985	Polk Directory Co
1982	Bressers
1980	Polk Directory Co
1978	Bressers
1977	Bressers
1976	Michigan Bell Telephone Company
1975	Polk Directory Co
1972	Bressers
1970	Polk Directory Co
1969	Polk Directory Co
1967	Bressers
1965	Polk Directory Co
1962	Bressers
1960	Polk Directory Co
1958	Bressers
1957	Bressers
1956	Polk Directory Co
1954	Bressers

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

E Square Lake Rd

1209 E SQUARE LAKE RD

2024	BRADLEY D WEBSTER	Cole Information
2022	Bradley D Webster	Cole Information
2014	OCCUPANT UNKNOWN	Cole Information
2010	BRADLEY D WEBSTER	Cole Information
2005	BRADLEY D WEBSTER	Cole Information
2000	BRADLEY WEBSTER	Cole Information
1995	WEBSTER, BRADLEY	Cole Information
1992	WEBSTER, BRADLEY	Cole Information
1989	Vacant	Polk Directory Co
1980	Spike Douglas B	Polk Directory Co
1977	CHARLES SCHROEDER 6	Bressers

1219 E SQUARE LAKE RD

2024	Real Skills Academy Llc	Cole Information
	Bloomfield Hills School Dst	Cole Information
	BRADLEY D WEBSTER	Cole Information
2022	WEST BLOOMFIELD SCHOOLS	Cole Information
	BLOOMFIELD HILLS MICHI	Cole Information
2017	BRADLEY D WEBSTER	Cole Information
2014	BLOOMFIELD SCHOOLS	Cole Information
	BRADLEY D WEBSTER	Cole Information
2000	BLOOMFIELD HILLS SCHOOL DISTRICT	Cole Information
1995	BOWERS SCHOOL FARM	Cole Information
	BHSD FRM&GRDN	Cole Information
1992	BHSD FRM&GRDN	Cole Information
1989	Bloomfield Hills Bd Of Educ (Farm & Garden Cntr)	Polk Directory Co
	Spike Douglas B	
1985	Bloomfield Bd Of Educ (Farm & Garden Center)	Polk Directory Co
	Spike Douglas B	
1982	BLOOMFLD HL BD ED	Bressers
	DOUGLAS B SPIKE O	
1980	Bloomfield Hills Academy & Garden Center outdoor facilities	Polk Directory Co
1977	BLOOMFLD HL BD ED	Bressers
1975	Hurley Dennis E	Polk Directory Co

TARGET PROPERTY SEARCH RESULTS

E Square Lake Rd (contd.)

1219 E Square Lake Rd (contd.)

1965	Clarke Donald	Polk Directory Co
1962	CHARLES D GRANT	Bressers
1957	CHARLES T MALONEY B	Bressers
1954	G WARD KEMP	Bressers

1223 E SQUARE LAKE RD

2024	Bloomfield Hills School Dst	Cole Information
2022	BLOOMFIELD HILLS MICHI	Cole Information
	BLOOMFIELD HILLS SCHOOLS	Cole Information

1239 E SQUARE LAKE RD

2014	OCCUPANT UNKNOWN	Cole Information

1381 E SQUARE LAKE RD

1987	C J ROGERS INC	Bressers

FINDINGS

This section includes records sorted by street then year.

STREETS

E Square Lake Rd
Alter Rd
Brenthaven Ct
Brenthaven Dr
Colonial Park Ct
Greenglen Ct
Ivyglen Cir
Kentmoor Rd
Lost Tree Way
N Adams Rd
Robson Ln
Squirrel Rd
Vhay Ln
Williamstown Ct

E SQUARE LAKE RD

2024

Cole Information

1050	Sterling Education
	Alderbrook School Inc
	KENJI NAKAGAWA
1130	M&A Limo Service Llc
	GHAUS M MALIK
1180	DAVID J WOLFE
1200	WILMA OGILVIE
1209	BRADLEY D WEBSTER
1219	Real Skills Academy Llc
	Bloomfield Hills School Dst
	BRADLEY D WEBSTER
1220	KATHRYN MCEACHIN
1223	Bloomfield Hills School Dst
1230	JOHN C YOUNGBLOOD
1272	FARHANA AKTAR
1294	PETER CAMAJ
1310	KATARZYNA LYS
1330	ANTHONY D BASSO
	SONIA A BASSO
1350	KURT T KAELBER
1380	MICHAEL J GODVIN
1410	JANAKIRAMA S VITHALA

E SQUARE LAKE RD

2022

Cole Information

1050	OVSHINSKY INNOVATION
	STERLING EDUCATION
	STERLING EDUCATION
	ALDERBROOK
	STERLING SOUTH OAKLAND CAMPUS
1180	David J Wolfe
1200	Wilma Ogilvie
1209	Bradley D Webster
1219	WEST BLOOMFIELD SCHOOLS
	BLOOMFIELD HILLS MICHI
1220	Kathryn McEachin
1223	BLOOMFIELD HILLS MICHI
	BLOOMFIELD HILLS SCHOOLS
1230	John M Youngblood
1294	Anton Camaj
1310	Katarzyna Lys
1330	Sonia A Basso
1350	Kurt T Kaelber
1380	EDUCATIONOMETRY CORPORATION
	Michael J Godvin
1410	Janakirama S Vithala

FINDINGS

E SQUARE LAKE RD

2017 Cole Information

1050	STERLING EDUCATION
	STERLING S-OAKLAND CAMPUS SCH
1130	ASAD M MALIK
1180	DAVID J WOLFE
1200	HUGH A OGILVIE
1219	BRADLEY D WEBSTER
1220	THEODORE J HOLLENKAMP
1294	GLORIA W MARKOWICZ
1310	KATARZYNA LYS
1330	JOHN BASSO
1350	DESIGNS BY KURT
	KURT T KAELBER
1380	MARYCATHER F GODVIN

E SQUARE LAKE RD

2014 Cole Information

1050	OVSHINSKY INNOVATION
	STERLING EDUCATION
1130	GHAUS M MALIK
	MALIK GHAUS
1180	OCCUPANT UNKNOWN
1200	HUGH A OGILVIE
1209	OCCUPANT UNKNOWN
1219	BLOOMFIELD SCHOOLS
	BRADLEY D WEBSTER
1220	THEODORE J HOLLENKAMP
1230	OCCUPANT UNKNOWN
1239	OCCUPANT UNKNOWN
1272	TAMARCUS D SOUTHWARD
1294	GLORIA W MARKOWICZ
1304	SUSAN JONES
1310	KATARZYNA LYS
1330	JOHN BASSO
1350	KURT T KAELBER
1380	OCCUPANT UNKNOWN

E SQUARE LAKE RD

2014 Data Axle

1380	EDUCATIONOMETRY CORP

E SQUARE LAKE RD

2010 Cole Information

1130	GHAUS M MALIK
1180	PAUL R GIFFORD
1200	HUGH A OGILVIE
1209	BRADLEY D WEBSTER
1220	THEODORE J HOLLENKAMP
1230	BLONG LEE
1272	JOHN P MILLER
1294	GLORIA W MARKOWICZ
1310	JEFF S JONES
1330	JOHN J BASSO
1350	KURT T KAELBER
1380	EDUCATIONOMETRY CORP
	MICHAEL J GODVIN

E SQUARE LAKE RD

2005 Cole Information

1130	SALEEM A MALIK
1180	PAUL R GIFFORD
1200	HUGH A OGILVIE
1209	BRADLEY D WEBSTER
1220	THEODORE J HOLLENKAMP
1230	BLONG LEE
1272	JOHN P MILLER
1294	GLORIA W MARKOWICZ
1310	JEFF S JONES
1330	JOHN J BASSO
1350	KURT T KAELBER

FINDINGS

E SQUARE LAKE RD

2005 Data Axle

1180	SQUARE LAKE CONSULTING

E SQUARE LAKE RD

2000 Cole Information

1050	MASATO KAMIMIYA
1180	PAUL R GIFFORD
1209	BRADLEY WEBSTER
1219	BLOOMFIELD HILLS SCHOOL DISTRICT
1220	TJ HOLLENKAMP
1230	RONALD WELLS
1272	JOHN P MILLER
1294	GLORIA W MARKOWICZ
1310	JEFFREY S JONES
1380	EUGENE J BARNEY

E SQUARE LAKE RD

2000 Data Axle

1050	ENERGY CONVERSION DEVICES INC
1180	SQUARE LAKE CONSULTING

E SQUARE LAKE RD

1995 Cole Information

1050	OAKLAND STEINER SCHOOL
	ENERGY CONVERSION DEVICES INC
	BULLARD, LOUIS
1180	UNVERZAGT, THOMAS W
1200	OCCUPANT UNKNOWNN
1209	WEBSTER, BRADLEY
1219	BOWERS SCHOOL FARM
	BHSD FRM&GRDN

E SQUARE LAKE RD

1995 (cont.) Cole Information

1220	HOLLENKAMP, T J
1230	ROSENBUSCH, OTTO
1272	MILLER, JOHN P
1294	MARKOWICZ, GLORIA W
1310	BLOOMFIELD HOUSE INSPECTORS
	DUBEL, ANORE R
1330	OCCUPANT UNKNOWNN
1350	OCCUPANT UNKNOWNN
1380	BARNEY, EUGENE J

E SQUARE LAKE RD

1992 Cole Information

1180	PARKS, EDGAR E
1209	WEBSTER, BRADLEY
1219	BHSD FRM&GRDN
1220	ELLIS, FRED
1230	CHAPMAN, BRUCE
1272	MILLER, JOHN P
1294	MARKOWICZ, GLORIA W
1310	BLMFLD HOUSE INSP
1380	BARNEY, EUGENE J

E SQUARE LAKE RD

1991 Michigan Bell Telephone Company

1180	PARKS Edgar E
1380	BARNEY E J

E SQUARE LAKE RD

1989 Polk Directory Co

1050 Energy Conversion Devices (Library)
540-0002

FINDINGS

E SQUARE LAKE RD

1989 (cont.) Polk Directory Co

1130 Schaefer Evelyn Mrs ◎ 644-0796
1180 Parks Edgar E ◎ 644-5888
1200 No Return
1209 Vacant
1219 Bloomfield Hills Bd Of Educ (Farm & Garden Cntr) 540-5269
Spike Douglas B 642-7621
1220 Ellis Fred ◎ 647-8505
1230 Chapman Bruce N ◎ 642-0020
KENTMOOR RD INTERSECTS
1272 Miller John P ◎ 645-2126
1294 Markowicz Gloria W ◎ 645-0636
1310 Dubel Andre R ◎ 647-2236
1350 Kothari Ujamlal ◎ 644-1269
1380 Barney Eug J ◎ 645-9325

E SQUARE LAKE RD

1987 Bressers

1130 HARRY C SCHAEFER 6440796
1180 EDGAR E PARKS 6445888
1200 1209 NP

1220 FRED ELLIS ¤6478505
1230 BRUCE CHAPMAN 4 6420020
1272 JOHN P MILLER 6452126
1294 G MARKOWICZ ¤6450636
1310 NP
1350*DR UJAMLAL KOTHARI ¤6441269
*DR UJAMLAL KOTHARI 6441269
1380 E J BARNEY 6459325
1381*C J ROGERS INC 2589492

E SQUARE LAKE RD

1985 Polk Directory Co

1050 Energy Conversion Devices (Library) 540-0002

1130 Schaefer Harry C ◎ 644-0796
1180 Parks Edgar E ◎ 644-5888
1200 Ogilvie Hugh A ◎
1219 Bloomfield Bd Of Educ (Farm & Garden Center) 540-5269
Spike Douglas B 642-7621
1220 Brey Albert J ◎ 646-2431
1230 Chapman Bruce N ◎ 642-0020

E SQUARE LAKE RD

1985 (cont.) Polk Directory Co

1272 Miller John P ◎ 645-2126
1294 Tiehl Diane J
1310 Dubel Andre R ◎ 647-2236
1350 Kothari Ujamlal ◎ 644-1269
1380 Barney Eug J ◎ 645-9325

E SQUARE LAKE RD

1982 Bressers

1050*ENGY CNSRVTN DVCS ¤5404813
*ENGY CNSRVTN DVCS ¤5400102
1130 HARRY C SCHAEFER 6440796
1180 EDGAR E PARKS 6445888
1200 1209 NP
1219*BLOOMFLD HL BD ED 6440344
DOUGLAS B SPIKE 0 6427621
1220 COL ALBERT J BREY 8 6462431
1230 CHARLES A HARTNER 7 6446725
1272 JOHN P K MILLER 4 6452126
1294 D J DIEHL 1 6424803
G W MARKOWICZ 1 6424803
1310 ANDRE DUBEL 6472236
*ELCON INDUSTRIES 6477452
1350*DR UJAMLAL KOTHARI 6441269
1380 E J BARNEY 6459325

E SQUARE LAKE RD

1980 Polk Directory Co

1050 Bloomfield Hills Academy 644-6644

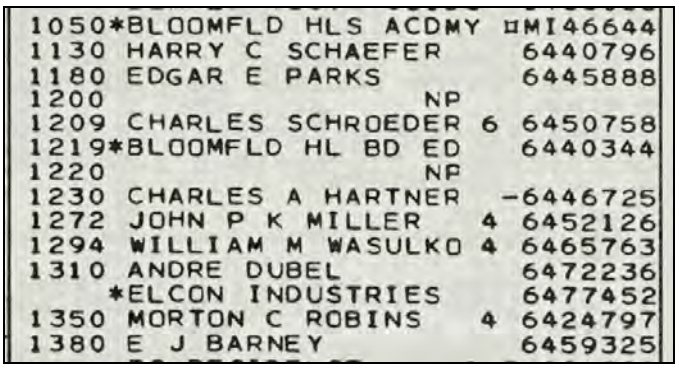
1130 Schaefer Harry C ◎ 644-0796
1180 Parks Edgar E ◎ 644-5888
1200 Olgivie Hugh A ◎
1209★Spike Douglas B 642-7261
1219 Bloomfield Hills Academy & Garden Center outdoor facilities 644-0344
1220 Brey Albert J ◎ 646-2431
1230 Hartner Charles A 644-6725

1272 Miller John P ◎ 645-2126
1294★Hartner Charles A ◎
1310 Dubel Andre R ◎ 647-2236
1350★Kathan Ujamel ◎
1380 Barney Eug J ◎ 645-9325

FINDINGS

E SQUARE LAKE RD

1977 Bressers



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1050*BLOOMFLD HLS ACDMY ¤MI46644
1130 HARRY C SCHAEFER     6440796
1180 EDGAR E PARKS        6445888
1200                NP
1209 CHARLES SCHROEDER 6  6450758
1219*BLOOMFLD HL BD ED    6440344
1220                NP
1230 CHARLES A HARTNER   -6446725
1272 JOHN P K MILLER    4 6452126
1294 WILLIAM M WASULKO 4  6465763
1310 ANDRE DUBEL          6472236
    *ELCON INDUSTRIES     6477452
1350 MORTON C ROBINS    4 6424797
1380 E J BARNEY           6459325
```

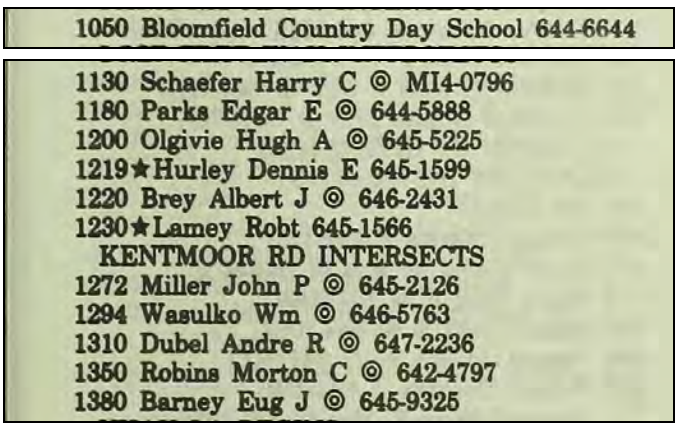
E SQUARE LAKE RD

1976 Michigan Bell Telephone Company

1050	Bloomfield Country Day School for Girls
1180	Parks Edgar E
1380	Barney E J

E SQUARE LAKE RD

1975 Polk Directory Co

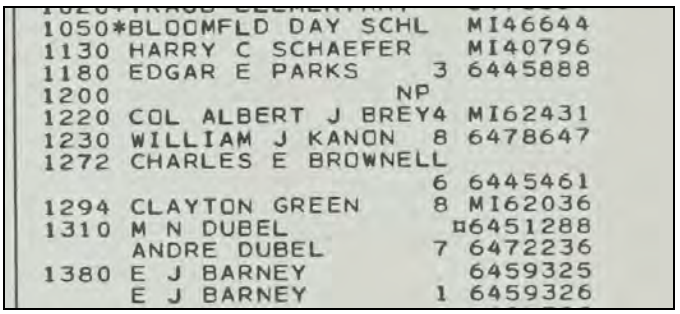


1050 Bloomfield Country Day School 644-6644

1130 Schaefer Harry C © MI4-0796
1180 Parks Edgar E © 644-5888
1200 Olgivie Hugh A © 645-5225
1219★Hurley Dennis E 645-1599
1220 Brey Albert J © 646-2431
1230★Lamey Robt 645-1566
KENTMOOR RD INTERSECTS
1272 Miller John P © 645-2126
1294 Wasulko Wm © 646-5763
1310 Dubel Andre R © 647-2236
1350 Robins Morton C © 642-4797
1380 Barney Eug J © 645-9325

E SQUARE LAKE RD

1972 Bressers



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1050*BLOOMFLD DAY SCHL   MI46644
1130 HARRY C SCHAEFER    MI40796
1180 EDGAR E PARKS     3 6445888
1200                NP
1220 COL ALBERT J BREY 4 MI62431
1230 WILLIAM J KANON   8 6478647
1272 CHARLES E BROWNELL
                       6 6445461
1294 CLAYTON GREEN     8 MI62036
1310 M N DUBEL          ¤6451288
     ANDRE DUBEL       7 6472236
1380 E J BARNEY          6459325
     E J BARNEY        1 6459326
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E SQUARE LAKE RD

1965 Polk Directory Co

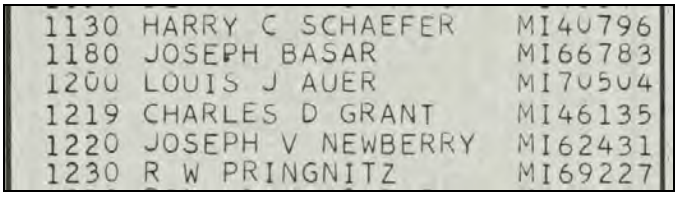


1050 B'field Country Day School MI 4-6644
1130 Schaffer Harry C © MI 4-0769
1180 Parks Edgar E 644-5888
1200 Auer Louis J © 647-0504
1219 Clarke Donald 647-3383
1220 Brey Albert J © MI 6-2431
1230 Pringnitz Russell W © MI 6-9227
1272 Brownell Chas © MI 4-5461
1294 Swindler LaVern W © MI 4-5419

1310 Sansone Austine B © MI 7-3457
1350 Stouffer Willard B © MI 4-1204
1380 Barney Eug J © MI 6-3292

E SQUARE LAKE RD

1962 Bressers



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1130 HARRY C SCHAEFER    MI40796
1180 JOSEPH BASAR        MI66783
1200 LOUIS J AUER        MI70504
1219 CHARLES D GRANT     MI46135
1220 JOSEPH V NEWBERRY   MI62431
1230 R W PRINGNITZ       MI69227
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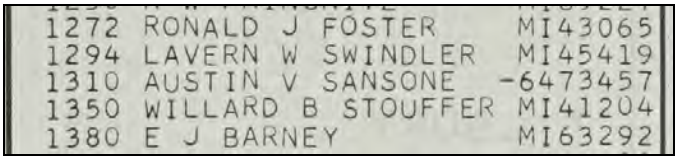
FINDINGS

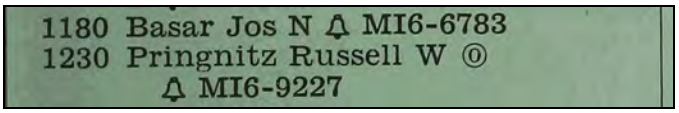
E SQUARE LAKE RD

1962 (cont.) Bressers


1272 RONALD J FOSTER MI43065
1294 LAVERN W SWINDLER MI45419
1310 AUSTIN V SANSONE -6473457
1350 WILLARD B STOUFFER MI41204
1380 E J BARNEY MI63292

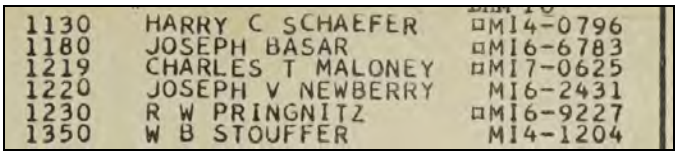
E SQUARE LAKE RD

1960 Polk Directory Co


1180 Basar Jos N MI6-6783
1230 Pringnitz Russell W
MI6-9227

E SQUARE LAKE RD

1957 Bressers


1130 HARRY C SCHAEFER MI4-0796
1180 JOSEPH BASAR MI6-6783
1219 CHARLES T MALONEY MI7-0625
1220 JOSEPH V NEWBERRY MI6-2431
1230 R W PRINGNITZ MI6-9227
1350 W B STOUFFER MI4-1204

E SQUARE LAKE RD

1954 Bressers


1219 G WARD KEMP MI6-1593

FINDINGS

ALTER RD

2024 Cole Information

1059	THOMAS E VIDA JR
1060	ALVIN S SALMU
1081	KYLE P BRAZELTON

ALTER RD

2022 Cole Information

1059	Kenneth B Brown
1060	Alvin Salmu
1081	Kyle P Brazelton
1082	Gary A Neilson

ALTER RD

2017 Cole Information

1059	JOHN A ROBERTS
1081	KYLE P BRAZELTON

ALTER RD

2014 Cole Information

1059	JOHN A ROBERTS
1060	EILEEN M WILHELM
1081	RICHARD A MARSOLAIS
1082	OCCUPANT UNKNOWN

ALTER RD

2010 Cole Information

1059	JOHN M ROBERTS
1060	EILEEN M WILHELM
1081	ELIZABETH C MOFFAT

ALTER RD

2005 Cole Information

1059	JOHN M ROBERTS
1060	THOMAS V WILHELM
1081	ELIZABETH C MOFFAT
1082	DORIS R BAUER

ALTER RD

2000 Cole Information

1059	JOHN M ROBERTS
1060	THOMAS V WILHELM
1081	E C MOFFAT
1082	BAUER FRANZ MD

ALTER RD

1995 Cole Information

1059	ROBERTS, JOHN M
1060	WILHELM, THOMAS V
1082	BAUER, FRANZ

ALTER RD

1992 Cole Information

1059	ROBERTS, JOHN M
1060	WILHELM, THOMAS V
1081	MOFFAT, JAMES
1082	BAUER, FRANZ

ALTER RD

1987 Bressers

1059	JOHN M ROBERTS		3382667
1060	THOMAS V WILHELM	3	3340907

FINDINGS

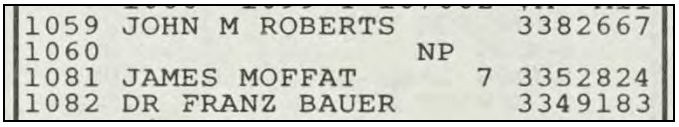
ALTER RD

1987 (cont.) Bressers


1081 JAMES MOFFAT 3352824
1082 DR FRANZ BAUER 3349183

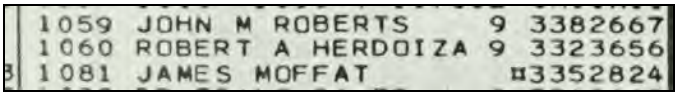
ALTER RD

1982 Bressers


1059 JOHN M ROBERTS 3382667
1060 NP
1081 JAMES MOFFAT 7 3352824
1082 DR FRANZ BAUER 3349183

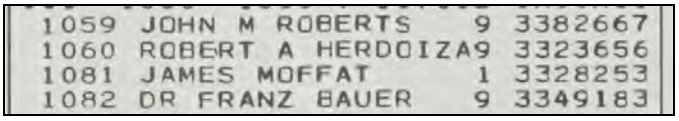
ALTER RD

1977 Bressers


1059 JOHN M ROBERTS 9 3382667
1060 ROBERT A HERDOIZA 9 3323656
1081 JAMES MOFFAT ¤3352824

ALTER RD

1972 Bressers


1059 JOHN M ROBERTS 9 3382667
1060 ROBERT A HERDOIZA 9 3323656
1081 JAMES MOFFAT 1 3328253
1082 DR FRANZ BAUER 9 3349183

FINDINGS

BRENTHAVEN CT

2024 Cole Information

2461	Margaret A Mills Ms
	FRED R SILVERMAN
2469	KATHLEEN A MOIGIS
2477	DAVID J MAIURI

BRENTHAVEN CT

2022 Cole Information

2461	Fred R Silverman
	Alexander W Silverman
2469	Kathleen A Moigis
2477	David Maiuri

BRENTHAVEN CT

2017 Cole Information

2461	ERIN E OBRIEN
2469	WITOLD C MOIGIS

BRENTHAVEN CT

2014 Cole Information

2461	DOROTHY M MONTPLAISIR
2469	WITHOLD F MOIGIS
2477	OCCUPANT UNKNOWN

BRENTHAVEN CT

2010 Cole Information

2461	DOROTHY M MONTPLAISIR
2469	WITHOLD F MOIGIS
2477	DOUGLAS E HUGHES

BRENTHAVEN CT

2005 Cole Information

2461	DOROTHY M MONTPLAISIR
2469	WITHOLD F MOIGIS
2477	GHASSAN T KRIDLI

BRENTHAVEN CT

2000 Cole Information

2400	KATHRYN M UNDERWOOD
2461	CHARLES W MONTPLAISIR
2469	WITHOLD F MOIGIS
2477	GHASSAN KRIDLE

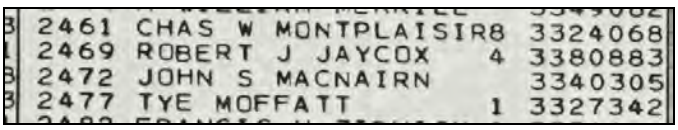
BRENTHAVEN CT

1995 Cole Information

2461	MONTPLAISIR, CHARLES W
2469	SEVEN STARS INTL TRADING CO
	OCCUPANT UNKNOWNN
2477	MOFFATT, TYE

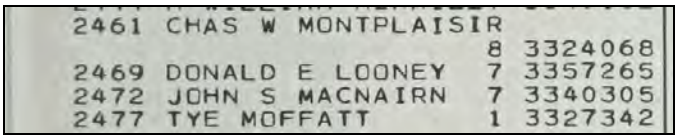
BRENTHAVEN CT

1977 Bressers



BRENTHAVEN CT

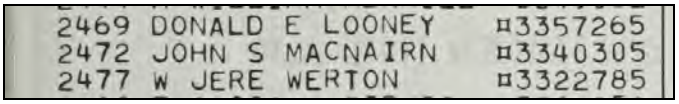
1972 Bressers



FINDINGS

BRENTHAVEN CT

1967 Bressers


2469 DONALD E LOONEY ¤3357265
2472 JOHN S MACNAIRN ¤3340305
2477 W JERE WERTON ¤3322785

FINDINGS

BRENTHAVEN DR

2024 Cole Information

2111	WILLIE R KEEL
2127	FRANKLIN J LEWIS
2143	TAYLOR M CHESLOCK
2159	ANN D CHRIST
2185	TAYADRA L CABBELL JR
	LYNN JAMES
2239	Marsha Rogers
2331	Detroit Pop Shop Inc
	CRAIG C CUSHING
2353	ROGER H HAMMER
	RAVI BHATTIPROLU
2441	MATTHEW J DYKSTRA
2482	JOHN SLANGA
2491	EDWARD V MIU

BRENTHAVEN DR

2022 Cole Information

2111	LEGACY POWER WASHING SERVICES
	Willie R Keel
2127	Allison P Goldstein
2143	Steven J Hoffman
2159	Ann D Christ
2239	MARSHA ROGERS
	William M Rogers
2331	Craig C Cushing
2353	Ravi Bhattiprolu
2409	Evan J Dawley SR
2441	Bea Harris
2482	John Slanga
2491	Edward V Miu

BRENTHAVEN DR

2017 Cole Information

2111	TODD B KEEL
2127	ALLISON GOLDSTEIN
2159	PAUL D CHRIST
2239	ROGERS MARSHA
	WILLIAM M ROGERS
2331	DETROIT POP SHOP INC
	CRAIG C CUSHING
2353	RAVI BHATTIPROLU
2409	CARL N DESILVA
2441	EDWIN S HARRIS
2491	TAYLOR O BRADLEY

BRENTHAVEN DR

2014 Cole Information

2111	TODD B KEEL
2127	MARK K GOLDSTEIN
2143	STEVEN J HOFFMAN
2159	PAUL D CHRIST
2185	GM M CABBELL
2239	WILLIAM M ROGERS
2331	JO HAVILAND
2353	RAVI BHATTIPROLU
2409	CARL N DESILVA
2441	OCCUPANT UNKNOWN
2482	FRANCIS W ZIDWICK
2491	BARBARA B BRADLEY

BRENTHAVEN DR

2014 Data Axle

2239	IMPACT ADVERTISING SPECIALIST

FINDINGS

BRENTHAVEN DR

2010 Cole Information

2111	TODD B KEEL
2143	STEVEN J HOFFMAN
2159	PAUL D CHRIST
2185	WILLIAM J HERTLE
2239	IMPACT ADVERTISING SPECIALIST
	WILLIAM M ROGERS
2331	JOANN HAVILAND
2353	RAVI BHATTIPROLU
2409	CARL N DESILVA
2441	EDWIN S HARRIS
2482	FRANCIS W ZIDWICK
2491	DONALD L BRADLEY

BRENTHAVEN DR

2005 Cole Information

2111	RUTH TREASURE TRUNK
	LEGACY POWER WASHING SERVICES
	WILLIE R KEEL
2127	MARK K GOLDSTEIN
2143	STEVEN J HOFFMAN
2159	PAUL D CHRIST
2185	MICHAEL MCMILLIAN
2239	WILLIAM M ROGERS
2331	KEVIN G DEEVEY
2353	ROGER H HAMMER
2409	CARL N DESILVA
2441	EDWIN F HARRIS
2482	FRANCIS W ZIDWICK
2491	DONALD L BRADLEY

BRENTHAVEN DR

2000 Cole Information

2127	ROBBINS LEWIS R CPA

BRENTHAVEN DR

2000 (cont.) Cole Information

2127	LEWIS R ROBBINS
2143	STEVEN HOFFMAN
2159	DANIEL CHRIST
2185	KLAUS J STUTZER
2239	WILLIAM M ROGERS
2331	DEEVEY IVAN OD
2353	ROGER H HAMMER
2409	CARL N DESILVA
2441	EDWIN F HARRIS

BRENTHAVEN DR

1995 Cole Information

2111	KEEL, JIMMIE H
2127	ROBBINS, LEWIS R
2143	LUEDEKE, JOHN R
2185	OCCUPANT UNKNOWNN
2239	ROGERS, WILLIAM M
2331	DEEVEY, IVAN
2409	DESILVA, CARL N
2441	HARRIS, EDWIN F

BRENTHAVEN DR

1992 Cole Information

2111	KEEL, JIMMIE H
2127	ROBBINS, LEWIS R
2143	MAIN, CHARLES A
2239	ROGERS, WILLIAM M
2331	DEEVEY, IVAN
2409	DESILVA, CARL N
2441	HARRIS, EDWIN F
2461	MONTPLAISIR, CHARLES W
2469	MOIGIS, W F
2477	MOFFATT, TYE

FINDINGS

BRENTHAVEN DR

1987 Bressers

2111	JIMMIE H KEEL	8	3381109
2124	CARSON E BROWN	0	8587495
2127	LEWIS R ROBBINS		3388365
2143	CHARLES A MAIN		3340363
2150	FLOYD E ALLEN		3355390
2159	FLOYD J ZINN		3343825
2185		NP	
2200	KIRK W HANSEN		3344822
2239	WILLIAM M ROGERS	6	3387779
2331*	DR IVAN DEEVEY		3324075
2353	ROGER H HAMMER		3382575
2409	CARL N DESILVA		3357379
2422	CRAIG D REBOLD		3326854
2441	EDWIN F HARPER		3388283
2461	CHAS W MONTPLAISIR		3324068
2469	W F MOIGIS	3	3327592
2477	TYE MOFFATT		3327342
2482	FRANCIS W ZIDWICK		3354223
2491		NP	

BRENTHAVEN DR

1982 Bressers

2111	JIMMIE H KEEL	8	3381109
2124	CARSON E BROWN	0	8587495
2127	LEWIS R ROBBINS		3388365
2143	CHARLES A MAIN		3340363
2150	FLOYD E ALLEN	5	3355390
2159	FLOYD J ZINN		3343825
2185	ALEXANDER ORTOLANO	1	3342529
2200	KIRK W HANSEN	3	3344822
2239	DAVID E BERTKE	8	3381790
2331	DR IVAN DEEVEY		3324075
2353	ROGER H HAMMER		3382575
2409	CARL N DESILVA		3357379
2422	CRAIG D REBOLD		3326854
2441	EDWIN F HARPER		3388283
2444	H WILLIAM MERRILL		3349062
2461		NP	
2469	ROBERT J JAYCOX	4	3380883
2472	JOHN S MACNAIRN		3340305
2477	TYE MOFFATT		3327342
2482	FRANCIS W ZIDWICK		3354223
2491		NP	

BRENTHAVEN DR

1977 Bressers

2127	LEWIS R ROBBINS	0	3388365
2143	CHARLES A MAIN	1	3340363
2150	FLOYD E ALLEN	5	3355390
2159	FLOYD J ZINN	9	3343825
2166	S J YOCCA	5	3349385
2182	CLIFFORD E HIRSCH	8	3350108
2185	CHARLES E HOKE		3346504
2200	KIRK W HANSEN	3	3344822
2239		NP	
2331*	DR IVAN DEEVEY		3324075
2353	ROGER H HAMMER	0	3382575
2409	CARL N DESILVA		3357379
2422	CRAIG D REBOLD		3326854
2441	EDWIN F HARRIS	9	3388283
2482	FRANCIS W ZIDWICK	9	3354223
2491	ROBERT O BRADLEY	8	3346544

BRENTHAVEN DR

1976 Michigan Bell Telephone Company

2127	Robbins Lewis R CPA

BRENTHAVEN DR

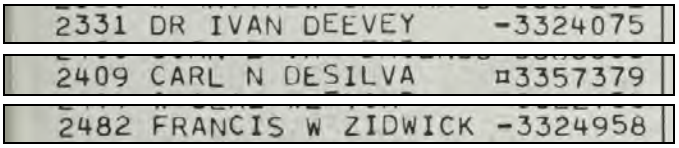
1972 Bressers

2127	LEWIS R ROBBINS	0	3388365
2143	CHARLES A MAIN	1	3340363
2150	C D TRESTRAIL	7	3349604
2159	BETTY JANE ZINN	0	3343825
	FLOYD J ZINN	9	3343825
2185	CHARLES E HOKE		3346504
2200	JOHN V WEST	6	3355148
2239		NP	
2331	DR IVAN DEEVEY	7	3324075
2353	ROGER H HAMMER	0	3382575
2409	CARL N DESILVA	7	3357379
2422	CRAIG D REBOLD	6	3326854
2441	EDWIN F HARRIS	9	3388283
2482	FRANCIS W ZIDWICK	9	3354223
2491	ROBERT O BRADLEY	8	3346544

FINDINGS

BRENTHAVEN DR

1967 Bressers



FINDINGS

COLONIAL PARK CT

2024 Cole Information

2211	THOMAS E BARLOW
2217	CHARLES C NEWELL
2223	JAMES G DELEON

COLONIAL PARK CT

2022 Cole Information

2211	Barlow Thomas
2217	Charles C Newell
2223	James G Deleon
	George D Deleon

COLONIAL PARK CT

2017 Cole Information

2211	THERESA K BARLOW
2217	CHARLES C NEWELL
2223	LINDA E MYERS

COLONIAL PARK CT

2014 Cole Information

2211	THOMAS E BARLOW
2217	CHARLES C NEWELL
2223	LAUREA L MYERS

COLONIAL PARK CT

2010 Cole Information

2211	GORDON H HORSBURGH
2217	CHARLES C NEWELL
2223	LI CHAO

COLONIAL PARK CT

2005 Cole Information

2211	GORDON HORSBURGH
2217	CHARLES E MARENTETTE
2223	JOSHUA ROGERS

COLONIAL PARK CT

2000 Cole Information

2211	GORDON HORSBURGH
2217	ROBERT E STEVENS
2223	JERRY DENNIS

COLONIAL PARK CT

1995 Cole Information

2211	HORSBURGH, GORDON
2223	DENNIS, JERRY

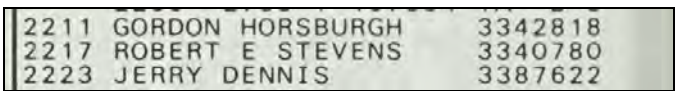
COLONIAL PARK CT

1992 Cole Information

2211	HORSBURGH, GORDON	
2217	STEVENS, ROBERT E	
2223	DENNIS, JERRY	

COLONIAL PARK CT

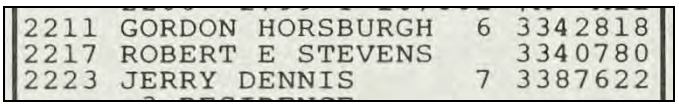
1987 Bressers



FINDINGS

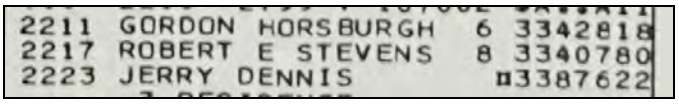
COLONIAL PARK CT

1982 Bressers


2211 GORDON HORSBURGH 6 3342818
2217 ROBERT E STEVENS 3340780
2223 JERRY DENNIS 7 3387622

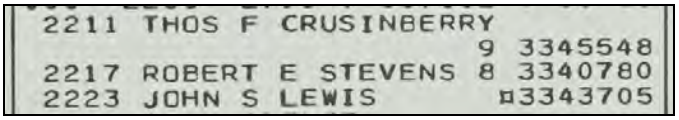
COLONIAL PARK CT

1977 Bressers


2211 GORDON HORSBURGH 6 3342818
2217 ROBERT E STEVENS 8 3340780
2223 JERRY DENNIS 3387622

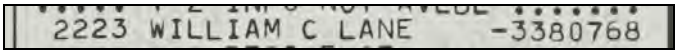
COLONIAL PARK CT

1972 Bressers


2211 THOS F CRUSINBERRY
9 3345548
2217 ROBERT E STEVENS 8 3340780
2223 JOHN S LEWIS 3343705

COLONIAL PARK CT

1967 Bressers


2223 WILLIAM C LANE -3380768

FINDINGS

GREENGLEN CT

2024 Cole Information

1270	ADAM FREESE

GREENGLEN CT

2022 Cole Information

1270	Adam Freese JULIAN BROTHERS BAKERY

GREENGLEN CT

2017 Cole Information

1270	ANNETTE JULIAN

GREENGLEN CT

2014 Cole Information

1270	ANNETTE JULIAN

GREENGLEN CT

2010 Cole Information

1270	CARROLL SAMUEL MARYANN A CARROLL

GREENGLEN CT

2005 Cole Information

1270	Unit 46 MARYANN A CARROLL

GREENGLEN CT

2000 Cole Information

1270	SAM C CARROLL

GREENGLEN CT

1995 Cole Information

1270	CARROLL, SAM C

GREENGLEN CT

1992 Cole Information

1270	CARROLL, SAM C

GREENGLEN CT

1987 Bressers

1270	E M RILEY

GREENGLEN CT

1982 Bressers

1270	WILLIAM J RILEY

FINDINGS

IVYGLEN CIR

2024 Cole Information

1101	JEAN M GODDARD

IVYGLEN CIR

2022 Cole Information

1101	WILDLIFE INDUSTRIES Jean M Goddard

IVYGLEN CIR

2010 Cole Information

1101	BURDICK HARVEY HARVEY H BURDICK

IVYGLEN CIR

2005 Cole Information

1101	Unit 129 HARVEY H BURDICK NICHOLAS A GODDARD

IVYGLEN CIR

2000 Cole Information

1101	J M GODDARD

IVYGLEN CIR

1995 Cole Information

1101	BURDICK, HARVEY

IVYGLEN CIR

1987 Bressers

1101 GEO R CARLSON SR 1 8528713

IVYGLEN CIR

1982 Bressers

1101 GEO R CARLSON SR 1 8528713

FINDINGS

KENTMOOR RD

2024 Cole Information

2525	L & M Productions Llc
	LAWRENCE W TRINKAUS
2575	PAIGE N SICKMILLER
2580	DUSTIN KAZAN
2600	Schiemann Consulting Inc
	MARVIN G SCHIEMANN
2620	Richard P Landry
	RICHARD P LANDRY

KENTMOOR RD

2022 Cole Information

2525	Laurence Trinkaus
2575	Jeffrey M Reid
2580	William A Ogilvie
2600	Marvin G Schiemann

KENTMOOR RD

2022 Data Axle

2600	SCHIEMANN CONSULTING INC

KENTMOOR RD

2017 Cole Information

2525	L & M PRODUCTIONS
	LAWRENCE W TRINKAUS
2575	JEFFREY M REID
2580	DUNCAN A OGILVIE
2600	MARVIN G SCHIEMANN
2620	LANDRY RICHARD P

KENTMOOR RD

2014 Cole Information

2525	LAWRENCE W TRINKAUS
2575	OCCUPANT UNKNOWN
2580	WILLIAM A OGILVIE
2600	K S MITRA

KENTMOOR RD

2010 Cole Information

2525	LAWRENCE W TRINKAUS
2575	CHARLES E BONNICI
2580	WILLIAM A OGILVIE
2620	MARJORIE L SONC

KENTMOOR RD

2005 Cole Information

2525	MORGAN L TRINKAUS
2575	CHARLES BONNICI
2580	WILLIAM A OGILVIE
2620	MARJORIE L SONC

KENTMOOR RD

2000 Cole Information

2525	L TRINKAUS
2575	RICHARD A BAUMAN
2580	WILLIAM OGILVIE
2600	EDWARD S GWIN

FINDINGS

KENTMOOR RD

1995 Cole Information

2575	BAUMAN, RICHARD A
2580	OGILVIE, WILLIAM
2600	GWIN, EDWARD S
2620	OCCUPANT UNKNOWNN

KENTMOOR RD

1992 Cole Information

2575	BAUMAN, RICHARD A
2580	OGILVIE, WILLIAM
2600	GWIN, EDWARD S

KENTMOOR RD

1991 Michigan Bell Telephone Company

2620	SONC Joseph A

KENTMOOR RD

1989 Polk Directory Co

2525 Trinkaus Lawrence W cinematographer
◎ 646-7762
2575 Bauman Richd A ◎ 644-8381
2580 Ogilvie Wm A ◎ 540-7056

2600 No Return

2620 Sonc Joseph A ◎ 642-0150

KENTMOOR RD

1987 Bressers

2525	LAWRENCE TRINKAUS	9	6467762
2575	RICHARD A BAUMAN		6448381
2580	WILLIAM OGILVIE	6	5407056
2600	EDWARD S GWIN	0	6465435
2609	ROGER WOZ		¤6462644
2620	JOSEPH A SONC		6420150

KENTMOOR RD

1985 Polk Directory Co

2525 Trinkaus Lawrence W cinematographer
◎ 646-7762
2575 Bauman Richd A ◎ 644-8381
2580 Ogilvie Wm S 540-7056

2600 Gwin Edw S ◎ 646-5435
2609 Clark Robt F ◎ 646-0390
2620 Sonc Joseph A ◎ 642-0150

KENTMOOR RD

1982 Bressers

2525	LAWRENCE TRINKAUS	9	6467762
2575	RICHARD A BAUMAN	6	6448381
2580		NP	
2600	EDWARD S GWIN	0	6465435
2609	ROBERT F CLARK		6460390
2620	JOSEPH A SONC	3	6420150
	M L SONC	9	6421026

KENTMOOR RD

1980 Polk Directory Co

2525 Trinkaus Lawrence W cinematographer
◎ 646-7762
2575 Bauman Richd A ◎ 644-8381
2580 Vacant

2600 Gwin Edw S ◎
2609 Clark Robt F ◎ 646-0390
2620 Sonc Joseph A ◎ 642-0150

KENTMOOR RD

1977 Bressers

2525	MARC HAYNES	9	6427253
2575	RICHARD A BAUMAN	6	6448381
2580	GLENN B BROWN		¤6471991
2600		NP	
2609	ROBERT F CLARK		6460390
2620	GARY A SHAW	4	6421026
	JOSEPH A SONC	3	6420150

FINDINGS

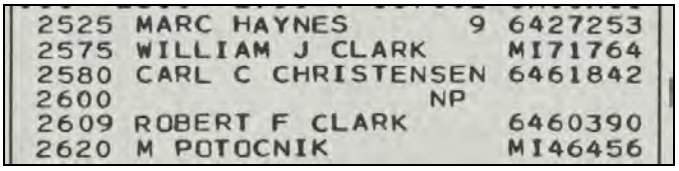
KENTMOOR RD

1975 Polk Directory Co

2525 Haynes Shirley Mrs ◎ 642-7253
2575 Clark Wm J ◎ MI7-1764
2580 Christensen Carl C ◎
ROBSON LA INTERSECTS
2600 Gwin Edw S ◎
2609 Clark Robt F ◎ MI6-0390
2620 Sonc Joseph A ◎ 642-0150

KENTMOOR RD

1972 Bressers


2525 MARC HAYNES 9 6427253
2575 WILLIAM J CLARK MI71764
2580 CARL C CHRISTENSEN 6461842
2600 NP
2609 ROBERT F CLARK 6460390
2620 M POTOCNIK MI46456

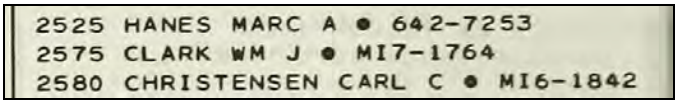
KENTMOOR RD

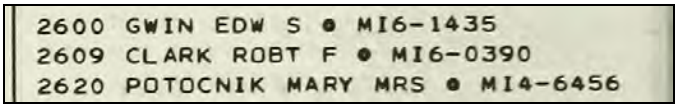
1970 Polk Directory Co

2525 Hanes Marc A ◎ 642-7253
2575 Clark Wm J ◎ MI7-1764
2580 Christensen Carl C ◎ MI6-1842
ROBSON LA INTERSECTS
2600 Gwin Edw S ◎
2609 Clark Robt F ◎ MI6-0390
2620 Potocnik Mary Mrs ◎ MI4-6456

KENTMOOR RD

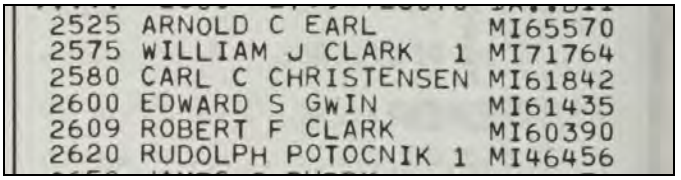
1969 Polk Directory Co


2525 HANES MARC A • 642-7253
2575 CLARK WM J • MI7-1764
2580 CHRISTENSEN CARL C • MI6-1842


2600 GWIN EDW S • MI6-1435
2609 CLARK ROBT F • MI6-0390
2620 POTOCNIK MARY MRS • MI4-6456

KENTMOOR RD

1967 Bressers


2525 ARNOLD C EARL MI65570
2575 WILLIAM J CLARK 1 MI71764
2580 CARL C CHRISTENSEN MI61842
2600 EDWARD S GWIN MI61435
2609 ROBERT F CLARK MI60390
2620 RUDOLPH POTOCNIK 1 MI46456

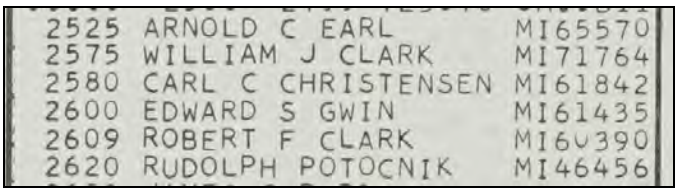
KENTMOOR RD

1965 Polk Directory Co

2525 Earl Arnold C ◎ MI 6-5570
2575 Clark Wm J ◎ MI 7-1764
2580 Christensen Carl C ◎ MI 6-1842
Robson la intersects
2600 Gwin Edw S ◎ MI 6-1435
2609 Clark Robt F ◎ MI 6-0390
2620 Potocnik Rudolph ◎ MI 4-6456

KENTMOOR RD

1962 Bressers


2525 ARNOLD C EARL MI65570
2575 WILLIAM J CLARK MI71764
2580 CARL C CHRISTENSEN MI61842
2600 EDWARD S GWIN MI61435
2609 ROBERT F CLARK MI60390
2620 RUDOLPH POTOCNIK MI46456

KENTMOOR RD

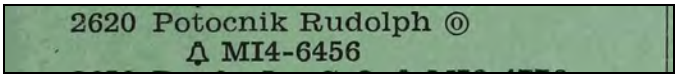
1960 Polk Directory Co

2525 Earl Arnold C ◎ 🔔 MI6-5570
2575 Clark Wm J ◎ 🔔 MI7-1764
2580 Christensen Carl C ◎
🔔 MI6-1842
Robson la intersects
2600 Gwin Edw S ◎ 🔔 MI6-1435

FINDINGS

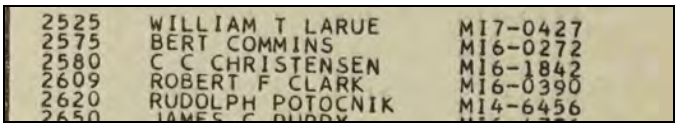
KENTMOOR RD

1960 (cont.) Polk Directory Co


2620 Potocnik Rudolph ⓪
MI4-6456

KENTMOOR RD

1957 Bressers


2525 WILLIAM T LARUE MI7-0427
2575 BERT COMMINS MI6-0272
2580 C C CHRISTENSEN MI6-1842
2609 ROBERT F CLARK MI6-0390
2620 RUDOLPH POTOCNIK MI4-6456

KENTMOOR RD

1956 Polk Directory Co


2525 LaRue Wm T ⓪
2575 Commins Bert E ⓪
2580 Christensen Carl C ⓪
2620 Potocnik Rudolph ⓪

KENTMOOR RD

1954 Bressers


2525 R M NEYHART MI4-4765

FINDINGS

LOST TREE WAY

2024 Cole Information

2479 ERIK C SNYDER

LOST TREE WAY

2022 Cole Information

2479 Erik Snyder

LOST TREE WAY

2017 Cole Information

2479 LAWRENCE W TRINKAUS

LOST TREE WAY

2014 Cole Information

2479 OCCUPANT UNKNOWN

LOST TREE WAY

2010 Cole Information

2479 STEVE T SUTTON

LOST TREE WAY

2000 Cole Information

2479 ARTHUR D MOORE

LOST TREE WAY

1995 Cole Information

2479 MOORE, ARTHUR D

LOST TREE WAY

1992 Cole Information

2479 MOORE, ARTHUR D

LOST TREE WAY

1987 Bressers



LOST TREE WAY

1982 Bressers



LOST TREE WAY

1977 Bressers



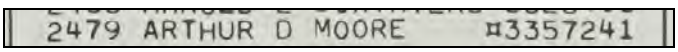
LOST TREE WAY

1972 Bressers



LOST TREE WAY

1967 Bressers



FINDINGS

N ADAMS RD

2024 Cole Information

6001	Ste 135 Law Office Mtthew A Ferri Pllc
	Ste 215 Carls Foundation
	Ste 100 Accounting Resolutions Llc
	Ste 250 Vbpm Llc
	Ste 285 Atrio Systems Oldco Inc
	Ste 165 Lahser Pre-Vocational Ctrs Inc
	Ste 255 Unified Tech Group Inc
	Ste 202 Tr Design Group Llc
	Ste 250 Birmingham Executive Suites
	Ste 205 Lee Ann Pantalone
	Ste 200 Dynalog Inc
	Ste 165 D And M Consultants Inc
	Ste 208 Hcs Resource Llc
	Ste 201 Tdm Retirement Services Llc
	Ste 165 Allied Human Services
	Ste 100 Qek Global Solutions
	Ste 100 National Workforce Inst Llc
	Ste 251 Reko International Holdings
	Gongos Associates
	Ste 115 True Market Llc
	Ste 135 Wealth Creation Strategies
	Ste 165 Progrssive Rsdntial Svcs Nm In
	Ste 165 Quality South Inc
	Ste 135 Summit Wealth Management Inc
	Ste 205 H Rn Llc
	Ste 103 Marketing Success Inc
	Ste 165 Comprhnsive Svcs For Dvlpmntll
	Ste 265 Miller Media Llc
	Ste 165 Alternative Choices Llc
	Ste 201 Mcleod Agency Inc
	VERONICA GONZALEZ
	CLAUDE J JODOIN
	DONALD A MCLEOD

N ADAMS RD

2022 Cole Information

6001	SINE INC
	Ste 165 ALLIED HUMAN SERVICES
	Ste 215 ETHEL & JAMES FLINN FOUNDATION
	Ste 205 BANDIT SECURING SYSTEMS
	Ste 208 HUMAN CAPITAL STAFFING
	Ste 165 PROGRESSIVE RESIDENTIAL SERVICES
	Ste 250 EAGLE MACHINE & FASTENERS INC
	Ste 285 NUSOFT SOLUTIONS
	Ste 106 QEK
	AULTMAN HOSPITAL
	Ste 200 DYNALOG INC
	Ste 210 SMUDE & ASSOCIATES
	Ste 255 VFI MARKETING
	Ste 165 PROGRESSIVE RESIDENTIAL SERVICES, INC
	Ste 250 TCA HOLDINGS, LLC
	LAW OFFICE OF MATTHEW A. FERRI, PLLC
	Ste 100 SINE INC
	Ste 250 EAGLE GROUP USA INC
	Ste 208 HUMAN CAPITAL STAFFING, L.L.C
	Ste 205 EAGLE GROUP USA
	Ste 208 HUMAN CAPITAL STAFFING LLC
	Ste 150 NAVIGATION SOLUTIONS
	Ste 135 LPL FINANCIAL
	Ste 205 HRN
	Ste 185 TTI GLOBAL
	Ste 135 WEALTH CREATION STRATEGIES INC
	TRUE MARKETS
	Ste 215 CARLS FOUNDATION
	Ste 205 MANAIA CAPITAL MANAGEMENT
	Ste 100 ACCOUNTING RESOLUTION
	Ste 100 GONGOS RESEARCH
	Ste 285 ATRIO SYSTEMS INC
	Ste 285 ATRIO
	Ste 265 MILLER MEDIA INC
	Ste 100 GONGOS RESEARCH , INC
	Ste 100 LEARNING DESIGNS INC
	GONGOS RESEARCH

FINDINGS

N ADAMS RD

2022 (cont.)

Cole Information

6001	Ste 100
	Ste 100 QEK GLOBAL SOLUTIONS LTD
	Ste 115 IBX TRADING LLC
	Ste 205 EAGLE GROUP
	Ste 203 ASSOCIATED ENVIRONMENTAL SERVICES
	Ste 165 D & M CONSULTANTS INC
	Ste 125 IDEAL MACHINE
	MACLEAN FOOG
	Ste 135 ROCKET HEALTH LLC
	PANTALONE LEE ANN
	Ste 255 VIRTUAL FABRICATION INTERNATIONAL MI
	TDM RETIREMENT SERVICES
	Ste 205 EAGLE GROUP USA INC
	Ste 100 LEARNING DESIGNS
	Ste 185 TECHNICAL TRAINING
	Ste 265 MILLER MEDIA
	PROGRESSIVE RESIDENTIAL SERVICES
	NUSOFT SOLUTIONS
	Ste 250 EAGLE GROUP
	Ste 255 AUTO-LAB FRANCHISING LLC
	Ste 201 THE MCLEOD GROUP INC
	Ste 103 STATE FARM INSURANCE
	Ste 205 WILLIAM G MALLON CPA
	Ste 202 TR DESIGN GROUP LLC
	Ste 135 LAW OFFICE OF MATTHEW A FERRI PLLC
	Ste 265 MILLER MEDIA, INC.

N ADAMS RD

2017

Cole Information

5929	SURESH ANNE
6001	Ste 205 H RN LLC
	Ste 201 TDM RETIREMENT SERVICES LLC

N ADAMS RD

2017 (cont.)

Cole Information

6001	Ste 208 HUMAN CAPITAL STAFFING LLC
	Ste 250 WB REHABILITATION & CLAIM SERV
	MACLEAN FOOG
	ADAMS WOODS OFFICE
	Ste 250 MAC LEAN-FOGG COMPANY
	GONGOS ASSOCIATES
	Ste 103 KLEMP ADAM JOSEPH
	Ste 100 NATIONAL WORKFORCE INST LLC
	Ste 202 TR DESIGN GROUP LLC
	Ste 205 SMART IT PROS INC
	Ste 215 CARLS FOUNDATION
	Ste 250 KIMBLE DENNIS
	Ste 205 ADVANTAGE CONSULTING GROUP
	Ste 255 VIRTUAL FABRICATION INTL LLC
	Ste 208 HCS RESOURCE LLC
	Ste 205 VERTICAL SOLUTIONS INC
	Ste 205 PANTALONE LEE ANN
	Ste 115 TRUE MARKET LLC
	Ste 201 MCLEOD AGENCY INC

N ADAMS RD

2014

Cole Information

5929	SURESH ANNE
6001	Ste 100 Q E K SOLUTIONS INC
	Ste 100 Q E K GLOBAL SOLUTIONS INC
	Ste 100 Q E K GLOBAL SOLUTIONS
	Ste 202 TR DESIGN GROUP LLC
	Ste 135 WEALTH CREATION STRATEGIES INC
	VBPM
	Ste 165 ALLIED SERVICES
	Ste 205 ASSOCIATED ENVIRONMENTAL SERVICES
	ETHIX GREAT LAKES
	Ste 165 ALLIED HUMAN SERVICES
	ADAMS WOODS EXECUTIVE OFFICE COMPLEX

FINDINGS

N ADAMS RD

2014 (cont.) Cole Information

6001	Ste 215 CARLS FOUNDATION THE
	Ste 200 DYNALOG INC
	Ste 250 DEFOE TRAVEL SERVICE
	FIRSTLIGHT HOME CARE
	GONGOS & ASSOCIATES
	IDEAL MACHINE TOOL
	Ste 208 HCS HUMAN CAPITAL STAFFING
	Ste 201 MCLEOD GROUP INC THE
	Ste 210 MANAIA CAPITAL MANAGEMENT
	Ste 150 NAVIGATION SOLUTIONS

N ADAMS RD

2010 Cole Information

6001	Ste 250 DEFOE TRAVEL SVC
	Ste 150 NAVIGATION SOLUTIONS
	Ste 250 EAGLE GROUP USA INC
	Ste 201 MC LEOD GROUP INC
	Ste 202 DATA COMMUNICATIONS CORP
	GONGOS & ASSOC
	H G REALTY
	VBPM
	Ste 203 ASSOCIATED ENVIRONMENTAL SVC
	Ste 210 SMUDE & ASSOC
	Ste 208 HCSHUMAN CAPITAL STAFFING
	EXTREME LEADS
	QEK GLOBAL SOLUTIONS
	Ste 200 DYNALOG INC
	Ste 250 HRN
	TAI GENE
	Ste 201 ROYAL ALLIANCE ASSOC INC
	QUALEFFIC INC

N ADAMS RD

2005 Cole Information

6001	Ste 103 INVESTORS LLC
	Ste 105 NAVIGATION SOLUTIONS LLC
	Ste 210 QUALEFFIC INC
	Q E K GLOBAL SOLUTIONS
	REALTY LLC
	DYNALOG INC
	Ste 100 CREATIVE AUTOMOTIVE PROF
	Ste 135 MEADOWBROOK MORTGAGE CORP
	Ste 201 MCLEOD KOSKI AGENCY INC
	OKEEFE & ASSOCIATES
	Ste 250 GONGOS AND ASSOCIATES INC
	SERVICE AMERICA COURIER CORP
	Ste 115 SITE DISTRIBUTORS INC
	GREG A MIKETA
	R EDWARDS

N ADAMS RD

2000 Cole Information

6001	GONGOS AND ASSOCIATES
	HAMILTON GROUP SERVICES INCORPORATED
	INTEGRATED RESOURCES EQUITY CORPORATION
	MCLEOD AGENCY INCORPORATED
	ASI SOFTWARE
	HAMILTON GROUP

N ADAMS RD

1998 Cole Information

6201	L DAGOSTINI & SONS INC
	PRELOAD CO

FINDINGS

N ADAMS RD

1997 Polk Directory Co

6201	L D'AGOSTINI SONS INC

N ADAMS RD

1995 Cole Information

6001	ENGINEERED ENVIRONMENTS INC
	BENEFITS PLUS INC
	MANUFACTURERS BANK
	KAGL INC
	ETHIX GREAT LAKES
	MC LEOD AGENCY INC
	FIRST EQUIPMENT CO
	CLOROX CO
	MC DONNELL DOUGLAS FINANCE
	SIGNATURE PRDCTN
	TRIPLE CHECK INCOME TAX SVC
	LJT ACCOUNTING SVC
	JET SUPPORT SVC
	INTEGRATED RESOURCES EQUITY

N ADAMS RD

1992 Cole Information

6001	BENEFITS PLUS INC
	D MCDONNELL FNC CP
	SIGNATURE PRDCTN
	MANUFACTURERS BANK
	ENGINEERED ENVRNMT
	KAGL INC

N ADAMS RD

1989 Polk Directory Co

6001 Manufacturers National Bank Of
Detroit 258-0340

N ADAMS RD

1987 Bressers

6001*ELECTRNC DATA SYST 2584000
*MANUF NTL BNK DET 2580340

6201	NP

N ADAMS RD

1985 Polk Directory Co

6001 Manufacturers National Bank Of
Detroit 258-0340

N ADAMS RD

1978 Bressers

6201 1/2	NP

N ADAMS RD

1977 Bressers

6201 1/2	NP

N ADAMS RD

1972 Bressers

6201 1/2	NP

FINDINGS

N ADAMS RD

1967 Bressers

6201	NP

FINDINGS

ROBSON LN

2024 Cole Information

1225	OSKAR LINING
1235	KEVIN M DEVERGILIO
1245	LOUIS J VITELLO
1255	DAVID P LOGAN JR

ROBSON LN

2022 Cole Information

1225	Oskar Lining
1235	Kevin M Devergilio
1245	Louis Vitello
1255	David Logan

ROBSON LN

2017 Cole Information

1235	SAM DUHAIME
1245	LOUIS VITELLO
1255	DAVID P LOGAN
1265	DEBORAH R DEPORRE

ROBSON LN

2014 Cole Information

1225	OCCUPANT UNKNOWN
1235	JAY HARTMAN
1245	OCCUPANT UNKNOWN
1255	WILLIE B BANKS
1265	DEBORAH A DEPORRE

ROBSON LN

2010 Cole Information

1235	JEANETTE HARTMAN
1245	R E MOOREHOUSE & ASSOC
	ROBERT E MOORHOUSE

ROBSON LN

2005 Cole Information

1225	MARTHA LINING
	OSKAR LINING
1235	JOHN A HARTMAN
1245	ROBERT E MOORHOUSE
1255	PIERRE A DEPORRE

ROBSON LN

2000 Cole Information

1225	OSKAR LINING
1235	JOHN A HARTMAN
1245	JAMES CARNACCHI
1255	DEPORRE PIERRE DVM
1265	DEPOORE PIERRE L DVM
	PIERRE L DEPORRE

ROBSON LN

1995 Cole Information

1225	LINING, OSKAR
1235	HARTMAN, JOHN A
1245	MOORHOUSE, ROBERT

FINDINGS

ROBSON LN

1992 Cole Information

1225	LINING, OSKAR
1245	MOORHOUSE, ROBERT
1265	BUTTERWORTH, ALLEN V

ROBSON LN

1989 Polk Directory Co

1225 Lining Oskar ◎ 642-0917

1235 Benz Wm D ◎ 540-4787
1245 Moorhouse Robt E ◎ 646-0137
1255 Brown James R ◎ 642-0668

1265 Butterworth Erma A Mrs ◎ 642-9196

ROBSON LN

1987 Bressers

1225	OSKAR LINING	6420917
1234	NP	
1235	DOUG BENZ	5404787
1245	ROBERT MOORHOUSE	6460137
1255	JAMES R BROWN	6420668
1265	A V BUTTERWORTH	6429196

ROBSON LN

1985 Polk Directory Co

1225 Lining Oskar ◎ 642-0917
1234 Vacant
1235 Benz Wm D ◎ 540-4787
1245 Moorhouse Robt E ◎ 646-0137
1255 Brown James R ◎ 642-0668
1256 Hosner Erika K Mrs ◎ 644-6646
1265 Butterworth Erma A Mrs ◎ 642-9196

ROBSON LN

1982 Bressers

1225	OSKAR LINING	7 6420917

ROBSON LN

1982 (cont.) Bressers

1235	DOUG BENZ	7 5404787
	DOUG BENZ	7 5404787
1245	ROBERT MOORHOUSE	6460137
1255	JAMES R BROWN	6420668
1265	A V BUTTERWORTH	6429196

ROBSON LN

1980 Polk Directory Co

1225 Lining Oscar ◎ 642-0917

1235 Benz Wm D ◎ 645-1613
1245 Moorhouse Robt E ◎ 646-0137
1255 Brown James R ◎ 642-0668
1256 Hosner Erika K Mrs ◎ 644-6646
1265 Butterworth Allen V ◎ 642-9196

ROBSON LN

1977 Bressers

1225	OSKAR LINING	¤6420917
1234	J BAUDER	¤6452294
1235	DOUG BENZ	-6451613
1245	ROBERT MOORHOUSE	2 6460137
1255	JAMES R BROWN	0 6420668
1256	H G HOSNER	6446646
1265	A V BUTTERWORTH	8 6429196

ROBSON LN

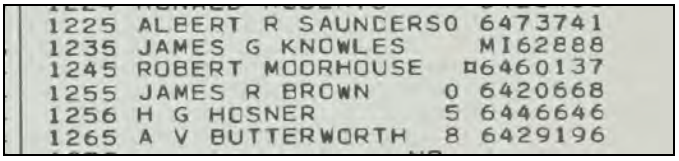
1975 Polk Directory Co

1225 Barolo Edmund F ◎ 642-9515
1234 Bauder Ray ◎ 644-8086
1235 Knowles James G ◎ MI6-2888
1245 Moorhouse Robt E ◎ 646-0137
1255 Brown James R ◎ 642-0668
1256 Hosner Herbert G ◎ MI4-6646
1265 Butterworth Allen V ◎ 642-9196

FINDINGS

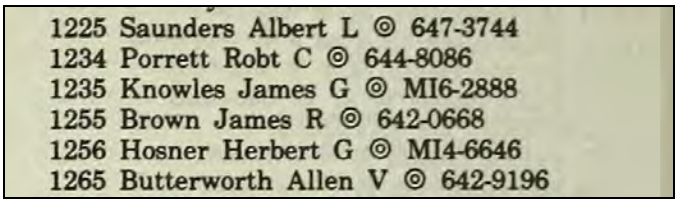
ROBSON LN

1972 Bressers


1225 ALBERT R SAUNDERS0 6473741
1235 JAMES G KNOWLES MI62888
1245 ROBERT MOORHOUSE ◻6460137
1255 JAMES R BROWN 0 6420668
1256 H G HOSNER 5 6446646
1265 A V BUTTERWORTH 8 6429196

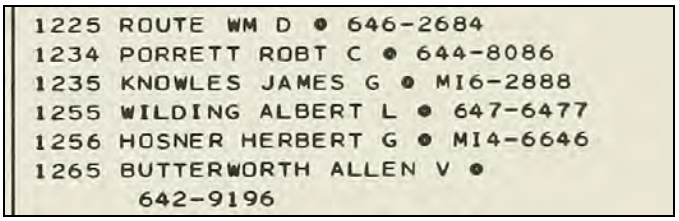
ROBSON LN

1970 Polk Directory Co


1225 Saunders Albert L ◎ 647-3744
1234 Porrett Robt C ◎ 644-8086
1235 Knowles James G ◎ MI6-2888
1255 Brown James R ◎ 642-0668
1256 Hosner Herbert G ◎ MI4-6646
1265 Butterworth Allen V ◎ 642-9196

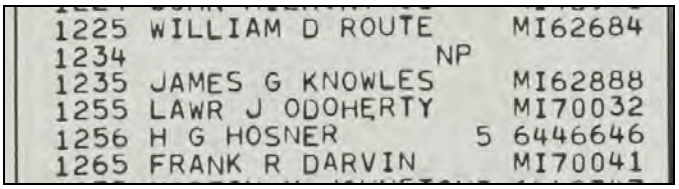
ROBSON LN

1969 Polk Directory Co


1225 ROUTE WM D ● 646-2684
1234 PORRETT ROBT C ● 644-8086
1235 KNOWLES JAMES G ● MI6-2888
1255 WILDING ALBERT L ● 647-6477
1256 HOSNER HERBERT G ● MI4-6646
1265 BUTTERWORTH ALLEN V ● 642-9196

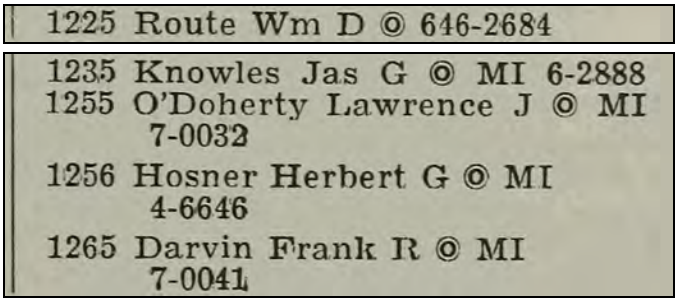
ROBSON LN

1967 Bressers


1225 WILLIAM D ROUTE MI62684
1234 NP
1235 JAMES G KNOWLES MI62888
1255 LAWR J ODOHERTY MI70032
1256 H G HOSNER 5 6446646
1265 FRANK R DARVIN MI70041

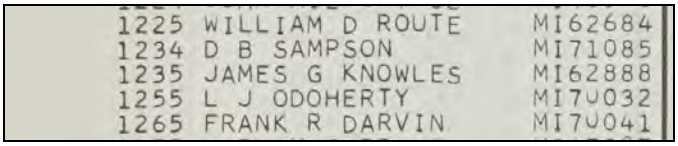
ROBSON LN

1965 Polk Directory Co


1225 Route Wm D ◎ 646-2684
1235 Knowles Jas G ◎ MI 6-2888
1255 O'Doherty Lawrence J ◎ MI 7-0032
1256 Hosner Herbert G ◎ MI 4-6646
1265 Darvin Frank R ◎ MI 7-0041

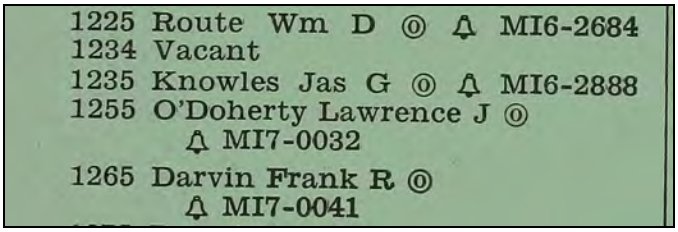
ROBSON LN

1962 Bressers


1225 WILLIAM D ROUTE MI62684
1234 D B SAMPSON MI71085
1235 JAMES G KNOWLES MI62888
1255 L J ODOHERTY MI70032
1265 FRANK R DARVIN MI70041

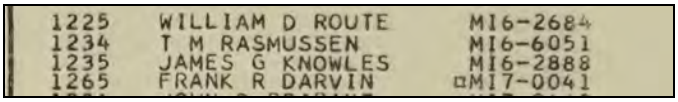
ROBSON LN

1960 Polk Directory Co


1225 Route Wm D ◎ MI6-2684
1234 Vacant
1235 Knowles Jas G ◎ MI6-2888
1255 O'Doherty Lawrence J ◎ MI7-0032
1265 Darvin Frank R ◎ MI7-0041

ROBSON LN

1957 Bressers


1225 WILLIAM D ROUTE MI6-2684
1234 T M RASMUSSEN MI6-6051
1235 JAMES G KNOWLES MI6-2888
1265 FRANK R DARVIN ◻MI7-0041

FINDINGS

ROBSON LN

1956 Polk Directory Co

1225 Route Wm D ©
1235 Knowles Jas G ©
1265 Darvin Frank R ©

FINDINGS

SQUIRREL RD

2024 Cole Information

1955	WILLIAM ROUGH
2075	ANIL KUMAR
2175	STACEY N HEALY
2593	Hillside Farms Inc
	HEATHER IRVINE
2629	ROBERT F TOMLINSON

SQUIRREL RD

2022 Cole Information

1955	William Rough
2075	Anil Kumar
2175	Stacey N Bakka
2593	Heather Irvine

SQUIRREL RD

2017 Cole Information

1955	WILLIAM ROFF
2075	SHILPA A RUNGTA
2175	STACEY N BAKKA
2593	HILLSIDE FARMS INC
	HEATHER M IRVINE
2629	BOB F TOMLINSON

SQUIRREL RD

2014 Cole Information

1955	VINCENT A MCCORMICK
2075	OCCUPANT UNKNOWN
2175	GARY E HEALY
2593	HEATHER E IRVINE
2629	BOB F TOMLINSON

SQUIRREL RD

2010 Cole Information

1955	VINCENT A MCCORMICK
2593	HEATHER I IRVINE
2629	BOB F TOMLINSON

SQUIRREL RD

2005 Cole Information

1955	VINCENT MCCORMICK
2175	A B B METALLURGY INC
2593	HEATHER I IRVINE
2629	BOB D TOMLINSON

SQUIRREL RD

2000 Cole Information

1955	RUSSELL MCCLURE
2175	A B B METALLURGY INCORPORATED
	HERBERT OBERHAUS
2593	THOMAS S TREMAIN
	HEATHER IRVINE
2629	Unit 694 THOMAS THEWES

SQUIRREL RD

1995 Cole Information

1955	LEACH, H L
2175	ABB METALLURGY INC
2593	IRVINE, HEATHER
2629	THEWES, THOMAS

FINDINGS

SQUIRREL RD

1992 Cole Information

2593	SIEBENALLER, P
	IRVINE, HEATHER
2629	Unit 694 THEWES, THOMAS

SQUIRREL RD

1989 Polk Directory Co

2593 Graves Donald C III ◎ 646-0822
2629 Thewes Thos ◎ 540-0619

SQUIRREL RD

1987 Bressers

1955 PAUL BAUGHAN 8522476
2075 2175 NP
2593 D C GRAVES III 4 6460822
2629 THOMAS THEWES 8 5400619

SQUIRREL RD

1985 Polk Directory Co

2593★Graves Donald C III ◎ 646-0822
2629 Thewes Thos ◎ 540-0619

SQUIRREL RD

1982 Bressers

1955 PAUL BAUGHAN 8522476
2075 2175 NP
2593 RALPH M IRVINE 6460822
2629 THOMAS THEWES 8 6421095

SQUIRREL RD

1980 Polk Directory Co

2593 Irvine Ralph M ins agt ◎ 646-0822
2629 Thewes Thos ◎ 642-1095

SQUIRREL RD

1977 Bressers

1955 PAUL BAUGHAN 8522476
2075 NP
2175 NP
2593 RALPH M IRVINE 6460822
2629 JOHN G HAY 5 6474170
RALPH S WIEGAND JR 5 6427128

SQUIRREL RD

1975 Polk Directory Co

2593 Irvine Ralph M ins agt ◎ 646-0822
2629 Wiegand Ralph S ◎ 642-7128

SQUIRREL RD

1972 Bressers

1955 PAUL BAUGHAN 8522476
2075 E G MCCABE 6440535
2175 HERMANN E RAMCKE 8 6445282
2593 RALPH M IRVINE 6460822
2629 RALPH S WIEGAND JR

SQUIRREL RD

1970 Polk Directory Co

2593 Irvine Ralph M ins agt ◎ 646-0822
2629 Wiegand Ralph S ◎ 644-7129

SQUIRREL RD

1969 Polk Directory Co

2593 IRVINE RALPH M INS AGT ●
646-0822
2629 WIEGAND RALPH S ● 644-7129

SQUIRREL RD

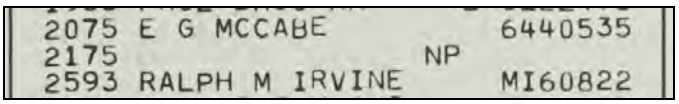
1967 Bressers

1955 PAUL BAUGHAN 2 UL22476

FINDINGS

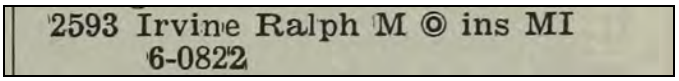
SQUIRREL RD

1967 (cont.) Bressers


2075 E G MCCABE 6440535
2175 NP
2593 RALPH M IRVINE MI60822

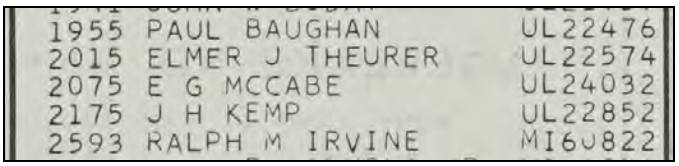
SQUIRREL RD

1965 Polk Directory Co


2593 Irvine Ralph M © ins MI
6-0822

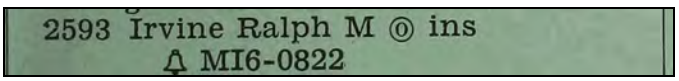
SQUIRREL RD

1962 Bressers


1955 PAUL BAUGHAN UL22476
2015 ELMER J THEURER UL22574
2075 E G MCCABE UL24032
2175 J H KEMP UL22852
2593 RALPH M IRVINE MI6U822

SQUIRREL RD

1960 Polk Directory Co


2593 Irvine Ralph M © ins
MI6-0822

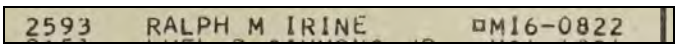
SQUIRREL RD

1958 Bressers


2075 GOULD CURTIS FE4 0165
2175 KEMP J H FE5 2540

SQUIRREL RD

1957 Bressers


2593 RALPH M IRINE MI6-0822

FINDINGS

VHAY LN

2024 Cole Information

2530	DEREK K SEGARS
2535	Foster Muslim Care Association
	ANAS O MUHAMMED
2555	JEFFREY Y LAU
2560	GARRETT J KUBIAK

VHAY LN

2022 Cole Information

2530	Derek K Segars
2535	Anas O Muhammed
2555	Amanda A Viazanko
2560	Garrett J Kubiak
2610	Ranjit A Verghese

VHAY LN

2017 Cole Information

2535	MUHAMMED A OBEID
2555	YOUNG MEDIA GROUP
	STEVE A MENKER
2610	AKHIL K BHARDWAJ

VHAY LN

2014 Cole Information

2530	RODERICK D KING
2535	GARY Z SHANGO
2555	KATHERINE S OMARA
2560	MARILYN A HENRY
2610	BHARDWAJ AKHIL MD
	AKHIL K BHARDWAJ

VHAY LN

2014 Data Axle

2555	YOUNG MEDIA GROUP

VHAY LN

2010 Cole Information

2535	GARY Z SHANGO
2555	MATTHEW C OMARA
2560	ROBINSON M HENRY

VHAY LN

2005 Cole Information

2530	ANDRE P LEVESQUE
2555	JOHN W RENFROE
2560	ROBINSON M HENRY
2610	MEMET SUIEJMANI

VHAY LN

2000 Cole Information

2555	JOHN W RENFROE
2610	PATRICE RINK

VHAY LN

2000 Data Axle

2560	HENRY, MILTON R

FINDINGS

VHAY LN

1995 Cole Information

2555	BARBER, KARON A
2560	HENRY, MILTON R
2610	HOLFORD, PARRISH T

VHAY LN

1992 Cole Information

2555	BARBER, KARON A
	FANTES, EGON E

VHAY LN

1989 Polk Directory Co

2530 Levesque P ◎
2555 Barber K A ◎ 540-0642
2560 Henry Milton R ◎

2610 Holford Parrish T 645-9684

VHAY LN

1987 Bressers

2530		NP	
2555	K A BARBER	6	5400642
	E E FANTES	6	5400642
2585	DAVID MCKENDRY	6	2586595
2610		NP	

VHAY LN

1985 Polk Directory Co

2530 Weber Charles J ◎ 645-5948
2555 Phelan Virginia H Mrs ◎ 642-2693
2560 Henry Milton R ◎ 646-3103

2610★Holford Parrish T 645-9684

VHAY LN

1982 Bressers

2530	BETTY WEBER		6455948
2555		NP	
2585	FREDK L SCHUBEL		6477749
2610		NP	

VHAY LN

1980 Polk Directory Co

2530 Weber Charles J ◎ 645-5948
2555 Phelan Gerald E ◎ 642-2693
2560 Henry Milton R ◎ 646-3103
2585 Schubel Frederic L ◎ 647-7749
2610 Halford P T 645-9684

VHAY LN

1977 Bressers

2530	BETTY WEBER	0	6455948
2555	GERALD PHELAN	8	6422693
2585	FREDK L SCHUBEL		6477749
2610	CHARLES F STOYKA		-6420449

VHAY LN

1975 Polk Directory Co

2530 Weber Charles J ◎ 645-5948
2555 Phelan Gerald E ◎
2560 Henry Milton ◎ 646-3103
2585 Schubel Frederic L ◎ 647-7749
2610 Underdown Shirley J Mrs ◎ 646-4884

VHAY LN

1972 Bressers

2530	BETTY WEBER	0	6455948
2555	GERALD PHELAN	8	6422693
2585	FREDK L SCHUBEL	7	6477749
2610	S J UNDERDOWN	0	MI64884

FINDINGS

VHAY LN

1970 Polk Directory Co

2530 Weber Charles J
2555 Phelan Gerald E ◎ 642-2693
2560 Newmyer James W ◎ 646-0709
2585 Schubel Frederic L ◎ 647-7749
2610 Underdown Shirley J Mrs ◎ 646-4884

VHAY LN

1969 Polk Directory Co

2530 ALL CITY BUILDING BLDG CONTR
HALL DONALD L 642-5953
2555 PHELAN GERALD E • 642-2693
2560 NEWMYER JAMES W • 646-0709

2610 UNDERDOWN WM E • 646-4884

VHAY LN

1967 Bressers

2555 WESLIE J HOFLAND -6460062
2560 JAMES W NEWMYER MI60709
2585 F L SCHUBEL -6477749
2610 W E UNDERDOWN 0 MI64884

VHAY LN

1965 Polk Directory Co

2555 Kallmerten James H 647-6293
2560 Newmyer Jas W ◎ MI 6-0709
2585 Darlington Theo L ◎
2610 Underdown Wm E ◎ MI 6-4884

VHAY LN

1962 Bressers

2555 ALFRED J PRELL -6470832

2560 JAMES W NEWMYER MI60709

VHAY LN

1962 (cont.) Bressers

2610 W E UNDERDOWN MI64884

VHAY LN

1960 Polk Directory Co

2555 Phelan Gerald E ◎
🔔 MI4-0296
2560 Newmyer Jas W ◎
🔔 MI6-0709
2585 Rice Russel O ◎ 🔔 MI6-5694
2610 Underdown Wm E ◎
🔔 MI6-4884

VHAY LN

1957 Bressers

2555 *ELRANCHO GRANDE MI4-0296
GERALD PHELAN MI4-0296
2560 JAMES W NEWMYER MI6-0709

VHAY LN

1956 Polk Directory Co

2555🔔Phelan Gerald E ◎
2560🔔Newmyer Jas W ◎ contr

2610🔔Underdown Wm E ◎

FINDINGS

WILLIAMSTOWN CT

2024 Cole Information

2377	MARGARET A DEMARK
2385	TROY URSELL

WILLIAMSTOWN CT

2022 Cole Information

2377	Margaret A Demark
2385	Troy Ursell

WILLIAMSTOWN CT

2017 Cole Information

2377	MARGARET A DEMARK

WILLIAMSTOWN CT

2014 Cole Information

2369	OCCUPANT UNKNOWN
2377	MARGARET A DEMARK
2385	OCCUPANT UNKNOWN

WILLIAMSTOWN CT

2010 Cole Information

2369	THOMAS E UTTER
2377	MARGARET A DEMARK
2385	CHARLES S BRANDT

WILLIAMSTOWN CT

2005 Cole Information

2369	THOMAS E UTTER
2377	MARGARET A DEMARK
2385	CHARLES S BRANDT

WILLIAMSTOWN CT

2000 Cole Information

2369	THOMAS E UTTER
2385	CHARLES S BRANDT

WILLIAMSTOWN CT

1995 Cole Information

2369	UTTER, THOMAS E
2385	BRANDT, CHARLES S

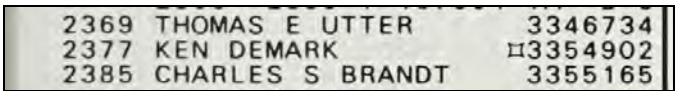
WILLIAMSTOWN CT

1992 Cole Information

2369	UTTER, THOMAS E
2385	BRANDT, CHARLES S

WILLIAMSTOWN CT

1987 Bressers


2369 THOMAS E UTTER 3346734
2377 KEN DEMARK ¤3354902
2385 CHARLES S BRANDT 3355165

WILLIAMSTOWN CT

1982 Bressers


2369 THOMAS E UTTER 3 3346734

FINDINGS

WILLIAMSTOWN CT

1982 (cont.) Bressers



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2377                    NP
2385 CHARLES S BRANDT     3355165
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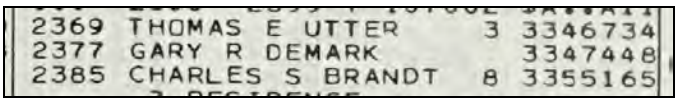
WILLIAMSTOWN CT

1977 Bressers



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2369 THOMAS E UTTER       3 3346734
2377 GARY R DEMARK          3347448
2385 CHARLES S BRANDT     8 3355165
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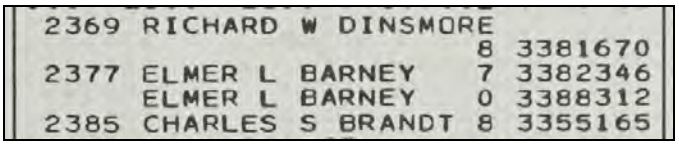
WILLIAMSTOWN CT

1972 Bressers



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2369 RICHARD W DINSMORE
                          8 3381670
2377 ELMER L BARNEY       7 3382346
     ELMER L BARNEY       0 3388312
2385 CHARLES S BRANDT     8 3355165
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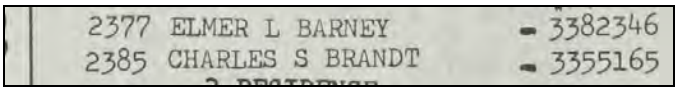
WILLIAMSTOWN CT

1967 Bressers



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2377 ELMER L BARNEY       - 3382346
2385 CHARLES S BRANDT     - 3355165
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1219 E Square Lake Road

1219 E Square Lake Road

Bloomfield Hills, MI 48304

Inquiry Number: 8305421.4

April 07, 2026

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

04/07/26

Site Name:

1219 E Square Lake Road
1219 E Square Lake Road
Bloomfield Hills, MI 48304
EDR Inquiry # 8305421.4

Client Name:

Applied Science & Technology
10448 Citation Drive
Brighton, MI 48116
Contact: Alyssa Celano

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Applied Science & Technology were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA
Project: P26-0480.00

Coordinates:

Latitude:	42.60609 42° 36' 22" North
Longitude:	-83.217303 -83° 13' 2" West
UTM Zone:	Zone 17 North
UTM X Meters:	318117.22
UTM Y Meters:	4719456.34
Elevation:	901.04' above sea level

Maps Provided:

2023	1945
2019	1936
2017	1908
2014	
1981	
1973	
1968	
1952	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2023 Source Sheets



Birmingham
2023
7.5-minute, 24000



Rochester
2023
7.5-minute, 24000



Pontiac North
2023
7.5-minute, 24000

2019 Source Sheets



Birmingham
2019
7.5-minute, 24000



Rochester
2019
7.5-minute, 24000

2017 Source Sheets



Birmingham
2017
7.5-minute, 24000



Rochester
2017
7.5-minute, 24000

2014 Source Sheets



Birmingham
2014
7.5-minute, 24000



Rochester
2014
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1981 Source Sheets



Rochester
1981
7.5-minute, 24000
Aerial Photo Revised 1981

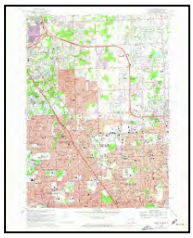


Birmingham
1981
7.5-minute, 24000
Aerial Photo Revised 1981

1973 Source Sheets

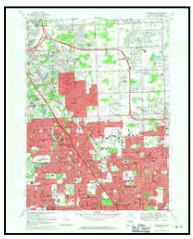


Rochester
1973
7.5-minute, 24000
Aerial Photo Revised 1973



Birmingham
1973
7.5-minute, 24000
Aerial Photo Revised 1973

1968 Source Sheets



Birmingham
1968
7.5-minute, 24000
Aerial Photo Revised 1967



Rochester
1968
7.5-minute, 24000
Aerial Photo Revised 1967

1952 Source Sheets



Birmingham
1952
7.5-minute, 24000



Rochester
1952
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1945 Source Sheets



Birmingham
1945
7.5-minute, 24000



Rochester
1945
7.5-minute, 24000

1936 Source Sheets



Birmingham
1936
7.5-minute, 31680



Rochester
1936
7.5-minute, 31680

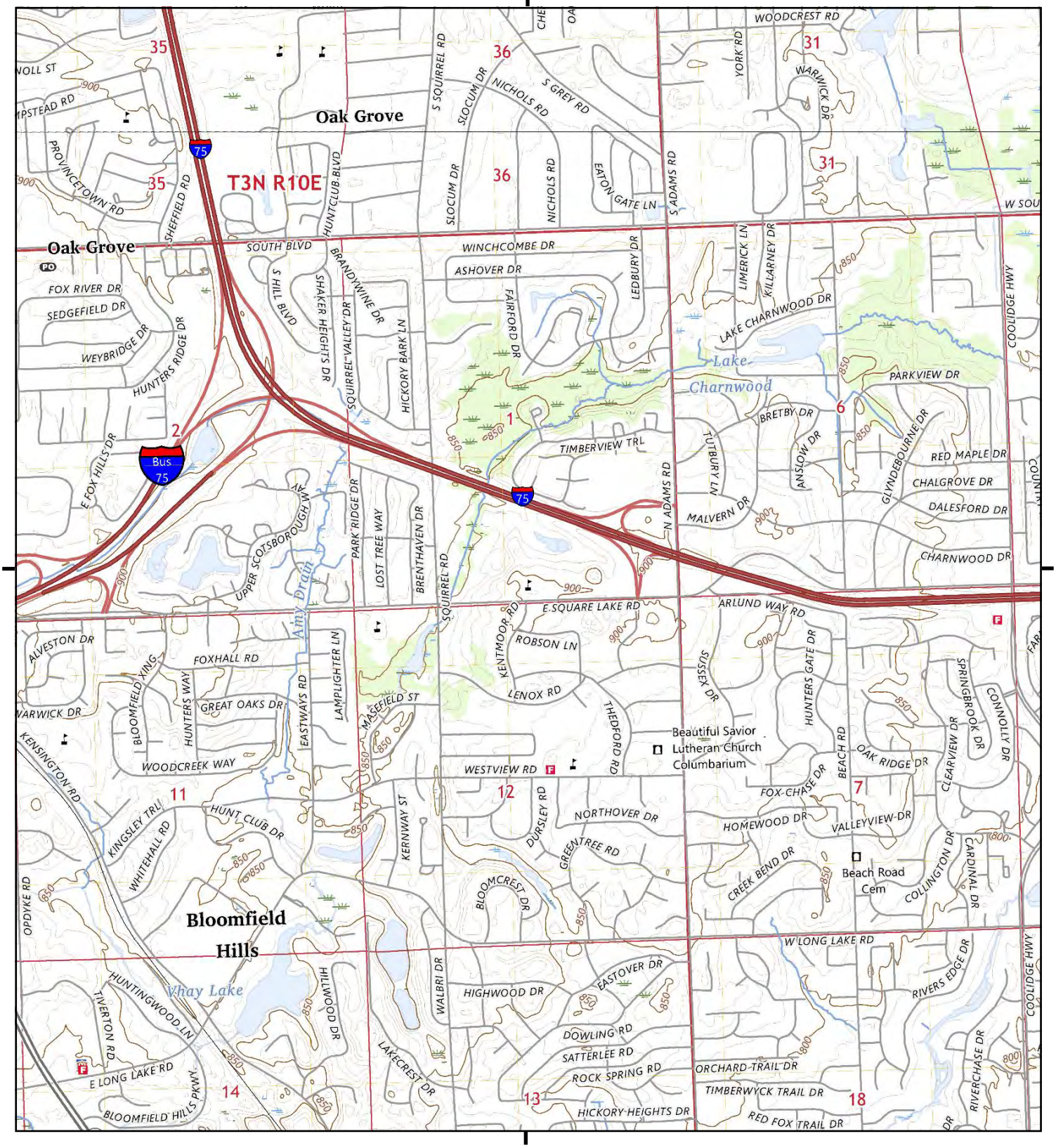
1908 Source Sheets



Rochester
1908
15-minute, 62500

Historical Topo Map

2023



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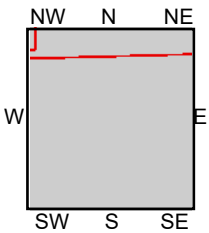


TP, Birmingham, 2023, 7.5-minute
N, Rochester, 2023, 7.5-minute
NW, Pontiac North, 2023, 7.5-minute

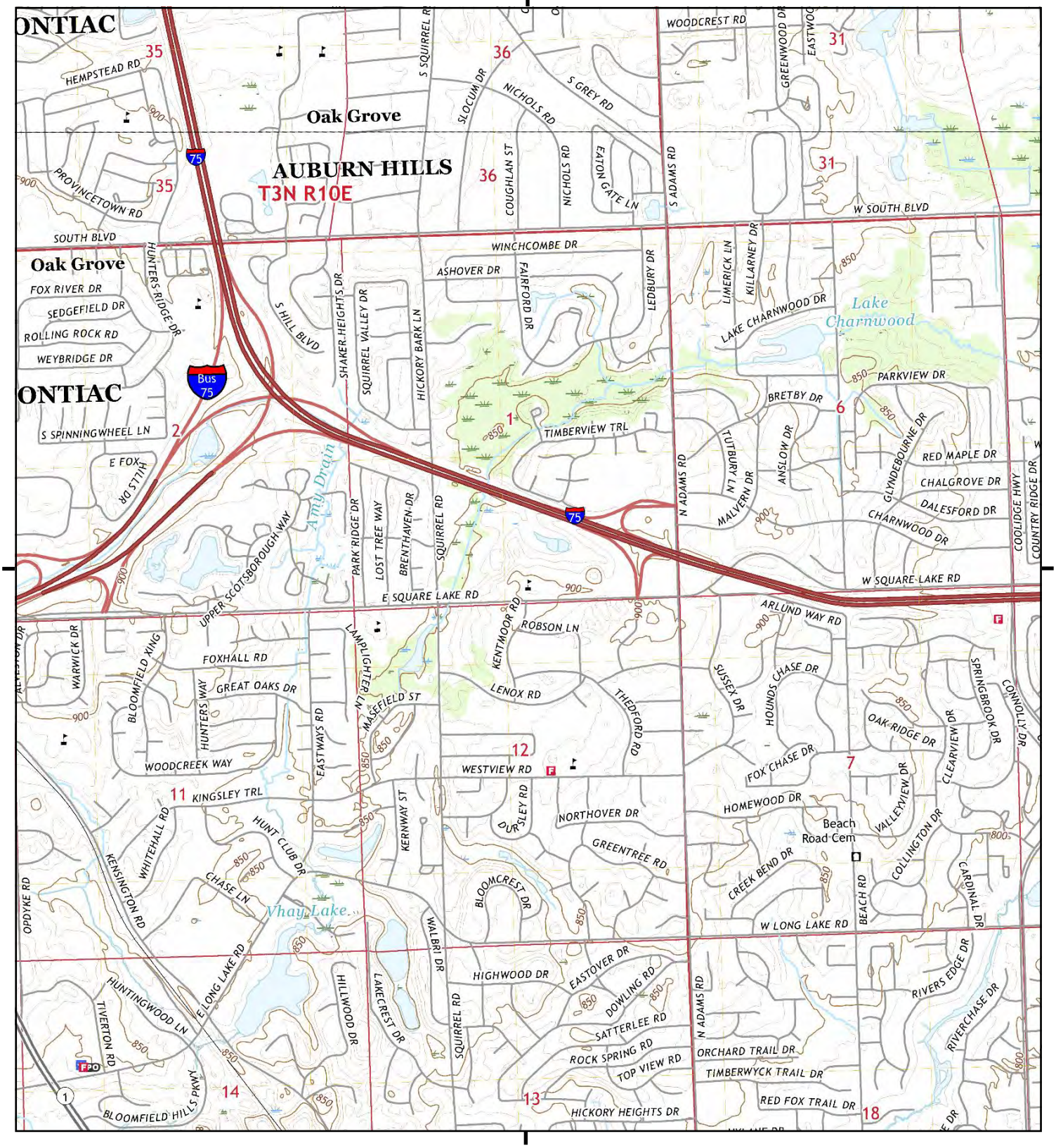
SITE NAME: 1219 E Square Lake Road
ADDRESS: 1219 E Square Lake Road
Bloomfield Hills, MI 48304
CLIENT: Applied Science & Technology

N

8305421 - 4 page 6

Historical Topo Map

2019



This report includes information from the following map sheet(s).

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NW N NE
W E
SW S SE

TP, Birmingham, 2019, 7.5-minute
N, Rochester, 2019, 7.5-minute

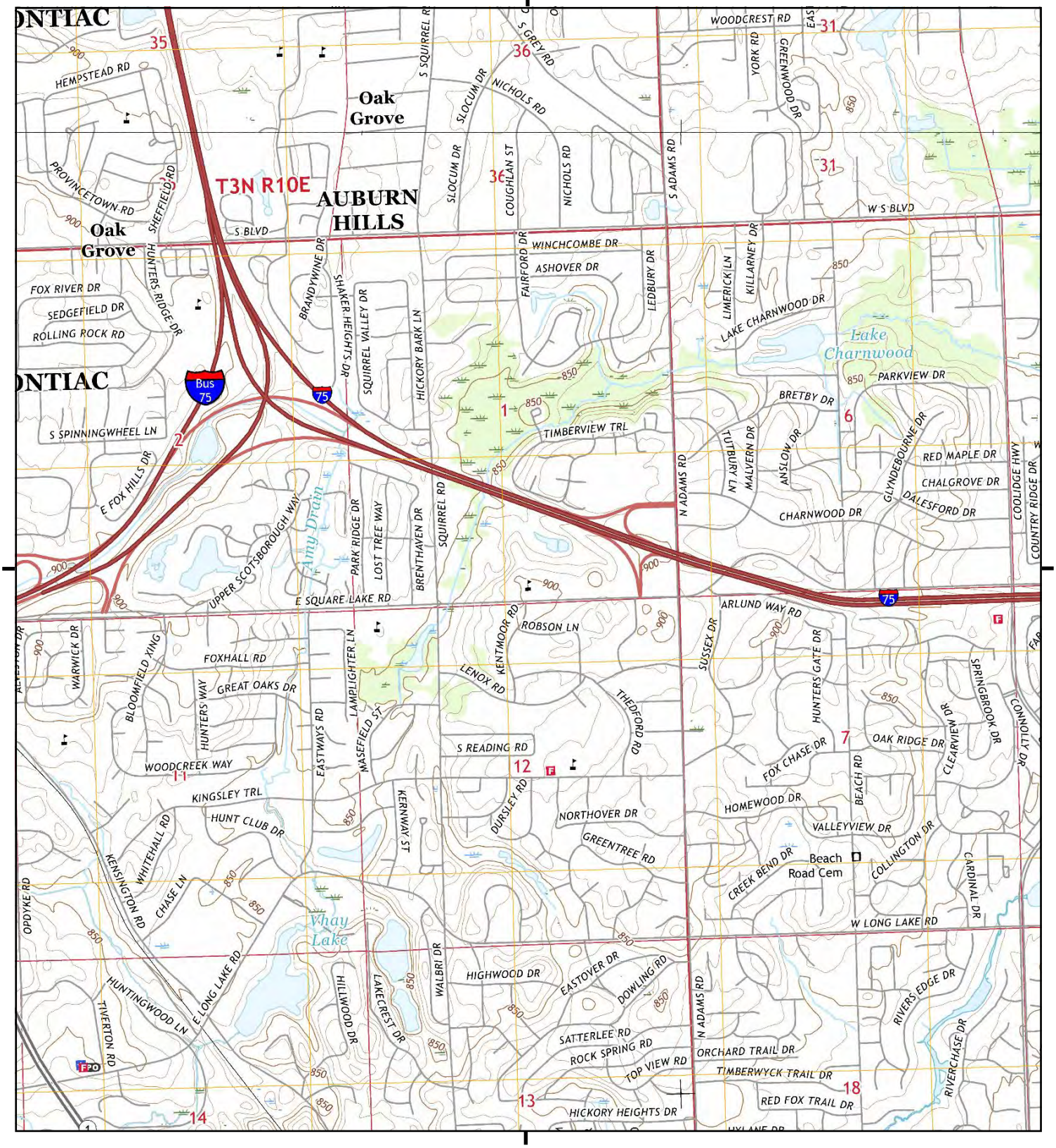
SITE NAME: 1219 E Square Lake Road
ADDRESS: 1219 E Square Lake Road
Bloomfield Hills, MI 48304
CLIENT: Applied Science & Technology

N

8305421 - 4 page 7

Historical Topo Map

2017



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

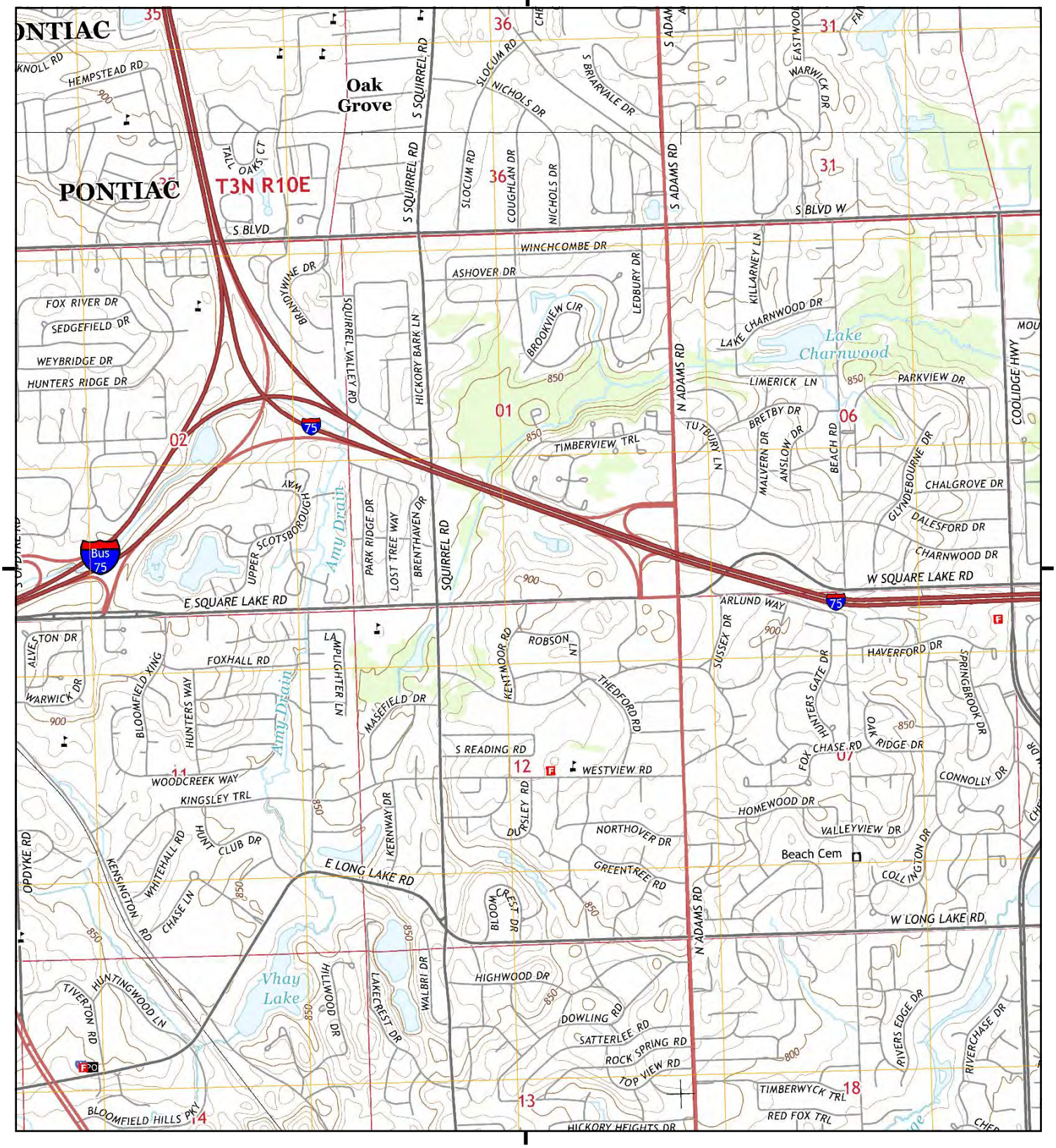
NW N NE
W E
SW S SE

TP, Birmingham, 2017, 7.5-minute
N, Rochester, 2017, 7.5-minute

SITE NAME: 1219 E Square Lake Road
ADDRESS: 1219 E Square Lake Road
Bloomfield Hills, MI 48304
CLIENT: Applied Science & Technology

N

8305421 - 4 page 8



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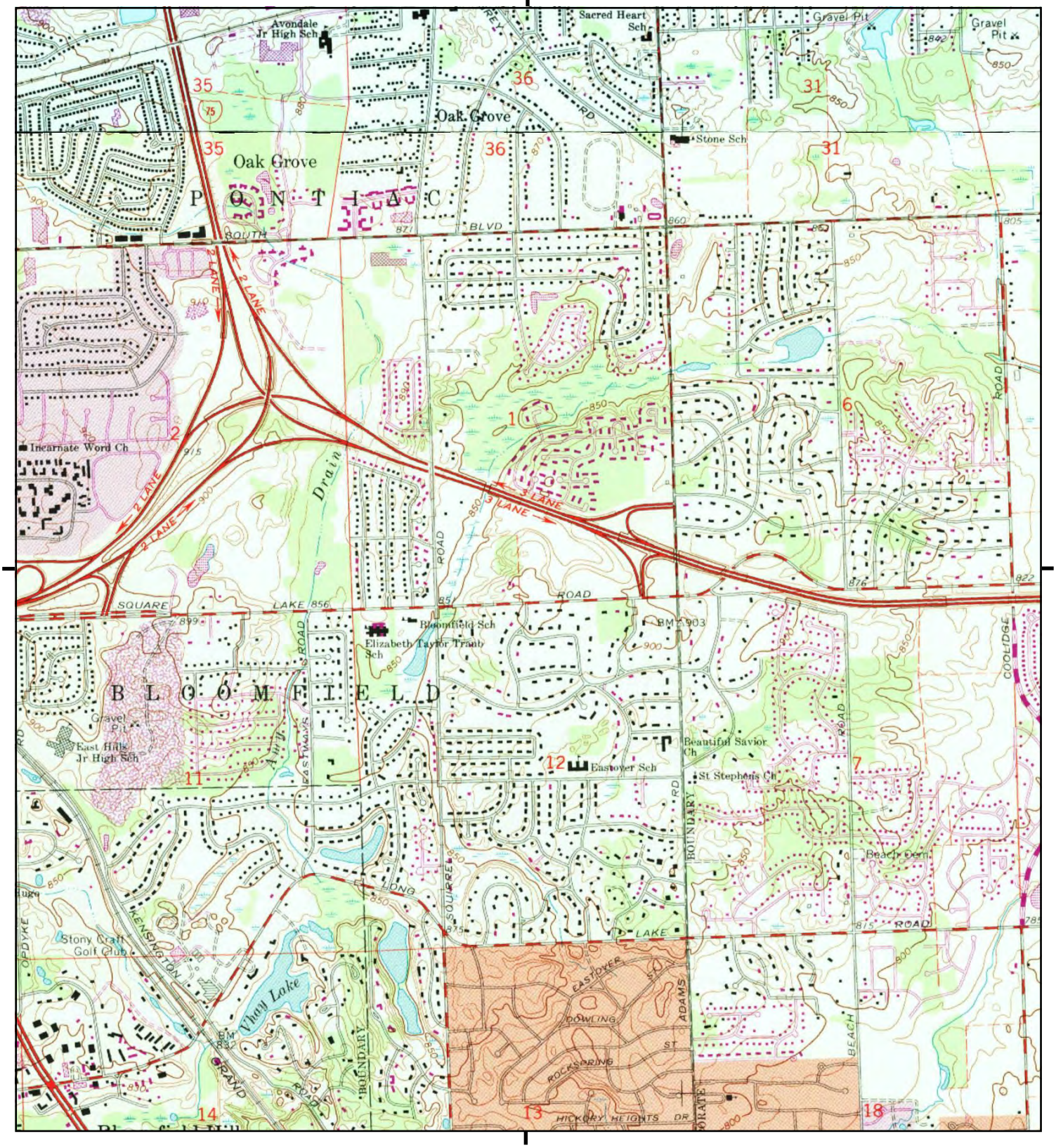
NW N NE
W E
SW S SE

TP, Birmingham, 2014, 7.5-minute
N, Rochester, 2014, 7.5-minute

SITE NAME: 1219 E Square Lake Road
ADDRESS: 1219 E Square Lake Road
Bloomfield Hills, MI 48304
CLIENT: Applied Science & Technology

N



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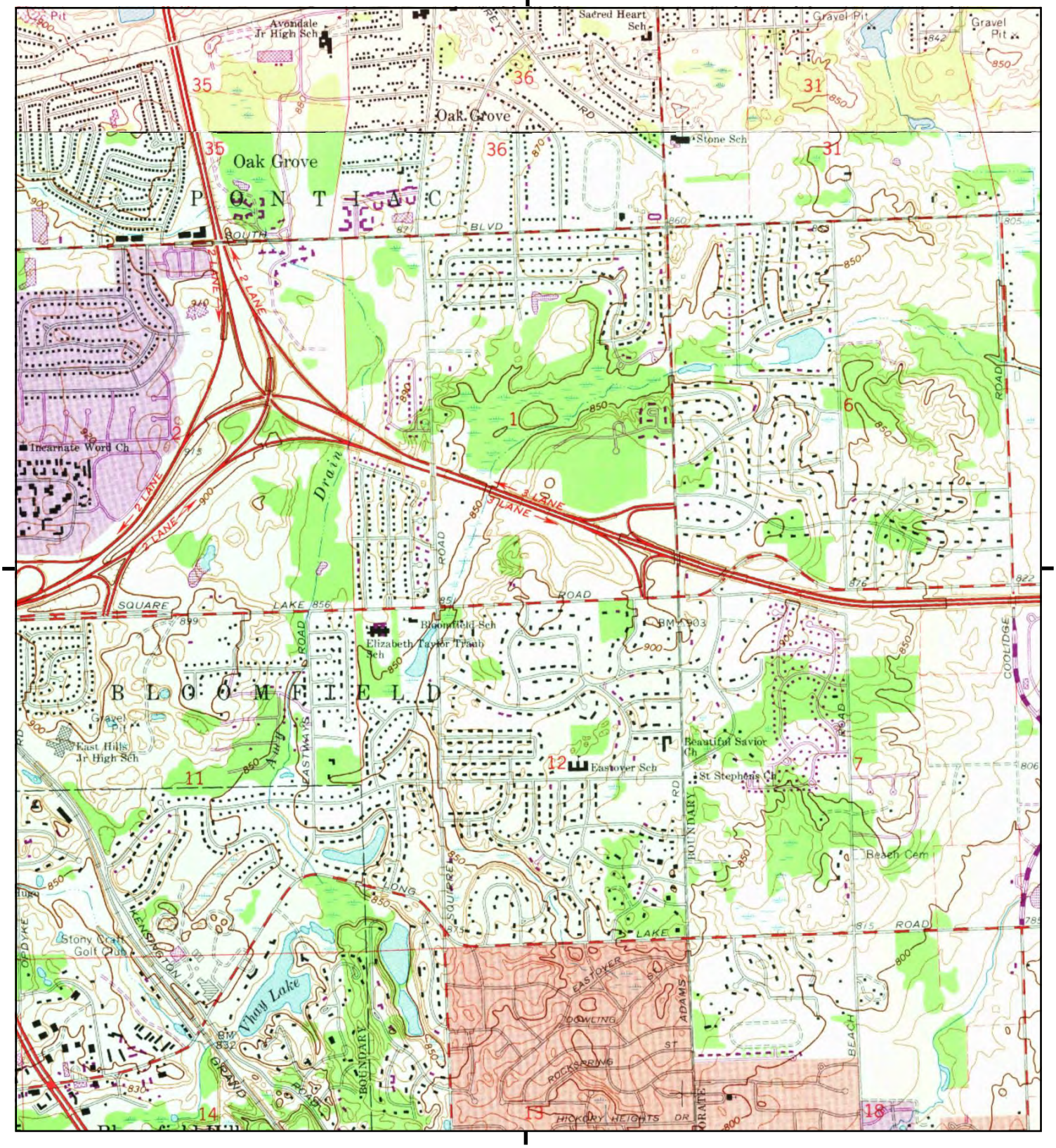
NW N NE
W E
SW S SE

TP, Birmingham, 1981, 7.5-minute
N, Rochester, 1981, 7.5-minute

SITE NAME: 1219 E Square Lake Road
ADDRESS: 1219 E Square Lake Road
Bloomfield Hills, MI 48304
CLIENT: Applied Science & Technology

N



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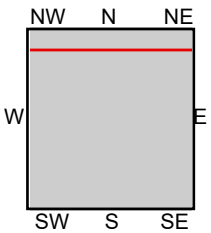
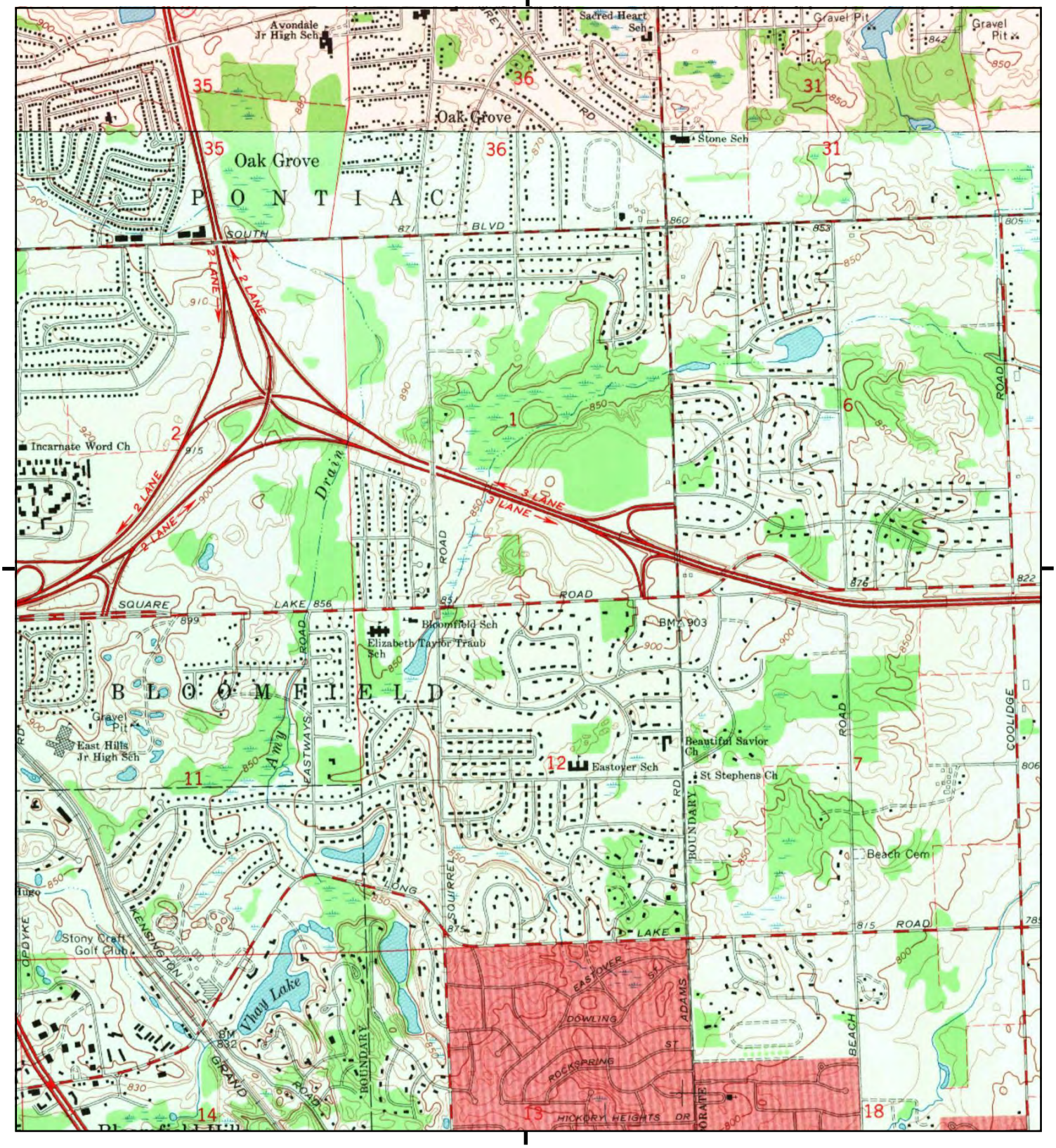
0 Miles 0.25 0.5 1 1.5



TP, Birmingham, 1973, 7.5-minute
N, Rochester, 1973, 7.5-minute

SITE NAME: 1219 E Square Lake Road
ADDRESS: 1219 E Square Lake Road
Bloomfield Hills, MI 48304
CLIENT: Applied Science & Technology

N



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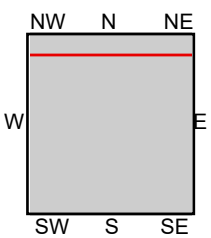
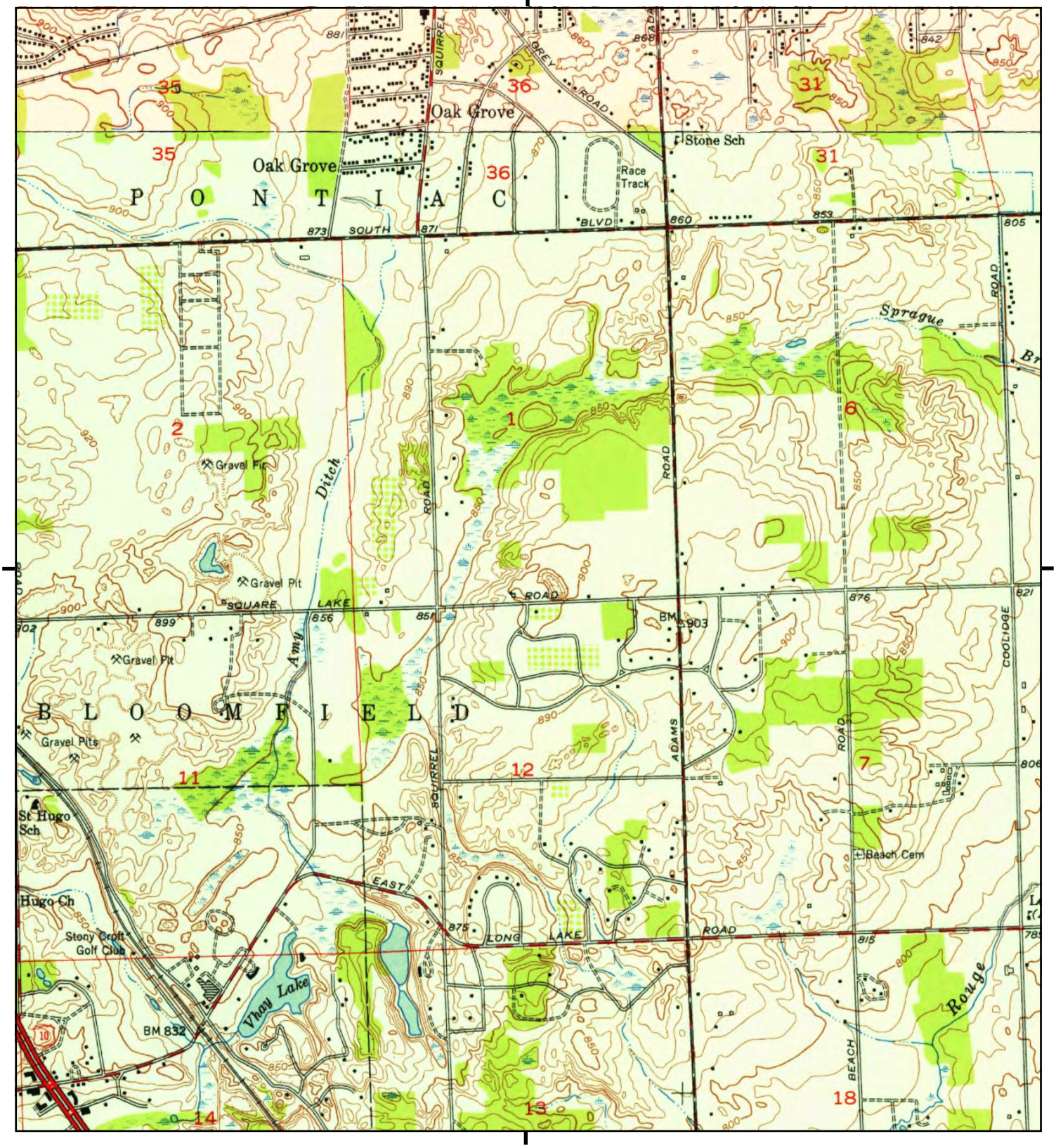


TP, Birmingham, 1968, 7.5-minute
N, Rochester, 1968, 7.5-minute

SITE NAME: 1219 E Square Lake Road
ADDRESS: 1219 E Square Lake Road
Bloomfield Hills, MI 48304
CLIENT: Applied Science & Technology

N



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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Birmingham, 1952, 7.5-minute
N, Rochester, 1952, 7.5-minute

SITE NAME: 1219 E Square Lake Road
ADDRESS: 1219 E Square Lake Road
Bloomfield Hills, MI 48304
CLIENT: Applied Science & Technology

N

Historical Topo Map

1945



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

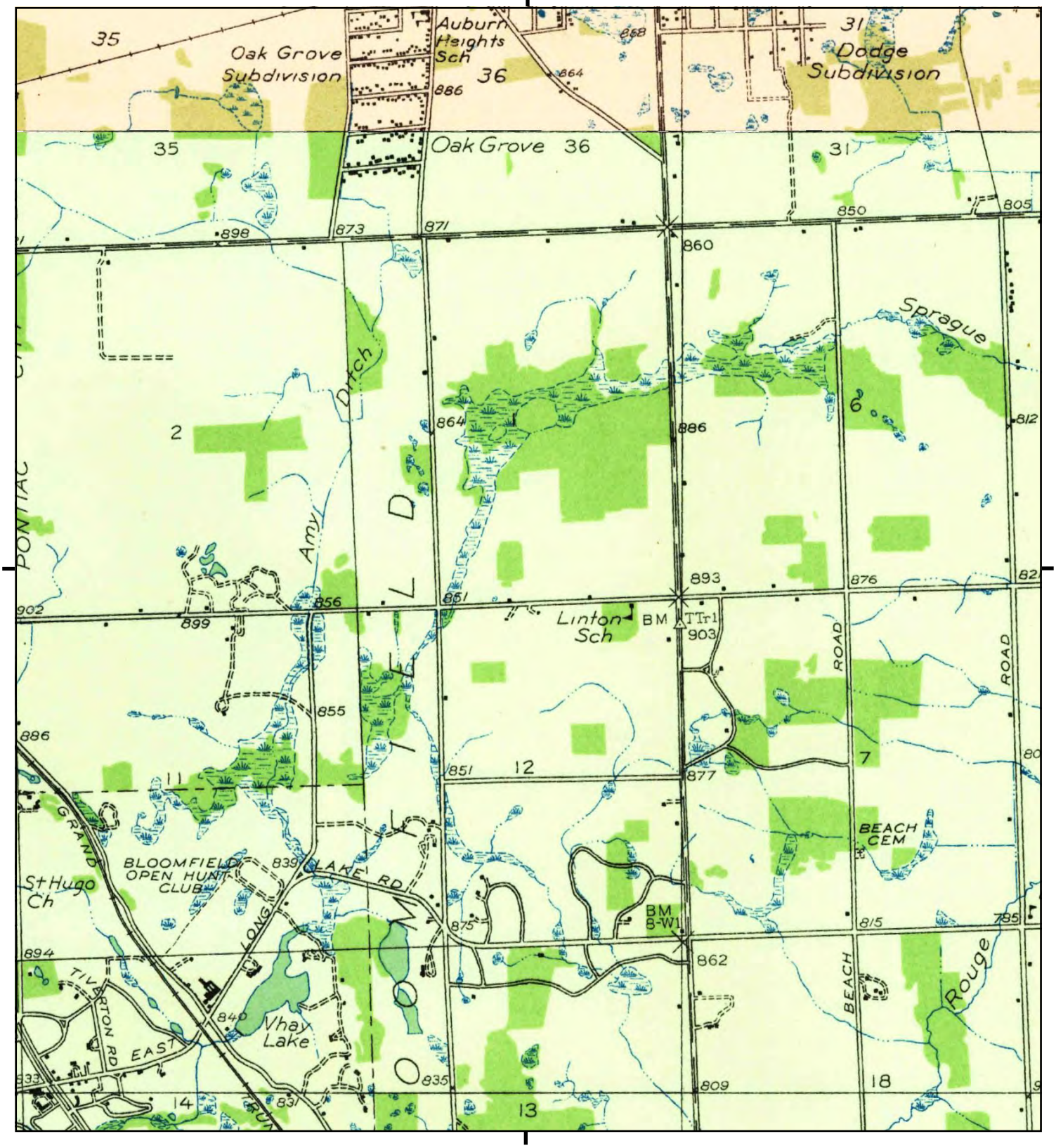
NW N NE
W E
SW S SE

TP, Birmingham, 1945, 7.5-minute
N, Rochester, 1945, 7.5-minute

SITE NAME: 1219 E Square Lake Road
ADDRESS: 1219 E Square Lake Road
Bloomfield Hills, MI 48304
CLIENT: Applied Science & Technology

N

8305421 - 4 page 14



This report includes information from the following map sheet(s).

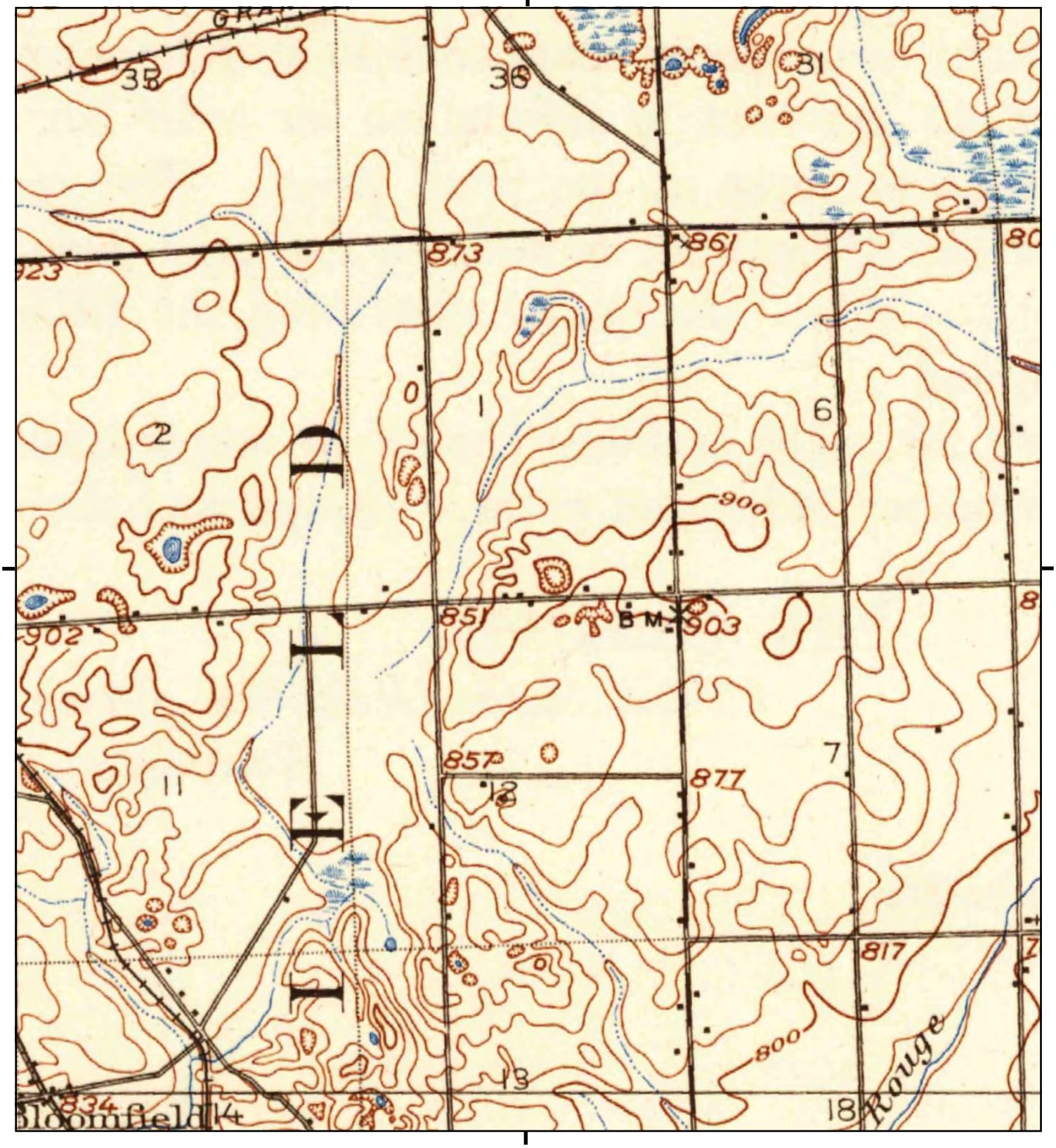
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Birmingham, 1936, 7.5-minute
N, Rochester, 1936, 7.5-minute

SITE NAME: 1219 E Square Lake Road
ADDRESS: 1219 E Square Lake Road
Bloomfield Hills, MI 48304
CLIENT: Applied Science & Technology

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Rochester, 1908, 15-minute

SITE NAME: 1219 E Square Lake Road
ADDRESS: 1219 E Square Lake Road
Bloomfield Hills, MI 48304
CLIENT: Applied Science & Technology

N

APPENDIX F

Qualifications
Resumes

Bailey Bishop

Environmental Technician

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP



Bailey Bishop is an environmental technician at ASTI Environmental, specializing in Hydrology, Geomorphology, GIS, and AQTESOLV. She supports Phase I Environmental Site Assessments (ESAs) across Michigan and Indiana, conducting site inspections, initiating projects, and preparing reports for various property types. In addition, Bailey reviews municipal and county Freedom of Information Act documents to ensure compliance.

Beyond Phase I work, Bailey is skilled in Phase II ESA investigations, including soil and water sampling, overseeing drillers, and conducting hydrological studies. Her technical expertise ensures thorough and accurate assessments, supporting project success.

Education

Eastern Michigan University, BS in Environmental Science, 2024

Washtenaw Community College, Associate in Environmental Science, 2022

Years of Practice

2023-Present

Certifications

40-Hour OSHA HAZWOPER Training and Annual Refreshers

Select Project Experience

Phase I Environmental Site Assessments, Livingston, Washtenaw, Jackson, Wayne, Oakland, Macomb, Genessee, Hillsdale, Kent, Ottawa, Van Buren, Allegan, St. Joseph, Cheboygan, Muskeogon, Grand Traverse, and Leelanau Counties, MI, and Elkhart County, IN

Phase II Environmental Site Assessments, Livingston, Washtenaw, Jackson, Wayne, and Oakland Counties, MI

Lead Inspection Assistance, Flint, MI

Hydrological Investigation, Bruce Township, MI

Per- and Polyfluoroalkyl Substances Ground Water Sampling, Farmington Hills, MI

Anthony Spencer

Project Manager

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP



Anthony Spencer brings nearly 15 years of experience in Phase I and Phase II Environmental Site Assessments. He has worked on a variety of projects across Michigan, Ohio, Kentucky, Oklahoma, Pennsylvania, and North Carolina, including residential, commercial, and industrial sites. His portfolio features assessments for apartment complexes, shopping plazas, and auto dealerships.

Anthony's comprehensive evaluations encompass site inspections, historical research, interactions with federal, state, and local agencies, subsurface sampling, geophysical surveys, and underground tank closures.

Education

Wayne State University, BS in Environmental Science, Minor in Geology, 2011

Years of Practice

2010-Present

Certifications

EPA Environmental Professional: ASTM Practice, E1527-21

40-Hour OSHA HAZWOPER Training and Annual Refreshers

Select Project Experience

Vacant Land Due Diligence and Site Assessments, Multiple Locations, MI

Agricultural Due Diligence and Site Assessments, Multiple Locations, MI

Residential Due Diligence and Site Assessments, Multiple Locations, MI

Commercial Due Diligence and Site Assessments, Multiple Locations, MI

Industrial Due Diligence and Site Assessments, Multiple Locations, MI

Phase I ESA, Multi-Family Building, Detroit, MI

Phase I ESA, Historic Apartment Buildings, HUD Choice Neighborhood Initiative, Detroit, MI

Phase I ESA, 53-Unit, 2-Story Apartment Building, Detroit MI

Phase I ESA, Multi-Family Building, Pontiac, MI

Phase I ESA, Coil Wire Plant, Warren, MI

Phase I ESA, Metal Stamping Plant, Madison Heights, MI

Phase I ESA, Marina, Boyne City, MI

Phase II ESA, Mixed-Use Site, Detroit, MI

Phase II ESA, Commercial Site, Marshall, MI

Phase II ESA, Commercial Site, Pontiac, MI

Phase II ESA, Residential Site, Detroit, MI

Phase II ESA, Sanitary System Sampling for PFAS Investigation, Oakland County Water Resources Commission, Oakland County, MI

Description of Landowner Liability Protections for All Appropriate Inquiry and User Continuing Obligations

In order to maintain a LLP, landowners must also comply with pre-acquisition and post-acquisition requirements under CERCLA and All Appropriate Inquiry. A summary of each LLP is provided below.

Innocent Landowner Defense (ILO): The defendant did not know and had no reason to know of the hazardous substance with respect to the Subject Property and must show that All Appropriate Inquiries into the past ownership and uses of the property in accordance with generally good commercial and customary standards and practices. All Appropriate Inquiries cannot result in knowledge of contamination.

Post- Acquisition Obligations

1. Cooperate, assist, and provide access to persons that are authorized to conduct response actions or natural resource restoration at the property.
2. Comply with any land use restrictions established or relied on in connection with the response action at a vessel or facility.
3. Must not impede on the effectiveness or integrity of any institutional control employed at the vessel or facility in connection with a response action.
4. Take reasonable steps to 1) stop any continuing release, 2) prevent any threatened future release, and 3) prevent or limit any human, environmental, or natural resources exposure to any previously released hazardous substance.

Bona Fide Prospective Purchaser (BFPP): Allows a purchaser to acquire a property with knowledge that it is contaminated. This applies to purchasers (and their tenants) that acquire ownership of a facility after January 11, 2002. To qualify, prior to acquiring title, a person must show 1) that all disposal of hazardous substances at the facility occurred before the person acquired the facility, 2) conducted All Appropriate Inquiry, and 3) the person is not a Potentially Responsible Party (PRP) or affiliated with any other PRP for the property through any direct or indirect familial relationship, any contractual, corporate or financial relationship or as a result of a reorganization of a business entity that was a PRP.

Post- Acquisition Obligations

1. Provide all legally required notices with respect to the discovery or release of any hazardous substances at the facility.
2. Exercise appropriate care with respect to hazardous substances by taking reasonable steps to stop any continuing release; prevent any threatened future release; and prevent or limit human, environmental, or natural resource exposure to any previously released hazardous substance.
3. Provide full cooperation, assistance, and access to persons who are authorized to conduct response actions or natural resource restoration (including the cooperation and access necessary for the installation, integrity, and maintenance of any complete or partial response actions or natural resource restoration).
4. Comply with any land use restrictions established or relied on in connection with the response action, and not impede the effectiveness or integrity of any institutional control employed at the vessel or facility in connection with a response action.
5. Comply with any request for information or administrative subpoena issues under CERCLA.

Explanation of LLPs and User Continuing Obligations Continued

Contiguous Property Owner (CPO): A CPO must not know or have reason to know following performance of All Appropriate Inquiries that their property was or could be contaminated by the adjacent or contiguous real property. The property owner must show that they did not cause, contribute, or consent to the release and is not a PRP or affiliated with any other PRP, and conducted All Appropriate Inquiries.

Post- Acquisition Obligations

1. Take reasonable steps to 1) stop any continuing release, 2) prevent any threatened future release, and 3) prevent or limit any human, environmental, or natural resources exposure to any previously released hazardous substance.
2. Provide full cooperation, assistance, and access to persons who are authorized to conduct response actions or natural resource restoration (including the cooperation and access necessary for the installation, integrity, and maintenance of any complete or partial response actions or natural resource restoration).
3. Comply with any land use restrictions established or relied on in connection with the response action at the facility.
4. Not impede the effectiveness or integrity of any institutional control employed in connection with a response action.
5. Comply with any request for information or administrative subpoena issues under CERCLA.
6. Provide all legally required notices with respect to the discovery or release of any hazardous substances at the facility.

ASTI ENVIRONMENTAL

A DIVISION OF PEA GROUP

Our services include:

- Asbestos, Lead, Mold, and Radon Assessments
- Brownfield/Greyfield Redevelopment Assistance
- Development Incentives and Grant Management
- Ecological Assessments and Restoration
- Environmental Assessments and Impact Statements
- Environmental Opportunities Assessment
- GIS Mapping
- Hazard Mitigation Planning
- Mining and Reclamation Assistance
- Phase I ESA and Environmental Due Diligence Assessments
- Regulatory Compliance and Permitting
- Remediation Implementation, Operation, and Maintenance
- Soil and Groundwater Assessments
- Soil and Groundwater Remediation
- Storage Tank Compliance and Closure
- Stream Assessments and Mitigation Design
- Threatened and Endangered Species Surveys
- Tree Surveys
- Watershed and Stormwater Management Programs
- Wetland Delineation, Permitting, Mitigation, and Banking

For a full list of services, visit our website: www.asti-env.com

800.395.2784 ■ WWW.ASTI-ENV.COM ■ ENVIRONMENTAL@ASTI-ENV.COM

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

10448 Citation Drive, Suite 100
Brighton, Michigan 48116

810.225.2800
asti-env.com

June 12, 2026

Simon Rivers
Oakland County Parks and Recreation
2800 Watkins Lake Road, Building #97W
Waterford, Michigan 48328

RE: Limited Phase II Environmental Site Assessment, 1219 East Square Lake Road, Bloomfield Hills, Oakland County, Michigan, ASTI Proposal P26-0480.01

Simon Rivers,

Thank you for your continued interest in the environmental services offered by ASTI Environmental (ASTI), a Division of PEA Group. ASTI is pleased to submit a cost quotation to conduct a Limited Phase II Environmental Site Assessment (ESA) of the above-referenced property. This proposal is based on the results of ASTI's Phase I ESA of the property, dated June 4, 2026.

If you have any questions or comments, please do not hesitate to call me at **800.395.ASTI**. We greatly appreciate the opportunity to work with you on this project.

Sincerely yours,

ASTI ENVIRONMENTAL, a Division of PEA Group

Jeremy Efros, EP, CPG
Senior Environmental Project Manager
Due Diligence/Remediation Group

Attachments: *Proposal For Services*
Exhibit A – Standard Rate Schedule for Professional Services
Exhibit B – Standard Agreement for Professional Services

ASTI
ENVIRONMENTAL

Proposal For Services

Proposal Name: Limited Phase II Environmental Site Assessment, Clinton River Oaks
Address: 1219 E. Square Lake Road, Bloomfield Hills, Oakland County, Michigan
To Be Completed For: Oakland County Parks and Recreation
ASTI Project: P26-0480.01

ASTI Environmental (ASTI), a Division of PEA Group, understands that the project is for the property located at 1219 E. Square Lake Road in Bloomfield Hills, Oakland County, Michigan (Subject Property). The Subject Property comprises 44.66 acres of land on one parcel with Parcel ID C-19-01-376-006. The Subject Property is developed with two dwellings, two barns, and a vacant cottage.

ASTI was not provided with information about the proposed use of the Subject Property, but Oakland County Parks and Recreation (OCP&R) will either be a new owner and/or operator of the Subject Property, and ASTI assumes that the project will use conventional financing if it is a purchase. Please note that a change in the intended use or financing source may require a change in the scope of services described in this proposal.

ASTI completed a Phase I Environmental Site Assessment (ESA), dated June 4, 2026, for the Subject Property and two parcels to the east, which identified the following recognized environmental condition (REC) regarding the Subject Property:

REC 1. It was reported that a diesel oil underground storage tank (UST) was recently discovered underneath the northern portion of a cottage at the Subject Property. The tank was located on the hill-facing façade behind a concrete retaining wall. A section of the retaining wall was removed to allow for tank removal. During site reconnaissance, ASTI observed posted signs prohibiting use of the cottage. A pungent oily odor was noted during inspection of the cottage. All that remains of the tank removal activity is a 55-gallon metal drum with impacted soil that was excavated after the discovery. No other information was given, but the former tank appears to have been an orphaned fuel oil tank. There is evidence of a release, which is a REC.

The purpose of this investigation is to evaluate whether environmental contamination is present on the Subject Property from the above-listed REC. This is a limited investigation that is not intended to assess all historical operations. Sampling is meant to be representative of site conditions and is not intended to delineate the extent of contamination identified.

The analytical results obtained during this investigation will be compared to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Part 201 Generic Residential Cleanup Criteria (GRCC). If contamination is identified at concentrations in soil or groundwater that exceed the EGLE Part 201 GRCC, the Subject Property will meet the definition of a “facility” under Part 201. In that case, ASTI can prepare a Baseline Environmental Assessment (BEA) and Due Care Plan (DCP) for the new purchaser and/or operator of the Subject Property.

Scope of Services

The following table summarizes our proposed sampling and analysis plan. The proposed scope of work is provided in further detail below.

Recognized Environmental Conditions	Sampling Points	Samples / Analyses
REC 1: Potential contamination from the former diesel UST used on the Subject Property	2 soil borings 5 to 20 feet bgs	4 soil samples will be collected and analyzed for VOCs and PNAs *If groundwater is encountered, 1 groundwater sample will be collected and analyzed for VOCs and PNAs in lieu of a deeper soil sample*
	QA/QC	1 duplicate soil sample will be collected and analyzed for VOCs and PNAs If a groundwater sample is collected, 1 duplicate groundwater sample will be collected and analyzed for VOCs and PNAs Methanol blank analyzed for VOCs

VOCs = Volatile Organic Compounds
PNAs = Polynuclear Aromatic Hydrocarbons
QA/QC = Quality Assurance/Quality Control
ft bgs = feet below ground surface

Limited Phase II ESA

ASTI will advance 2 soil borings at the Subject Property. Prior to advancement of the soil borings, ASTI will contact the MISS DIG system to locate public utilities. ASTI will use geophysical equipment in an attempt to locate any private utility lines near the soil boring locations. Any vehicles or significant quantities of metal materials remaining in the survey areas will limit the ability of the geophysical equipment to obtain readings within approximately five feet of any metal. The ground penetrating radar can be limited due to above ground interferences and subsurface conditions such as shallow groundwater, clay soils with high moisture content, buried objects, and rebar concrete. The client will be responsible for informing ASTI of any known private utility lines in the vicinity of the soil boring locations. ASTI will not be responsible for *damage or repairs* to utilities or resulting property damage related to damaged utility lines during subsurface drilling and field operations.

Sampling and analysis will be conducted in accordance with U.S. Environmental Protection Agency (EPA) and EGLE guidelines. Soils extracted from the soil borings will be visually inspected, classified, and screened with a photoionization detector (PID), or equivalent, for the presence of total volatile organic compounds (VOCs). The soil borings will be completed to evaluate the site lithology and to collect samples for laboratory analyses.

The soil borings will be completed using a direct-push drill rig or stainless-steel hand auger. The soil borings will be advanced to depths of approximately 5 to 20 feet below ground surface (bgs) and may be stopped at a lesser depth if groundwater or refusal is encountered. Two soil samples will be collected from each soil boring. If groundwater is encountered, one groundwater sample will be collected in lieu of one of the deeper soil samples.

The samples collected from each boring will be placed in laboratory-provided glass jars and kept on ice in a cooler. The soil samples will be submitted to a laboratory for the analyses listed in the table above under standard chain-of-custody procedures. The actual location and depth of each soil sample collected will be based on the site-specific geologic conditions, field observations, and PID measurements. Quality assurance/quality control (QA/QC) will include one duplicate soil sample and a methanol blank sample.

Temporary Groundwater Monitoring Wells

If groundwater is encountered, one soil boring will be completed as temporary groundwater monitoring well for the collection of groundwater samples in lieu of one soil sample. Modified low-flow sampling techniques will be used to collect groundwater samples. The well location will not be surveyed for groundwater elevation

data. QA/QC will include one groundwater duplicate sample. The groundwater samples will be kept on ice in a cooler, then submitted to a laboratory for the analyses listed in the table above under standard chain-of-custody procedures. If groundwater is not encountered by 20 feet bgs, the borings may be terminated, and groundwater samples will not be collected.

After completion of the borings, they will be backfilled to near grade with soil cuttings and/or bentonite. ASTI will not be required to repair the surfaces to the original condition beyond soil cuttings and/or bentonite. If any locations were paved or on concrete slabs, those holes will be patched with asphaltic or cement concrete.

Limited Phase II ESA Report
At the completion of the assessment, ASTI will prepare a report of the findings, and an electronic copy of the final report will be provided. The information will include an outline of the work completed during the investigation, a discussion of the items identified during the investigation, the results of the investigation, and appended copies of supporting materials. The laboratory analytical results will be compared to the EGLE Part 201 GRCC.

Limited Phase II ESA Schedule
The investigation can typically be scheduled within approximately 15 business days of authorization to proceed. Sample collection will require up to two days, and laboratory analysis typically requires approximately 10 business days. Expedited analysis may be available at an additional cost; however, you must inform ASTI prior to sample collection. The Limited Phase II ESA report will be provided approximately 10 business days following receipt of the final laboratory analytical report.

Baseline Environmental Assessment (if applicable)
If hazardous substances are identified in soil and/or groundwater at concentrations exceeding the EGLE Part 201 GRCC, the Subject Property will be considered a "facility" under Part 201 of Act 451. If the Subject Property is determined to be a facility, ASTI can prepare and submit a BEA to EGLE to provide statutory liability protection for pre-existing contamination. The BEA will summarize the results of ASTI's Phase I ESA and Limited Phase II ESA for the Subject Property, along with relevant information from previous investigations, if available. An electronic copy of the BEA will be provided to you and submitted to EGLE.

The BEA can typically be completed approximately 10 business days following completion of the Limited Phase II ESA report. **Per EGLE requirements, these reports must be completed prior to or within 45 days after purchase or occupancy** and must be submitted to EGLE prior to or within six months of purchase or occupancy.

Due Care Plan
Owners and/or operators of a facility that follow the procedures of Part 201 and have not caused the environmental contamination are not liable for historical contamination identified during the environmental due diligence process. However, in accordance with Part 201, a person who owns a property and has knowledge that it is a facility shall maintain documentation of compliance with Section 20107a and shall provide the documentation to EGLE upon request. This documentation of compliance is typically prepared as a written DCP.

Under Part 201, the owner of a facility must comply with the following due care obligations:

- Undertake measures as necessary to prevent exacerbation of the existing contamination
- Exercise due care by undertaking response activities necessary to mitigate unacceptable exposure to hazardous substances and to allow for the intended use of the facility in a manner that protects public health and safety
- Take reasonable precautions against the foreseeable acts or omissions of a third party and the resultant consequences of those acts or omissions

- Provide reasonable cooperation/access to persons conducting cleanup
- Comply with established land use or resource use restrictions
- Refrain from interfering with restrictions or response activities

If the Subject Property is determined to be a facility, ASTI will prepare a DCP to describe measures that will be taken to comply with the due care obligations. This proposal assumes that the DCP will not be provided to EGLE for review and approval. If EGLE review and approval is required, or a regulatory agency "No Further Action Letter" is required, additional costs will apply. Based on the results of the Limited Phase II ESA, completion of the DCP may also require additional sampling that is not included in this proposal to assess risk or determine whether response activities are needed. The DCP does not include design of any mitigation system/action or meetings with the regulatory authority.

The DCP can be completed approximately 10 business days following completion of the BEA, unless additional assessment is needed for evaluation of risk. ASTI will need information on the final site plan and intended use of the Subject Property for completion of the DCP.

Per EGLE requirements, due care obligations start immediately upon ownership or occupancy, **but this report must be completed no later than 8 months of ownership or occupancy**, and a copy must be retained at the Subject Property. An electronic copy of the DCP will be provided to you.

Required Materials
We will rely on the legal description from ASTI's Phase I ESA. We require a signed access agreement before we conduct any on-site activities. The field work described above will not be scheduled until receipt of the access agreement. If the Subject Property is owned by another entity, you will be responsible for obtaining that access agreement. This proposal assumes that the current owner will be cooperative in providing site access and allow soil borings to be advanced on the Subject Property and in the subject buildings as described above.

Confidentiality
The results of this assessment and any material provided by you will be kept confidential and will not be provided to third parties without your prior written authorization. However, please note that the BEA, once submitted to EGLE, may be obtained through a Freedom of Information Act request.

Fee
Our fees for conducting the services discussed in this proposal are provided below. These fees are based on the tasks, deliverables, and assumptions described in this proposal, and any changes in the tasks, deliverables, or assumptions may result in changes to project costs.

These services will be invoiced on a fixed fee basis, as indicated below. Any additional work outside the above scope of services will be performed at our standard fees; however, any additional work will not be performed without your prior authorization. Our standard rate schedule is included as Exhibit A

Services	Fixed Fee
Limited Phase II ESA, Sampling, Analysis, and Report	$ 10,000
Baseline Environmental Assessment (if applicable)	*$ 3,200*
Due Care Plan (if applicable)	*$ 3,500*

This proposal is firm for 45 days from the date of this proposal.

Additional site visits required to access sampling locations not accessible during the scheduled site visits will

be charged on a time-and-materials basis.

This proposal is subject to the terms and conditions contained in Exhibit B, which is made part of this agreement. The proposal, terms and conditions, and payment requirements specified in the proposal are applicable to the party to which the proposal is addressed. If a different party will be executing the proposal, please contact ASTI to determine whether a change in the terms and conditions and payment requirements will be required prior to authorization.

Your acceptance of this proposal indicates that the terms, conditions, and provisions of this proposal are understood, including payment to ASTI upon receipt of the invoice. Unless otherwise provided in writing, your acceptance of this proposal indicates that the billing address is the same as listed in the proposal.

Sincerely yours,

ASTI ENVIRONMENTAL,
a Division of PEA Group

CONSULTANT Authorization

_____
Signature

Jeremy Efros
Senior Environmental Project Manager
Due Diligence/Remediation Group

Signer below indicates that they are an authorized representative of the CLIENT and by signing indicates that they are engaging the above services for the CLIENT.

CLIENT Authorization
ASTI File P26-0480.01

Simon Rivers
Signature

Simon Rivers
Print Name

Chief of Strategic Partnerships and Initiatives
Print Title

Date 8/27/2026

For: **Oakland County Parks and Recreation**

□ C Corporation □ PLLC
□ S Corporation □ LLC
□ LDHA □ LP
□ Other:

Federal ID Number: 38-6004876
Email: Riverss@oakgov.com
Phone: 248-421-9033

ASTI ENVIRONMENTAL

A DIVISION OF PEA GROUP

EXHIBIT “A”

STANDARD RATE SCHEDULE FOR PROFESSIONAL SERVICES

(Rate Schedule is subject to increases)

ACCOUNTING AND ADMINISTRATIVE	85.00
ECOLOGICAL TECHNICIAN I - III	95.00 - 115.00
ECOLOGICAL SCIENTIST I - IV	115.00 - 185.00
ECOLOGICAL PROJECT MANAGER I - III	145.00 - 185.00
ENVIRONMENTAL INTERN	75.00
ENVIRONMENTAL TECHNICIAN I - IV	70.00 - 105.00
SENIOR ENVIRONMENTAL TECHNICIAN I - II	120.00 - 135.00
ENVIRONMENTAL SCIENTIST I - IV	80.00 - 115.00
SENIOR ENVIRONMENTAL SCIENTIST I - II	130.00 - 145.00
ENVIRONMENTAL PROJECT MANAGER I - III	145.00 - 160.00
SENIOR ENVIRONMENTAL PROJECT MANAGER I - III	175.00 - 205.00
BROWNFIELD SPECIALIST I - IV	90.00 - 125.00
SENIOR BROWNFIELD SPECIALIST I - II	140.00 - 155.00
ARCHITECTURAL HISTORIAN I - IV	90.00 - 130.00
SENIOR ARCHITECTURAL HISTORIAN	145.00
GEOLOGIST/HYDROGEOLOGIST I - IV	90.00 - 125.00
SENIOR GEOLOGIST/HYDROGEOLOGIST I - II	140.00 - 155.00
SENIOR PROJECT MANAGER	205.00
PRINCIPAL	250.00

OTHER COSTS

LABORATORY	COST PLUS 18%
CONTRACTORS	COST PLUS 18%
SUPPLIES AND MATERIALS	COST PLUS 10%
GENERAL EQUIPMENT USE (for each field day)	$175.00/DAY
EXPENDABLES/DISPOSABLES (for each field day)	$160.00/DAY
EXTRA REPORTS (after initial delivery)	$100.00/EA
INDIVIDUAL COPIES	$0.25 PER PAGE

CONTINGENCY

KNOWLEDGE OF HISTORICAL IMPACTS	10%
UNKNOWN IMPACTS AND/OR HISTORY	20%
HIGH UNCERTAINTY OF SCOPE	30%

TRAVEL AND PER DIEM

TRAVEL (to and from job site or client office)	$0.75
PER DIEM - FOOD AND LODGING (overnight)	$200.00/NIGHT
PER DIEM - FOOD ONLY (out of town, not overnight)	$40.00/DAY

EQUIPMENT COSTS PER DAY

YSI 556	35.00	PERISTALTIC PUMP	75.00
MINIRAE PID	80.00	4-GAS METER	40.00
MULTIRAE 5 GAS METER	92.00	WOOD MOISTURE METER	20.00
WATER LEVEL INDICATOR	25.00	SLING SLICHROMETER	5.00
INTERFACE METER	45.00	GEOPRO w/2” BLADDER	100.00
METAL DETECTOR	40.00	GEOPRO 1” BLADDER	60.00
LASER LEVEL	50.00	YSI FLOW CELL	20.00
HOCH TURBIDIMETER	30.00	ASTI JOHN-BOAT	50.00
HAND AUGER - CLAY OR SAND	25.00	FLOW METER	30.00
HAND PUMP	10.00	NITON XLP 301A (LBP)	90.00
GRUNDFOS PUMP	100.00	ACM MICROSCOPE & EQUIPMENT	25.00

Expert Testimony and/or Depositions 50% added to Hourly Rate Schedule.
This Hourly Rate Schedule represents standard rates for the hours between 7:00 am and 6:00 pm daily, Monday through Friday.
Premium rates may be charged for over eight (8) hours in a day, time on weekends and/or Holidays.
Half day and full day rates are portal to portal and include travel and time on-site. Jobs exceeding 4 hours portal to portal will be billed at the full day/rate.
All rates/fees are in USD.
Payments made by credit card are subject to a credit card processing service fee of 3%.

Client shall notify PEA Group in writing prior to the commencement of any services if the project is subject to the Davis Bacon Act or any State or Local prevailing wage rates. Any additional cost required to meet this requirement shall be added to rates set forth above as well as any adjustment to lump sum or “not to exceed” fee amounts stated in the agreement that are impacted by the prevailing wage requirement. Upon request, PEA Group shall provide the Client new rate or fee information based upon meeting this requirement.

East Side includes project locations east of Lansing and northern Ohio but not including the Upper Peninsula.
West Side includes project locations west of Lansing and northern Indiana but not including the Upper Peninsula.

EXHIBIT "B"

STANDARD AGREEMENT FOR PROFESSIONAL SERVICES

ARTICLE I – AGREEMENT. This Agreement between the parties identified herein consists of the terms in the "Standard Agreement for Professional Services" including if any attached Riders, the Rate Schedule (Exhibit A) and the Proposal. PEA Group refers to Professional Engineering Associates, Inc., which includes all Departments of PEA Group, as well as ASTI Environmental (a division of PEA Group being referred to herein as "PEA Group"). CLIENT refers to a person, as an individual, or a business entity representative with which PEA Group has contracted to perform professional services. "Project" refers to the scope of professional services outlined in the Proposal for the subject property including any offsite improvements set forth in the scope of services. The parties agree not to begin work until the Proposal is executed by both parties. In the event work must begin before the agreement is executed, the parties may elect to agree in writing to commence work while the agreement is being memorialized. If the parties fail to reach an agreement, PEA Group will send an invoice for the services provided during this period and will be compensated in accordance with PEA Group's current hourly billing rates.

ARTICLE II – SCOPE OF SERVICES/ ADDITIONAL SERVICES. **PEA Group's professional services under this Agreement extend only to those services specifically described in the Proposal. Other services not set forth in the Proposal will be considered as Additional Services**. If authorized in writing by the CLIENT, PEA Group agrees to furnish or obtain from others, additional professional services in connection with the Project for the amount quoted in writing or based upon a "Time and Material Basis" as set forth in a written "Additional Services Request" (hereinafter an "ASR").

The following are examples of other services that are not considered part of the Project's Professional Services unless specifically described in the Proposal. This list describes examples of professional services that are not incidental to the agreement; the excluded services are not limited to the following examples:

i. Obtaining or negotiating for lands, easements, rights-of-way, variances and special land use.
ii. Preparation, coordination or review of environmental assessments, investigations and impact statements.
iii. Providing ALTA/NSPS land title surveys, boundary, topographical, wetland, tree, as built (record drawings), easement exhibits, right-of-way dedications or other special surveys such as land divisions or consolidations.
iv. Engineering/Landscape Architecture Services required beyond the original scope resulting from changes in the scope of the improvements or their design including, but not limited to, changes in size, complexity, Owner's schedule, or character of construction; and revising previously accepted studies, reports, design documents or Contract Documents when such revisions are due to causes beyond PEA Group's control.
v. In the event the bids or negotiated cost of the Project exceed the CLIENT's budget, upon notice from the CLIENT, PEA Group agrees to modify, on an Additional Services basis, PEA Group's Contract Documents or those portions of the documents where bids exceeded the CLIENT's budget.
vi. PEA Group shall exercise usual and customary professional care in its efforts to comply with applicable statutes, codes, regulations, and laws in effect as of the date of this Agreement. Any changes in said statutes, codes, regulations or laws after the proposal date which requires services not quoted, revisions or redesign shall be an additional service.
vii. Obtaining, preparation or payment of permits or application fees. Please note that any and all application, review and/or processing fees associated with Environmental Services or Incentives that are not included in the Proposal and will be paid by the CLIENT. Application and/or processing fees may be based on the amount of credit requested and must be provided prior to approval of the requested incentive.
viii. Additional or extended services during construction made necessary by 1) work damaged during construction; 2) a significant amount of defective or negligent work of the contractor(s); 3) acceleration of the progress schedule involving services beyond normal working hours; 4) default by contractor(s); 5) requested by contractor beyond agreed upon terms in the Scope of Services.
ix. All meetings and/or site visits requested beyond the maximum number indicated in the Base or Initial Project Scope of Services.
x. Preparation of Computer Assisted Design (CAD) drawings of topographical surveys furnished by others.
xi. Construction Administration, including but not limited to opinions or review of shop drawings, construction budgets, construction scheduling, pay applications or site visits.
xii. Service planning coordination with utility company(s).
xiii. Hydraulic drainage analysis.
xiv. Traffic study and / or traffic signal design coordination.
xv. Structural design of retaining walls or structures of any kind.
xvi. Ecological Services and Wetland Mitigation and Design.
xvii. Construction monitoring, observance, inspection or supervision of work performed on the project.
xviii. Construction material testing, utility locating (including Ground Penetrating Radar and Electromagnetic methods), soil or pavement investigations (including boring and cores)
xix. Construction Staking.
xx. LEED Certification Documentation.
xxi. Storm water operator / Soil Erosion Control Inspection services.
xxii. Off Site Improvements to transportation or utility infrastructure.
xxiii. Management or transport of investigation derived waste.

The CLIENT may request at any time that any of the services listed above be added to the project and PEA Group will provide an ASR detailing the scope and the fees associated with that professional service.

ARTICLE III – CONFIDENTIALITY. PEA Group shall maintain as confidential such information obtained from CLIENT or developed as part of the Services as CLIENT expressly designates in writing as confidential. This obligation shall not apply to information which is or comes into the public domain, or which PEA Group is required to disclose by law or order of a court, administrative agency, or other legal authority, or as is required under this agreement to perform the services therein. Unless otherwise agreed, PEA Group may use and publish CLIENT'S name and a general description of the Services in describing PEA Group's experience to other clients or potential clients.

ARTICLE IV – STANDARD OF CARE. In providing services under this Agreement, the PEA Group shall perform in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances at the same time and in the same or similar locality. **PEA Group makes no warranty, express or implied, as to its professional services rendered under this Agreement**. PEA Group shall not be required to sign any documents, no matter by whom requested, that would result in PEA Group's having to certify, guarantee or warrant the existence of conditions whose existence that PEA Group cannot ascertain. CLIENT agrees not to make resolution of any dispute with PEA Group or payment of any amount due to the PEA Group in any way contingent upon PEA Group's signing any such certification.

ARTICLE V – CLIENT'S RESPONSIBILITIES. CLIENT shall be responsible for performing or providing the following:

i. Arrange for access to and make all provisions for PEA Group to enter upon public or private property to perform the above professional services. PEA Group will not access those portions of the subject property or adjacent properties where prearranged access has not been granted, or where personnel health and safety issues preclude entry. CLIENT shall defend PEA Group from any challenge to such right-of-entry and shall indemnify and hold PEA Group harmless from any claims of trespass which may occur, and all costs and attorneys' fees incurred by PEA Group as a result of any such claim.
ii. CLIENT acknowledges that certain procedures may cause some damage to land or disruption (i.e., soil borings, test pits, surveying, etc.). PEA Group will take reasonable precautions to minimize any damages to property; however, the correction of which shall not be PEA Group's responsibility unless otherwise agreed to by the parties.

iii. CLIENT shall provide a current title policy for all new private projects or PEA Group upon giving CLIENT written notice may order a title search for the project that shall be billed as reimbursable per the current rate schedule.

iv. Furnish all available information in CLIENT'S possession or control for the site where the services are to be performed, including, but not limited to surveys, the existence and location of underground utilities or structures, the existence and location of hazardous materials, wastes or substances, and any other information or documentation pertinent to PEA Group's services. Unless agreed to specifically in the proposal, PEA Group will not conduct an independent investigation or evaluation of subsurface utilities, structures, or hazardous conditions. PEA Group is not responsible for any undisclosed subsurface utilities, structures, or hazardous conditions by the CLIENT encountered on the project unless the proposal specifically includes an investigation or evaluation by PEA Group in the scope of the services.

v. The CLIENT warrants PEA Group has permission to use all information, plans, drawings, specifications, surveys, reports, and documents provided in connection with the Project. The CLIENT agrees, to the fullest extent permitted by law, to indemnify and hold PEA Group harmless of all expenses, damages, losses, and costs, including reasonable attorney fees, from any claims and/or liability, including copyright claims, resulting from the use of such information, plans, drawings, specifications surveys, reports, documents or other instruments of service.

vi. In the event the CLIENT has elected to use other firm(s) to perform certain services, for example but not limited to survey, geotechnical investigations, environmental or ecological investigations by providing one performed by another company, PEA Group, cannot ascertain the accuracy, completeness and sufficiency of the information provided. PEA Group shall be entitled to rely upon the completeness and accuracy of the information provided which includes but is not limited to surveys, investigative reports and documents provided by CLIENT, Municipal, State or Federal agencies. The CLIENT is responsible for any liability or damages that arise from the errors or omissions which the information provided by CLIENT , Municipal, State or Federal agencies may contain.

vii. CLIENT shall provide a program which sets forth the CLIENT's objectives, schedule, constraints and site requirements and render all decisions or provide all necessary approvals pertaining to the project in a timely manner to allow adequate time to perform services herein.

viii. CLIENT shall give prompt written notice to PEA Group whenever CLIENT observes or otherwise becomes aware of any project changes that materially affects the scope or timing of the PEA Group's professional services.

ix. Should the CLIENT or CLIENT'S representative encounter a conflict between plans and specifications, either among themselves, the CLIENT'S project expectations or with the requirements of any and all reviewing and permit-issuing agencies, CLIENT shall seek clarification in writing from PEA Group before commencement of construction. Failure to do so shall relieve PEA Group from any and all liability resulting in this matter.

x. During the Construction Phase CLIENT shall give prompt written notice to PEA Group of all defects or suspected defects in PEA Group's work or services of which the CLIENT or CLIENT's agent becomes aware, in order to allow PEA Group time to investigate said defected work and take measures to minimize the consequences of such defect. The CLIENT shall require that all contractors and subcontractors, at any level, on the Project to contain a like requirement in their contract. Failure by the CLIENT, the CLIENT'S contractors, or subcontractors to notify PEA Group shall relieve PEA Group of the costs of remedying the defect above the sum such remedy would have cost had prompt notification been given.

xi. CLIENT shall be the "Generator" responsible for any and all waste generated as a result of activities completed under this scope of work, including profiling of waste, and signing all waste related documentation. If CLIENT wishes PEA Group representatives to sign waste-related documentation (manifests, profiles, etc.) on behalf of CLIENT, CLIENT shall provide PEA Group written authorization to sign on behalf of CLIENT and this will be an additional service unless specifically set forth in the scope of services. In no event shall PEA Group be listed as the generator of any waste or associated with the EPA ID number for the facility generating the waste. In addition, PEA Group shall not move waste from one property to another or be liable for waste which is removed from the project site or disposed of improperly. CLIENT is responsible for providing a secure location for the storage of waste pending characterization and disposal and maintains full responsibility for waste from generation to final disposition (i.e., cradle to grave management)..

xii. CLIENT is responsible for maintaining a safe distance from all work conducted on the project site and complying with safety recommendations and procedures provided by PEA Group or subcontractors. PEA Group shall not be responsible for the safety of CLIENT, CLIENT representatives, or guests of the CLIENT on the project site.

ARTICLE VI – BILLING, PAYMENTS, AND COLLECTION. Unless otherwise agreed, CLIENT shall pay for the Services in accordance with PEA Group's Proposal and this Agreement. Methods of payment can be found at Payment Link . PEA Group reserves the right to collect credit card servicing fees. PEA Group reserves the right to adjust the rates periodically. Note, all hourly Projects are subject to any annual rate adjustments at the start of each calendar year unless the Parties agree otherwise.

Retainage – Should the CLIENT be required to make an initial payment (Retainer) as indicated in the Proposal this retainer shall be held by PEA Group and applied against the final invoice. PEA Group reserves the right to apply the retainer to invoices that are past due upon which the CLIENT agrees to reinstate the retainer prior to PEA Group resuming work.

Invoicing – Progress invoices will be submitted to the CLIENT approximately once a month and a final bill will be submitted upon completion of the services. Invoices shall be considered PAST DUE if not paid within thirty (30) calendar days of the invoice date. CLIENT agrees that the periodic billing from PEA Group to CLIENT are correct, conclusive, binding on CLIENT and due and payable in full unless CLIENT, within thirty (30) days from the date of the invoice, notifies PEA Group in writing of any alleged inaccuracies, discrepancies, or errors in billing that they are disputing. Any portion of the invoice not being disputed by the CLIENT shall be paid within thirty (30) days of the invoice date. CLIENT agrees that all invoices (except the portion they disputed) cannot be contested after said thirty (30) day period. All payments are owed directly from the CLIENT and are not contingent upon payments made by a third party, unless agreed to in writing by PEA Group. CLIENT also agrees that payments to PEA Group are not subject to or contingent upon local or state agency approvals, permit acquisitions, third party agreements, project financing, or closings.

Late Fees – If payment is not received by PEA Group within thirty (30) calendar days of the invoice date, the CLIENT shall pay interest on the PAST DUE amount at the rate of 18% per annum (for business entities) or 7% per annum (for individuals), as the case may be. Payment thereafter shall first be applied to costs of collection, then to interest and then to the unpaid contract amount.

Collection Costs – CLIENT shall pay to PEA Group all costs of collection (including the costs and fees of both in-house and outside counsel), whether or not an action or other proceeding is commenced. In the event legal action is necessary to enforce the payment provisions of this Agreement. PEA Group shall be entitled to collect from the CLIENT any judgment or settlement sums due, reasonable attorney's fees, court costs and expenses incurred by PEA Group in connection therewith and, in addition, the reasonable value of PEA Group's time, subconsultant's fees, and expenses spent in connection with such collection action, computed at PEA Group's prevailing Rate Schedule and expense policies.

Suspension of Services – If the CLIENT fails to make payment when due or otherwise is in breach of this Agreement, then PEA Group may, in addition to its other rights and remedies hereunder and under applicable law, terminate or suspend performance of services upon seven (7) calendar days' notice to the CLIENT. PEA Group shall have no liability whatsoever to the CLIENT for any costs or damages as a result of such suspension caused by any breach of this Agreement by the CLIENT. Failure to make payment within Sixty (60) days of invoice date shall constitute a release of PEA Group from any and all claims which CLIENT may have, whether in tort, contract or otherwise, and whether known or unknown at the time.

Set-Offs, Back Charges, Discounts – Payment of invoices shall not be subject to any discounts or set-offs by the CLIENT unless agreed to in writing by PEA Group. Payment to PEA Group for services rendered and expenses incurred shall be due and payable regardless of any subsequent suspension or termination of this Agreement by either party. Fees for disputed services may be withheld but only to the extent they are reasonable and necessary to protect the CLIENT's interests. CLIENT shall provide a detailed explanation of the basis for any planned withholding prior to any amounts being withheld from PEA Group. All amounts withheld shall be released to PEA Group as soon as the circumstances giving rise to the withholding are resolved. No payments to PEA Group may be withheld from another project or applied from this project to another PEA Group project with the CLIENT.

Termination of Services – If the CLIENT fails to make payment to PEA Group in accordance with the payment terms herein, this shall constitute a material breach of this Agreement and shall be cause for termination of this Agreement by PEA Group.

Lien Rights – PEA Group hereby notifies CLIENT that it intends to utilize all available lien rights it may have in connection with its provision of services under this Agreement and required by the Michigan Construction Lien Act, MCL 570.00 et seq. PEA Group may elect pursuant to the ACT to record a Notice of Professional Services Subcontract with the register of deeds for the county in which the property is located in accordance with MCL 570.1107b.

ARTICLE VII – LIMITATION OF LIABILITY. To the maximum extent permitted by law, the CLIENT agrees that the maximum aggregate amount of PEA Group's liability which includes any individual's professional liability employed by PEA Group shall be limited to Twenty-Five Thousand ($25,000.00) Dollars or to the sum of PEA Group's fee whichever is greater. This limitation shall apply regardless of the cause of action or legal theory pled or asserted subject to Article IX. **Under no circumstance shall PEA Group and/or PEA Group's professional employees be liable for CLIENT's loss of profits, delay damages, or any special, incidental, or consequential loss or damage of any nature arising at any time or from any cause whatsoever**. Where PEA Group's fee exceeds Two Hundred Fifty Thousand ($250,000.00) Dollars CLIENT's maximum recovery against PEA Group will not exceed Two Hundred Fifty Thousand ($250,000.00) Dollars.

ARTICLE VIII – INDEMNIFICATION. Subject to Article VII above, PEA Group agrees, to the fullest extent permitted by law, to indemnify and hold harmless the CLIENT, its officers, directors and employees (collectively, CLIENT) against all damages or liabilities, to the extent caused by PEA Group's negligent performance of professional services under this Agreement and that of its subconsultants or anyone for whom PEA Group is legally liable. The CLIENT agrees, to the fullest extent permitted by law, to indemnify

and hold harmless PEA Group, its officers, directors, employees and subconsultants (collectively, PEA Group) against all damages or liabilities, to the extent caused by the CLIENT's negligent acts, errors or omissions in connection with the Project as well as the acts, errors or omissions of its contractors, subcontractors or consultants or anyone for whom the CLIENT is legally liable. Neither the CLIENT nor PEA Group shall be obligated to indemnify the other party in any manner whatsoever for the other party's own negligence. In addition to the indemnity provided in this Agreement, and to the fullest extent permitted by law, CLIENT shall indemnify and hold harmless PEA Group and its officers, directors, partners, employees, consultants and its agents, from and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from a Hazardous Environmental Condition, provided any such cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than completed Work), including the loss of use resulting therefrom, except to the extent of any release of a hazardous substance caused by PEA Group's gross negligence or willful misconduct at the subject property.

ARTICLE IX – PHASE ONE ENVIRONMENTAL SITE ASSESMENT (ESAs). PEA Group will perform ESAs in accordance with the currently accepted American Society for Testing and Materials standard. As part of the ESA the CLIENT shall be responsible for providing a map showing the outline of the property for which an ESA is requested, including the parcel ID(s) of all properties and all the available information regarding the intended use of the outlined property. PEA Group shall not be responsible for additional costs incurred as a result of incorrect property information provided by the CLIENT. In addition, CLIENT shall be responsible for ensuring PEA Group has access to the property and all buildings for a site inspection, providing appropriate historic information (including any prior ESAs CLIENT has control of) to complete an All Appropriate Inquiry per ASTM standards, which includes the completion of the Phase I ESA User Questionnaire. Should any of the required information need to be obtained from a third party (i.e., the seller) to complete the All Appropriate Inquiry, CLIENT shall obtain this information from the third party. The CLIENT's failure to provide the required information shall relieve PEA Group from liability and damages arising from the missing information. In conformance to the requirements set forth by the Small Business Administration and lenders relying upon Phase One ESAs, PEA Group agrees to waive the limitation of liability set forth in Article VII up to a limit of $1,000,000 for this service. This waiver is strictly limited to the Phase One ESAs and does not apply to other services.

ARTICLE X – SAFETY. PEA Group will comply with CLIENT'S reasonable rules and regulations governing PEA Group's activities on CLIENT'S premises to the extent that the same are provided to PEA Group prior to the start of the Services. PEA Group is only responsible for its employees while onsite performing services pursuant to the Agreement. All site work is expected to be performed under Level D health and safety conditions. If the work is upgraded to Level C or higher, the scope of work, fees and delivery dates will need to be re-negotiated. (See the Safety Plan for descriptions of each level.) PEA Group's Safety Plan is available upon request. DISCOVERY OF UNANTICIPATED HAZARDOUS MATERIALS OR CONDITIONS PEA Group and the CLIENT agree that the discovery of unanticipated hazardous materials or conditions may make it necessary for PEA Group to take immediate measures to protect the health and safety of its employees, agents, or subcontractors. CLIENT agrees to pay the reasonable costs of such protective measures as well as any equipment decontamination or other costs incident to the discovery of unanticipated hazardous materials or conditions. PEA Group will notify CLIENT of such discovery as soon as practically possible. In the event PEA Group or any other party encounters a Hazardous Environmental Condition, PEA Group may, at its option and without liability for consequential or any other damages, suspend performance of services on the portion of the Project affected thereby until CLIENT: (i) retains appropriate specialist consultant(s) or contractor(s) to identify and, as appropriate, abate, remediate, or remove the Hazardous Environmental Condition; and (ii) warrants that the site is in full compliance with applicable Laws and Regulations. To the extent PEA Group is able to assist with handling the Unanticipated Hazardous Environmental Condition, an ASR will be provided to the CLIENT for their approval prior to commencing services.

ARTICLE XI – CONSTRUCTION/ REMEDIATION PHASE SERVICES. Any Services under this Agreement that include site visits, project observation, material testing, layout and any other Construction Phase Services, none of these professional activities of PEA Group, nor the presence of the PEA Group's employees or subconsultants at a construction/project site, shall impose any duty on PEA Group, nor relieve the General Contractor of its obligations, duties and responsibilities including, but not limited to, construction means, methods, sequences, techniques, procedures, or jobsite safety of others, including, whatever is necessary for performing, superintending or coordinating the Work in accordance with the Contract Documents and any health or safety precautions required by any regulatory agencies ("Contractor Duties"). PEA Group and its personnel have no authority to exercise any control over any construction contractor or its employees in connection with their work or any health or safety programs or procedures. The CLIENT agrees that the General Contractor shall be solely responsible for jobsite and worker safety and warrants that this intent shall be carried out in the CLIENT's contract with the General Contractor. The CLIENT also agrees that the General Contractor and subcontractors shall defend and indemnify the CLIENT, PEA Group and the PEA Group's subconsultants from and against any claims, causes of action, demands or damages arising out of or relating to Contractor Duties. The CLIENT also agrees that the CLIENT, PEA Group and PEA Group's subconsultants shall be made additional insureds under the General Contractor's policies of general liability insurance.

ARTICLE XII – LIMITATIONS OF FIELD OBSERVATION, TESTING AND ANALYSIS. Information obtained from observations, analysis, and testing of sample materials is considered evidence with respect to the area defined in the scope of services, but any inference or conclusion based thereon is an opinion based upon professional judgment and shall not be construed as a representation of fact. Soil and groundwater data may vary due to seasonal and climatological changes and extrinsic conditions, and pollutants may or may not be found to exist at the specific time of inspection. CLIENT understands that, due to intervening causes such as natural groundwater flows, seasonality, sampling method, or human intervention, such sampling and analysis may or may not indicate the presence of contamination. **There is a risk that sampling techniques may result in contamination of certain subsurface areas such as when a probe or boring device moves through a contaminated area linking it to an aquifer or other medium not previously contaminated and capable of transporting pollutants. BECAUSE SUCH RISKS ARE UNAVOIDABLE AND BECAUSE THE SAMPLING TECHNIQUES TO BE EMPLOYED ARE A NECESSARY ASPECT OF PEA Group's WORK ON CLIENT'S BEHALF, CLIENT AGREES TO ASSUME THESE RISKS, except those caused by PEA Group's gross negligence or willful misconduct.**

ARTICLE XIII – REUSE OR ALTERATION OF DOCUMENTS. PEA Group shall retain ownership of all reports, drawings, plans, specifications, electronic files, field data, notes, calculations, and other documents and instruments prepared by PEA Group as instruments of service. PEA Group retains all common law, statutory and other reserved rights, including copyright. Subject to the timely payment and performance by CLIENT of its obligations hereunder, PEA Group grants CLIENT a limited license to use such documents in connection with the Project. Any reuse of Documents which includes, but is not limited to the following: calculations, drawings, and specifications prepared by PEA Group pursuant to this Agreement, whether in hard copy or machine-readable form, are related exclusively to the Projects described herein. No documents prepared by PEA Group pursuant to this Agreement are intended or represented to be suitable for use by the CLIENT or others on extensions of this current Project, or for reuse on any other project.

Further, in the event that PEA Group's services under this Agreement are terminated for any reason prior to completion of the services described herein, then PEA Group shall not be responsible for any incomplete documents. Any continued use of PEA Group's documents on this Project, whether in hard copy or machine readable form, or any use on any other location, with or without any changes or adaptations, made after termination of PEA Group prior to completion of PEA Group's services according to this Agreement will be at the CLIENT's sole risk and without liability or legal recourse to PEA Group; and the CLIENT shall indemnify and hold PEA Group harmless from all claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting therefrom.

The CLIENT recognizes that changes or modifications to PEA Group's instruments of professional service introduced by anyone other than PEA Group may result in adverse consequences that PEA Group cannot predict nor control. Therefore, in consideration of PEA Group's Agreement to deliver its instruments of professional service in machine-readable form, the CLIENT agrees, to the fullest extent permitted by law, to hold harmless and indemnify PEA Group from and against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees, arising out of or in any way connected in the modification, misinterpretation, misuse, or reuse by other of the machine readable information and data provided by PEA Group under this Agreement. The foregoing indemnification applies to any use of the Project documentation on other projects, for additions to this Project, or for completion of this Project by others, excepting only such use as may be authorized, in writing, by PEA Group.

Photographs of any completed Project embodying the services of PEA Group provided hereunder may be considered as its property, and may be used in publications, marketing materials, and other literature prepared by or on behalf of PEA Group unless specifically forbidden in the Agreement.

ARTICLE XIV – CHANGED CONDITIONS/ FAST TRACK/ FORCE MAJEURE. If, during the term of this Agreement, circumstances or conditions that were not originally contemplated by or known to PEA Group are revealed, to the extent that they affect the scope of services, compensation, schedule, allocation of risks or other material terms of this Agreement, PEA Group may call for renegotiation of appropriate portions of this Agreement. The PEA Group shall notify the CLIENT of the changed conditions necessitating renegotiation, and PEA Group and the CLIENT shall promptly and in good faith enter into renegotiation of this Agreement to address the changed conditions. If terms cannot be agreed to, the parties agree that either party has the absolute right to terminate this Agreement in accordance with the Termination provision hereof.

In recognition that a CLIENT may to their benefit elect to employ a "fast track process" (in which some of PEA Group's design services overlap the construction work and are out of sequence with the traditional project delivery method), and in recognition of the inherent risks of fast tracking to PEA Group, the CLIENT agrees to waive all claims against PEA Group for design changes and modifications of portions of the work already constructed due to the CLIENT's decision to employ the "fast track process". The CLIENT further agrees to compensate PEA Group for all Additional Services required to modify, correct or adjust the Construction Documents and coordinate them in order to meet the CLIENT's program requirements because of the CLIENT's decision to construct the Project in a fast track manner.

If an event or circumstance beyond the PEA Group's reasonable control occurs, including without limitation an act of God, fire, flood, hurricane, wind event, storm,

weather disturbance, earthquake, pandemic, disease, epidemic, or other viral or bacterial outbreak, government-ordered shutdown, quarantine or shelter-in-place order, an act or omission of a third party, war, riot, terrorism or threat of terrorism, civil unrest, labor problems (including lockouts, strikes and slowdowns) of a third-party, inability to obtain power, internet connectivity or services interruptions, scarcity of ingredients or supplies, or court injunction or order, new laws or governmental regulations or other causes that are beyond the reasonable control of the PEA Group, whether similar or dissimilar to any of the foregoing, that cause PEA Group delay or additional expense ("Force Majeure Event"), then the PEA Group is entitled to an equitable adjustment in the contract price or time for performance, or both. If any Force Majeure Event renders the PEA Group's performance impossible or impracticable, PEA Group has the right to terminate performance under this Agreement consistent with any termination requirements that might exist in this Agreement. If a Force Majeure Event lasts more than thirty (30) days, upon written notice either party may terminate this Agreement without liability to the other for such termination.

ARTICLE XV – PERFORMANCE SPECIFICATION. PEA Group may incorporate "Performance Specifications" as a component of Construction Documents. Performance Specifications rely upon a statement of systems, equipment and/or materials to be incorporated into the project in terms of required results, without mandating specific means for achieving the required results. Performance Specifications establish minimum standards which must be met by defining the functional requirements, the operating conditions and/or environment in which it must operate and/or related matters such as general standards which must be satisfied, warranty requirements, etc. Where performance specifications are used, they will be identified as such. Where Performance Specifications are used, the Contractor, Subcontractors, Manufacturer and/or Supplier of the materials or equipment to be furnished assume design responsibility and liability for the applicable systems, equipment or materials. The Contractor, their Subcontractors, and others who actually manufacture and supply the items will be the sole parties liable to the CLIENT for loss or damage caused by defective or deficient design, manufacture or performance. PEA Group's shop drawing review is strictly limited to determine that the manufacturers and suppliers have referenced the appropriate operating conditions and environment..

ARTICLE XVI – DISPUTE RESOLUTION. All disputes are to be handled as follows:

i. The Parties to this Agreement intend, to the maximum extent feasible, to resolve all disputes at the project level. Disputes not resolved at the project level shall be timely escalated to the Parties' senior management, senior management will then use good faith efforts to settle the dispute. If after a reasonable time the Parties' senior management are unable to resolve the dispute, the Parties shall mediate as set forth below. The inability of the senior executives to resolve the dispute is a condition precedent to mediation, then ultimately to arbitration (if mutually agreed to by the Parties) or the institution of legal or equitable proceedings by either party. During this dispute mitigation or resolution proceedings PEA Group shall continue perform conditioned upon the CLIENT continuing to make timely payments in accordance with the Agreement for all work performed during this process.

ii. If direct discussions do not result in resolution of the matter, the Parties shall endeavor to resolve the matter by mediation through the current Construction Industry Mediation Rules of the American Arbitration Association (AAA), or the Parties may mutually agree to select another set of mediation rules. The administration of the mediation shall be as mutually agreed by the Parties. The mediation shall be convened within thirty (30) Business Days of the matter first being discussed and shall conclude within forty-five (45) Business Days of the matter first being discussed. Either Party may terminate the mediation at any time after the first session by written notice to the non-terminating Party and mediator. The costs of the mediation shall be shared equally by the Parties.

iii. Arbitration, if mutually agreed upon by the Parties, in writing, shall be decided in accordance with the Construction Industry Arbitration Rules of the AAA then in effect. This agreement to arbitrate shall be specifically enforceable under the prevailing arbitration law. An award entered in an arbitration proceeding shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction. The venue shall be the location of the Project, unless the Parties agree on a mutually convenient location.

iv. If the Parties do not mutually agree to Arbitrate, the commencement of any legal or equitable proceedings by either Party shall be in the State or Federal court having jurisdiction of the matter in the location of the Project. This Agreement shall be governed by the law in effect at the location of the Project.

v. In the event there is a third-party claim against the CLIENT, PEA Group agrees to reimburse the CLIENT, its officers, directors, and employees (collectively, CLIENT), its reasonable defense costs, but only to the extent caused by PEA Group's actual negligent act, error, or omission in the performance of professional services, and only if such defense costs are awarded by a court or arbitrator of competent jurisdiction. In the event there is a third-party claim against PEA Group, the CLIENT agrees to reimburse PEA Group, its officers, directors, employees, and subconsultants (collectively, PEA Group) its reasonable defense costs, but only to the extent caused by the CLIENT's negligent act, error, or omission, and only if such defense costs are awarded by a court or arbitrator of competent jurisdiction. Neither the CLIENT nor PEA Group shall be obligated to reimburse the other party its defense costs in any manner whatsoever for the other party's own negligence.

ARTICLE XVII – SUSPENSION OF SERVICES. The CLIENT may suspend services performed by PEA Group with cause upon seven (7) days written notice. PEA Group shall submit an invoice for services up to the effective date of the suspension and the CLIENT shall pay PEA Group all outstanding invoices within fourteen (14) days. If suspension of services exceeds thirty (30) days from the effective date of the suspension, PEA Group shall be entitled to renegotiate the Project schedule and the compensation terms for the Project.

If PEA Group's services are delayed or suspended in whole or in part by CLIENT, act of God or other reason beyond PEA Group's control, or if PEA Group's services are extended by Contractor's actions or inactions for more than ninety (90) days through no fault of PEA Group, PEA Group shall be entitled to equitable adjustment of rates and amounts of compensation and extension of deadline provided for elsewhere in this Agreement to reflect reasonable costs incurred by PEA Group in connection with, among other things, such delay or suspension and reactivation. PEA Group may suspend services if CLIENT upon seven (7) days written notice.

ARTICLE XVIII – TERMINATION. The obligation to provide further services under this Agreement may be terminated by either party upon seven (7) calendar day's written notice. Upon receipt of notice of termination from CLIENT, PEA Group shall immediately cease work and take all reasonable steps to minimize costs relating to termination. In the event of any termination, PEA Group will be paid for all services rendered to the date of termination, all expenses subject to reimbursement hereunder and other reasonable expenses incurred by PEA Group as a result of such termination. In the event PEA Group's compensation under this Agreement is a Fixed Fee/Lump Sum, upon such termination the amount payable to PEA Group for services rendered will be determined using a proportional amount of the total fee based on a ratio of the amount of the services done, as reasonably determined by PEA Group, the total amount of services, which was to have been performed, less prior partial payments, if any, which have been made.

ARTICLE XIX – SUCCESSOR, ASSIGNS. This Agreement shall be binding upon the parties and their respective successors and assigns. Neither party shall assign its interest in this Agreement without the prior written consent of the other. The PEA Group shall not be required to execute any documents subsequent to the signing of this Agreement that in any way might, in the sole judgment of the PEA Group, increase PEA Group's contractual or legal obligations or risks, create a fiduciary obligation or an uninsurable risk, or adversely affect the availability or cost of its professional or general liability insurance or otherwise materially change the terms of this Agreement. Subcontracting to subconsultants, normally contemplated by the Consultant as a generally accepted business practice, shall not be considered an assignment for purposes of this Agreement.

ARTICLE XX – THIRD-PARTY BENEFICIARIES. Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the CLIENT or PEA Group. PEA Group's services under this Agreement are being performed solely for the CLIENT's benefit, and no other party or entity shall have any claim against PEA Group because of this Agreement or the performance or nonperformance of services hereunder. The CLIENT and PEA Group agree to require a similar provision in all contracts with contractors, subcontractors, subconsultants, vendors and other entities involved in this Project to carry out the intent of this provision.

ARTICLE XXI – SEVERABILITY. Any provision of these terms later held to violate any law shall be deemed void and all remaining provisions shall continue in force. In such event, the CLIENT and PEA Group will work in good faith to replace an invalid provision with one that is valid and as close to the original meaning as possible.

ARTICLE XXII – ENTIRE AGREEMENT. CLIENT, by signing the attached Proposal, acknowledges that this Agreement has been read, understands it, and agrees to be bound by its terms. The terms and conditions of this Agreement, together with the PEA Group Proposal (including attachments thereto) and any applicable Addendum, constitute the entire Agreement between the parties and supersede all prior oral or written representations, understandings, and agreements. The CLIENT is expressly prohibited during the term of, and for one year following the expiration or termination of this Agreement, and it will be considered a material breach of this Agreement, to solicit for the purposes of employment an employee of PEA Group without the prior written consent of PEA Group. The parties agree that any purchase orders, work orders, acknowledgments, form agreements or other similar documents delivered to PEA Group shall be null, void and without legal effect to the extent that they conflict with the terms of this Agreement. This Agreement may be amended or modified only by a written instrument signed by both parties. Each person signing the Proposal represents that he or she has full legal authority to bind the parties to the terms and conditions contained in this Agreement. No terms or conditions referenced in or attached to any Customer generated purchase order issued to Service Provider shall alter or change this Agreement.

Bloomfield Hills Schools
Stormwater Management Program Plan

Municipal Separate Storm Sewer System (MS4)
National Pollutant Discharge Elimination System (NPDES)
Stormwater Discharge Permit

PERMIT NO. MI0060026

Prepared By:

Arch Environmental Group, Inc.
37720 Interchange Drive
Farmington Hills, Michigan 48335

Creation Date: March 29, 2022

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Stormwater Management Program Plan

1.0 Introduction

Bloomfield Hills Schools is a public school district based in Bloomfield Hills, Michigan that owns or operates a regulated Municipal Separate Storm Sewer System (MS4). This Stormwater Management Plan (SWMP) has been developed to retain authorization to discharge stormwater to surface waters and reduce the discharge of pollutants from the MS4 to the Maximum Extent Practicable and protect water quality. Bloomfield Hills Schools will implement and enforce this SWMP to the Maximum Extent Practicable.

This Stormwater Management Plan commits to actions throughout the permit cycle. This SWMP includes measurable goals for Best Management Practices (BMP), focusing on the six minimum measures. Measurable goals describe the actions Bloomfield Hills Schools will take to implement each BMP and allow Bloomfield Hills Schools to evaluate progress toward meeting key objectives outlined in the following sections.

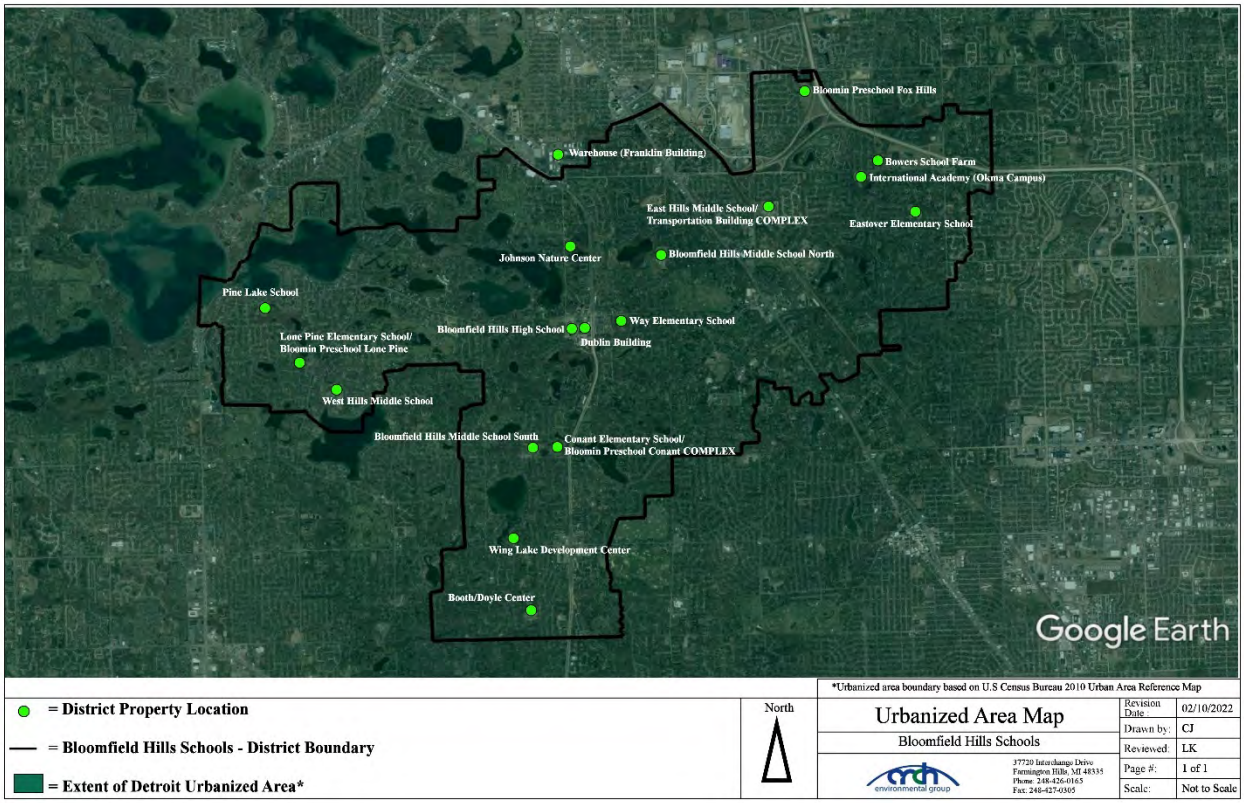
Bloomfield Hills Schools owns and operates seventeen (17) public properties within the boundaries of the "Detroit Urbanized Area". All Bloomfield Hills Schools properties are within the urbanized area based on the 2010 Census data, and the facilities include:

1. **Bloomfield Hills High School,** 4200 Andover Rd, Bloomfield Hills, MI 48302
2. **Bloomfield Hills Middle School South-Conant Elementary School-Bloomin' Preschool Conant Complex** -4200 W Quarton Rd, Bloomfield Hills, MI 48302; 4100 W Quarton Rd, Bloomfield Hills, MI 48302; 4100 W Quarton Rd, Bloomfield Hills, MI 48302
3. **Bloomfield Hills Middle School North -** 3456 Lahser Rd, Bloomfield Hills, MI 48302
4. **Booth-Doyle Center -** 7273 Wing Lake Rd, Bloomfield Hills, MI 48301
5. **Bowers School Farm -** 1219 E Square Lake Rd, Bloomfield Hills, MI 48304
6. **Dublin Building (Physical Plant Services) -** 4174 Dublin Dr, Bloomfield Hills, MI 48302
7. **East Hills Middle School-Transportation Building Complex -** 2780 Kensington Rd, Bloomfield Hills, MI 48304; 2780 Kensington Rd, Bloomfield Hills, MI 48304
8. **Eastover Elementary School -** 1101 Westview Road, Bloomfield Hills, MI 48304
9. **Fox Hills Elementary School & Bloomin' Preschool Fox Hills** - 1661 Hunters Ridge, Bloomfield Hills, MI 48304; 1661 Hunters Ridge, Bloomfield Hills, MI 48304
10. **International Academy (Okma Campus) -** 1020 E Square Lake Rd, Bloomfield Hills, MI 48304
11. **Johnson Nature Center -** 3325 Franklin Rd, Bloomfield Hills, MI 48302
12. **Lone Pine Elementary School & Bloomin' Preschool Lone Pine** - 3100 Lone Pine Rd, West Bloomfield, MI 48323
13. **Pine Lake School -** 3333 W Long Lake Road, West Bloomfield, MI 48323
14. **Warehouse (Franklin Building) -** 2258 Franklin Rd, Bloomfield Hills, MI 48302
15. **Way Elementary School -** 765 W Long Lake Rd, Bloomfield Hills, MI 48302
16. **West Hills Middle School -** 2601 Lone Pine Rd, West Bloomfield, MI 48323
17. **Wing Lake Development Center -** 6490 Wing Lake Rd, Bloomfield Hills, MI 48301

1.1 Regulated Area

A map identifying the urbanized area within the Bloomfield Hills Schools urbanized area as defined by the 2010 Census is provided below in Map 1.

Map 1 – District Jurisdictional Boundary Map – Urbanized Area[1]



1.2 Outfalls & Discharge Points / Receiving Waters

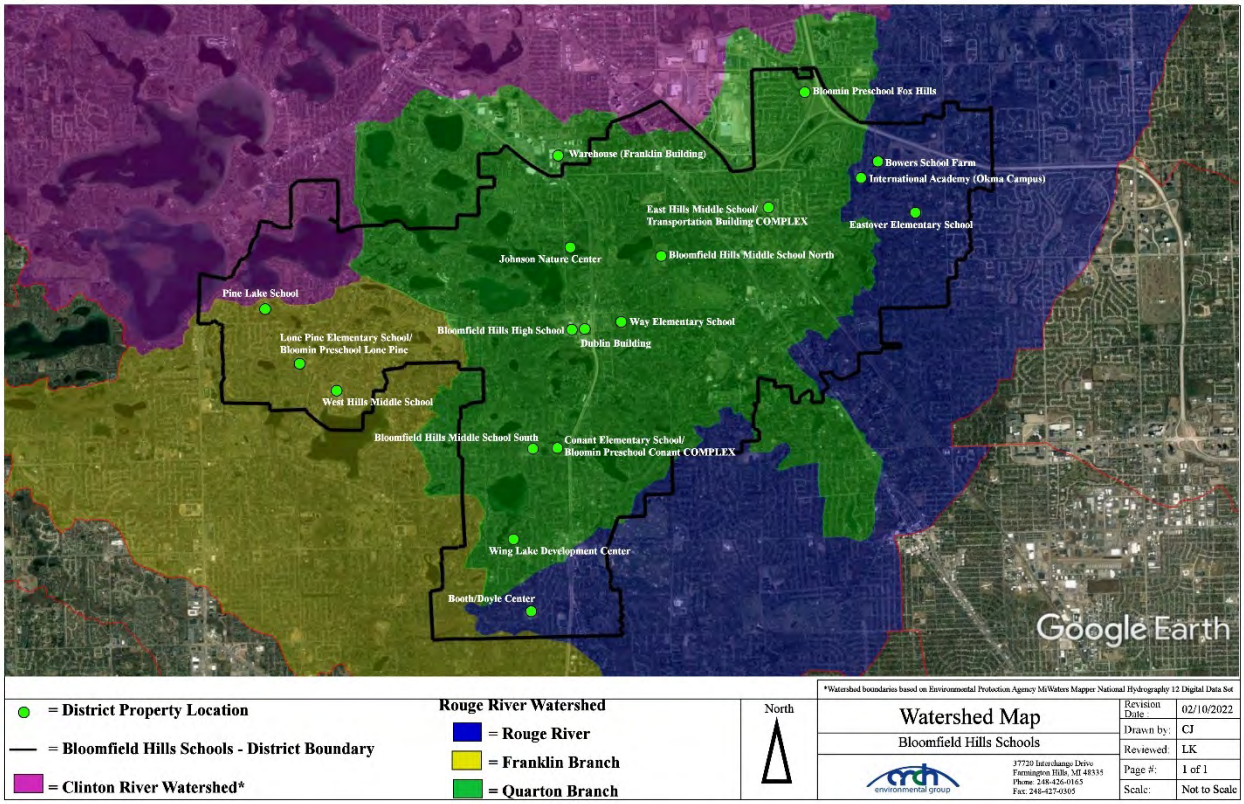
The permit authorizes the discharge of stormwater from municipal separate stormwater drainage systems to waters of the state from all existing outfalls or points of discharge.

Bloomfield Hills Schools has identified outfalls that discharge directly into surface waters of the state and discharge points that discharge into other MS4 drainage systems. The Bloomfield Hills Schools drainage system discharges directly or indirectly into the Rouge River and Clinton River Watersheds as detailed in Map 2 below.

Bloomfield Hills Schools has completed site specific storm sewer system maps which identify outfall and discharge point locations, discharge point source identification numbers, and receiving waters. A receiving water table and site-specific storm sewer system maps are provided in Appendix "A". Any changes to the Bloomfield Hills Schools storm sewer system will be reflected on the storm sewer system maps and reported provided to the EGLE during progress reporting. The district watershed boundary map is provided below in the map listed as "Map 2".

[1] Urbanized area boundary based on U.S. Census Bureau 2010 Urban Area Reference Maps.

Map 2 – District Watershed Map[2]



1.3 Enforcement Response Procedures

The Bloomfield Hills Schools properties are regulated as an MS4 under the NPDES Permit program. Environmental compliance staff members from Bloomfield Hills Schools have the authority to inspect and monitor stormwater-related activities on campus and require full compliance with all stormwater permit requirements. Enforcement of Bloomfield Hills Schools policies, procedures, and best management practices (BMPs) outlined in this SWMP is the responsibility of the Stormwater Program Manager or their designee. Any questions regarding this policy and procedure will be directed to the Stormwater Program Manager.

The primary role of the Superintendent or their designee is to ensure that the ERP is followed in a timely and consistent manner and track compliance issues and schedules. To achieve compliance, the following steps may be conducted:

1. Reviews reported violation.
2. Contact business or non-district individual responsible for the violation.
3. Ensures that compliance actions taken are consistent and timely.
4. Tracks instances of noncompliance.
5. Review compliance reports and schedules to ensure that appropriate enforcement actions are taken, and compliance goals are met.

[2] Watershed boundaries based on Environmental Protection Agency MiWaters Mapper National Hydrography Dataset Mapper 12-Digit Watersheds.

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6. Conduct follow-up inspection(s) to verify the violation has been corrected.
7. Legal action may be pursued for the most serious violations including where the response to previous enforcement actions is inadequate.

The tracking of instances of noncompliance includes the following information:

- Name
- Date
- Location of Violation (address, cross streets, etc.,)
- Business/Agency/Organization (as appropriate)
- Description of Violation
- Description of Enforcement Response
- Date Violation was Resolved

Information shall be placed into the Districts Noncompliance Enforcement Tracking Sheet.

This procedure will be reviewed on an annual basis by the Stormwater Manager for any updates. A copy of the SW Illicit Discharge Regulatory Policy is included with and an example of the Municipal Separate Storm Sewer System Noncompliance Enforcement Tracking Sheet in Appendix "B".

2.0 Stormwater Management Program Plan (SWMP) Minimum Control Measures

This SWMP has been developed to describe the Best Management Practices (BMPs) Bloomfield Hills Schools will implement to meet the six minimum control measures and water quality requirements. The six minimum control measures include:

- **Public Participation/Involvement Program (PPP)**
  To share components of the SWMP and encourage participation in its review and implementation.
- **Public Education Program (PEP)**
  To promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants to stormwater to the maximum extent practicable.
- **Illicit Discharge Elimination Program (IDEP)**
  To detect and eliminate illicit connections and discharges to the MS4.
- **Construction Stormwater Runoff Control Program**
  To augment Part 91 rules dealing with soil erosion, offsite sedimentation, and other construction-related wastes.
- **Post-Construction Stormwater Runoff Program**
  To address post-construction stormwater runoff from projects that disturb one acre or more, including projects less than one acre that are part of a larger common plan of development that would disturb one acre or more.
- **Pollution Prevention/Good Housekeeping Program**
  To minimize pollutant runoff to the maximum extent practicable from municipal operations that discharge stormwater to the surface waters of the state.

Each BMP includes a measurable goal, implementation schedule, and measure of assessment.

2.1 Public Involvement/Participation Program (PPP)

Engaging and empowering the public in the effort to reduce the impacts of stormwater runoff is a key element of the public involvement/participation program.

2.1.1 Public Involvement/Participation Program Objectives

1. Process for making the Stormwater Management Plan available for public inspection and comment.
2. Process for inviting public involvement and participation in the implementation of SWMP best management practices and periodic review of the SWMP.

2.1.2 Public Involvement & Participation Procedure

1. As required, the approved Stormwater Management Program (SWMP) will be made available to the public via the district website throughout the permit cycle.
2. The stormwater webpages will include contact information for public comments.
3. The public will be notified through announcements or newsletters that a copy of the SWMP is available on the district stormwater webpage.
4. A public survey has been developed and placed on the Bloomfield Hills Schools stormwater webpage in an effort to provide input into stormwater implementation.
5. A link to a stormwater blog "Cleanwater Chronicles" has been added to the Bloomfield Hills Schools stormwater webpage. The stormwater blog explains water quality issues and promotes opportunities for public involvement.
6. Cooperation with local watershed protection groups.

2.1.3 Public Involvement & Participation Assessment

1. Bloomfield Hills Schools will review the public involvement & participation BMPs as part of annual SWMP review to determine level of district involvement and identify areas of improvement.

2.1.4 Public Involvement & Participation Program (PPP) BMP Table

BMP	Implementation of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.1.4.1 Public Notice of SWMP	Make SWMP available for public review through stormwater webpage.	Annually Throughout Permit Cycle	Public notice published in annual district wide newsletter announcing the availability of the SWMP for review, including contact information for comments.	Verify SWMP available on stormwater webpage, and track changes webpage posting of SWMP.	Bloomfield Hills Schools
	Notification in annual district newsletter, website, or school posting to publicize updated SWMP and locations for review.			Keep copies of official SWMP posting notifications.	
	Contact information will be available on the stormwater webpages to forward comments regarding the SWMP.			Compile and track comments from the public.	
BMP #2.1.4.2 Stormwater Blog	Post link to stormwater blog on district website.	Ongoing Throughout Permit Cycle	A link to a stormwater blog established and maintained on the district stormwater webpage to assist in distributing information and updating the public on the watershed and activities.	Copies of monthly stormwater blog postings for reporting period.	Bloomfield Hills Schools
BMP #2.1.4.3 Stormwater Education Program Survey	Post survey on district website.	Ongoing Throughout Permit Cycle	Survey posted on the stormwater webpages and link maintained throughout the permit term to assess community knowledge and provide input into stormwater implementation.	Results of completed surveys.	Bloomfield Hills Schools
BMP #2.1.4.4 Participation Activities	Engage in environmental education activities.	Ongoing Throughout Permit Cycle	Increase in public participation in environmental activities and outreach events. Participation activities include water quality issues, stormwater management initiatives, home toxics, recycling, compost, and disposal.	Reports of participation.	Bloomfield Hills Schools

BMP	Implementation of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.1.4.5 Public Involvement & Participation Program Assessment	Evaluate the effectiveness of the public involvement program.	Annually Throughout Permit Cycle	Complete as part of annual SWMP review to determine level of district involvement and identify areas of improvement. Program activities may be adjusted based on the results of the assessment.	Copies of annual SWMP review noting any areas of needed improvement.	Bloomfield Hills Schools

2.2 Public Education Program (PEP)

Bloomfield Hills School's "Public Education Program (PEP)" is designed to promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants into the Bloomfield Hills Schools separate storm sewer system.

The term "Public" as referred in to in this program is defined to include all persons who could potentially affect the quality of stormwater discharges from Bloomfield Hills Schools properties including but not limited to Bloomfield Hills Schools faculty, staff, contractors, and students of Bloomfield Hills Schools, as well as area residents, visitors, public employees, local businesses, industries, construction contractors and property developers. This PEP will include a variety of mechanisms and venues to provide watershed awareness and pollution prevention education throughout the Bloomfield Hills Schools jurisdiction.

2.2.1 Public Education Program Objectives

1. Responsibility and stewardship in their watershed.
2. Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state.
3. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.
4. Promote preferred cleaning materials and procedures for car, pavement, and power washing.
5. Inform and educate the public on the proper application and disposal of pesticides, herbicides, and fertilizers.
6. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter the MS4.
7. Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, yard wastes, and motor vehicle fluids.
8. Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.
9. Promote methods for managing riparian lands to protect water quality.
10. Provide training for staff.

2.2.2 Public Education Program Procedure

Bloomfield Hills Schools is targeting all community wide issues as high priority. No prioritization will be needed, as educational activities to ensure that all community wide issues are reached to the public. It is anticipated that during this permit a combination of educational approaches will be used to convey the individual components of the PEP. Educational mechanisms will include cooperation with the distribution or posting of community newsletters and other watershed partner literature, and event notices. Bloomfield Hills Schools has developed and implemented a comprehensive "Stormwater Management" webpage on the district's website. Additionally, program posters, are strategically placed throughout school facilities. Copies of SEMCOG posters are provided in Appendix "C".

2.2.3 Public Education Program BMP Table

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.3.1 Promote public responsibility and stewardship in watershed.	Watershed website. Watershed specific website hosted by district, featuring watershed map, description of watershed, and links to watershed groups.	Ongoing Throughout Permit Cycle	Supply watershed information and promote watershed membership information. Educate the public on local water body health.	Update webpages as necessary. Confirm posting & track webpage reviews. Provide watershed membership information.	Students, faculty, and community	Bloomfield Hills Schools
	Place SEMCOG "7 Simple Steps to Clean Water" information on stormwater webpages.		SEMCOG "7 Simple Steps to Clean Water" information and links.	Update webpages as necessary. Confirm posting & track webpage reviews.		
	Publicize environmental related events through email, newsletters, or social media.	Ongoing Throughout Permit Cycle	Promote public awareness on environmental issues and increase district environmental participation.	Date, time location and name of event attended.	Students, faculty and community	
				Maintain copies of email notices (watershed announcement) of educational materials provided to district staff.		

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.3.2 Educate the public about the connection of the MS4 to the area waterbodies and the potential impacts discharges could have on surface waters of the state.	Posting of the training video "When it Rains, it Drains…The Stormwater Question" on the district webpage.	Ongoing Throughout Permit Cycle	Educate the public on local water bodies, water quality issues, and impacts of discharges on surface waters through visual media.	Update webpages as necessary. Confirm posting & track webpage reviews.	Students, faculty, and community	Bloomfield Hills Schools
	Include information and links to USEPA and EGLE Stormwater information on district stormwater webpage.		Provide resources to water quality issues and impacts of discharges on surface waters.	Update webpages as necessary. Confirm posting of links & track webpage reviews.		
	SEMCOG posters placed strategically throughout the district.		Maintain three (3) various SEMCOG posters at each facility. Strategic locations include Main Office, Lounge, and Receiving Area (if available).	Annual review of postings. Number of posters placed throughout district.		
	General Stormwater Awareness Training	Ongoing Throughout Permit Cycle	Encourage teachers, administrative and support staff to watch the General Awareness Stormwater Video "When it Rains it Drains".	Copy of sign in sheets and Agenda (if available).	Faculty	
			Post stormwater training video on stormwater webpage.	Update webpages as necessary. Confirm posting & track webpage reviews.	Students, faculty, and community	

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.3.3 Educate the Public on Illicit Discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.	Publicize 24-hour environmental hot-line phone numbers and instructions for reporting spills, illicit discharges, or connections.	Ongoing Throughout Permit Cycle	Track # of calls received on hotline per year. All calls to be addressed and record outcome of calls. Goal of an overall decrease in number of illicit discharges in improper disposal of materials into MS4s.	Number of calls to the Stormwater Manager.	Students, faculty, and community	Bloomfield Hills Schools
			Place 24-hour environmental hot-line posters throughout the district.	Promotion/ publicizing efforts; number of posters placed throughout district.		
	Pollutants & Illicit Discharges webpage; featuring information regarding sources of pollution, how pollutants cause damage, illicit discharges. How to Report/Hotline Numbers poster; describing illicit discharges and how to report illicit discharges.		Maintain illicit discharge webpage.	Update webpages as necessary. Confirm posting & track webpage reviews.		
			Place "How to spot illicit discharge/ How to Report-Hotline Numbers" posters placed in Receiving Rooms at each district facility. Goal is to have one poster at each facility.	Annual review of postings. Number of posters placed throughout district.		
	SEMCOG posters placed strategically throughout the district.		Goal to maintain three (3) various SEMCOG posters at each facility. Strategic locations include Main Office, Lounge, and Receiving Area (if available).	Annual review of postings. Number of posters placed throughout district.		
	The district implements an active storm drain labeling/ marking program.	Update as needed Throughout Permit Cycle	Visually making a connection of storm drains to local waterways and the impacts of dumping pollutants into these drains, increase number of staff, students and visitors who can identify the connection. Mark all drains on pervious surfaces.	Annual inventory of stenciled basins.		

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.3.4 Promote preferred cleaning materials and procedures for car, pavement, and power washing.	SEMCOG posters placed strategically throughout the district.	Ongoing Throughout Permit Cycle	Goal to maintain three (3) various SEMCOG posters at each facility. Strategic locations include Main Office, Lounge, and Receiving Area (if available).	Annual review of postings. Number of posters placed throughout district.	Students, faculty, and community	Bloomfield Hills Schools
	Discontinue practice of allowing school or other private groups from holding car wash fund raising project on school property.	Annually Throughout Permit Cycle	Send reminder email notice to all school Principals, Athletic Directors regarding the policy.	Copy of annual notice.	Faculty & students	
BMP #2.2.3.5 Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.	Maintain a district "Good Housekeeping" informational page on stormwater management webpages.	Ongoing Throughout Permit Cycle	Address the environmental (including water quality) and resulting from improper handling and disposal of pesticides, herbicides, and fertilizers.	Update webpages as necessary. Confirm posting & track webpage reviews.	Students, faculty, and community	Bloomfield Hills Schools
	SEMCOG posters placed strategically throughout the district.		Goal to maintain three (3) various SEMCOG posters at each facility. Strategic locations include Main Office, Lounge, and Receiving Area (if available).	Annual review of postings. Number of posters placed throughout district.		

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.3.6 Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.	SEMCOG posters placed strategically throughout the district.	Ongoing Throughout Permit Cycle	Goal to maintain three (3) various SEMCOG posters at each facility. Strategic locations include Main Office, Lounge, and Receiving Area (if available).	Annual review of postings. Number of posters placed throughout district.	Students, faculty, and community	Bloomfield Hills Schools
BMP #2.2.3.7 Identify and promote the availability, location, and requirements of facilities for collection and disposal of household hazardous wastes, travel trailer wastes, chemicals, and motor vehicle fluids.	Maintain a district "Household Hazardous Waste" informational page on stormwater management webpages.	Ongoing Throughout Permit Cycle	Address the environmental (including water quality) and public health effects resulting from improper handling and disposal of household hazardous waste, reduce the use of home toxics, keep citizens informed about the choices and responsibilities associated with purchasing, handling, and disposing of toxic substances. Increase the number of residents using the program to dispose of home toxics.	Update webpages as necessary. Confirm posting & track webpage reviews.	Students, faculty, and community	Bloomfield Hills Schools
BMP #2.2.3.8 Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.	Maintain a district "Sewer Overflows and Septic Systems" informational page on stormwater management webpages.	Ongoing Throughout Permit Cycle	Educate why sewer overflows and septic systems are pollution issues. Promote proper and consistent maintenance of septic systems.	Update webpages as necessary. Confirm posting & track webpage reviews.	Students, faculty, and community	Bloomfield Hills Schools

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.3.9 Promote methods for managing riparian lands to protect water quality.	Maintain a district "Riparian Zone Management" informational page on stormwater management webpages.	Ongoing Throughout Permit Cycle	Educate on why riparian zones are important, what riparian zona management is (river friendly lawn care, riparian buffer zones, stream bank stabilization, woody debris management, river maintenance). Increase number of riparian landowners who implement BMPs.	Update webpages as necessary. Confirm posting & track webpage reviews.	Students, faculty, and community	Bloomfield Hills Schools
	Encourage teachers and students to participate in stream bank monitoring programs.		Increase awareness, inspire people to take actions that lead to better river protection at home and in their communities.	Report on schools that participated in monitoring programs.	Students and faculty	
	Include guidance and links on Stormwater webpage on native vegetation.	Ongoing Throughout Permit Cycle	Maintain a district "Native, Non-Native, & Invasive Species" and "Why Use Native Plants?" informational page on stormwater management webpages. Increase the use of native plants and encourage the use of gardens at school facilities.	Update webpages as necessary. Confirm posting & track webpage reviews.	Students, faculty, and community	Bloomfield Hills Schools
BMP #2.2.3.10 Stormwater Education Program Effectiveness Survey	Post survey on district website	Annually Throughout Permit Cycle	A survey has been posted on the stormwater webpages and will be posted throughout the permit term to ascertain behavioral changes.	Annual results of survey.	Students, faculty, and community	Bloomfield Hills Schools
BMP #2.2.3.11 Public Education Program Effectiveness Assessment	Summary of annual public education activities for the "Public Education" component to evaluate the effectiveness.	Annually Throughout Permit Cycle	Determine if the public education best management practices have been implemented and identify areas of improvement.	Annual SWMP review. Summary of public education activities. Survey results review.	Students, faculty, and community	Bloomfield Hills Schools

2.2.4 Public Education Program Effectiveness

The effectiveness of the public education program will be evaluated based on progress made towards meeting the BMP objectives described above.

The District has implemented a "Watershed Awareness Survey" to be used as an evaluation. The purpose of these surveys is to provide an assessment of public understanding of issues in the watershed related to pollution from stormwater runoff. Results would be used to guide Bloomfield Hills Schools in identifying opportunities for enhancement of the PEP. Additionally, Bloomfield Hills Schools will conduct an annual review of the public education best management practices to determine if they have been implemented and identify areas of improvement.

2.3 Illicit Discharge Elimination Program (IDEP)

The following Bloomfield Hills Schools Illicit Discharge Elimination Program is designed to identify, locate, prohibit, and effectively eliminate illicit discharges, including discharges of sanitary wastewaters, to the permitted separate stormwater drainage systems.

2.3.1 Illicit Discharge Elimination Program (IDEP) Program Objectives

1. Establish authority to investigate, inspect and monitor suspected illicit discharges.
2. Maintain maps of the MS4, points of discharge, and outfalls.
3. Prohibit non-stormwater discharge into the MS4.
4. Provide regular training to staff.
5. Instruct contractors to prevent dumping into the MS4.
6. Conduct routine dry weather screening.
7. Conduct source investigations if the source of an illicit discharge/connection is not identified by field screening.
8. Illicit discharge identification and elimination program performance & effectiveness.

2.3.2 Facility Site Storm Sewer System Maps and Lists

Bloomfield Hills Schools and consultants completed storm sewer system mapping at each of the owner operated properties identified in Section 1.0 of this Stormwater Management Plan. Storm sewer system maps include detailed information of the storm sewer system, including the locations of outfalls, points of discharge, and waters of the State that receive the discharges. The maps include a unique identification number for each storm sewer location identified on the map. Latitude and longitude are also noted for outfall and points of discharge location. Storm sewer system information will be maintained and updated and reported in Progress Reports.

Outfalls are discharge points where stormwater is discharged directly to surface waters of the state. Surface waters of the state include streams, lakes, ponds, county drains, and wetlands. Outfalls can be pipes, ditches, or even sheet flow from the facility. Some facilities will have an outfall where they can manually control the discharge.

Points of Discharge are discharge points where stormwater is discharged to a municipal or private separate storm sewer system. The visual assessment will be conducted as close to the point of discharge as possible before the storm water enters the municipal or private separate storm sewer system. Points of discharge include on-site catch basins and trench drains, in-street catch basins, and conveyances to roadside ditches.

Copies of the current facility storm sewer system maps are available at 281 Enterprise Ct, Suite 300, Bloomfield Hills, MI 48303. Additionally, copies of the storm sewer system maps and a list of the outfalls and points of discharge are provided in Appendix "A".

2.3.3 Illicit Discharge Identification & Investigation Procedure – Field Observations

Bloomfield Hills Schools will conduct field observations for 100% of all outfalls and points of discharge locations during dry weather or more expeditiously if Bloomfield Hills Schools becomes aware of a non-stormwater discharge. Outfalls and points of discharge will be inspected by personnel trained to recognize all signs of possible illicit discharges. Dry weather screening will occur at once per permit cycle. Bloomfield Hills Schools will conduct DWS once during this 5-year permit cycle. Preferably, each outfall and points of discharge will be inspected and evaluated following a period of at least 48-72 hours of dry weather.

The field observations will focus on visual inspection for the following:

- Outfall/point of discharge number
- Date/name of inspector
- Date of last rainfall
- Presence or absence of flow
- Presence or absence of standing water
- Water clarity and color
- Presence of oil sheen, trash and or other floatable materials
- Presence of bacterial sheen or slimes
- Excessive vegetative growth
- Odor
- Suds
- Presence of oil

❖ These characteristics are documented even if no flow is observed at the time of the inspection.

All field observations are detailed on a "Screening Inspection Log". A copy of the Screening Inspection Log is provided in Appendix "D".

During field observations, in instances where the storm sewer outfalls and points of discharge is submerged or is connected to another enclosed sewer, the inspector will observe the nearest upstream storm sewer location or access point. Additionally, if dry weather flow is observed and it is obvious that an illicit discharge is present and the source of the discharge is obvious, Bloomfield Hills Schools will document the observations and the source and follow-up with applicable parties. Once a potential discharge is indicated at an outfall or point of discharge, additional inspection, field screening and source investigation activities are conducted.

2.3.4 Illicit Discharge Identification & Investigation Procedure – Field Screening & Source Investigation

At the time of the outfall or discharge point inspection, if dry weather flow is observed and the source is not obvious, the inspector who identified the discharge shall continue and conduct an upstream source investigation to determine the origin of the flow. The initial investigation includes visual and olfactory observations upstream from the outfall/point of discharge. If necessary, relevant indicator field screening or dye tracing will be conducted.

If the origin of the flow is not identified during the visual upstream investigation, a grab sample is collected from the discharge for indicator field screening analysis. Indicator monitoring/field screening is the secondary tool utilized for dry weather flow without obvious indicators such as very high turbidity, strong odors, or visible discharge. Screening may include some or all of the indicator parameters:

- Temperature
- pH
- Detergents (i.e., surfactants)
- Chlorine
- Ammonia
- Turbidity
- Conductivity

Indicator parameters used to assess the dry weather flow shall be determined by the visual and olfactory observations and upstream source investigation.

Additional grab samples may be collected and delivered for external laboratory analysis, only if additional test parameters are required for the source investigation. The laboratory analysis parameters for grab samples are determined by the type of contamination suspected at the time of the source investigation.

Laboratory indicator parameters are based on EGLE guidance and as specified in the reference sources identified above. The selected laboratory parameters are:

- Fluoride
- Coliform
- E-coli
- Potassium
- Color
- Ammonia

The exact procedure for tracking the illicit discharge will depend on the particular facts of each incident. At the time of the identification of the observed dry weather flow, the flow will be tracked upstream until the source is isolated. Once the source has been isolated down to a specific site location, the work will become source confirmation. If the source is not confirmed, additional fieldwork, building evaluation, or dye testing may be necessary. Additional source investigations will be conducted within 30 days of the original observed dry weather flow.

Once the elimination of an illicit connection or illicit discharge has occurred, an elimination report detailing the corrective actions with attached work orders, photos or dye tracing results will be compiled for documentation purposes. Field inspections will continue until it can be reported that no illicit connection or discharge is present at that outfall/point of discharge.

2.3.5 Illicit Discharge/Connection Elimination Procedure

Illicit discharges and connections are identified through reporting, routine storm sewer system inspections and dry weather screening inspections. A “How to Spot Illicit Discharges” poster along with a “How to Report/Hotline Numbers” posters are placed in the receiving/custodial areas in each facility to report concerns. Bloomfield Hills Schools goal is to evaluate all potential unauthorized or suspected illicit discharge to the municipal separate storm

sewer system (MS4) and perform any necessary notifications and reporting to the applicable agencies (i.e., EGLE, local drain commission, etc.) within the required time period(s).

Bloomfield Hills Schools will evaluate and conduct the following actions regarding reported or observed illicit discharges/illegal dumping spills into the storm drainage system.

- Suspected discharges will be investigated within 24 hours. The Bloomfield Hills Schools will ensure enforcement actions within 7 days.
- Conduct source investigations, including applicable field screening to trace the origin of the materials within 14 days of the reported/observed illicit discharge.
    - Bloomfield Hills Schools will follow existing spill response procedures outlined in Section 2.3.10, under Spill Response, Policy & Procedures, if required.
- Once the source has been isolated down to a specific site location, the work will become source confirmation.
- If the responsible party is identified, educate the party on the impacts of their actions, explain the stormwater requirements, and provide information regarding Best Management Practices.
- Evidence of illicit discharges traced to other MS4 jurisdictions will be provided to the responsible MS4 operator along with any collected data to assist that MS4 operator in completing their investigations to correct the illicit discharge or connection.
- Bloomfield Hills Schools will cooperate with the MS4 operator in determining the source or type of illicit discharge and/or connection and will follow-up to ensure that appropriate action has been completed by the MS4 operator to eliminate the discharge.
- Continue inspection and follow-up activities until the illicit discharge activity has ceased.
- Document all activities utilizing the Illicit Discharge/Illegal Dumping Reporting form.

A copy of the Illicit Discharge/Illegal Dumping Reporting form is located in Appendix “B”.

Once an illicit discharge has been confirmed from a Bloomfield Hills Schools facility, the discharge will be corrected using the most expedient method possible based on the type and configuration of the discharge or connections. Other illicit discharges or releases of polluting materials will be corrected through administrative measures including employee training, placement of signs or markings, policy revisions, or any other steps necessary to eliminate the continued release of polluting materials to the MS4.

Within 60 days of a confirmed illicit connection from a Bloomfield Hills Schools facility, Bloomfield Hills Schools will take steps to fix or eliminate the illicit connection. These steps include a review of corrective methods to be used to repair or eliminate the connection, determine the length of time the repair or elimination will take to complete, the cost of the elimination, the pollution potential and consider how the removal of the illicit connection will be confirmed. Corrective methods include capping, closing, or re-routing illicit connections to the sanitary sewer or other collection systems.

2.3.6 Illicit Discharge Regulatory Mechanism/Policy

The district developed a “Stormwater Management – Illicit Discharge Regulatory Policy”. This illicit discharge regulatory policy was developed as a regulatory policy for prevention of pollution from storm water runoff and to protect the quality of the waters of the State of Michigan through the regulation of non-stormwater discharges to the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal and state law. This regulatory mechanism establishes methods for controlling the introduction of pollutants into the MS4

in order to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit through the Michigan Department of Environment, Great Lakes, and Energy (EGLE). The objectives of the regulatory mechanism are:

Department of Environment, Great Lakes, and Energy (EGLE). The objectives of the regulatory mechanism are:

1. To regulate the contribution of pollutants to the MS4 by stormwater discharges by any user.
2. To prohibit illicit connections and discharges into the MS4.
3. To establish authority to investigate, inspect, and monitor suspected illicit discharges.

The Stormwater Program Manager or designee will be provided full access to all the district facilities and properties owned and operated by the district as required to inspect, investigate, and monitor suspected or confirmed illicit discharges or connections to the MS4.

This policy is posted on the district stormwater webpage. Additionally, the district stormwater webpage includes information on how to notify the district if a discharge is witnessed taking place. Finally, the "Stormwater Management – Illicit Discharge Regulatory Policy" will be emailed to district staff members. The "Stormwater Management – Illicit Discharge Regulatory Policy" is available in Appendix "B".

Illicit Discharge means any discharge to, or seepage into the separate stormwater drainage system that is not composed entirely of stormwater or uncontaminated groundwater except discharges pursuant to an NPDES permit. Illicit discharges include but are not limited to the following:

- Dumping of motor vehicle fluids
- Improper disposal of household hazardous wastes
- Grass clippings
- Leaf litter
- Pet & other animal wastes
- Unauthorized discharges of sewage
- Industrial wastes
- Restaurant wastes
- Vehicle & equipment wash waters
- Any non-stormwater waste

All activities are documented utilizing the Illicit Discharge/Illegal Dumping Reporting form.

Illicit Connection means a physical connection to the MS4 separate stormwater system that primarily conveys non-stormwater discharges other than uncontaminated groundwater into the MS4 separate storm sewer system; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

Bloomfield Hills School's policy is to eliminate all illicit connections or discharges from their facilities and restrict the discharge of polluting substances to the separate storm sewer system. The process to achieve these goals will consist of the inspection and screening of all storm sewer systems and elimination of any improper connection from any Bloomfield Hills Schools facility to any waterway or the municipally owned separate storm sewer system (MS4).

Prohibitions of Illicit Discharges

1. Prohibition of Illicit Discharges:
    a. Bloomfield Hills Schools prohibits the discharge of non-stormwater discharges into the storm drain system, including but not limited to pollutants or waters containing any pollutants.
2. The following discharges are NOT prohibited:
    a. This policy excludes prohibitions from the discharge or flows from firefighting activities to the Bloomfield Hills Schools MS4. Discharge or flows from firefighting activities will be addressed only if they are identified as significant sources of pollutants to surface waters of the state.
    b. The following activities are not prohibited under this policy unless they are determined to be significant sources of pollutants to surface waters of the state:
        - Water line flushing and discharges from potable water sources.
        - Landscape irrigation runoff, lawn water runoff, and irrigation waters.
        - Diverted stream flows and flows from riparian habitats and wetlands.
        - Rising groundwater and springs.
        - Uncontaminated groundwater infiltration and seepage.
        - Uncontaminated pumped groundwater, except groundwater cleanups specifically authorized by NPDES permits.
        - Foundation drains, water from crawl space pumps, footing drains, and basement sump pumps.
        - Air conditioning condensation.
        - Waters from noncommercial car washing (runoff from family home).
        - Street wash water.
        - Dechlorinated swimming pool water from single, two, or three family residences. (A swimming pool operated by the permittee shall not be discharged to a separate storm sewer or to surface waters of the state without NPDES permit authorization from the MDEQ.)

Identifying a discharge or flow as a significant contributor is completed on a case-by-case basis and is dependent on many factors, including the type of pollutant, amount discharged, and impacts to surface waters of the state.

Prohibition of Illicit Connections

1. Improper connections in violation of this regulatory mechanism must be disconnected and redirected.
2. Illicit discharge and connections will be eliminated.
3. The construction, use, maintenance, or continued existence of illicit connections to the storm drain system is prohibited by Bloomfield Hills Schools. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

2.3.7 Illicit Discharge Elimination Training

A training program is an important component of to an effective IDEP. Training is required for all employees whose job responsibilities involve illicit discharge related activities, or indicate a potential to cause, witness, or report an illicit discharge or connection. Training is discussed in detail in Section 3.0 of this SWMP.

2.3.8 Illicit Discharge Elimination Program Effectiveness

Bloomfield Hills Schools is required to track implementation of the illicit discharge elimination program stormwater management items and evaluate its effectiveness. Documentation of these items includes documentations of

actions taken to eliminate illicit discharges. The following are examples of the types of performance measures and effectiveness measures that may be used to evaluate the effectiveness of the IDEP program. The following information will be reviewed annually, and will be used to focus and modify activities to maximize environmental benefits of the plan:

- Verify the distribution of public education posters.
- Number of outfalls/discharge points screened.
- Number of illicit connections found.
- Number of illicit connections eliminated.
- Number and type of discharges that are investigated.
- Actions conducted to follow-up discharges that are identified or reported.
- Number of scheduled clean-outs and routine maintenance work conducted.

The District shall evaluate:

1. Evaluate the number of illicit discharges and determine if discharges have decreased throughout the permit cycle.
2. Evaluate if the number of reported potential discharges has increased due to improved awareness.
3. Evaluate dry weather screening monitoring data to measure changes in water quality.

2.3.9 Illicit Discharge Elimination Program – BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.3.9.1 Facility Storm Sewer System Maps	Provide an up-to-date storm sewer system map. The maps shall identify the storm sewer system, location of outfalls and points of discharge, and names and locations of the surface waters of the state receive the discharge.	Maps Completed in 2022 Updates Ongoing as Needed throughout Permit Cycle Within 30 days of new outfalls, discharge points, structures, and conveyances.	100% of facilities mapped, and 100% of storm sewer system updates mapped.	Maintain facility site maps at Facility Plant Services (281 Enterprise Ct, Suite 300 Bloomfield Hills, MI 48303)	Bloomfield Hills Schools
				Update facility map with sewer system updates. Maintain maps for progress report submittal.	Bloomfield Hills Schools
BMP#2.3.9.2 Enforcement	Written policy to enforce elimination of illicit discharges into MS4 owned by the Permittee.	Illicit Discharge Regulatory Policy Developed and Implemented	Illicit Discharge Regulatory Policy developed and implemented.	Copy of the Illicit Discharge Regulatory Policy and distribution to staff.	Bloomfield Hills Schools
				Copy of policy available on the district stormwater webpage.	
BMP #2.3.9.3 Dry Weather Screening	Dry Weather Screening conducted once per permit cycle. Dry weather screening will be conducted by personnel trained to recognize all signs of possible illicit discharges.	DWS Scheduled to be completed once during the permit cycle	100% of outfalls and point of discharges inspected and evaluated following a period of 48-72 hours of dry weather. Outfalls/points of discharges re-inspected if necessary.	Maintain dry weather screening inspection logs/reports.	Bloomfield Hills Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.3.9.4 Illicit Discharge Reporting	Eliminate illicit discharges and connections through reporting, routine storm sewer system inspections and dry weather screening inspections.	Ongoing Throughout Permit Cycle	Place "How to spot illicit discharge/ How to Report-Hotline Numbers" posters placed in Receiving Rooms at each Bloomfield Hills Schools facility. Goal is to have one poster at each facility.	Annually verify number of posters in place throughout the district.	Bloomfield Hills Schools
			Advertise reporting hotline on district webpage.	Track number of calls and document calls onto Illicit Discharge/Illegal Dumping Reporting form. (Appendix "B").	
BMP #2.3.9.5 Unauthorized Discharge/ Illicit Discharge Complaint Response	The District will immediately evaluate any potential unauthorized or suspected illicit discharge to the municipal separate storm sewer system (MS4) and perform any necessary notifications and reporting to the applicable agencies (i.e., EGLE, local drain commission, etc.) within the required time period(s). This procedure is outlined in Section 2.3.10 Polluting Materials Emergency and Spill Response Policy & Procedures.	Suspected discharges will be investigated within 24 hours. The Bloomfield Hills Schools will ensure enforcement actions within 7 days	100% of unauthorized or suspected illicit discharges evaluated (field observation, field screening, and source investigation) and eliminated.	Documentation of relevant field observations, field screening or source investigations.	Bloomfield Hills Schools
		Within 14 days of reported suspected discharge.			
BMP #2.3.9.6 Illicit Connections	Reroute, repair, or disconnect any illicit connections.	Within 60 days of identified illicit connection	Take steps to eliminate 100% of identified illicit connections.	Work order, receipt or report detailing the illicit connection correction activities.	Bloomfield Hills Schools
BMP #2.3.9.7 Illicit Discharge Elimination Training	Train staff on the identification and reporting of illicit discharges or improper connections and the cleanup/notification procedures for spills of polluting materials.	Once per permit cycle or during the 1st year of employment Throughout Permit Cycle	Goal of providing illicit discharge elimination training to all maintenance, transportation, custodial and skilled trade staff who work for Bloomfield Hills Schools. **[All Stormwater Training is outlined in Section 3.0 Training]**	Copy of sign in sheets and Agenda (if available).	Bloomfield Hills Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.3.9.8 Notice of Intent to Discharge Tracer Dyes	Maintain approval from the EGLE for authorization to discharge tracer dyes in surface waters per General Rule 97 to conduct source investigations.	As needed Throughout Permit Cycle	EGLE approval to discharge tracer dyes.	Documentation of EGLE approval.	Bloomfield Hills Schools
BMP #2.3.9.9 IDEP program Performance & Effectiveness	Review performance measures to evaluate the effectiveness of the IDEP program. Items include posting of IDEP public education posters, number of outfalls/discharge points screened, number of illicit connections found, number of illicit connections eliminated, number and type of violations investigated, and number of scheduled clean-outs and routine maintenance work conducted.	Annually Throughout Permit Cycle	Annual review of SWMP IDEP program performed. Evaluate reduced illicit discharges, increase reporting, and evaluate dry weather screening data.	Maintain copy of SWMP annual review and evaluation information for progress reporting.	Bloomfield Hills Schools

2.3.10 Polluting Materials Emergency and Spill Response Policy and Procedures

Purpose

This policy and associated procedures have been developed to define appropriate and safe response procedures for spill or accidental releases of hazardous materials or substances at all Bloomfield Hills School's facilities.

Policy

Only trained and authorized personnel are permitted to respond to hazardous materials incidents! Employees must be trained in the safe use of chemicals or chemical management prior to working in a lab or cleaning up minor spills. The Stormwater Program Manager will immediately report any release of any polluting materials from the MS4 to surface waters or groundwater of the state, unless a determination is made that the release is not in excess of the threshold reporting quantities in the Part 5 Rules and comply with all Federal, State, and local regulatory requirements for the management and reporting of all hazardous materials and/or waste releases.

If it is determined that the release poses a threat to the safety or the environment outside the facility or in excess of the threshold reporting quantities, the Stormwater Program Manager will report the release immediately or within 24 hours of knowledge of the release to:

- The EGLE Warren District Office at (586)-753-3700 during regular working hours.
- The 24-hour Michigan Pollution Emergency Alerting System (PEAS) at 1-800-292-4706 after working hours.

Any release of oil (includes gasoline, diesel fuel, used oil and mineral spirits) to navigable waters or adjoining shorelines will be reported to the immediately or within 24 hours of knowledge of the release to:

1. The 24-hour National Response Center (NRC) at 1-800-424-8802

The Stormwater Program Manager will maintain responsibility for monitoring any changes in regulatory requirements regarding hazardous materials and waste spills or accidental releases. This policy will be revised as necessary based upon any changes in the regulatory requirements or internal experiences. All hazardous materials spills or releases will be thoroughly investigated by the Stormwater Program Manager.

Emergency Spill Response Procedures

Each facility having the potential for the release of a hazardous material or substance shall have trained and knowledgeable staff members to respond and/or implement spill response procedures for that facility. Spill containment materials such as absorbent pigs, pads, booms, diking materials, storm drain covers, etc. are to be stored and maintained at all facilities for use by trained employees in the event of a spill or accidental release.

The following general guidelines are to be implemented as applicable in managing spills and accidental releases:

1. **Minor Spill or Leak**

- Attempt to contain the spill.
- Wear proper Personal Protective Equipment (PPE) while cleaning up the spill/leak.
- Notify supervisor and call Stormwater Program Manager at (248) 830-9475.

2. **Major Spill or Leak**

- Call the Stormwater Program Manager immediately at (248) 830-9475.

- Do not attempt to clean up the spill yourself.
- Provide clean-up/rescue personnel with appropriate Safety Data Sheets (SDS) and other important information.

Refer to sections **2.3.4 Illicit Discharge Identification & Investigation Procedure – Field Screening & Source Investigation** and **2.3.5 Illicit Discharge/Connection Elimination Procedure** for implementation timeframes.

This guidance has been developed in anticipation of potential releases of hazardous materials and substances. The procedures outlined in this guidance will only be implemented by those persons who have received sufficient training and are competent in the handling of the released material.

As appropriate, illicit discharges or releases of polluting materials will be corrected through administrative measures including employee training, placement of signs or markings, policy revisions, or any other steps necessary to eliminate the continued release of polluting materials to the MS4. The district will conduct follow-up inspections and sampling as needed to ensure that appropriate action has been completed.

2.4 Construction Site Stormwater Runoff Control Program

Bloomfield Hills School's goal is to establish procedures for construction stormwater runoff control to meet minimum measure requirements to maximum extent practicable.

Construction refers to actions that result in a disturbance of the land, including clearing, grading, excavating, and other similar activities.

Construction-related activities are activities that support the construction project such as stockpiles, borrow areas, concrete truck washouts, fueling areas, material storage areas and equipment storage areas.

2.4.1 Construction Site Stormwater Management Program Objectives

A. Process for notify the Part 91 Agency appropriate staff when soil or sediment is discharged to the MS4 from a construction activity.
    - The procedure shall allow for the receipt and consideration of complaints or other information submitted by the public or identified internally as it relates to construction stormwater runoff control.
B. Procedure for when to notify the EGLE when soil, sediment, or other pollutants are discharged to the MS4.
    - Other pollutants include pesticides, petroleum derivatives, construction chemicals, and solid wastes that may become mobilized when land surfaces are disturbed.
C. Procedure for ensuring that construction activity one acre or greater in total land disturbance obtains a Part 91 Permit.

2.4.2 Construction Notification Procedure

The EGLE certified construction stormwater operator inspector conducting site inspections will normally detect any soil or sediment entering the MS4.

In the event an inspector identified a discharge during an inspection:

1. The inspector shall document all details of the soil erosion and sedimentation control deficiency and report to the Bloomfield Hills Schools Stormwater Manager.

2. The Bloomfield Hills Schools Stormwater Manager (or designee) is responsible for assessing any suspected or confirmed discharge and notifying the appropriate agency.
3. Bloomfield Hills Schools will notify the local Part 91 agency and EGLE when significant runoff of soil, sediment, or other pollutants such as pesticides, petroleum derivatives, construction chemicals, or solid wastes from the construction site discharges to the MS4 or surface waters of the state within 24 hours of discovery or as otherwise required by the issuing agency.

In the event of a public complaint:

Bloomfield Hills Schools will track the receipt of complaints submitted by the public or noted by staff during regular course of business of soil, sediment, or other pollutants such as pesticides, petroleum derivatives, construction chemicals, and solid wastes are being discharged into the MS4.

The tracking will include:

- Name of person providing the complaint.
- Location (address or nearest cross street).
- Description of follow up (e.g., date referred to the Part 91 enforcing agency).

Bloomfield Hills Schools will notify the Part 91 Agency, when soil, sediment, and other pollutants such as pesticides, petroleum derivatives, construction chemicals, and solid wastes are discharged into MS4.

Bloomfield Hills Schools ensures that construction activity one acre of greater in total earth disturbance with the potential to discharge to the MS4 does obtain a Part 91 Permit and State of Michigan Permit by Rule.

2.4.3 Part 91 Permit

Bloomfield Hills Schools will ensure that any construction activity that result in a land disturbance meeting the following criteria:

- Greater than or equal to one (1) acre, or
- Disturb less than one (1) acre that is part of a common plan of development or sale.

Will obtain a Part 91 Permit through the site plan review process with the appropriate county or municipal permitting agency.

2.4.4 Permit by Rule Compliance

Bloomfield Hills Schools shall comply with the State of Michigan Permit by Rule (Rule 323.2190) for stormwater discharge from construction activity. Sites disturbing one (1) to five (5) acres with a point source discharge to the waters of the state receive automatic storm water coverage upon securing a SESC permit from the appropriate Part 91 recognized County Enforcing Agency, Municipal Enforcing Agency, or Authorized Public Agency (APA) under the authority of Part 91.

1. Construction sites with at least one (1) acre but less than five (5) acres of soil disturbance with a surface water discharge, must obtain a county or municipal SESC permit, and are required to follow the provisions of the Permit by Rule, but do not need to notify the EGLE of the construction activity.

2. Construction sites disturbing over five (5) acres with a point source discharge to the waters of the state must obtain a county or municipal SESC permit and submit a Notice of Coverage (NOC) and other pertinent documents and the appropriate fee to the EGLE.

Requirements of Permit by Rule include, but are not limited to:

- Weekly site inspections conducted by a Certified Construction Stormwater Operator.
- Inspection within 24 hours of a precipitation event that results in a discharge from the site by a Certified Construction Stormwater Operator.

2.4.5 Construction Site Stormwater Management-BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.4.5.1 Notification of Deposit during Inspection	Bloomfield Hills Schools will notify the local part 91 agencies or EGLE when runoff from the construction site discharges significant pollutants to the MS4 or surface waters of the state within 24 hours of discovery or as otherwise required by the issuing agency. The Bloomfield Hills Schools Stormwater Manager (or designee) is responsible for assessing any suspected or confirmed discharge and notifying the appropriate agency. (Refer to section 2.4.2)	As necessary Throughout Permit Cycle	100% discharges identified and appropriate agencies notified. Control of potential system failure.	Documentation of Construction Stormwater Operator site inspection.	Bloomfield Hills Schools
	Track complaints submitted by the public or noted by staff during regular course of business of soil, sediment, or other pollutants such as pesticides, petroleum derivatives, construction chemicals, and solid wastes are being discharged into the MS4.			Documentation of public complaint (Name of person providing the complaint, location [address or nearest cross street] description of follow up [e.g., date referred to the Part 91 enforcing agency]).	Bloomfield Hills Schools
BMP #2.4.5.2 Part 91 Permit	Bloomfield Hills Schools will ensure that any construction activity that result in a land disturbance greater than or equal to one (1) acre or disturb less than one (1) acre that is part of a common plan of development or sale will obtain a Part 91 Permit through the site plan review process.	As necessary Throughout Permit Cycle	100% of permits obtained.	Copy of permit and associated soil erosion and sedimentation control plans.	Bloomfield Hills Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.4.5.3 Permit by Rule	Construction sites between (1) acre but and five (5) acres of soil disturbance follow the provisions of the Permit by Rule, but do not need to notify the EGLE of the construction activity.	As necessary Throughout Permit Cycle	Goal of 100% of weekly and precipitation event inspection completed by certified Construction Stormwater Operator.	Copy of inspections.	Bloomfield Hills Schools
	Construction sites disturbing over five (5) acres with a point source discharge to the waters of the state must follow provisions of the Permit by Rule and submit a Notice of Coverage (NOC) and other pertinent documents and the appropriate fee to the EGLE.		Goal of 100% of weekly and precipitation event inspection completed by certified Construction Stormwater Operator.	Copy of inspections.	Bloomfield Hills Schools
			100% NOC obtained.	Copy of NOC	Bloomfield Hills Schools

2.5 Post Construction Stormwater Controls for New Developments & Redevelopments

Post-construction storm water runoff is the storm water that would flow from a project site to the Municipal Separate Storm Sewer System (MS4) after completion of a development or redevelopment project (not during the project).

A post-construction stormwater runoff program compliance assistance document is available via the internet at https://www.michigan.gov/documents/deq/wrd-storm-MS4-ComplianceAssistance_470350_7.pdf.

2.5.1 Post Construction Stormwater Management Program Objectives

The post-construction stormwater run-off controls are necessary to maintain or restore stable hydrology in receiving waters by limiting surface runoff rates and volumes and reducing pollutant loadings from sites that undergo development or significant redevelopment.

Projects that change the existing footprint (e.g., increase impervious surface) or offer new opportunities for storm water control (e.g., reconstruction to the subbase layer with a change in underdrainage) are considered redevelopment projects.

The objects of this program and associated procedures are to:

- Develop and implement regulatory mechanisms to address post-construction stormwater runoff for new development and redevelopment projects, including preventing or minimizing water quality impacts.
- Develop and implement regulatory mechanisms for projects that disturb one or more acre, including projects less than an acre that are part of a larger common plan of development or sale and discharge into the applicants MS4.
- Ensure post construction controls to minimize water quality impacts by following water quality treatment standards.
- Require that BMPs be designed on a site-specific basis to reduce post-development total suspended solids loading.
- Procedure to meet water quality treatment and channel protection standards of new development or redevelopment projects.
- Address “hot spots”.
- Require adequate long-term O&M of BMPs by ordinance or other regulatory means.

2.5.2 Post-Construction Policy and Procedure

The district has developed a “Stormwater Management - Post-Construction Policy & Procedure” to direct compliance with these requirements. The “Stormwater Management - Post-Construction Policy & Procedure” is located in Appendix “B”.

Development and redevelopment projects on district properties are regulated under and must comply with the Bloomfield Hills Schools individual NPDES permit for stormwater discharges, as issued by the Michigan Department of Environment, Great Lakes and Energy (EGLE). The Stormwater Management Post-Construction Policy & Procedure has been developed to provide guidance regarding responsibilities and actions to meet the NPDES permit conditions for development and redevelopment projects on Bloomfield Hills Schools properties.

The post-construction plan for stormwater management on regulated sites **must** include:

- A minimum treatment volume standard to address water quality impacts.
- Channel protection criteria to address resource impairment resulting from flow volumes and rates.
- Review sites with known soil and/or groundwater contamination, including potential "hot spots" and evaluate the use of infiltration BMPs to meet water quality treatment and channel protection criteria to ensure that infiltration BMPs do not exacerbate existing conditions. Hot spots include areas with the potential for significant pollutant loading such as vehicle service and maintenance facilities, vehicle equipment cleaning facilities, fleet storage areas for buses, and outdoor liquid container storage.
- Drawings showing the location of stormwater control measures and the storm system.
- Details on the proposed stormwater control measures.
- Operation & Maintenance (O&M) requirements.
- Supporting information:

    - Calculations used for designing all components of the stormwater management systems.
    - Total suspended Solids (TSS) design removal rates and supporting manufacturer documentation, if applicable.
    - Geotechnical report including soil boring and infiltration test data.

The project team [Architecture, Engineering & Construction, Other Project Manager, Project Developer and/or Contractors] shall develop the post-construction plan for stormwater management in accordance with this guideline and the NPDES permit.

The Stormwater Program Manager will administer and enforce the stormwater management program, including maintaining procedures, guidance, information, etc. to aid district staff and contractors in complying with the post-construction requirements for stormwater management.

2.5.3 Water Quality Treatment Standard

Bloomfield Hills Schools goal is to include water quality treatment volume standards for each new construction or redevelopment project where the area of development or redevelopment exceeds one (1) acre. One or more of the following treatment standards will be included as part:

1) Treat the first one inch of runoff from the entire site, or
2) Treat the runoff generated from ninety percent (90%) of all runoff-producing storms for the project site.

The source of the rainfall data for the water quality treatment standard of requiring the treatment of the runoff generated from the ninety percent (90%) of all runoff-producing storms is:

- The EGLE memo dated March 24, 2006, which is available via the internet at http://www.michigan.gov/documents/deq/wrd-hsu-ninety-percent_557709_7.pdf

Treatment methods shall be designed on a site-specific basis to achieve the following:

1. A minimum of eighty percent (80%) removal of total suspended solids (TSS), as compared with uncontrolled runoff, or
2. Discharge concentrations of TSS not to exceed 80 milligrams per liter (80mg/L).

A minimum treatment volume standard is not required where site conditions are such that TSS concentrations in storm water discharges will not exceed 80mg/L.

Treatment methods shall be designed on a site-specific basis to reduce the discharge of sedimentation or TSS from the site. Such methods may include:

1. Standpipe filters in storm water detention basins
2. Sediment filter tanks
3. Catch basin sumps
4. Aqua-Swirls®
5. Treatment trains
6. Rain Gardens
7. Pervious pavement systems

2.5.4 Channel Protection Performance Standard

Bloomfield Hills Schools understands that channel protection criteria are necessary to maintain post-development stormwater runoff volumes and peak flow rates at or below existing levels for all storms up to the 2-year, 24-hour event. "Existing Levels" means the runoff volume and peak flow rate for the last land use prior to the planned new development or redevelopment. More restrictive channel protection criteria may be utilized on a case-by-case basis, as appropriate.

Rainfall Data
The rainfall data for calculating runoff volume and peak flow rate shall be the Rainfall Frequency Atlas of the Midwest, 1992 [National Oceanic & Atmospheric Administration (NOAA) - Huff & Angel].

2.5.5 Site-Specific Requirements

Because each site has its' own special circumstances and conditions, the following BMPs will be considered as appropriate according to site conditions:

- Reduce runoff from the site to greatest extent possible (provide holding basins, divert water through grassed swales).
- Prevent spills and discharges.
- Control waste such as building materials, concrete washout, chemicals, litter, and sanitary waste.
- Phasing will be considered to limit amount of exposed soils.
- Interim soils stabilization methods are to be considered (temporary seeding, mulching etc.).
- Buffer preservation (avoid exposing soils to property limits).
- Inspection staff will be trained in the proper maintenance and operation of Soil Erosion and Silt Prevention measures.

Construction plans will be reviewed for sites with known soil and/or groundwater contamination, including potential "hot spots" and evaluate the use of infiltration BMPs to meet water quality treatment and channel protection criteria to ensure that infiltration BMPs do not exacerbate existing conditions. Hot spots include areas with the potential for significant pollutant loading such as vehicle service and maintenance facilities, vehicle equipment cleaning facilities, fleet storage areas for buses, and outdoor liquid container storage.

Additional water quality standards or pretreatment measures may be required in addition to those included in the water quality criteria in order to remove potential pollutant loadings from entering either groundwater of surface water systems.

Pretreatment measures include:

Stormwater Hot Spots	Minimum Pre-Treatment Options
Vehicle service and maintenance facilities	1. Oil/Water Separators/Hydrodynamic Devices 2. Use of Drip Pans and/or Dry Sweep Material under Vehicles/Equipment 3. Use of Absorbent Devices to Reduce Liquid Releases 4. Spill Prevention Response Program
Fleet storage areas for buses	BMPs that are part of a Stormwater Pollution Prevention Plan (SWPPP)
Vehicle Fueling Stations	1. Oil/Water Separators/Hydrodynamic Devices 2. Water Quality Inserts for Inlets 3. Spill Prevention Response Program
Vehicle equipment cleaning facilities	BMPs that are part of a Stormwater Pollution Prevention Plan (SWPPP)
Outdoor liquid container storage	Spill Prevention Response Program

2.5.6 Site Plan Review

This policy is to establish a requirement to submit a site plan for review as required by the EGLE NPDES Stormwater Discharge Permit and ensure that water quality objectives, erosion and sediment control requirements, and BMP maintenance are considered to the maximum extent practicable.

Bloomfield Hills Schools shall evaluate proposed construction activities to determine:

- If the activity meets the criteria of a development or redevelopment project with an earth disturbance greater than or equal to 1 acre, or part of a common plan of development resulting in a development or redevelopment activity greater than or equal to 1 acre in size.
- Does the development or redevelopment project discharge to waters of the state, or to a county, city, or township MS4.

If the development or redevelopment project discharges directly to waters of the state, Bloomfield Hills Schools shall comply with the post-construction standards outlined in this SWMP.

If the development or redevelopment project discharges to a regulated county, city, or township MS4, Bloomfield Hills Schools shall submit the site plan for review and approval. Site plan approval by the county, city, or township of an equivalent post-construction standard ensures acceptable compliance with the Bloomfield Hills Schools NPDES MS4 Stormwater Discharge Permit. Bloomfield Hills Schools shall obtain and maintain a copy of the site plan approval document.

If the development or redevelopment project discharges to a county, city, or township MS4 that is not regulated or require site plan review, Bloomfield Hills Schools shall comply with the post-construction standards outlined in this SWMP.

2.5.7 Long-Term Operation & Maintenance of Stormwater Controls

Ongoing operation and maintenance of the stormwater BMPs is a critical component of the Stormwater Management Plan. All structural and vegetative stormwater control measures installed as a requirement under this section of the permit shall include guidance for maintaining maximum design performance through long-term operation and maintenance.

- Update and revise the stormwater structural controls on facility site diagrams as identified during scheduled inspections or within 30 days following the completion a new facility or reconstruction/redevelopment site project.
- Follow long-term guidance for inspection and operation to maintain maximum design performance.
- Stormwater runoff facilities shall be maintained in good condition, in accordance with the approved storm water plan.

Trained staff or certified contractors will conduct routine inspection of all identified structural controls and complete maintenance, repair, or replacement, as necessary.

2.5.8 Post Construction Stormwater Management-BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.5.8.1 Regulatory Mechanism	Develop and implement regulatory mechanisms to address post-construction stormwater runoff for new development and redevelopment projects, including preventing or minimizing water quality impact. Develop and implement regulatory mechanisms for projects that disturb one or more acre, including projects less than an acre that are part of a larger common plan of development or sale and discharge into the applicants MS4.	Post-Construction Policy & Procedure Developed & Implemented	Post-Construction Policy & Procedure adopted by the district.	Copy of the Post-Construction Policy and Procedure.	Bloomfield Hills Schools
BMP #2.5.8.2 Post Construction Standards	Ensure post-construction channel protection standards and water quality treatment standards are met.	As necessary Throughout Permit Cycle	All development or redevelopment projects meet water quality and channel protection standards outlined in the districts SWMP or meets an equivalent post-construction standard for the township, city, or county.	Copy of calculations.	Bloomfield Hills Schools
BMP #2.5.8.3 Site Specific	Bloomfield Hills Schools will review construction plans for sites with known soil and/or groundwater contamination, including potential “hot spots” and evaluate the use of infiltration BMPs to meet water quality treatment and channel protection criteria.	As necessary Throughout Permit Cycle	Reduce or eliminate discharge of pollutants during construction on contaminated sites.	Documentation of additional stormwater controls.	Bloomfield Hills Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.5.8.4 Site Plan Review	Prepare and submit a written application, including site plan for construction of storm water management systems for all new construction or redevelopment projects where the area of development or redevelopment exceeds one (1) acre.	As necessary Throughout Permit Cycle	If the development or redevelopment project discharges to a regulated county, city, or township MS4, the district shall submit the site plan for review and approval. Site plan approval by the county, city, or township of an equivalent post-construction standard ensures acceptable compliance with the districts NPDES MS4 Stormwater Discharge Permit.	Obtain and maintain a copy of the site plan approval document and copy of calculations.	Bloomfield Hills Schools
			If the development or redevelopment project discharges directly to waters of the state, the district shall comply with the post-construction standards outlined in this SWMP. If the development or redevelopment project discharges to a county, city, or township MS4 that is not regulated or require site plan review, Bloomfield Hills Schools shall comply with the post-construction standards outlined in this SWMP.	Copy of calculations.	Bloomfield Hills Schools
BMP #2.5.8.5 Long-Term Operation & Maintenance of Stormwater Controls	All structural and vegetative stormwater control measures installed as a requirement under this section of the permit shall include guidance for maintaining maximum design performance through long-term operation and maintenance.	Within 30 days of following the completion a new facility or reconstruction/redevelopment site project. Throughout Permit Cycle	Follow long-term guidance for inspection and operation to maintain maximum design performance. Stormwater runoff facilities shall be maintained in good condition, in accordance with the approved storm water plan.	All storm sewer site maps updated. Maintain all inspection, maintenance, and repair reports conducted by staff or contractors.	Bloomfield Hills Schools

2.6 Pollution Prevention & Good Housekeeping Program

Develop, implement, and ensure compliance through a program of operation & maintenance of BMPs, with the ultimate goal of preventing or reducing pollutant runoff to the maximum extent practicable from operation that discharge stormwater to surface waters of the state.

2.6.1 Pollution Prevention & Good Housekeeping Program Objectives

a. Maintain an up-to-date inventory of owned facilities and stormwater structural controls.
b. Procedure for updating and revising inventory of stormwater structural controls.
c. Procedure for assessing each facility for the potential to discharge pollutants.
d. Develop an SOP (SWPPP) for all facilities with a high potential for pollutant runoff.
e. Procedure identifying BMPs currently implemented or to be implemented to prevent or reduce pollutant runoff at each facility with medium and lower potential to discharge.
f. Procedure for prioritizing of catch basins/manholes for maintenance and cleaning.
g. Schedule for routine catch basin/manhole inspection, maintenance, and cleaning.
h. Provide the geographic location of stormwater structures.
i. Procedure for dewatering, storage and disposal of materials extracted from storm sewer cleaning.
j. Procedure for inspecting and maintaining storm water controls.
k. Procedure for new structural controls to be designed and implemented in accordance with post-construction stormwater runoff control performance standards.
l. Best management practices for operation and maintenance activities.
m. Procedure for street sweeping.
n. Procedure for pesticide application.
o. Training.
p. Contractor requirements and oversight.

It is the ultimate goal of Bloomfield Hills Schools to prevent and reduce pollutant/contaminant runoff from Bloomfield Hills Schools facilities to the maximum extent practicable. All BMPs are implemented at all low, medium, and high priority facilities.

2.6.2 Structural Control Inventory & Schedule Table

No prioritization will be needed, as all structures are to be inspected and maintained equally. All structural controls will have routine inspection, maintenance schedules, and long-term procedures which adequately control, to the maximum extent practicable, pollution removal and control. Structural control effectiveness will be determined based on the results of these inspections and repaired, upgraded, or replaced as indicated.

The structural Control Inventory and Schedule Table for each property are in Appendix E.

2.6.3 Facility Assessment & Prioritization

Bloomfield Hills Schools has identified all applicant owned facilities with a discharge of stormwater to surface waters of the state, and during mapping of each facility, inventoried the number of stormwater structural controls (i.e., catch basins, detention basins, etc.) at each site. Each location was assessed to determine high, medium, and low potential to discharge pollutants to surface waters of the state.

Bloomfield Hills Schools considered the following when assessing each facility:

- Absence of any factors,

- Presence of urban pollutants stored at the site (i.e., sediment, nutrients, metals, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, bacteria, or other site-specific pollutants,
- Identification of improperly stored materials,
- Potential for polluting activities to be conducted outside (i.e., vehicle washing),
- Proximity to water bodies,
- Poor housekeeping practices,
- Discharge of pollutants of concern to impaired waters.

For facilities that have a high potential to discharge pollutants to surface waters of the state, a Stormwater Pollution Prevention Plan (SWPPP) and/or Pollution Incident Prevention Plan (PIPP) for salt storage facilities will continue to be implemented.

BMPs currently implemented by Bloomfield Hills Schools at facilities with medium and lower potential for the discharge of pollutants to surface waters of the state include:

1. Good housekeeping practices,
2. Employee training,
3. Routine visual inspections,
4. Spill prevention and response.

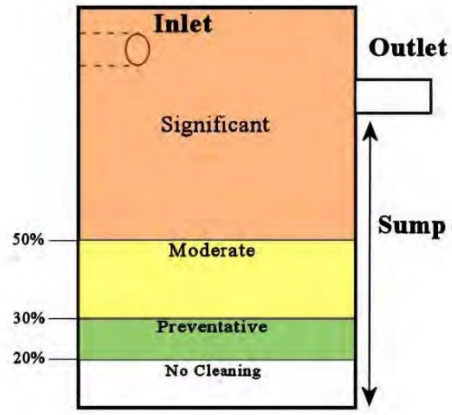
This inventory will be updated as facilities and structural stormwater controls are added, removed, or no longer owned or operated by the applicant following routine inspections or following new construction or redevelopment projects. Priority level assessments will be revised within 30 days following the completion a new facility or reconstruction/redevelopment.

2.6.4 Storm Sewer Structure Controls Inspection & Maintenance Policy & Procedure

1. Develop a schedule for inspecting and maintaining catch basins and stormwater controls at each facility, for the reduction of pollutant runoff. A schedule is included in Appendix E.
2. Visually inspect all stormwater controls identified on facility maps. Inspection includes:
    a. Structural integrity of the structure.
        - Areas of significant cracking or sinkholes.
    b. Sediment build-up.
        - Areas with high amounts of build-up sediment. A build-up of accumulated solid material that is greater than or equal to the one-third guideline established by the EPA or between 30 and 50% of the total sump depth, as established by the EGLE[3].

[3] Michigan Department of Environment, Great Lakes, and Energy EGLE NPS BMP Manual – Catch Basins

E-03 | original source page 42 | APP 1139



   c. Color, odor, sheen, and flow.
   d. Overall functionality and presence of erosion.
   e. Pond evaluation.
3. Note inspection information on the inspection form. A copy of the inspection form "Structural BMP Table" is located in Appendix "D".
4. When inspecting stormwater controls, review the site for non-structural BMPs currently implemented to prevent or reduce pollutant runoff at each facility. BMPs include:
   a. Review of "No Dumping" stencils at storm drains.
   b. Review of catch basins/manholes cleaned.
   c. Dumpster good housekeeping practices.
   d. Garden, green space and signage inventories.
   e. "SEMCOG" poster placement at facilities.
   f. Illicit discharge reporting numbers poster placement at facilities.
   g. "How to spot illicit discharge/ How to Report-Hotline Numbers" poster placement at facilities.
   h. Spill kit availability at facilities.
5. Following the inspection, the stormwater controls will be prioritized for cleaning and maintenance in a timely manner. Prioritize locations based on the following:
   - Drainage structures that are designated as consistently generating the highest volumes of trash and/or debris.
   - Areas with high amounts of build-up sediment. Refer to number 2 (b) above.
   - Areas of significant erosion.
   - Areas of significant cracking or sinkholes.
6. Once the inspection is complete, the stormwater manager or designated person will review the report and determine if a work order or other item is needed to work with relevant departments or contractors to fix any problems.
7. If an illicit discharge is suspected, follow the procedure outlined in Section 2.3 Illicit Discharge Elimination Program.
8. Retain inspection forms for each stormwater structural control inspected.
9. Retain documentation regarding the scheduling or completion of the repair/maintenance if completed.
10. Debris and maintenance waste removed as part of the maintenance and/or repairs shall be disposed of in accordance with the Structural BMP Operation & Maintenance Waste Disposal procedures.

Furthermore, staff members conducting maintenance and grounds activities are provided IDEP and pollution prevention/good housekeeping training. All structural controls will have routine inspection, maintenance schedules, and long-term procedures which adequately control, to the maximum extent practicable, pollution removal and

control. Structural control effectiveness will be determined based on the results of these inspections and repaired, upgraded, or replaced as indicated. This procedure will be reviewed on an annual basis and updated as needed or 30 days following the implementation of a new stormwater structural control.

2.6.5 Structural BMP Operation & Maintenance Waste Disposal Procedures

Waste materials generated from operation, maintenance, and cleaning activities associated with storm sewer systems has typically been discharged back into the storm sewer system. This type of discharge is unauthorized per Part 31, Water Resources Protection (Part 31) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) and is therefore illegal. The combined solid and liquid waste stream (solid/liquid waste) from cleaning storm sewer systems is legally defined as "Liquid Industrial By-products" pursuant to Part 121, Liquid Industrial By-products (Part 121) of NREPA.

Bloomfield Hills Schools will ensure that all waste materials generated during operation and maintenance of structural stormwater controls are properly characterized, transported, and disposed as required under State of Michigan PA 451 Part 111 (hazardous wastes), Part 121 (liquid industrial by-products), and Part 115 (solid wastes). At a minimum, the following procedures will be implemented for wastes generated from cleaning or maintaining storm sewer structural controls.

Waste Disposal Methods for Non-Contaminated Materials

Non-contaminated waste materials generated during cleaning or maintenance of storm sewer structures will be properly disposed using one of the following methods:

1. Have the waste transported to drying beds to separate the solid/liquid waste. This is usually performed at a publicly owned treatment plant or at a privately-owned permitted facility where the liquid portion of the waste stream is separated from the solids and treated.
2. Request permission from the local wastewater treatment plant operator to discharge the combined solid/liquid waste into the sanitary system. Most treatment plants will require pre-treatment prior to the discharge. All applicable local ordinance provisions must be followed.
3. When conducting catch basin maintenance activities where the above options are not available, the following methods can be used as long as there are no discharges to surface waters during dry weather conditions:
    - Conduct visual inspection to ensure the water in the sump has not been contaminated. If necessary, collect a grab sample of the water and look for signs of contamination such as visible sheen, discoloration, obvious odor, etc. If there is any doubt of the quality of the water, it will be collected into a vacuum truck and treated as Liquid Industrial By-Products under Part 121 or Part 115 of PA 451 (NREPA).
    - Using a sump pump, or any other pumping mechanism, remove the majority of water in the sump of the basin without disturbing the solid material below. Do not use pumps connected to the vacuum truck's holding tank.
    - The clear water may then be directly discharged to one of the following:
        - Sanitary system (with prior approval from local sewer authority).
        - Curb and gutter.
        - Back into the storm sewer system as long as it is contained within the system during dry weather condition to ensure no discharge into surface water.
        - Applied to the ground adjacent to the catch basin (evenly distributed at a maximum rate of 250 gallons/acre/year).

- The remaining liquid/solid in the sump will be collected with a vacuum truck and disposed of off-site in accordance with MI P.A. 451 Parts 115 or 121.

Bloomfield Hills Schools does not currently own or operate storm sewer cleaning or transportation equipment. If Bloomfield Hills Schools contracts with a private contractor to transport liquids generated from cleaning of catch basins or other structures, that contractor must be registered and permitted as a Uniform Liquid Industrial By-Product Hauler under the provisions of HMTA.

Waste Disposal Methods for Contaminated Materials

Waste materials generated during operation and maintenance of storm sewer systems found or suspected to be contaminated with pollutants or hazardous substances will be characterized, packaged, marked, labeled, stored, transported, and disposed as a liquid industrial by-product under Part 121 or Part 115 of PA 451 (NREPA).

2.6.6 Pollution Prevention/Good Housekeeping – Municipal Operations & Maintenance Activities

Bloomfield Hills Schools recognizes the importance of reducing pollutant runoff from maintenance activities. The following procedure will include an assessment of the potential activities for the potential to discharge pollutants. The assessment shall identify the pollutants that could be discharged from the applicable operation and maintenance activity and the BMPs implemented or to be implemented to prevent or reduce pollutant runoff.

PROCEDURE

Applicable operations and maintenance activities include parking lot and sidewalk maintenance, cold weather operations, vehicle washing, maintenance of vehicles, land disturbance and landscape. Bridge maintenance, right-of-way maintenance and unpaved road maintenance do not apply to Bloomfield Hills Schools.

Roadways/Parking Lots

Maintenance: Pothole, sidewalk, curb, and gutter repair.

Possible Pollutants: Fuel, oil, sediment, concrete.

BMPs to address Pollutants:

1. Contractors and in-house staff contracted to complete for these jobs are informed of stormwater management practices to reduce pollution in stormwater.
2. Avoid mixing excess amounts of fresh concrete or cement.
3. Never dispose of washout into the street, storm drains, ditches, or creeks.
4. Stencil storm drains to prevent disposal of wash water.
5. Schedule patching, resurfacing and surface sealing during dry weather.
6. If it rains unexpectedly, take appropriate action to prevent pollution of stormwater runoff (e.g., divert runoff around work areas, cover materials).
7. Maintain pollution prevention/good housekeeping practices, which is to remove stockpiles (asphalt materials, sand, etc.) by the end of the day to a covered location. Alternatively, cover the piles if they cannot be moved.

Process for updating assessment: Contractor or project is assessed on an ongoing basis, and problems are addresses when found.

Cold Weather Operations

Maintenance: Plowing, sanding, deicing, snow pile disposal.

Possible Pollutants: Sodium, magnesium, calcium, potassium, chloride, turbidity.

BMPs to address Pollutants:

1. Keep all deicing material covered or in waterproof containers.
2. Prevent deicer drainage to storm sewers.
3. Mechanical removal of as much snow or ice as possible prior to applying deicing chemicals.
4. Proper salt storage management.
5. Maintain application equipment per manufacturer's recommendations. Calibration is not available.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

Vehicle Washing

Maintenance: Washing of buses, staff vehicles and maintenance equipment.

Possible Pollutants: Petroleum based wastes, metals, and nutrients.

BMPs to address Pollutants:

1. All vehicle washing and maintenance is to be performed indoors where drains connecting to the sanitary system can receive all wastes. The district has an interior bus wash on site.
2. Alternatively, vehicle washing can be performed at a commercial auto wash facility.
3. Alternatively, rinse grass from lawn care equipment on permeable (grassed) areas.
4. School car wash fundraising events will not be permitted on school grounds.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

Vehicle Maintenance

Possible Pollutants: Petroleum based wastes, metals, and nutrients.

BMPs to address Pollutants:

1. Oil-water separators will be inspected routinely and serviced as necessary to maintain efficiency.
2. All vehicle or equipment maintenance will take place inside or away from storm drains where drains connecting to the sanitary system can receive all wastes.
3. Any floor drain suspected to drain to the stormwater system will be dye traced as needed.
4. Recycle used motor oil, diesel oil, other vehicle fluids, and vehicle parts whenever possible.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

Landscaping

Possible Pollutants: Wood chips, sediment, sand, and compost.

BMPs to address Pollutants:

1. Place temporary stockpiled material away from storm drains, and berm or cover stockpiles to prevent material releases into the storm drain. Alternatively, place stockpiles on permeable (grassed) areas.
2. Conduct annual stream back inspections.
3. Provide adequate buffer areas at stream banks.
4. Proper Storage, handling, and use of pesticides, herbicides, and fertilizers.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

Land Disturbance

Possible Pollutants: Sediment runoff.

BMPs to address Pollutants:

1. Plan land clearing so soil is not exposed for long periods of time.

2. Place temporary stockpiled material away from storm drains, and berm or cover stockpiles to prevent material releases into the storm drain.
3. Protect against sediment flowing into drains.
4. Install sediment barriers.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

ASSESSMENT

Pollution prevention inspections ensure that these BMPs are carried out properly. Any issues identified during the inspections will be reviewed and addressed by the Stormwater Manager.

2.6.7 Street Sweeping Procedure, Prioritization & Schedule

PRIORITIZATION

The EGLE Stormwater Discharge Permit requires a procedure for prioritizing owned streets, parking lots, and other impervious infrastructure for street sweeping based on the potential to discharge pollutants. Bloomfield Hills Schools evaluated each facility for the presence of the following factors:

- Potential for polluting activities to be conducted outside
- Proximity to water bodies
- Traffic volume
- Land use
- Absence of any factors

PROCEDURE

Bloomfield Hills Schools does not own or operate sweeping equipment. However, Bloomfield Hills Schools will be proactive and undertake the following activities to reduce the potential to discharge pollutants to surface waters of the state from parking lots and other impervious infrastructures.

1. Conduct seasonal efforts to remove leaves.
2. Inspect parking lot and street areas.
3. Conduct hand sweeping of debris to prevent accumulated wastes in the spring and the fall.
4. Waste disposal areas will be kept free of litter and debris.
5. Analyze sediment, removed from an inlet cleaning if it is suspected of being contaminated with a hazardous material, prior to disposal. Sediment or materials determined to be hazardous waste will be disposed of in accordance with the Structural BMP Operation & Maintenance Waste Disposal procedures.
6. Contract out street cleaning when appropriate.

This prioritization will be updated as facilities and structural stormwater controls are added, removed, or no longer owned or operated by the applicant following routine inspections, or as traffic volume, land use or sediment and trash accumulation increases.

PRIORITIZATION LEVELS & SCHEDULE

All low, medium, and high prioritized parking lots and streets are inspected on the same schedule in an effort to reduce pollutants.

Facility Name	Priority Level of Potential Discharge* (High, Med, Low)	Street Sweeping Schedule
Bloomfield Hills High School	Medium	Hand Sweeping, Spring and Fall
Bloomfield Hills Middle School South-Conant Elementary School-Bloomin' Preschool Conant Complex	Medium	Hand Sweeping, Spring and Fall
Bloomfield Hills Middle School North	Medium	Hand Sweeping, Spring and Fall
Booth-Doyle Center	Low	Hand Sweeping, Spring and Fall
Bowers School Farm	Low	Hand Sweeping, Spring and Fall
Dublin Building (Physical Plant Services)	Low	Hand Sweeping, Spring and Fall
East Hills Middle School	Medium	Hand Sweeping, Spring and Fall
Eastover Elementary School	Low	Hand Sweeping, Spring and Fall
Fox Hills Elementary School-Bloomin' Preschool Fox Hills	Low	Hand Sweeping, Spring and Fall
International Academy (OKMA Campus)	Low	Hand Sweeping, Spring and Fall
Johnson Nature Center	Low	Hand Sweeping, Spring and Fall
Lone Pine Elementary School-Bloomin' Preschool Lone Pine	Low	Hand Sweeping, Spring and Fall
Pine Lake School	Low	Hand Sweeping, Spring and Fall
Transportation Facility	High	Monthly Inspections, Hand Sweep as Needed
Warehouse (Franklin Building)	High	Monthly Inspections, Hand Sweep as Needed

Facility Name	Priority Level of Potential Discharge* (High, Med, Low)	Street Sweeping Schedule
Way Elementary School	Low	Hand Sweeping, Spring and Fall
West Hills Middle School	Medium	Hand Sweeping, Spring and Fall
Wing Lake Development Center	Low	Hand Sweeping, Spring and Fall

*If required, following inspections indicating higher traffic volume, land use or sediment and trash accumulation at all low, medium, and high prioritized parking lots and streets, the District shall contract a commercial street sweeping company.

DISPOSAL

If a commercial street sweeper is contracted to clean a parking lot and street areas for Bloomfield Hills Schools, the street sweeping activities are subject to the solid waste requirements. Solid waste must be managed under Part 115 requirements. Dispose of the solid waste in a licensed landfill. The contractor hired to do the street sweeping is responsible for proper disposal of the waste material. The contracted sweeping will not be completed when streets are wet, so dewatering of the collected debris will not be required.

2.6.8 Managing Vegetated Properties

Bloomfield Hills Schools has established this policy to prevent or reduce pollutant runoff from vegetated land:

1. Bloomfield Hills Schools requires all contracted personnel who participate in the application of pesticides, to will be trained and licensed by the State of Michigan under the Commercial Pesticide Application Certification Program for relevant categories as applicable, to prevent or reduce pollutant runoff from vegetated land.
2. Whenever practicable, an integrated pest management technique will be implemented.

2.6.9 Contractor Requirements & Oversight

Bloomfield Hills Schools requires contractors to comply with pollution prevention and good housekeeping BMPs. Bloomfield Hills Schools will perform the following activities for applicable contractors and projects to comply with all pollution prevention and good housekeeping BMPs as appropriate and comply with pollution as well as provide oversight to ensure compliance:

- Contractor Notification
- Contractor Training
- Pre-project Meeting/Review
- Periodic Inspections

Prior to conducting work, contractors shall be provided a “Stormwater Contractor Oversight Record” form. This will allow the district to review stormwater compliance with contractors hired to perform municipal operation and maintenance activities and to obtain signatures. The “Stormwater Contractor Oversight Record” form is located in Appendix “F”.

2.6.10 Pollution Prevention/Good House Keeping Training

A training program is an important component to effective pollution prevention. Training is required for all employees whose job responsibilities involve municipal or maintenance activities. Training is discussed in detail in Section 3.0 of this SWMP.

2.6.11 Pollution Prevention/Good Housekeeping –BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.6.11.1 Structural Control Inventory	Provide an up-to-date inventory of the number of stormwater structural controls for each facility's (i.e., catch basins, detention ponds). Update facilities potential to discharge pollutants (high, medium, low) following the update.	Updated as needed within 30 days following the completion a new facility or development/ redevelopment. Ongoing Throughout Permit Cycle	100% of stormwater structural controls inventoried.	Maintain list of inventories and potential to discharge priority level. Submit updated list with progress report, noting if priority levels have changed.	Bloomfield Hills Schools
BMP #2.6.11.2 SWPPP development & implementation (SOP)	Develop a "Stormwater Pollution Prevention Plan (SWPPP)" for maintenance, transportation, and storage facilities/Implement policies & procedures.	Developed & Implemented Ongoing Throughout Permit Cycle	SWPPP completed and 100% of inspections implemented.	Copy of SWPPP and copy of inspections.	Bloomfield Hills Schools
BMP #2.6.11.3 Stormwater Structural Control Inspections	Visually inspect stormwater controls identified on facility maps.	Annually Throughout Permit Cycle	Routine schedule implemented and inspections reviewed by stormwater manager.	Maintain inspection forms/reports.	Bloomfield Hills Schools
BMP #2.6.11.4 Review for BMP's Implemented	While inspecting stormwater controls, review the site for BMPs currently implemented to prevent or reduce pollutant runoff at each facility, such as storm drain stencils, garden areas, areas cleaned, areas repaired, SEMCOG poster placement, Illicit discharge education posters, and spill kits.	Annually Throughout Permit Cycle	Annual inspections completed and reviewed by stormwater manager.	Documentation of inspection findings (number of posters, number of spill kits, inventory of gardens, pictures of stencils, pictures of spill kits).	Bloomfield Hills Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.6.11.5 Prioritization of Storm Sewer Locations for Maintenance & Cleaning	Following the inspection, the stormwater controls will be prioritized for cleaning and maintenance. Prioritize locations based on: (1) drainage structures that are designated as consistently generating the highest volumes of trash and/or debris, (2) areas with high amounts of build-up sediment, (3) areas of significant cracking or sinkholes.	Annually Throughout Permit Cycle	Prioritization locations identified.	Copy of prioritization.	Bloomfield Hills Schools
BMP #2.6.11.6 Cleaning & Maintenance (Catch Basin/ Manhole Cleaning)	Bloomfield Hills Schools will ensure that cleaning of the catch basins/manholes occur, and all waste materials generated during operation and maintenance of structural stormwater controls are properly characterized, transported, and disposed as required under State of Michigan PA 451 Part 111 (hazardous wastes), Part 121 (Liquid Industrial By-Products), and Part 115 (solid wastes).	Once per permit cycle Or More often if prioritized due to a build-up of accumulated solid material that is greater than or equal to the one-third guideline outlined in the Storm Sewer Structure Controls Inspection & Maintenance Policy & Procedure	Cleaning completed once per permit cycle or more often if build-up of accumulated solid material reaches the action level per the procedure in section 2.6.4. All waste disposed as required.	Copies of Waste Manifests.	Bloomfield Hills Schools
BMP #2.6.11.7 Roadways & Parking Lots	Storm drains stenciled to prevent disposal of wash water into storm drains.	As needed Throughout Permit Cycle	Storm drain stencils inspected and maintained as need.	Copy of work order. Photos of stenciling.	Bloomfield Hills Schools
BMP #2.6.11.8 Cold Weather Operations	Proper salt storage management. Maintain storage bags/equipment in good working condition and maintain application equipment per manufacturer's recommendations.	Ongoing Throughout Permit Cycle	Continue proper salt storage and management as previously implemented.	Copy of SWPPP comprehensive inspection report.	Bloomfield Hills Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.6.11.9 Vehicle Washing	All vehicle washing and maintenance is to be performed indoors where drains connecting to the sanitary system can receive all wastes. Alternatively, vehicle washing can be performed at a commercial auto wash facility.	Ongoing Throughout Permit Cycle	100 % of applicable staff trained on were to wash vehicles.	Copy of sign-in sheets and Agenda (if available).	Bloomfield Hills Schools
	Alternatively, rinse grass from lawn care equipment on permeable (grassed) areas.		100 % of applicable staff trained on were to wash vehicles.	Copy of sign-in sheets and Agenda (if available).	
	School car wash fundraising events will not be permitted on school grounds.		Notice sent to staff regarding policy.	Copy of e-mail or policy.	
BMP #2.6.11.10 Vehicle Maintenance	Any floor drain suspected to drain to the stormwater system will be dye traced as needed.	Throughout Permit Cycle	100% of floor drains inspected.	Copy of inspection report.	Bloomfield Hills Schools
	Oil-water separators will be inspected routinely and serviced as necessary to maintain efficiency.	Annually Throughout Permit Cycle	Oil-water separators cleaned and functioning properly.	Copy of invoices or shipping papers.	
	Recycle used motor oil, diesel oil, other vehicle fluids, and vehicle parts whenever possible.	As needed Throughout Permit Cycle	Reduction in amount of disposed material and amount of material shipped for off-site disposal.	Copy of invoices or shipping papers.	
BMP #2.6.11.11 Stream Bank Inspection	Conduct stream bank inspections. Inspect banks along properties to identify erosion or potential erosion problems and check for water clarity conditions. Properly maintain buffer areas.	Annually Throughout Permit Cycle	100% of bank inspections completed.	Copy of inspection sheets/reports.	Bloomfield Hills Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.6.11.12 Land Disturbance	Place temporary stockpiled material away from storm drains, and berm or cover stockpiles to prevent material releases into the storm drain. Protect against sediment flowing into drains.	As needed Throughout Permit Cycle	100 % of applicable staff trained.	Copy of sign-in sheets and Agenda (if available).	Bloomfield Hills Schools
BMP #2.6.11.13 Street Sweeping	Conduct hand sweeping in the parking lots/roadways in the spring and fall.	Spring & Fall Throughout Permit Cycle	Inspections completed.	Copy of work order or schedule.	Bloomfield Hills Schools
	Street sweeping conducted by a professional sweeping company.	As needed Throughout Permit Cycle		Copy of invoice or disposal documentation.	
BMP #2.6.11.14 Vegetated Properties (Pesticides)	Bloomfield Hills Schools requires all contracted personnel who participate in the application of pesticides will be trained and licensed by the State of Michigan under the Commercial Pesticide Application Certification Program for relevant categories as applicable, to prevent or reduce pollutant runoff from vegetated land.	Ongoing Throughout Permit Cycle	Application of pesticides will only be completed by trained and licensed applicators.	Documentation of in-house staff license or copy of contractor receipt.	Bloomfield Hills Schools
BMP #2.6.11.15 Contractor Oversight	Bloomfield Hills Schools requires contractors to comply with pollution prevention and good housekeeping BMPs. Bloomfield Hills Schools will complete contractor notification, pre-project meeting and periodic inspections to provide oversight to ensure compliance.	As needed Throughout Permit Cycle	Contractors trained and informed of pollution prevention and good housekeeping techniques.	Copy of sign-in sheets, pre-project meeting notes or inspections.	Bloomfield Hills Schools & Contractors/ Vendors
	Prior to conducting work, contractors shall be provided a “Stormwater Contractor Oversight Record” form.				

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.6.12.16 Training	Pollution prevention and good housekeeping training.	Once per permit cycle or during the 1st year of employment Throughout Permit Cycle	Goal of providing training to maintenance staff who work for Bloomfield Hills Schools. **[All Stormwater Training is outlined in Section 3.0 Training]**	Copy of sign-in sheets and Agenda (if available).	Bloomfield Hills Schools
BMP #2.6.12.17 Pollution Prevention & Good Housekeeping Activities Effectiveness Review	Summary of annual activities for the "Pollution Prevention and Good Housekeeping".	Annually Throughout Permit Cycle	Annual review of SWMP performed. Maintain copy of SWMP annual review. Determine the level of district involvement and identify areas of improvement.	Maintain copy of SWMP annual review and evaluation information for progress reporting.	Bloomfield Hills Schools

3.0 Training

Bloomfield Hills Schools will provide education and training for applicable employees and contractors using a variety of methods depending on their specific job function. At a minimum, all applicable Bloomfield Hills Schools employees will be required to have general awareness training on the topics included in the PEP. All applicable Bloomfield Hills Schools employees will be required to attend or otherwise obtain general awareness training at least once per permit cycle or during the 1st year of employment.

Bloomfield Hills Schools has implemented a comprehensive staff training program based on each employee's participation and responsibilities under this program. The employee training program is categorized in three (3) separate levels summarized as follows:

LEVEL I TRAINING-General Awareness Training

Level I training is encouraged for all district employees, parents, and students. General Awareness training is provided in the form of an 11-minute video produced by Arch Environmental Group titled, **"When it Rains, It Drains…The Stormwater Question".** This video is also available on the stormwater webpage.

LEVEL II TRAINING-General Awareness, Pollution Prevention & Good Housekeeping, and Illicit Discharge Reporting

Level II training is required for all employees whose job responsibilities involve illicit discharge related activities, or indicate a potential to cause, witness, or report and illicit discharge or connection. This training includes the previously described video as well as a review of the districts Stormwater Management Program Plan and instruction on identification and notification of illicit discharges or connections. This training is provided to applicable transportation, maintenance, custodial, and food service employees.

LEVEL III TRAINING-Maintenance and Storage Facility Stormwater Pollution Prevention Plans, Lawn Maintenance, and Structural Control Inspection, Maintenance, and Repair Training

Level III training is provided in the form of videos, PowerPoint presentations, and hands-on training. This training is provided to district supervisors, maintenance, and lawn service staff.

LEVEL IV (CONTRACTORS) – Contractor Training/Oversight

Contractors employed by Bloomfield Hills Schools to conduct activities with a potential to impact water quality. Prior to conducting work, contractors shall be provided a "Stormwater Contractor Oversight Record" form.

3.1 Training Table

BMP	Description	Measurable Goal	Target Audience	Timeframe
I **General Awareness Training**	Encourage teachers, administrative and support staff to watch the General Awareness Stormwater Video "When it Rains it Drains".	Maintain on district website and Record attendance with sign-in sheets. Bloomfield Hills Schools will retain records of trainings for future review regarding SWMP.	Teachers, administrative and support staff.	Ongoing Throughout Permit Cycle
II **IDEP & PPGH Training**	General Awareness, Pollution Prevention & Good Housekeeping, and Illicit Discharge Elimination Program	Record attendance with sign-in sheets for each training session. Bloomfield Hills Schools will retain records of trainings for future review regarding SWMP.	In-house custodial, maintenance, transportation, and food service employees.	Required once during permit cycle current employees and during the 1st year of employment for new employees. Throughout Permit Cycle
III **Routine Storm Sewer Inspection Training**	Train appropriate employees how to conduct a storm sewer system inspection.	Record attendance with sign-in sheets for each training session. Bloomfield Hills Schools will retain records of trainings for future review regarding SWMP.	District supervisors, in-house maintenance, and lawn service staff.	As Needed Throughout Permit Cycle
IV **Contractor Training/ Oversight**	Stormwater specific training for on-site contractors.	Utilize a "Stormwater Contractor Oversight Record" form to review stormwater compliance with contractors hired to perform municipal operation and maintenance activities and to obtain signatures. Obtain records of training for future review of the SWMP.	Contractors employed by Bloomfield Hills Schools to conduct activities with a potential to impact water quality.	Required at the time of employment. Throughout Permit Cycle

4.0 Total Maximum Daily Load (TMDL) Restrictions

4.1 What are TMDLs

When a lake or stream fails to meet federal water quality standards, the Clean Water Act requires that a "Total Maximum Daily Load (TMDL)" limit be developed. Studies are completed to determine the sources impacting the water body and to develop goals so that the water body can meet the applicable standards.

A TMDL describes the process used to determine how much of a particular pollutant a lake or stream can assimilate and sets pollution reduction targets for the water body.

Bloomfield Hills Schools will review and prioritize BMPs currently implemented or to be implemented during the permit cycle to make progress toward achieving the pollutant load reduction requirement in each TMDL identified. TMDLs assigned the discharges for Bloomfield Hills Schools are described in the below sections.

4.2 Statewide E. coli TMDL

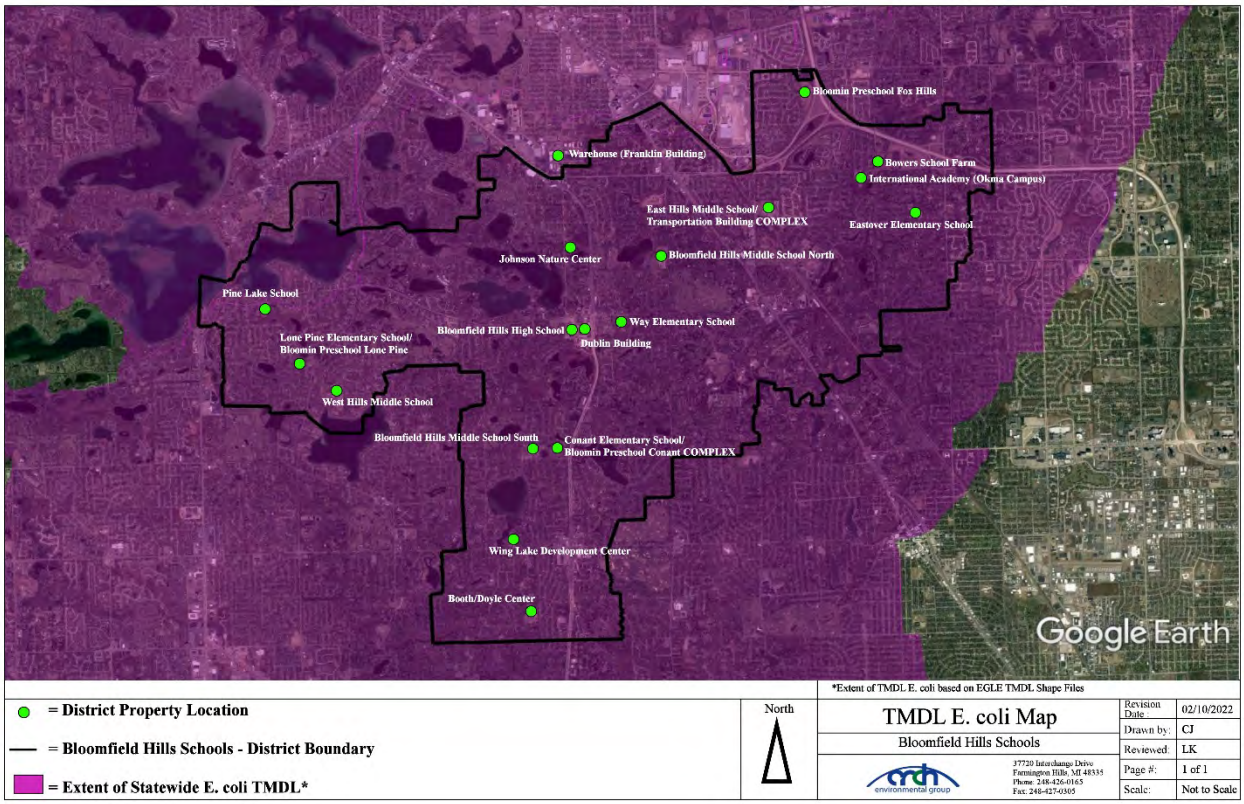
The Statewide **E. coli** TMDL was approved by the United States Environmental Protection Agency (USEPA) on July 29, 2019. This TMDL addresses all surface waters (inland lakes, Great Lakes, streams, rivers, wetlands, and beaches) in the state of Michigan that are impaired by E. coli. The goal of the TMDL is to identify problem areas, address sources of E. coli statewide, and provide guidance to restore these waters.

The targets in this TMDL are concentrations of E. coli per 100 milliliters (mL) of water, set equal to Michigan's Water Quality Standard (WQS) for recreation (described in Section 3). This target is easier to understand and communicate than a load-based target, which would vary by water body, and is also easier to measure with limited resources.

Each District facility was evaluated for the Statewide E. coli TMDL applicability using the Michigan Department of Environment, Great Lakes, and Energy TMDL Watershed Screening Tool. The following District facilities discharge stormwater either directly or indirectly to watersheds included within the Statewide TMDL boundaries as identified in Map 3 below:

1. Bloomfield Hills High School
2. Bloomfield Hills Middle School South-Conant Elementary School-Bloomin' Preschool Conant Complex -
3. Bloomfield Hills Middle School North
4. Booth-Doyle Center
5. Bowers School Farm
6. Dublin Building (Physical Plant Services)
7. East Hills Middle School-Transportation Building Complex
8. Eastover Elementary School
9. Fox Hills Elementary School & Bloomin' Preschool Fox Hills
10. International Academy (Okma Campus)
11. Johnson Nature Center
12. Lone Pine Elementary School & Bloomin' Preschool Lone Pine
13. Pine Lake Property
14. Warehouse (Franklin Building)
15. Way Elementary School
16. West Hills Middle School
17. Wing Lake Development Center

Map 3 – Total Maximum Daily Load Map[4]



4.3 Rouge River TMDL

The Rouge River was placed on the Section 303(d) list for **biota (sedimentation/siltation)**. The Rouge River was place on the list for biota due to poor macroinvertebrate and fish community levels. Surveys conducted indicated that lack of habitat along with siltation/sedimentation were the predominate issues.

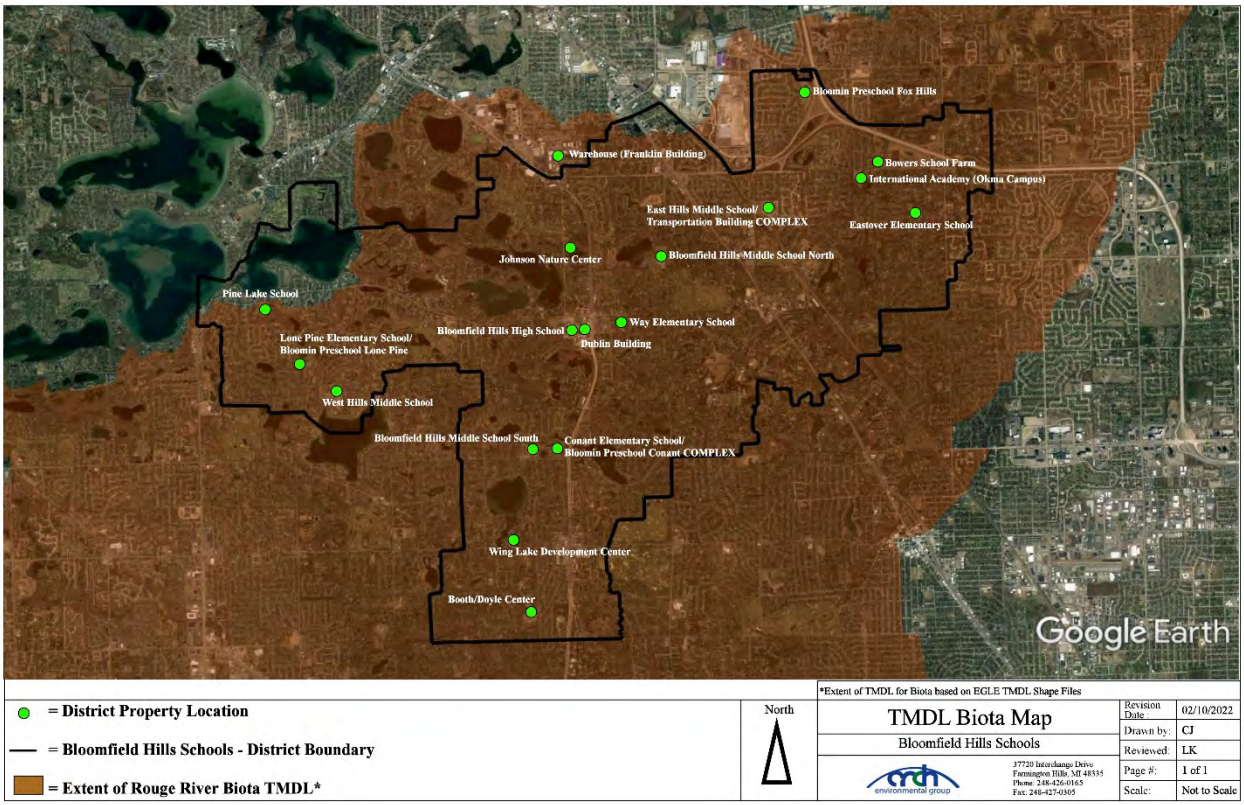
The following District facilities discharge stormwater either directly or indirectly within the Rouge River TMDL boundaries as identified in Map 4 below:

1. Bloomfield Hills High School
2. Bloomfield Hills Middle School South-Conant Elementary School-Bloomin' Preschool Conant Complex -
3. Bloomfield Hills Middle School North
4. Booth-Doyle Center
5. Bowers School Farm
6. Dublin Building (Physical Plant Services)
7. East Hills Middle School-Transportation Building Complex
8. Eastover Elementary School
9. Fox Hills Elementary School & Bloomin' Preschool Fox Hills
10. International Academy (Okma Campus)
11. Johnson Nature Center

[4] Total maximum daily load boundaries based on Michigan Department of Environment, Great Lakes, and Energy Shapefiles.

12. Lone Pine Elementary School & Bloomin' Preschool Lone Pine
13. Pine Lake Property
14. Warehouse (Franklin Building)
15. Way Elementary School
16. West Hills Middle School
17. Wing Lake Development Center

Map 4 – Total Maximum Daily Load Map[5]



4.4 TMDL Implementation – Monitoring Plan

4.4.1 Prioritized TMDL Best Management Practices

The below lists stormwater BMPs that are targeted to improve water quality impairments associated by the TMDL.

E. COLI/BIOTA

1. Bloomfield Hills Schools will use its website to provide the public with information regarding pet waste (SEMCOG links). Additionally, SEMCOG pet waste posters are placed at various school buildings.
2. Bloomfield Hills Schools will prohibit illicit discharges, inspect, and monitor suspected illicit discharges, and enforce elimination of the illicit discharges and connections.
3. Bloomfield Hills Schools has reviewed all facilities for cross-connections between the sanitary and storm sewer systems.
4. Bloomfield Hills Schools will conduct hand sweeping in the parking lots/roadways in the spring and fall.

[5] Total maximum daily load boundaries based on Michigan Department of Environment, Great Lakes, and Energy Shapefiles.

5. Bloomfield Hills Schools has established programs for soil erosion and sediment control from new or redevelopment construction. Such developments require permits and inspections for practices to keep exposed soils on site or controlled from runoff.
6. Bloomfield Hills Schools has implemented routine visual inspections of stormwater structural controls.
7. Bloomfield Hills Schools will remove excessive sediments from structural sediment removal systems to maintain the maximum designed performance. Sediments will be disposed of offsite in accordance with Parts 115 or 121.

ALL TMDLs

1. Bloomfield Hills Schools will continue to use its website to provide the public information regarding local TMDL issues (phosphorous, E. coli, biota, and dissolved oxygen TMDL Best Management Practice).
2. Bloomfield Hills Schools will continue to educate staff, faculty, and students using various venues including the **"Seven Simple Steps to Clean Water"** program educational materials developed by the various watershed groups specifically related to these issues on the stormwater management webpage.
3. The district has implemented an Illicit Discharge Regulatory Policy.
4. The district has implemented a Post-Construction Policy and Procedure.
5. The district has implemented an Enforcement Response Procedure.
6. Adequately maintains vegetation around stormwater facilities, ditches, and ponds.
7. Provide training to applicable staff and confirm training from contractors including restrictions on the use of phosphorous containing fertilizers, soaps, cleaners, and other chemicals that could impact the separate storm drain system.

Procedure

Prioritization of BMPs is based on Bloomfield Hills Schools targeted TMDL pollutants. Priority is given to BMPs that reduce E. coli loads and address water quality for biota.

Assessment

The EGLE Stormwater Discharge Permit Application requires a monitoring plan for assessing the effectiveness of the BMPs currently being implemented, or to be implemented, in making progress toward achieving the TMDL pollutant load reduction requirement. Monitoring shall be specifically for the pollutant identified in the TMDL. Monitoring may include wet weather outfall/discharge point monitoring and dry-weather screening. A summary of the monitoring results and conclusions related to TMDLs will be provided during progress reporting.

Bloomfield Hills Schools will conduct the following for applicable TMDLs:

1. Samples will be collected at least twice during the permit cycle; including previous monitoring. The goal is to collect samples from at least 50% of the outfall/discharge points at facilities associated with the TMDL. An effort will be made to sample water quality parameters during a representative (i.e., >0.25" and <1.5") wet weather event over a 24-hour period, and within 30 to 60 minutes of the start of the wet weather event in order to capture the first flush. Monitoring shall be specifically for the pollutant identified in the TMDL. TMDL Sample locations are in Appendix "G".
2. The results of the sampling will be assessed and summarized in a brief assessment report to be shared with the public if requested.

3. Based on a review of the sampling results, BMP implementation will be reviewed for effectiveness and BMPs may be updated or revised to ensure progress toward achieving TMDL pollutant load reductions.

4.4.2 TMDL - BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #4.4.2.1 Webpage	The District will use its website to provide the public with information regarding pet waste (SEMCOG links). Additionally, SEMCOG pet waste posters are placed at various school buildings. The District will continue to use its website to provide the public information regarding local TMDL issues (E. coli and biota (TSS) TMDL Best Management Practice).	Ongoing Throughout Permit Cycle	Posters placed throughout Bloomfield Hills Schools facilities. Material available on webpages.	Maintain links on webpage. Maintain copies of webpage review.	Bloomfield Hills Schools
BMP #4.4.2.2 Outfall Monitoring	Samples will be collected at outfall/discharge points at facilities associated with the TMDL. An effort will be made to sample water quality parameters during a representative (i.e., >0.25" and <1.5") wet weather event over a 24-hour period, and within 30 to 60 minutes of the start of the wet weather event in order to capture the first flush. Monitoring shall be specifically for the pollutant identified in the TMDL.	Twice per Permit Cycle Throughout Permit Cycle	The goal is to collect samples from at least 50% of the outfall/points of discharge at facilities associated with the TMDL.	Copy of inspection paperwork and sample results.	Bloomfield Hills Schools
BMP #4.4.2.3 Effectiveness Review	The results of the sampling will be assessed for the effectiveness of the BMPs currently being implemented for TMDL pollutant load reduction and summarized in an assessment report.	Once per Permit Cycle Throughout Permit Cycle	Report available for public review if requested.	Assessment report completed.	Bloomfield Hills Schools

Appendix "A"

Outfall/Discharge Point Receiving Water Table & Site Stormwater Structure Maps

Creation Date: March 29, 2022

Receiving Waters Table

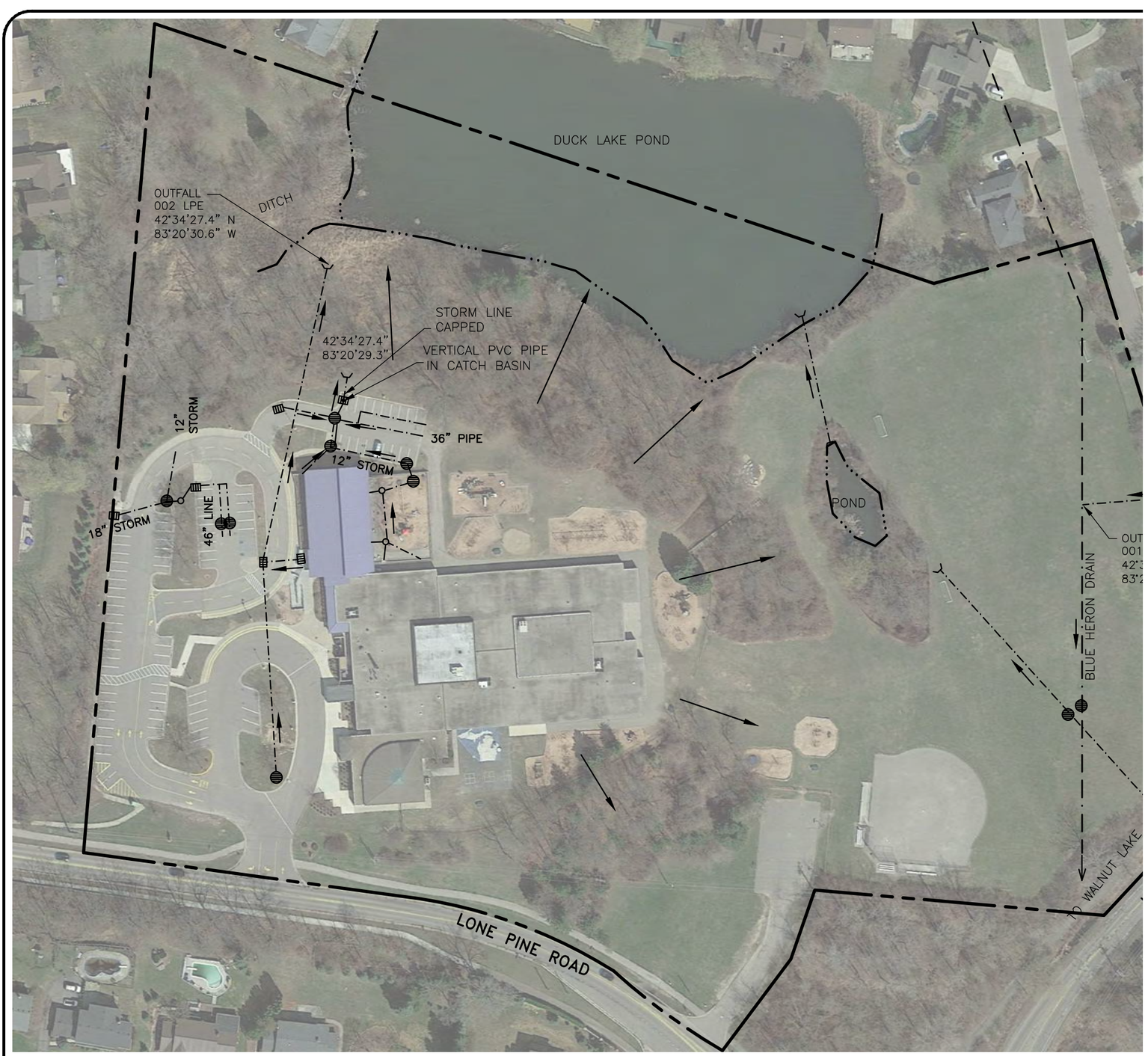
Bloomfield Hills Schools				
FACILITY	**OUTFALL / DISCHARGE POINT**	**POINT OF DISCHARGE / OUTFALL**	**RECEIVING WATERS**	**WATERSHED**
Bloomfield Hills High School	Outfall 001 AHS	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
	Outfall 001 AHS	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
Bloomfield Hills Middle School South-Conant Elementary School-Bloomin' Preschool Conant Complex	Outfall 001 BHSA	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
	Outfall 002 BHSA	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
	Outfall 003 BHSA	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
	Outfall 004 BHSA	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
	Outfall 001 CES	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
Bloomfield Hills Middle School North	N/A	N/A	N/A	N/A
Booth Center	Outfall 001 MM	Bloomfield Township MS4	Headwaters River Rouge	Rouge River
	Outfall 002 MM	Bloomfield Township MS4	Headwaters River Rouge	Rouge River
	Outfall 003 MM	Bloomfield Township MS4	Headwaters River Rouge	Rouge River
Bowers School Farm	Outfall 001 BHSF	Surface Waters of the State	Headwaters River Rouge	Rouge River
Dublin Building (Physical Plant Services)	Outfall 001 BHSA	Bloomfield Township MS4	Quarton Lake	Rouge River
	Outfall 002 BHSA	Bloomfield Township MS4	Quarton Lake	Rouge River
	Outfall 003 BHSA	Bloomfield Township MS4	Quarton Lake	Rouge River
	Outfall 004 BHSA	Bloomfield Township MS4	Quarton Lake	Rouge River
East Hills Middle School-Transportation Complex	Outfall 001 EHMS	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
	Outfall 002 EHMS	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
	Outfall 003 EHMS	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
Eastover Elementary School	N/A	N/A	N/A	N/A
Fox Hills Elementary School-Bloomin' Preschool Fox Hills	Outfall 001 FHE	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
	Outfall 002 FHE	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
	Outfall 003 FHE	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
International Academy (OKMA Campus)	N/A	N/A	N/A	N/A
Johnson Nature Center	N/A	N/A	N/A	N/A

Date Updated: March 29, 2022

Receiving Waters Table

Bloomfield Hills Schools				
FACILITY	**OUTFALL / DISCHARGE POINT**	**POINT OF DISCHARGE / OUTFALL**	**RECEIVING WATERS**	**WATERSHED**
Lone Pine Elementary School-Bloomin' Preschool Lone Pine	Outfall 001 LPE	West Bloomfield Township MS4	Franklin Branch	Rouge River
	Outfall 002 LPE	West Bloomfield Township MS4	Franklin Branch	Rouge River
Pine Lake School	N/A	N/A	N/A	N/A
Warehouse (Franklin Building)	Outfall 001 PPS	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
Way Elementary School	Outfall 001 WES	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
West Hills Middle School	Outfall 001 WHMS	Bloomfield Township MS4	Franklin Branch	Rouge River
	Outfall 002 WHMS	Bloomfield Township MS4	Franklin Branch	Rouge River
Wing Lake Development Center	Outfall 001 WLDC	City of Bloomfield Hills MS4	Quarton Lake	Rouge River
	Outfall 002 WLDC	City of Bloomfield Hills MS4	Quarton Lake	Rouge River

Date Updated: March 29, 2022



NOTE:

1. DRAWING WAS BASED ON AN UNDATED SITE WORK PLAN PREPARED BY SWANSON ASSOCIATES AND AN UNTITLED AND UNDATED SKETCH.
2. PROPERTY FEATURES ARE APPROXIMATE.

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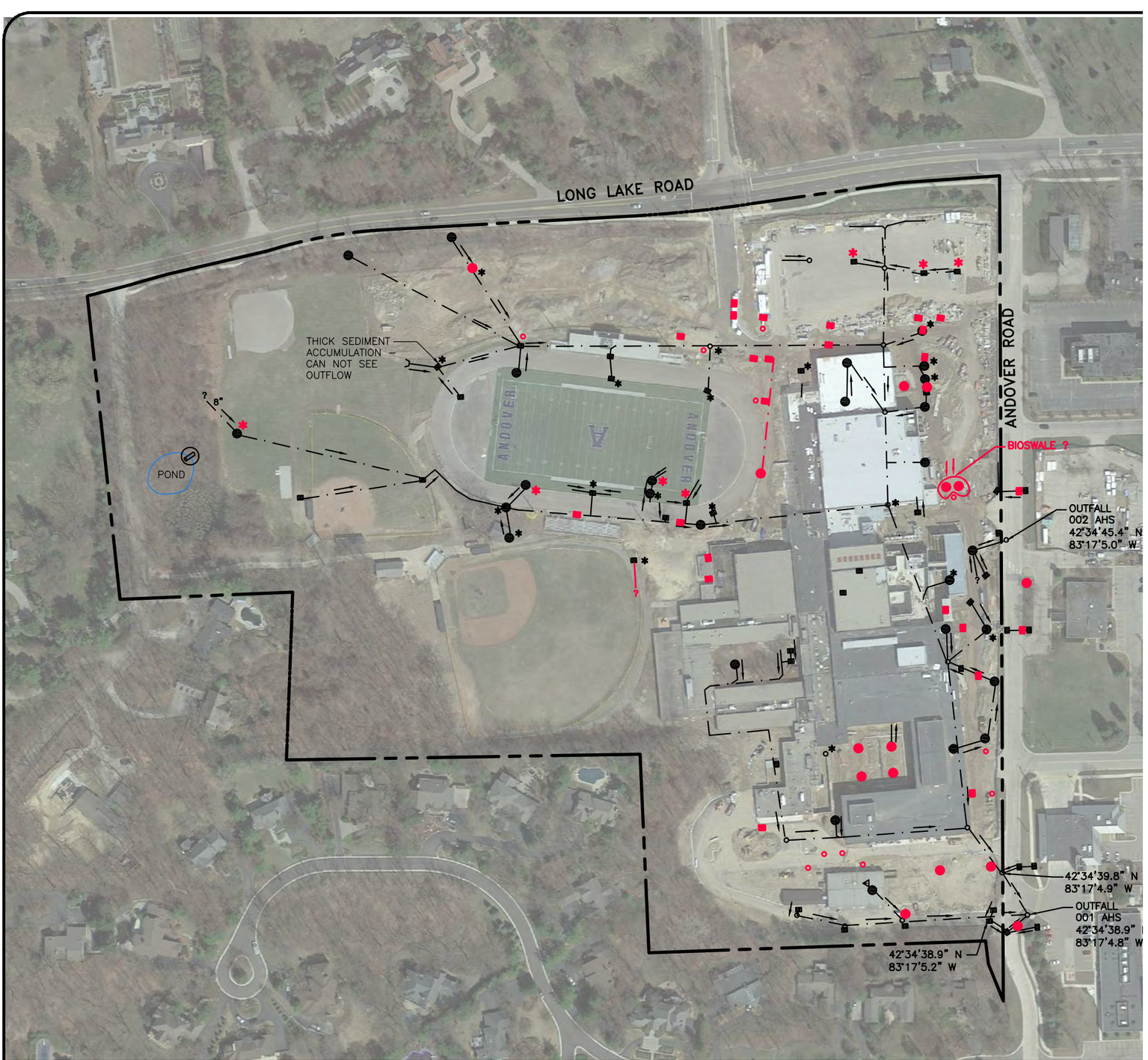

NOTES:

1. DIAGRAM WAS BASED ON A SITE PLAN PREPARED BY HUBBELL, ROTH & CLARK, INC. DATED SEPTEMBER 16, 1987 AND A GOOGLE EARTH 2015 AERIAL PHOTOGRAPH.
2. PROPERTY FEATURES ARE APPROXIMATE.

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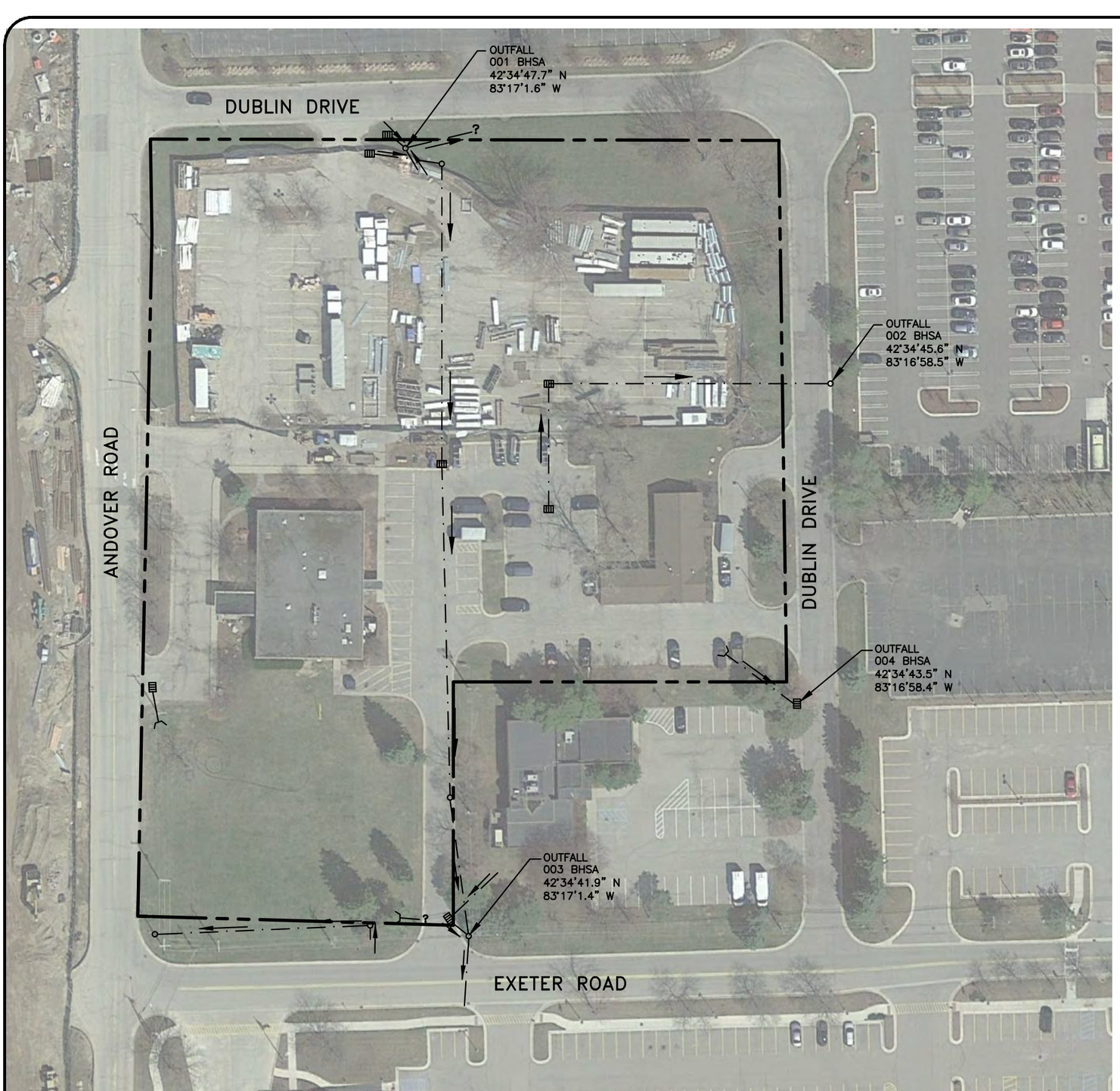

NOTES:

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2. PROPERTY FEATURES ARE APPROXIMATE.

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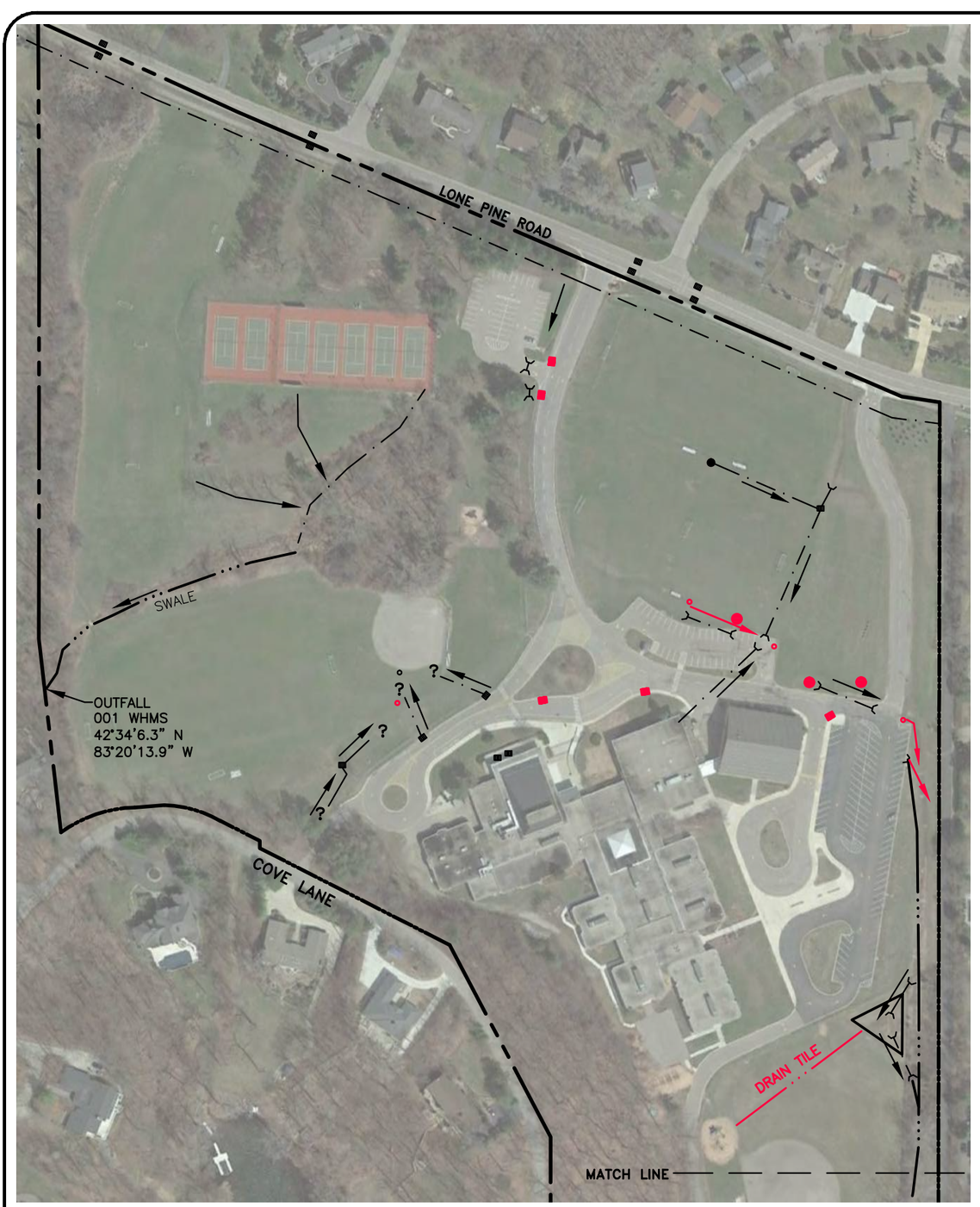

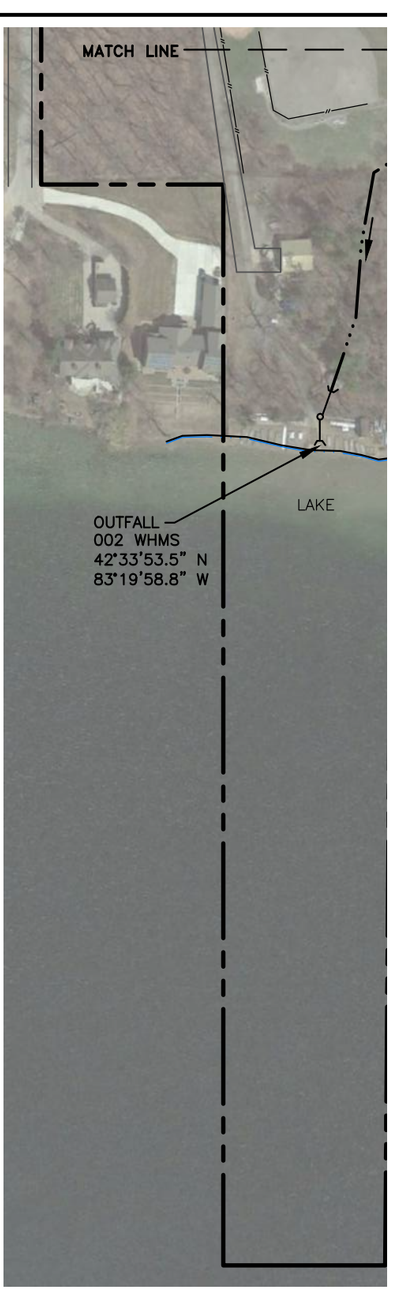

NOTES:

1. DIAGRAM WAS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY HUBBELL, ROTH & CLARK, INC. DATED OCTOBER 31, 1997.
2. PROPERTY FEATURES ARE APPROXIMATE.

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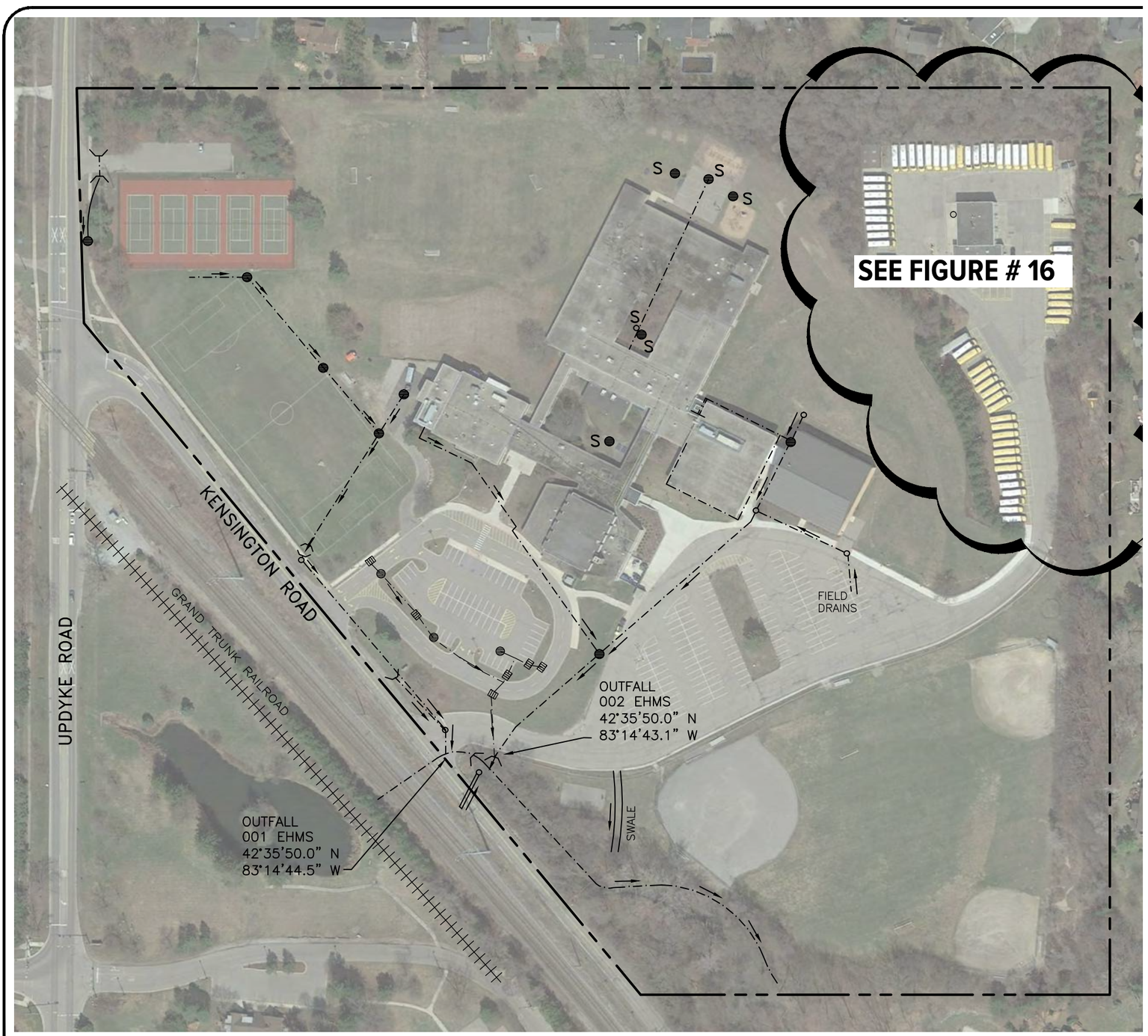

NOTES:

1. DIAGRAM WAS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY HUBBELL, ROTH & CLARK, INC. DATED OCTOBER 14, 1988.
2. PROPERTY FEATURES ARE APPROXIMATE.

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NOTE:

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NOTES:

1. PROPERTY FEATURES ARE BASED ON A SITE PLAN PREPARED BY HUBBELL, ROTH & CLARK, INC. DATED MAY 8, 1989 AND A 2002 AERIAL PHOTOGRAPH.
2. PREPOERTY FEATURES ARE APPROXIMATE.

LEGEND

- PROPERTY LI
- STORM WATEI
- CATCH BASIN
- STORM MANH
- FLOW DIRECT
- CULVERT
- 9" DRAIN
- S SEDIMENT FIL

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NOTES:

1. PROPERTY FEATURES ARE BASED ON A SITE PLAN PREPARED BY HUBBELL, ROTH & CLARK, INC. DATED MAY 8, 1989 AND A 2015 AERIAL PHOTOGRAPH.
2. PROPERTY FEATURES ARE APPROXIMATE.



NOTES:

1. PROPERTY FEATURES ARE BASED ON A SITE PLAN PREPARED BY HUBBELL, ROTH & CLARK, INC. DATED MAY 8, 1989 AND A 2015 AERIAL PHOTOGRAPH.
2. PROPERTY FEATURES ARE APPROXIMATE.

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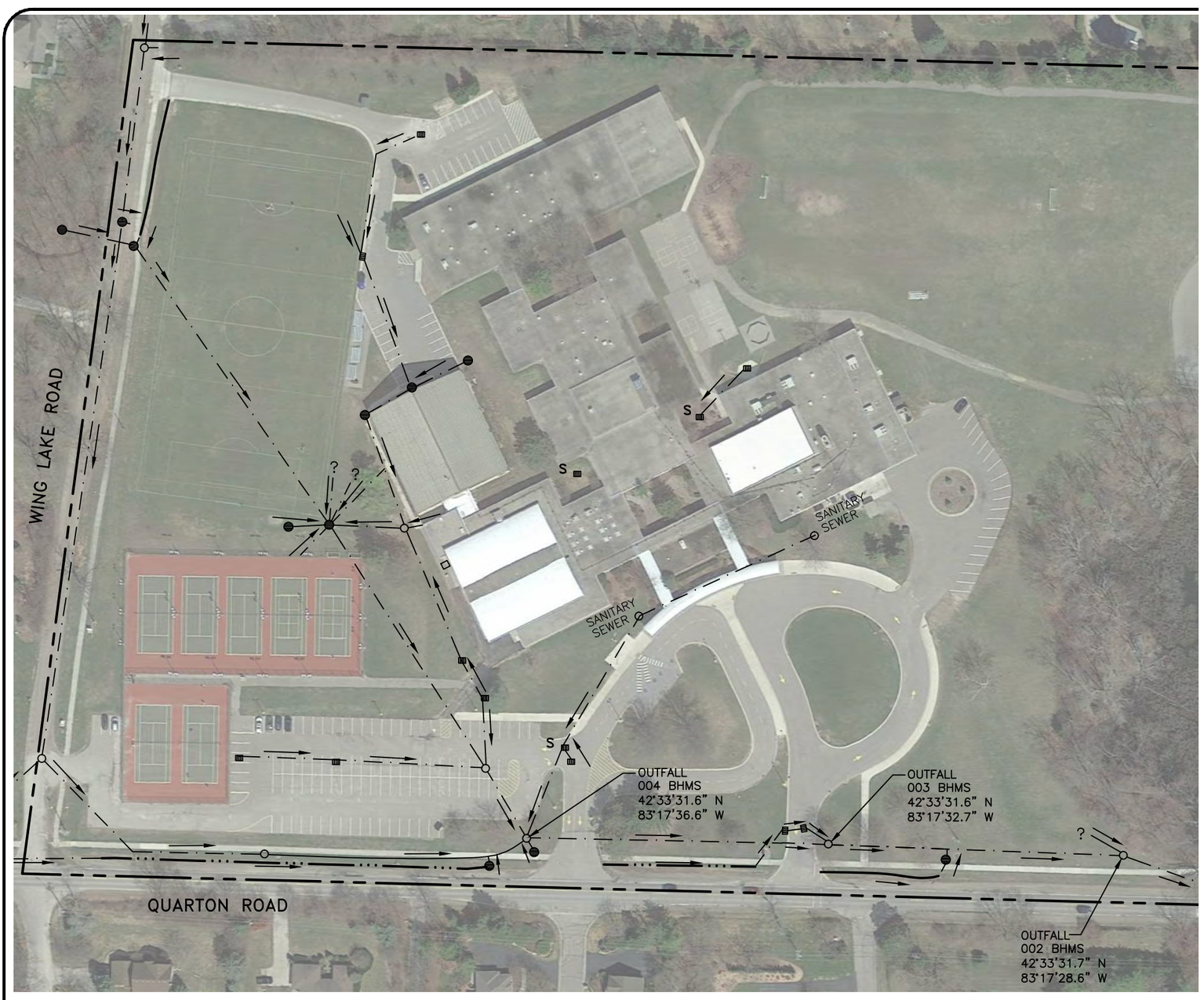

LEG

PROPE

STORM LINE

DITCH

CATCH

STORM

FLOW D

NOTES:

1. PROPERTY FEATURES ARE BASED ON A SITE PLAN PREPARED BY HUBBELL, ROTH & CLARK, INC. DATED OCTOBER 31, 1997 AND A 2002 AERIAL PHOTOGRAPH.
2. PROPERTY FEATURES ARE APPROXIMATE.

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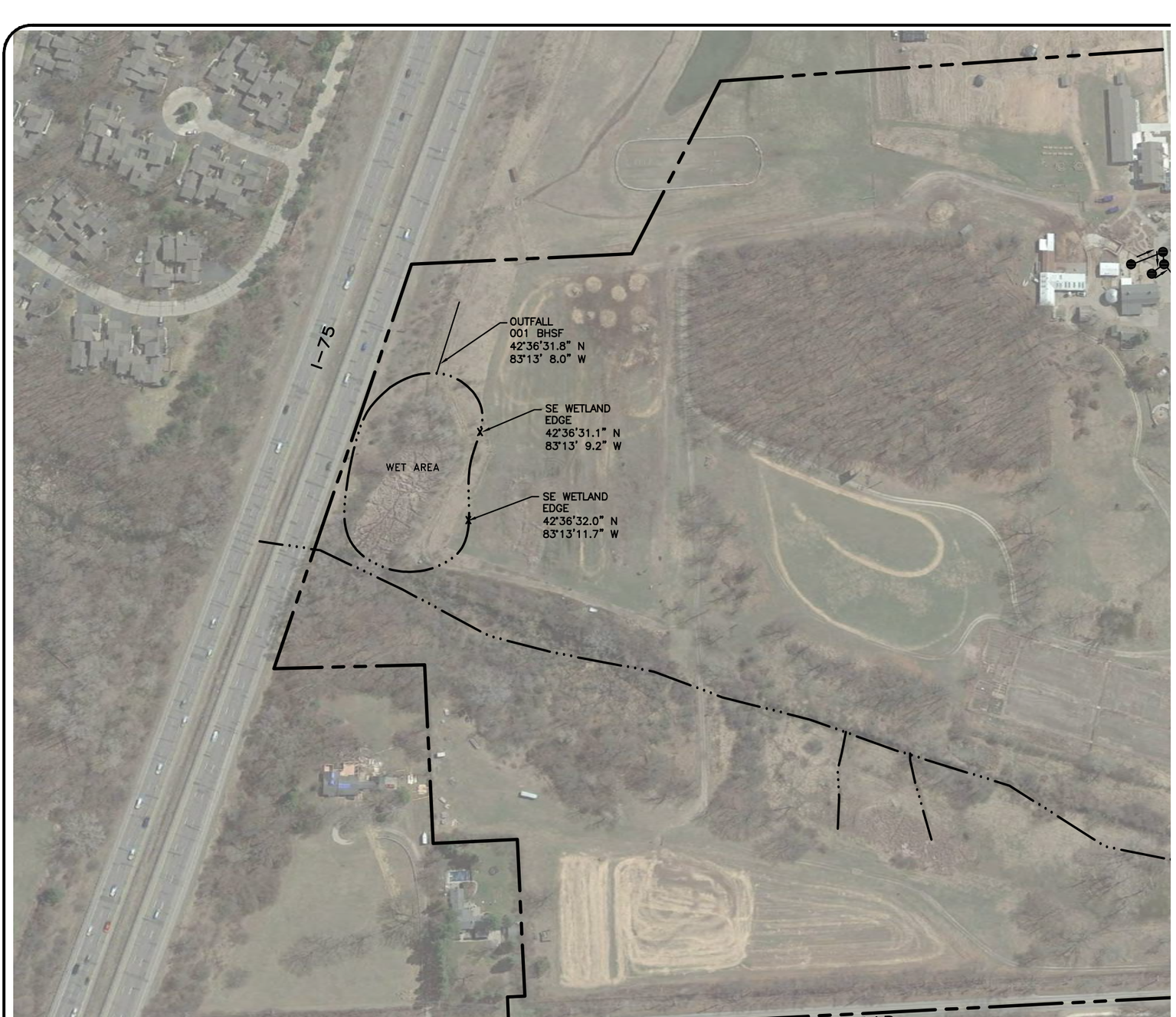

LEGEND

- PROPERTY LINE
- STORM WATER SEWER LINE
- DITCH
- CATCH BASIN
- STORM MANHO
- FLOW DIRECTIO
- CULVERT

NOTES:
1. DIAGRAM WAS BASED ON AN UNDATED TOPOGRAPHIC SURVEY PREPARED BY MAIN & FOX, INC.
2. DIAGRAM WAS BASED ON A SITE SURVEY PREPARED BY HUBBELL, ROTH & CLARK, INC. DATED JULY 9 1993.
3. PROPERTY FEATURES ARE APPROXIMATE.

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NOTES:

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2. PROPERTY FEATURES ARE APPROXIMATE.

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1. DIAGRAM WAS BASED ON A GOOGLE EARTH PRO AERIAL IMAGE DATED 2015.
2. PROPERTY FEATURES ARE APPROXIMATE.



NOTES:
1. DIAGRAM WAS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY HUBBELL, ROTH & CLARK, INC. DATED OCTOBER 14, 1988.
2. PROPERTY FEATURES ARE APPROXIMATE.

Appendix "B"

Enforcement Policies and Tracking Forms

Creation Date: March 29, 2022

District Illicit Discharge/Illegal Dumping Reporting Form
Bloomfield Hills Schools

Date:_____ Time_____

Inspectors:_____

I. ORIGIN OF REPORT

1. Describe the reason for conducting the investigation.

- ❑ Illicit Discharge Inspection (Routine)
- ❑ Facility Staff
- ❑ Citizen Complaint
- ❑ Other _____

II. SOURCE

1. Describe location of source of discharge (company name, address, cross streets, physical features, etc.)

_____

_____

2. Describe the Source:

- ❑ Residential
- ❑ Transportation Facility
- ❑ Construction Site
- ❑ Custodial
- ❑ Other _____

3. Facility of the Source:_____

_____

III. TYPE

1. Describe the type of material discharged:

- ❑ Sanitary Leak/Spill
- ❑ Paint Discharge
- ❑ Dumpster Discharge
- ❑ Cleaning Discharge
- ❑ Unhardened Cement Discharge
- ❑ Paint Discharge
- ❑ Vehicle Repair
- ❑ Vehicle Washing
- ❑ Grey Water Discharge
- ❑ Landscape Material Dumping
- ❑ Cooling Water Discharge
- ❑ Allowable Discharge
- ❑ Other _____

Provide Additional Information:_____

_____

2. Other Sources:

- ❑ Illicit Connection
- ❑ Construction Site
- ❑ Other _____

IV. FOLLOW-UP AND ENFOREMENT ACTIVITIES

1. Describe Corrective Actions:_____

_____

2. Describe Enforcement Action:

- ❑ None/Incident Resolved
- ❑ Verbal Notice
- ❑ Administrative Action
- ❑ Cleaning Discharge

3. Date Resolved:_____

4. Responsible Party

Signature:_____

Municipal Separate Storm Sewer System Noncompliance Enforcement Tracking
Bloomfield Hills Schools
Permit No. MI0060026

Report Number	Name	Date	Location of Violation	Business/ Organization	Description of Violation	Description of Enforcement Response	Compliance Schedule Date	Date Violation Resolved
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								

Stormwater Management – Illicit Discharge Regulatory Policy

Bloomfield Hills Schools
Permit Number: MI0060026
Issue date: March 29, 2022

This illicit discharge regulatory policy was developed as a regulatory policy for prevention of pollution from storm water runoff and to protect the quality of the waters of the State of Michigan through the regulation of non-stormwater discharges to the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal and state law. This regulatory mechanism establishes methods for controlling the introduction of pollutants into the MS4 in order to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit through the Michigan Department of Environment, Great Lakes, and Energy (EGLE). The objectives of the regulatory mechanism are:

1. To regulate the contribution of pollutants to the MS4 by stormwater discharges by any user.
2. To prohibit illicit connections and discharges into the MS4.
3. To establish authority to investigate, inspect, and monitor suspected illicit discharges.

District properties include all Bloomfield Hills Schools properties.

Illicit Discharge means any discharge to, or seepage into the separate stormwater drainage system that is not composed entirely of stormwater or uncontaminated groundwater except discharges pursuant to an NPDES permit.

Illicit Connection means a physical connection to the MS4 separate stormwater system that primarily conveys non-stormwater discharges other than uncontaminated groundwater into the MS4 separate storm sewer system; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

Prohibitions of Illicit Discharges

1. Prohibition of Illicit Discharges:
    a. Bloomfield Hills Schools prohibits the discharge of non-stormwater discharges into the storm drain system, including but not limited to pollutants or waters containing any pollutants.
    b. No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the MS4 any pollutants or waters containing any pollutants, other than stormwater.

2. The following discharge is **not prohibited**:
    a. This policy excludes prohibitions from the discharge or flows from firefighting activities to the Bloomfield Hills Schools MS4. Discharge or flows from firefighting activities will be

addressed only if they are identified as significant sources of pollutants to surface waters of the state.

b. The following activities are **not prohibited** under this policy unless they are determined to be significant sources of pollutants to surface waters of the state:
    - Water line flushing and discharges from potable water sources.
    - Landscape irrigation runoff, lawn water runoff, and irrigation waters.
    - Diverted stream flows and flows from riparian habitats and wetlands.
    - Rising groundwater and springs.
    - Uncontaminated groundwater infiltration and seepage.
    - Uncontaminated pumped groundwater, except groundwater cleanups specifically authorized by NPDES permits.
    - Air conditioning condensation.

Prohibition of Illicit Connections

1. The construction, use, maintenance or continued existence of illicit connections to the MS4 is prohibited.
2. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
3. A person is considered to be in violation of this regulatory mechanism if the person connects a line conveying sewage to the MS4 or allows such a connection to continue.
4. Improper connections in violation of this regulatory mechanism must be disconnected and redirected.
5. Illicit discharge and connections will be eliminated immediately.

Enforcement

The District Stormwater Program Manager will administer and enforce the stormwater management program, including investigate, inspect, and monitor suspected illicit discharges or illicit connections.

If you witness or think a discharge is taking place, please contact the Bloomfield Hills Schools at (248) 830-9475.

Stormwater Management - Post-Construction Policy & Procedure

Bloomfield Hills Schools
Permit Number: MI0060026
Issue date: October 1, 2022

Applies To: As required by the National Pollutant Discharge Elimination System (NPDES) permit for Bloomfield Hills Schools, the scope of this Guideline includes all development and redevelopment projects on District properties that involve either:

a. earth disturbance of one (1) acre or greater,
   OR
b. earth disturbance of less than one (1) acre, but which are part of a larger common plan of development or sale that would disturb one (1) acre or more.

Post-Construction Requirements Policy Statement

Bloomfield Hills Schools development and redevelopment projects on District property are regulated under and must comply with the Bloomfield Hills Schools NPDES permit for stormwater discharges, as issued by the Michigan Department of Environment, Great Lakes and Energy (EGLE). The Stormwater Management Post-Construction Requirements Guideline has been developed to provide guidance regarding responsibilities and actions to meet the NPDES permit conditions for development and redevelopment projects on district owned properties.

Post-Construction Plan for Stormwater Management

The post-construction plan for stormwater management on regulated sites **must** include:

- A minimum treatment volume standard to address water quality impacts.
- Channel protection criteria to address resource impairment resulting from flow volumes and rates.
- Review sites with known soil and/or groundwater contamination, including potential "hot spots" and evaluate the use of infiltration BMPs to meet water quality treatment and channel protection criteria to ensure that infiltration BMPs do not exacerbate existing conditions. Hot spots include areas with the potential for significant pollutant loading such as vehicle service and maintenance facilities, vehicle equipment cleaning facilities, fleet storage areas for buses, and outdoor liquid container storage.
- Drawings showing the location of stormwater control measures and the storm system.
- Details on the proposed stormwater control measures.
- Operation & Maintenance (O&M) requirements.
- Supporting information
    - Calculations used for designing all components of the stormwater management systems.
    - Total Suspended Solids (TSS) design removal rates and supporting manufacturer documentation, if applicable.

- Geotechnical report including soil boring and infiltration test data.

The project team [Architecture, Engineering & Construction, Other Project Manager, Project Developer and/or Contractors] shall develop the post-construction plan for stormwater management in accordance with this guideline and the NPDES permit.

Water Quality Treatment Volume Standard

The minimum treatment volume standard **must** be either:

a. Treat the first one (1) inch of runoff from the entire site.
   OR
b. Treat the runoff generated from ninety percent (90%) of all runoff-producing storms for the project site, as summarized in MDEQ's memo dated March 24, 2006 https://www.michigan.gov/documents/deq/wrd-hsu-ninety-percent_557709_7.pdf

Total Suspended Solids

The treatment methods must be designed on a site-specific basis to achieve the following:

a. A minimum of eighty percent (80%) removal of total suspended solids (TSS), as compared with uncontrolled runoff.
   OR
b. Discharge concentrations of TSS not to exceed 80 milligrams per liter (80mg/L).

A minimum treatment volume standard is not required where site conditions are such that TSS concentrations in storm water discharges will not exceed 80mg/L.

Channel Protection Criteria

The channel protection criteria must maintain post-development site runoff volume and peak flow rate at or below existing levels for all storms up to the 2-year, 24-hour event. "Existing levels" means the runoff volume and peak flow rate for the last land use prior to the planned new development or redevelopment. More restrictive channel protection criteria may be utilized on a case-by-case basis, as appropriate.

Site Plan Review

This policy is to establish a requirement to submit a site plan for review as required by the EGLE NPDES Stormwater Discharge Permit and ensure that water quality objectives, erosion and sediment control requirements, and BMP maintenance are considered to the maximum extent practicable.

Bloomfield Hills Schools shall evaluate proposed construction activities to determine:

- If the activity meets the criteria of a development or redevelopment project with an earth disturbance greater than or equal to 1 acre, or part of a common plan of development resulting in a development or redevelopment activity greater than or equal to 1 acre in size.
- Does the development or redevelopment project discharge to waters of the state, or to a county, city, or township MS4.

If the development or redevelopment project discharges directly to waters of the state, Bloomfield Hills Schools shall comply with the post-construction standards outlined in this SWMP.

If the development or redevelopment project discharges to a regulated county, city, or township MS4, Bloomfield Hills Schools shall submit the site plan for review and approval. Site plan approval by the county, city, or township of an equivalent post-construction standard ensures acceptable compliance with the Bloomfield Hills Schools NPDES MS4 Stormwater Discharge Permit. Bloomfield Hills Schools shall obtain and maintain a copy of the site plan approval *document*.

If the development or redevelopment project discharges to a county, city, or township MS4 that is not regulated or require site plan review, Bloomfield Hills Schools shall comply with the post-construction standards outlined in this SWMP.

Operations & Maintenance Plans

All structural and vegetative stormwater control measures installed as a requirement under this section of the permit shall include a plan for maintaining maximum design performance through long-term operation and maintenance.

Enforcement

The Bloomfield Hills Schools Stormwater Program Manager will administer and enforce the stormwater management program, including maintaining procedures, guidance, information, etc. to aid district staff and contractors in complying with the post-construction requirements for stormwater management.

Appendix "C"

SEMCOG Posters & Illicit Discharge Poster

Creation Date: March 29, 2022

How to Spot Illicit Discharges

Sanitary Sewer Discharge Observations:

- Sanitary Debris
- Staining on pipe
- Heavy Foam
- Gray or Discolored Water
- Odors (sewage, chlorine, rotten eggs and detergents)





Illegal Dumping, Spills, or Floor Drain Connection Observations:

- Oily Sheen
- Trash, non-sanitary debris
- Petroleum odors
- Stained sediment, rocks, and vegetation
- Vehicle bay washout






Agricultural Runoff, Fertilizers, or Sanitary Sewer Waste Observations:

- Algae growth at or near outlet
- Heavy vegetation at or near outlet




What to Report

- **Spills and Contamination to lakes, river and streams**
  District Stormwater Coordinator, MDEQ, Environmental Health Department, Drain Commissioner's Office
- **Suspicious dumping or discharges from pipes**
  District Stormwater Coordinator, MDEQ, Environmental Health Department, Drain Commissioner's Office
- **Sewage on the ground or in surface water**
  District Stormwater Coordinator, Environmental Health Department
- **Large number of dead fish in waterways**
  District Stormwater Coordinator, MDEQ, Environmental Health Department
- **Failing or leaking septic systems**
  District Stormwater Coordinator, Environmental Health Department
- **Construction site soil erosion to waterways**
  District Stormwater Coordinator, local SESC Enforcing Agency
- **Polluted runoff from storage piles/dumpsters entering waterways**
  District Stormwater Coordinator, Environmental Health Department, Drain Commissioner's Office

Important Numbers

Emergency Call 9-1-1

- Pollution Emergency Alerting System (PEAS) **1-800-292-4706**
- 24 Hour Spill Hot Line – Arch Environmental Group **1-248-522-2821**

Non-Emergency

- School District Contact Number _____
- DEQ Environmental Assistance Center **1-800-662-9278**
- Eaton County Drain Commissioner **1-800-292-4706**
- Genesee County Drain Commissioner **1-810-732-2940**
- Livingston County Department of Public Health **1-517-546-9858**
- Macomb County Public Works **1-877-679-4357**
- Oakland County Water Resources **1-248-858-0958**
- Washtenaw County Drain Commissioner **1-724-222-6860**
- Wayne County Department of the Environment **1-888-223-2363**

Remember, you're not just washing your car

Our Water. Our Future.

Ours to Protect



Practice good car care

Did you know there are over four million vehicles in Southeast Michigan? **Practicing good car care helps protect our lakes and streams.**

How? Storm drains and roadside ditches lead to our lakes and streams. So, if motor fluids or dirty water from washing our cars are washed or dumped into the storm drain, it pollutes our local waterways.

What can you do? Simple. **Keep your car tuned and fix leaks** promptly, **recycle used motor oil** and other fluids, **take your car to the carwash or wash your car on the grass.**

Find out more at www.semcog.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

Remember, you're not just fertilizing your lawn

Our Water. Our Future.

Ours to Protect



Fertilize sparingly and caringly

Storm drains found in our streets and yards empty into our lakes and streams. So, **when we fertilize our lawn we could also be fertilizing our lakes and streams**. While fertilizer is good for our lawn, it's bad for our water. Fertilizer in our lakes and streams causes algae to grow. Algae can form large blooms and uses up oxygen that fish need to survive. With 1.5 million homes in Southeast Michigan, all of us need to be aware of the far-reaching effects of our lawn care practices.

What can you do? Simple. Use a **no or low phosphorus fertilizer,** select a **slow release** fertilizer where at least half of the nitrogen is water insoluble (check the ingredients on the label), keep fertilizer away from lakes, streams, and storm drains, and **sweep excess fertilizer** back onto your lawn. Not only will our lakes and streams thank you, but so will your pocketbook!

Find out more at www.semcog.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

Seven Simple Steps to Clean Water

Our Water. Our Future.

Ours to Protect

1. Help keep pollution out of storm drains
2. Fertilize sparingly and caringly
3. Carefully store and dispose of household cleaners, chemicals, and oil
4. Clean up after your pet
5. Practice good car care
6. Choose earth friendly landscaping
7. Save water

Our Water. Our Future. Ours to Protect.

Find out more at www.semcog.org.

Brought to you by the Southeast Michigan Partners for Clean Water.
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Remember, it's not just toxic to you

Our Water. Our Future.

Ours to Protect



Carefully store and dispose of household cleaners, chemicals, and oil

Did you know that many **household products are dangerous to our pets, kids, and the environment?**
These materials get into our lakes and rivers if washed or dumped into a storm drain or roadside ditch.

What can you do? Simple.

Proper disposal is key. Take household cleaners, pesticides, gasoline, antifreeze, used oil, and other dangerous products to your **community's household hazardous waste collection day.** Contact your community for more information on these events.

Find out more at www.semcog.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

Remember, you're not just getting rid of weeds and pests

Our Water. Our Future.
Ours to Protect



Choose earth-friendly landscaping

Did you know you can **protect your kids, pets, and the environment** from the harmful effects of herbicides & pesticides by choosing earth-friendly landscaping? These chemicals wash off our lawns and gardens into our storm drains, which lead to our lakes and rivers.

What can you do? Simple.
Spot treat for specific pests and weeds or remove by hand. Mulch around plants. **Water your lawn only when it needs it.** Attract butterflies and birds by **adding plants that are native to Southeast Michigan.**

Find out more at www.semcog.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

Remember, you're not just walking the dog

Our Water. Our Future.

Ours to Protect



Clean up after your pet

Did you know that pet waste has bacteria that makes our lakes and rivers unsafe for swimming and other recreational activities?
That happens when **pet waste left on sidewalks or yards gets washed into storm drains**
or roadside ditches that lead directly to our lakes and rivers.

What can you do? Simple.
No matter where you are **dispose of your pet's waste promptly** in the toilet or trash.

Find out more at www.semcog.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

Remember, it ALL drains to our lakes and rivers

Our Water. Our Future.

Ours to Protect



Keep pollution out of storm drains

Storm drains and roadside ditches lead to our lakes and streams. **So, any oil, pet waste, leaves, or dirty water from washing your car or other outside activities** that enters a storm drain gets into our lakes and streams.

How can you help? Simple. **Use a broom instead of a hose** to clean your driveway. Keep leaves, grass clippings, and trash away from the storm drain, and **never dump motor oil, pet waste, or dirty, soapy water** down the storm drain.
Remember, only rain in the drain!

Find out more at www.semcog.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

Appendix "D"

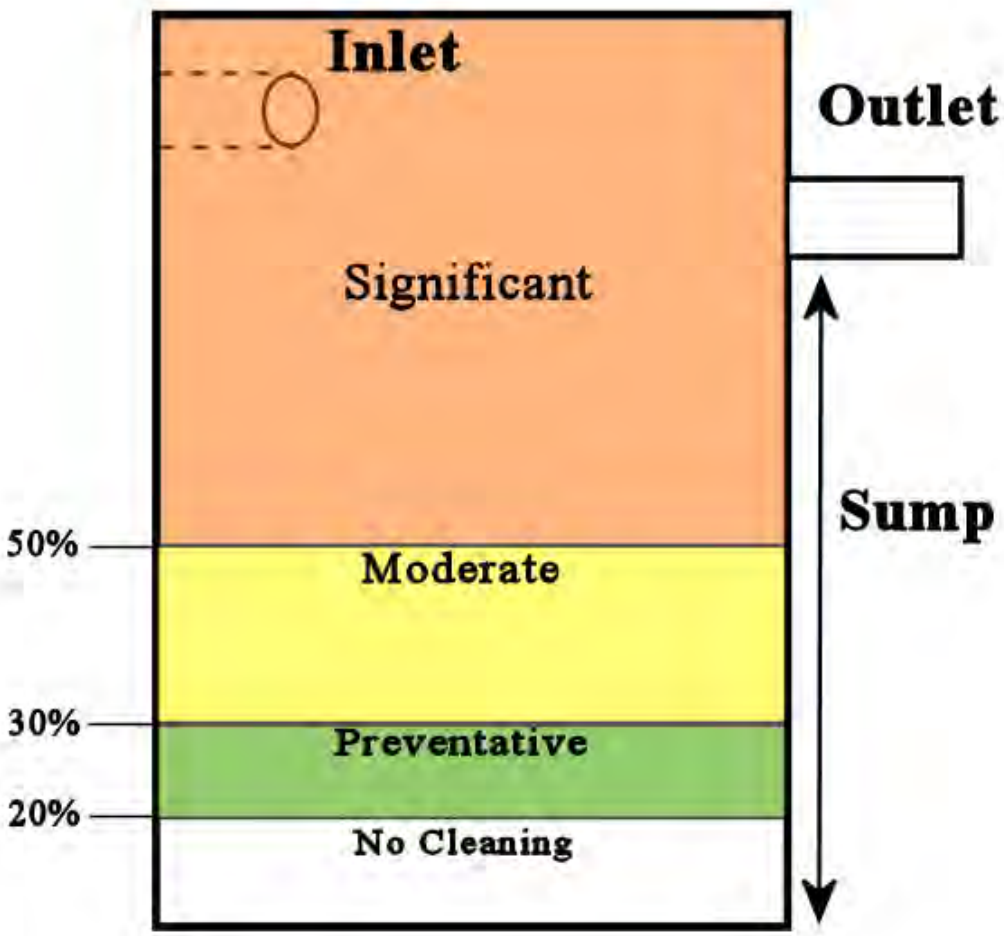
Inspection Field Worksheets

Creation Date: March 29, 2022

Routine Storm Sewer System Inspection Table

Building:			**Client:**		
Inspectors:			**Start Date:**		
			Inspection Type:		

ID #	Type	Inspected	Standing Water	Color	Odor	Structure Staining	Suds	Oil Sheen	Bacterial Sheen	Sewage	Algae	Slimes	Abnormal Vegetation	Flow Observed	Velocity of Flow	Color of Flow	Blockages	Erosion	Needs Cleaning?	Structural Issues	Structural Trend	Stenciled


Inlet
Outlet
Significant
Sump
50%
Moderate
30%
Preventative
20%
No Cleaning

Routine Storm Sewer System Inspection Table

Building:	"School/Location"		**Client:**	"School District"	
Inspectors:	"Inspectors Name"		**Start Date:**	"Start Date"	"End Date"
			Inspection Type:	"Routine Storm Sewer Inspection or other"	

ID #	Type	Inspected	Standing Water	Color	Odor	Structure Staining	Suds	Oil Sheen	Bacterial Sheen	Sewage	Algae	Slimes	Abnormal Vegetation	Flow Observed	Velocity of Flow	Color of Flow	Blockages	Erosion	Needs Cleaning?	Structural Issues	Structural Trend	Stenciled
"Storm Structure ID" Ex. ADM-01.CB(ADM represents building such as Admin, 01=number of structure, and CB=structure type.	Type of Structure (Catch Basin, Manhole, Pond, Swale, Pipe, etc.)	Was it inspected this round. (Yes or No)	Was there standing water in the structure? (Yes or No)	What color is the standing water if present? (Clear, Cloudy, Brown, White, etc.)	Does the basin have a noticeable odor? (Yes or No)	Is there staining on the interior of the structure? (Yes or No) This could be staining caused by a current illicit discharge, remnants of a past illicit discharge, or natural staining from iron oxidizing bacteria etc.	Are there suds present in the structure (organic suds - caused by aeration/natural causes, soapy suds, or no)	Is there oil sheen present on the water surface in the structure? (Significant - indicative of an illicit discharge, OR No)	Is there bacterial sheen on water surface of the structure? (Yes or No) - We ask this to confirm that a sheen in a photo was bacterial instead of oil.	Is evidence of sewage present in water in structure? (toilet paper, poo, etc.) - (Yes or No)	Is Algae growth present in the structure? (Yes or No)	Are there slimes present in the structure? (Yes or No)	Is there abnormal veg. growth in structure? (Yes or No)	Was there water flow observed in the structures pipes? (No, Trickle(light flow), Intermittent(Indicative of a sump), or continuous(usually occurs during/after a rain event))	What is the estimated velocity of the water flow if present? (N/A, Trickle, slow, moderate, or substantial) Substantial occurs during or after a rain event.	What is the color of the flow within the structure? (N/A, Brown, Yellow, Clear, Cloudy, etc.) Used to be sure there is no evidence of illicit activities during or after rain events.	Are any pipes blocked? (Yes or No) This would be evident if there was a visible blockage in a pipe OR if the water level in the structure is high.	Is there erosion occurring around the structure? (Yes or No)	Does the structure have sediment build-up in the sump or bottom? (Significant - for 50% full sump depth below outpipe or higher, moderate - for 30% to 50% sump depth below outpipe, preventative - for 20% to 30% sump depth, OR no cleaning for below 20%. Or Cleaned)	Are there any issues with the structure itself and how severe is it? - This could be for cracking on the interior/exterior, sink holes, erosion, etc. (Significant, Moderate, Preventative, or None, Repaired-since last inspection, or Partial Repair)	If there is a structural issue, is the structural issue worsening since the previous inspection? (Stable - appears the same/hasn't worsened, Improving - appears better/usually for a repair or for erosion lessening, OR deteriorating - the condition has worsened)	Does the structure have a "No Dumping - Drains to River" stencil in place? (No - means it needs one, Yes - it has one, Update - it has one, but it is fading, OR N/A - the structure is in the grass)

environmental group

Pond Inspection Form

Building:		**Client:**	
Inspectors:			
Date of Inspection:			

Structure Information:

Structure ID:		Number of Inlet(s) (OP):	
Pond Type:		Number of Outlet(s) (DR):	
Age of Pond:		Number of Stabilized Outlets (SO):	

Inlet(s)/Outlet(s) (OP/DR) Observations:

Are there any structural issues with the inlet(s)/outlet(s) (OP/DR)?		Structural Comments:	
Is there excess sediment buildup at the inlet(s)/outlet(s) (OP/DR)?		Are the inlet(s)/outlet(s) (OP/DR) below the water level?	

Are the inlet(s)/outlet(s) (OP/DR) accessible or overgrown with vegetation?

Pond Structure Observations:

Is there grass along the sides of the pond cut between 4" and 9"?		Is there excess vegetation along the sides of the pond (not grass)?	
Are there signs of erosion along the side slopes, berms and/or emergency spillway?		Is there evidence of animal burrows around the sidewalls of the pond?	

Pond Vegetation Observations:

How much emergent vegetation is present in the pond bottom?		Vegetation Comments:	
Is emergent vegetation made up of native or invasive species?		Is there decomposing vegetation or organic matter decaying on the pond bottom?	

General Pond Observations:

Is the pond free of trash/other debris?		Types of trash/debris present:	

General Comments:

Arch Environmental Group
37720 Interchange Drive,
Farmington Hills MI 48370

Phone: (248) 426-0135
Fax: (248) 426-0136
www.archenvgroup.com

Pond Inpsection Table Description

ID #	Enter structure ID
Type	Select from the following options: Retention Pond, Detention Pond, Retention Basin, Detention Basin
Inspected	Select Yes or No. If unable to inspect the structure, please make a comment under "General Comments" as to why you could no inspect the structure
Approximate Age of the Pond	This can be found using the history function in Google Earth for the site. Remember, this is an approximate age determination. We are interested in this information because pond life spans are between 15 and 20 years
Number of Inlet(s) (OP)	Select the number of inlet pipe(s) from the drop down menu
Number of Outlet(s) (DR)	Select the number of outlet pipe(s) from the drop down menu
Number of Stabilized Outlet(s) (SO)	Select the number of stabilized outlet(s) from the drop down menu
issues with the inlet(s)/outlet(s) (OP/DR)?	Examples include detached pipes, missing riprap around the inlet(s), missing stone around DR, etc. Select one of the following options: None, Preventative, Moderate, Signficant, or Repaired. Preventative = beginning signs of deterioration Moderate = signs of deterioration present but does not hinder the function of the structure Significant = deterioration has hindered the function of the structure as it was designed
Structural Comments	Describe the structural issues observed
buildup at the inlet(s)/outlet(s) (OP/DR)?	Examples include pipes that are buried under sediment or sediment levels higher than the bottom of the inlet(s)/outle
/outlet(s) (OP/DR) below the water level?	This could be a sign that the MS4 is backed up causing water to back up into the pond. If you suspect that, please investigate if that is the case. If the MS4 is not backed up, this could be a sign that the pond is not functioning as designed
) accessible or overgrown with vegetation (native or invasive)?	Overgrown vegetation at the inlet(s)/outlet(s) can prevent water from freely flowing in/out of the structure
sides of the pond cut between 4" and 9"?	This is an ideal height range of grass around the pond to stabilize the sidewalls of the pond and to prevent erosion around the side walls of the pond
along the sidewalls of the pond (not grass)	Does the area look overgrown and unkept? Select from the following options: Yes or No
the side slopes, berms and/or emergency overflow?	Select from the following options: Yes or no
urrows around the sidewalls of the pond?	Select from the following options: Yes or No. Animal burrows can destabilize the sidewalls of the pond
vegetation is present in the pond bottom?	Select from the following options: 0%-25%, 25%-50%, or 50%-100%. Use your best judgement to determine this percentage. Ideally, the pond bottom should be made up of around 25% emergent vegetation Emergent Vegetation Definition: Aquatic plants that grow with their roots under water but their leaves and stems above the surface of the water
f native or invasive species (phragmites or purple loosestrife)?	See reference page in the Pond Inspection Reference page for photos of Phragmites and Purple Loosestrife to see if it is present.
Vegetation Comments	If there are invasive species present, please write which ones are present
nic matter decaying on the pond bottom?	Select from the following options: Yes, No, or Unknown. If you can tell, great, this could have impact on DO or could cause flow issues through the pond
Is the pond free of trash/other debris?	Select from the following options: Yes or No. This can include trash/inorganic debris or organic material (like grass clippings, leaves, etc.)
Types of trash/debris present	Select from the following options: Trash, Natural Debris (organic material) or N/A
General Comments	Please add any other comments that you feel are important to note about the pond condition

Stream Bank Inspection Table

			Stream Name:		
			Site :		
			Date:		
24 hours:			**Current Weather:**		
	NTU	Upstream Temprature:		Upstream pH:	
	NTU	Downstream Temprature:		Downstream pH:	

Streambank & Channel Characteristics

N/A	Depth of Run:		Stream Erodible Soils:	
N/A	Depth of Pool(s):		Bank Modifications:	
N/A	Width of Stream:		Condition of Bank:	
	Stream Velocity:		Bank Slope:	
	Vegitative Cover:			
	Shape of Channel:			

Additional Comments:

istics: **Stream Photos:**

environmental group

Phone: (248) 426-0135
Fax: (248) 426-0136
www.archenvgroup.com

Screening Inspection Log

Building:		**Client:**	
Inspectors:		**Date**	
		Inspection Type:	

Structure Information:

ID Number:		Structure Type		Lat:		Long:	
Discharge Point/Outfall:		Location:					
Outfall Dimensions							

Observations:

Standing Water Characteristics

Standing Water:	
Color:	
Odor:	
Suds:	
Staining:	
Oil Sheen:	
Sewage:	
Bacterial Sheen:	
Floatables:	
Slimes:	
Abnormal Growth:	

Flow Characteristics

Flow Observed:	
Source of Flow:	
Velocity of Flow:	
Color of Flow:	
Flow Odor	

Maintenance

Cleaning:	
Blockages	
Structural Issues	
Structural Trend	
Stenciling:	

Additional Comments:

Sample ID And Information

Sample Collected?	
Permit Cycle:	
Last Rain Event:	
Current Weather:	
Screening Location Type:	
Other Screening Activities Conducted:	
Outfall Characterization:	
Sample sent to Lab:	

Field Analysis:	Results:	Units:	Initials:
pH:		pH units	
Temperature:		Celsius	
Surfactants:		mg/L	
Ammonia:		mg/L	
Chlorine:		mg/L	
Turbidity:		NTU	
Conductivity:		uohm/cm	

Equipment Calibration:

Date: Cal. By:

Photo ID:

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Farmington Hills MI 48370

Phone: (248) 426-0135
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www.archenvgroup.com

TMDL Screening Inspection Log

Building:			**Client:**	
Inspectors:			**Date**	
			Inspection Type:	

Structure Information:

ID Number:		Structure Type		Lat:		Long:	
Type:		Location:					
Outfall Dimensions							

Observations:

Standing Water Characteristics

Standing Water:	
Color:	
Odor:	
Suds:	
Staining:	
Oil Sheen:	
Sewage:	
Bacterial Sheen:	
Algae:	
Slimes:	
Abnormal Growth:	

Flow Characteristics

Flow Observed:	
Source of Flow:	
Velocity of Flow:	
Color of Flow:	
Flow Odor	

Additional Comments:

Sample ID And Information		**Lab Analysis:**	**Results:**	**TMDL Threshold:**	**Units:**	**Photo ID:**
Sample ID:		pH:		6.5 - 9	pH units	
Time Collected:		Temperature:		N/A	Celsius	
Last Rain Event:		E. coli:		1000	CFU per 100mL	
Current Weather:		Total Phosphorus:		Watershed Dependent	ug/L	
Screening Location Type:		Total Suspended Solids:		Watershed Dependent	mg/L	
Total Rainfall (Inches):		Dissolved Oxygen:		Watershed Dependent	mg/L	
		Other:				
Outfall Characterization:						
Sample sent to Lab:						

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DMB-SESC_Eform

SOIL EROSION AND SEDIMENTATION CONTROL (SESC) INSPECTION REPORT

DEPARTMENT OF MANAGEMENT AND BUDGET
INFRASTRUCTURE SERVICES, DESIGN AND CONSTRUCTION DIVISION
Second Floor, Stevens T. Mason Building
P.O. Box 30026, Lansing, Michigan 48909

This report is required to document soil erosion and sedimentation control on State of Michigan projects. (Authority: Part 91, PA 451)

REPORT NUMBER	SESC PERMIT NUMBER	REPORT DATE		PERIOD (FROM WHEN - TO WHEN)
INDEX NUMBER(S)	AGENCY NUMBER	FILE NUMBER	CONTRACT NUMBER	DEPARTMENT/UNIVERSITY/COLLEGE
PROJECT NAME				
CONTRACTOR				
PROFESSIONAL				

A. REASON FOR INSPECTION: ☐ Regular Inspection ☐ Post-Rain Event Inspection (explain below)

☐ Weekly ☐ Daily

B. CURRENT WEATHER CONDITIONS:

☐ Sunny ☐ Cloudy ☐ Partly Cloudy ☐ Windy Temperature_____

Precipitation: ☐ Rain ☐ Snow ☐ Sleet ☐ Hail Other (explain) _____

C. DESCRIBE SEVERE WEATHER (if applicable):

D. DESCRIBE WEATHER CONDITIONS SINCE LAST INSPECTION (Date of Last Inspection _____):

E. ARE THE CONTROLS INSTALLED ACCORDING TO THE PLANS AND SPECIFICATIONS? ☐ Yes ☐ No (Describe):

F. ARE THE CONTROLS IN PLACE FUNCTIONING PROPERLY? ☐ Yes ☐ No (Describe):

G. ARE THE CONTROLS BEING PROPERLY MAINTAINED? ☐ Yes ☐ No (Describe):

H. INDICATE THE SESC CONTROLS IN PLACE ON SITE (According to the DMB SESC Keying System):

Best Management Practice	Present (check)	Number or Lin Ft of Controls	Best Management Practice	Present (check)	Number or Lin Ft of Controls
Erosion Controls:			**Erosion/Sediment Controls:**		
(E1) Selective Grading & Shaping	☐		(ES31) Check Dam	☐	
(E2) Grubbing Omitted	☐		(ES32) Stone Filter Berm	☐	
(E3) Slope Roughening & Scarification	☐		(ES33) Filter Rolls	☐	
(E4) Terraces	☐		(ES34) Sand Fence	☐	
(E5) Dust Control	☐		(ES35) Dewatering	☐	
(E6) Mulch	☐		(ES36) Diversion Dike/Berm	☐	
(E7) Temporary Seeding	☐		(ES37) Diversion Ditch	☐	
(E8) Permanent Seeding	☐		(ES38) Cofferdam/Sheet Pilings	☐	
(E9) Mulch Blankets	☐		(ES39) Streambank Biostabilization	☐	
(E10) Sodding	☐		(ES40) Polymers	☐	
(E11) Vegetated Channels	☐		(ES41) Wattles	☐	
(E12) Rip Rap	☐		**Sediment Controls:**		
(E13) Gabion Walls	☐		(S51) Silt Fence	☐	
(E14) Energy Dissipator	☐		(S52) Catch Basin Sediment Guard	☐	
(E15) Temporary Slope Drain	☐		(S53) Stabilized Construction Access	☐	
(E16) Slope Drain	☐		(S54) Tire Wash	☐	
(E17) Cellular Confinement Systems	☐		(S55) Sediment Basin	☐	
(E18) Plastic Sheets	☐		(S56) Sediment Trap	☐	
(E19) Temporary Drainageway/ Stream Crossing	☐		(S57) Vegetated Buffer/Filter Strip	☐	
(E20) Temporary Bypass Channel	☐		(S58) Inlet Protection Fabric Drop	☐	
(E21) Live Staking	☐		(S59) Inlet Protection Fabric Fence	☐	
OTHER	☐		(S60) Inlet Protection Stone	☐	

I. WHAT CORRECTIVE ACTIONS SHOULD BE TAKEN BY THE CONTRACTOR?

J. BY WHAT DATE MUST THESE ACTIONS BE IMPLEMENTED: _____

K. OBSERVATIONS / COMMENTS:

_____ _____

Signature of Inspector Date

cc:

Appendix "E"

Property Structural Controls Inventory, Inspection, & Maintenance Schedule

Creation Date: March 29, 2022

Bloomfield Hills Schools – Bloomfield Hills High School
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Bloomfield Hills High School 4200 Andover Road, Bloomfield Hills, MI 48302	Medium	Catch Basin/Manholes	94	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	1	Inspect Annually, Maintain as Needed
		Retention Basin	1	Inspect Annually, Maintain as Needed

Revision Date: March 29, 2022

Bloomfield Hills Schools – Bloomfield Hills Middle School North
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Bloomfield Hills Middle School North 3456 Lahser Road, Bloomfield Hills, MI 48302	Medium	Catch Basin/Manholes	36	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	5	Inspect Annually, Maintain as Needed
		Stormwater Conveyance Channel	1	Inspect Annually, Maintain as Needed

Revision Date: March 29, 2022

Bloomfield Hills Schools – Bloomfield Hills Middle School South-Conant Elementary School-Bloomin' Preschool Conant Complex

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Bloomfield Hills Middle School South-Conant Elementary School-Bloomin' Preschool Conant Complex 4200 W Quarton Rd, Bloomfield Hills, MI 48302 4100 W Quarton Rd, Bloomfield Hills, MI 48302	Medium	Catch Basin/Manholes	52	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	1	Inspect Annually, Maintain as Needed
		Detention Basin	1	Inspect Annually, Maintain as Needed
		Underground Detention System	1	Inspect Annually, Maintain as Needed

Revision Date: March 29, 2022

Bloomfield Hills Schools – Booth-Doyle Center
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Booth-Doyle Center 7273 Wing Lake Road, Bloomfield Hills, MI 48301	Low	Catch Basin/Manholes	3	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	1	Inspect Annually, Maintain as Needed
		Stream Bank	1	Inspect Annually, Maintain as Needed

Revision Date: March 29, 2022

Bloomfield Hills Schools – Bowers School Farm
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Bowers School Farm 1219 E. Square Lake Road, Bloomfield Hills, MI 48304	Low	Catch Basin/Manholes	5	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	1	Inspect Annually, Maintain as Needed
		Retention Basin	1	Inspect Annually, Maintain as Needed
		Stream Bank	1	Inspect Annually, Maintain as Needed

Revision Date: March 29, 2022

Bloomfield Hills Schools – Dublin Building (Physical Planet Services)
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Dublin Building (Physical Plant Services) 4174 Dublin Drive, Bloomfield Hills, Michigan 48302	High	Catch Basin/Manholes	9	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Hydrodynamic Separator	1	Inspect Annually, Maintain as Needed
		Flow Splitter	1	Inspect Annually, Maintain as Needed
		Underground Detention System	1	Inspect Annually, Maintain as Needed
		Stormwater Conveyance Channel	1	Inspect Annually, Maintain as Needed
		Drainage Receptor	1	Inspect Annually, Maintain as Needed

Revision Date: March 29, 2022

Bloomfield Hills Schools – East Hills Middle School
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
East Hills Middle School 2780 Kensington Rd., Bloomfield Hills, MI 48304 The Transportation Facility has a separate inventory. Please see the Transportation Facility Structural Control Inventory, Inspection, & Maintenance Schedule for reference.	Medium	Catch Basin/Manholes	24	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	1	Inspect Annually, Maintain as Needed
		Stormwater Conveyance Channel	1	Inspect Annually, Maintain as Needed
		Stream Bank	1	Inspect Annually, Maintain as Needed

Revision Date: March 29, 2022

Bloomfield Hills Schools – Eastover Elementary School
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Bloomfield Hills Schools – Eastover Elementary School 1101 Westview Road, Bloomfield Hills, MI 48304	Low	Catch Basin/Manholes	8	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	1	Inspect Annually, Maintain as Needed
		Retention Basin	1	Inspect Annually, Maintain as Needed

Revision Date: March 29, 2022

Bloomfield Hills Schools – Fox Hills Elementary School & Bloomin' Preschool Fox Hills Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Fox Hills Elementary School & Bloomin' Preschool Fox Hills 1661 Hunters Ridge, Bloomfield Hills, MI 48304	Low	Catch Basin/Manholes	4	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.

Revision Date: March 29, 2022

Bloomfield Hills Schools – International Academy (Okma Campus)
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
International Academy (Okma Campus) 1020 E. Square Lake Road, Bloomfield Hills, MI 48304	Low	N/A	N/A	N/A

Revision Date: March 29, 2022

Bloomfield Hills School – Johnson Nature Center
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Johnson Nature Center 3325 Franklin Road, Bloomfield Hills, MI 48302	Low	N/A	N/A	N/A

Revision Date: March 29, 2022

Bloomfield Hills Schools – Lone Pine Elementary School & Bloomin' Preschool Lone Pine Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Lone Pine Elementary School & Bloomin' Preschool Lone Pine 3100 Lone Pine Road, West Bloomfield, MI 48323	Low	Catch Basin/Manholes	11	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	4	Inspect Annually, Maintain as Needed
		Infiltration Basin	1	Inspect Annually, Maintain as Needed
		Detention Basin	1	Inspect Annually, Maintain as Needed
		Underground Detention System	2	Inspect Annually, Maintain as Needed
		Stabilized Outlet	1	Inspect Annually, Maintain as Needed

Revision Date: March 29, 2022

Bloomfield Hills Schools – Pine Lake School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Pine Lake School 3333 W. Long Lake Road, West Bloomfield, MI 48323	Low	N/A	N/A	N/A.

Revision Date: March 29, 2022

Bloomfield Hills Schools – Transportation Facility
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Transportation Facility 2780 Kensington Rd., Bloomfield Hills, MI 48304 Transportation Facility is included under the East Hills MS-Transportation Facility Complex but has been separated for this inventory.	High	Catch Basin/Manholes	1	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Trench Drain	2	Inspect Annually, Maintain as Needed
		UST	3	Inspect as part of the UST program.

Revision Date: March 29, 2022

Bloomfield Hills Schools – Warehouse (Franklin Building)
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Warehouse (Franklin Building) 2258 Franklin Road, Bloomfield Hills, MI 48302	High	Catch Basin/Manholes	1	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.

Revision Date: March 29, 2022

Bloomfield Hills Schools – Way Elementary School
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Way Elementary School 765 W. Long Lake Road, Bloomfield Hills, MI 48302	Low	Catch Basin/Manholes	4	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	1	Inspect Annually, Maintain as Needed

Revision Date: March 29, 2022

Bloomfield Hills – West Hills Middle School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
West Hills Middle School 2601 Lone Pine Road, West Bloomfield, MI 48323	Medium	Catch Basin/Manholes	7	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	7	Inspect Annually, Maintain as Needed
		Drainage Receptor	6	Inspect Annually, Maintain as Needed
		Stormwater Conveyance Channel	1	Inspect Annually, Maintain as Needed

Revision Date: March 29, 2022

Bloomfield Hills Schools – Wing Lake Development Center
Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Wing Lake Development Center 6490 Wing Lake Road, Bloomfield Hills, MI 48301	Low	Catch Basin/Manholes	2	Inspect Annually, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.

Revision Date: March 29, 2022

Appendix "F"

Contractor Oversight & Employee Training Documentation

Creation Date: March 29, 2022

IDEP/PPGH STORMWATER TRAINING RECORD

Client	Location	Date
Bloomfield Hills Schools Permit No. MI0060026		

Illicit Discharge Elimination Program (IDEP): Training on techniques for identifying illicit discharges and connections, Training on procedures for reporting, responding to, and eliminating an illicit discharge or connection and the proper enforcement response.
Pollution Prevention & Good Housekeeping: Training on BMPs that are important such as good housekeeping, spill response, materials storage and handling, landscape maintenance, street maintenance, fleet maintenance, and garages.

Employee Name	Employee Signature	Job Title/Department

Instructor Name	Instructor Signature

Arch Environmental Group, Inc.
248-426-0165

BLOOMFIELD HILLS SCHOOLS
STORMWATER CONTRACTOR OVERSIGHT RECORD

Bloomfield Hills Schools (BHS) shall implement the procedure requiring contractors hired by the BHS to perform municipal operation and maintenance activities that comply with the BHS pollution prevention and good housekeeping program and contractor oversight to ensure compliance with the BHS National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Storm Water Discharge Permit, Section A. Limitations and Monitoring Requirements, #7 Contractor Requirements and Oversight.

1. Identify the potential pollutant-generating activities and pollutants expected to be exposed to stormwater.
2. Describe the location where the potential pollutant-generating activities will occur.
3. Identify the person responsible for implementing the pollution prevention practice or practices for each pollutant-generating activity.

Please initial each line of the procedure.

_____ Prevent and respond to leaks, spills, and other releases;

_____ Prevent the discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities;

_____ Prevent the discharge of soaps, solvents, detergents, and wash water from construction materials, including the clean-up of stucco, paint, form release oils, and curing compounds. Collection and proper disposal in a manner to prevent contact with stormwater and prevent discharge of these pollutants.

_____ Minimize the discharge of pollutants from vehicle and equipment washing, wheel wash water and other types of washing (e.g., locating activities away from surface waters and stormwater inlets or conveyance and directing wash waters to sediment basins or traps, using filtration devices such as filter bags or sand filters or using similarly effective controls);

_____ Direct concrete wash water into a leak-proof container or leak-proof settling basin. The container or basin shall be designed so that no overflows can occur due to inadequate sizing or precipitation. Hardened concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wastes. Liquid concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wash waters and shall not be discharged to surface waters;

_____ Minimize the discharge of pollutants from storage, handling, and disposal of construction products, materials and wastes including (i) building products such as asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures; (ii) pesticides, herbicides, insecticides, fertilizers, and landscape materials; and (iii) construction and domestic wastes such as packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, Styrofoam, concrete, and other trash or building materials;

_____ Prevent the discharge of fuels, oils, and other petroleum products, hazardous or toxic wastes, and sanitary wastes.

_____ Report any other discharge from the potential pollutant-generating activities not addressed above to Bloomfield Hills Schools.

_____
Name of Business

_____ _____
Business Representative Date

Appendix "G"

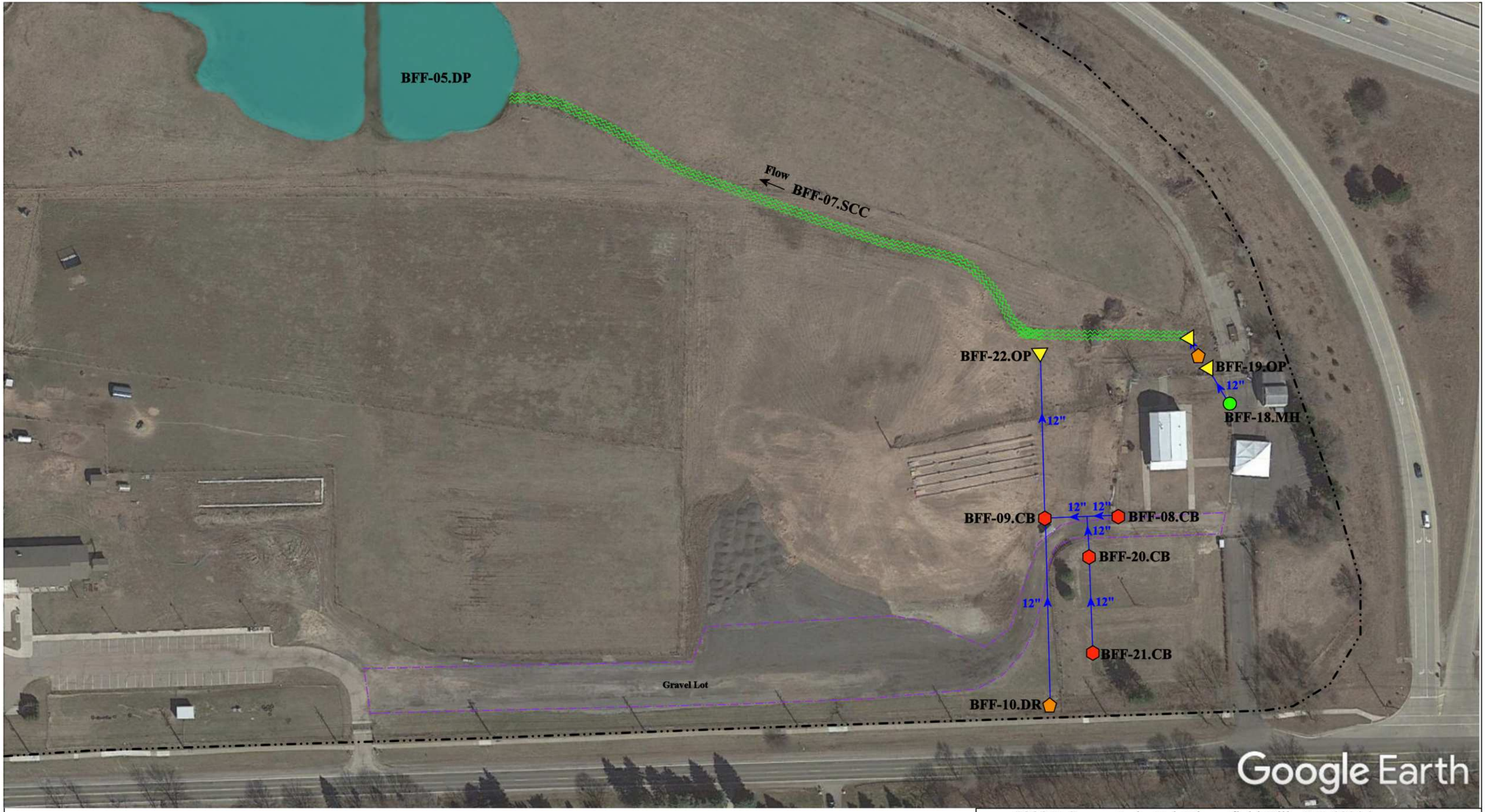
TMDL Sample Location Table

Creation Date: March 29, 2022

TMDL Sample Locations

Bloomfield Hills Schools					
Facility	**Point of Discharge**	**Receiving Waters**	**Watershed**	**Parameter**	**Coordinates**
Bloomfield Hills High School	Outfall 001 AHS	Quarton Lake	Rouge River	E. Coli & Biota	42.57928, -83.28472
Bloomfield Hills Middle School South-Conant Elementary School-Bloomin' Preschool Conant Complex	Outfall 001 BHMS	Quarton Lake	Rouge River	E. Coli & Biota	42.55881, -83.29036
East Hills Middle School-Transportation Facility Complex	Outfall 002 EHMS	Quarton Lake	Rouge River	E. Coli & Biota	42.59722, -83.24531
	Outfall 003 EHMS	Quarton Lake	Rouge River	E. Coli & Biota	42.59961, -83.24269
Lone Pine Elementary School & Bloomin' Preschool Lone Pine	Outfall 002 LPE	Franklin Branch	Rouge River	E. Coli & Biota	42.57428, -83.34183
Warehouse (Franklin Building)	Outfall 001 PPS	Quarton Lake	Rouge River	E. Coli & Biota	42.60594 -83.28858
West Hills Middle School	Outfall 002 WHMS	Franklin Branch	Rouge River	E. Coli & Biota	42.56486, -83.33300

Revised March 29, 2022



= Catch Basin
= Manhole
= Basin Drain
= Offsite MS4
= Sanitary
= Infiltration Basin
= Open Pipe Outlet
= Drainage Receptor
= Trench Drain
= Property Lines
= Buried Structure
= Stabilized Outlet
= Flow Splitter
= Hydrodynamic Separator
= Pond/Basin
= Swale/Stormwater Conveyance Channel
= Gravel Lot

North

1223 E Square Lake Rd, Bloomfield Hills, MI 48304

Bowers School Farm

Bloomfield Hills Schools

environmental group
37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305

Revision Date :	9/7/2022
Drawn by:	EDG
Reviewed:	LEK
Page #:	1 of 4
Scale:	Not to Scale



1223 E Square Lake Rd, Bloomfield Hills, MI 48304

= Catch Basin
= Manhole
= Basin Drain
= Offsite MS4
= Sanitary
= Infiltration Basin
= Open Pipe Outlet
= Drainage Receptor
= Trench Drain
= Property Lines
= Buried Structure
= Stabilized Outlet
= Flow Splitter
= Hydrodynamic Separator
= Pond/Basin
= Swale/Stormwater Conveyance Channel
= Underground Detention System

North

Bowers School Farm

Bloomfield Hills Schools

environmental group
37720 Interchange Drive
Farmington Hills, MI 48335
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= Catch Basin
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1223 E Square Lake Rd, Bloomfield Hills, MI 48304

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Bloomfield Hills Schools

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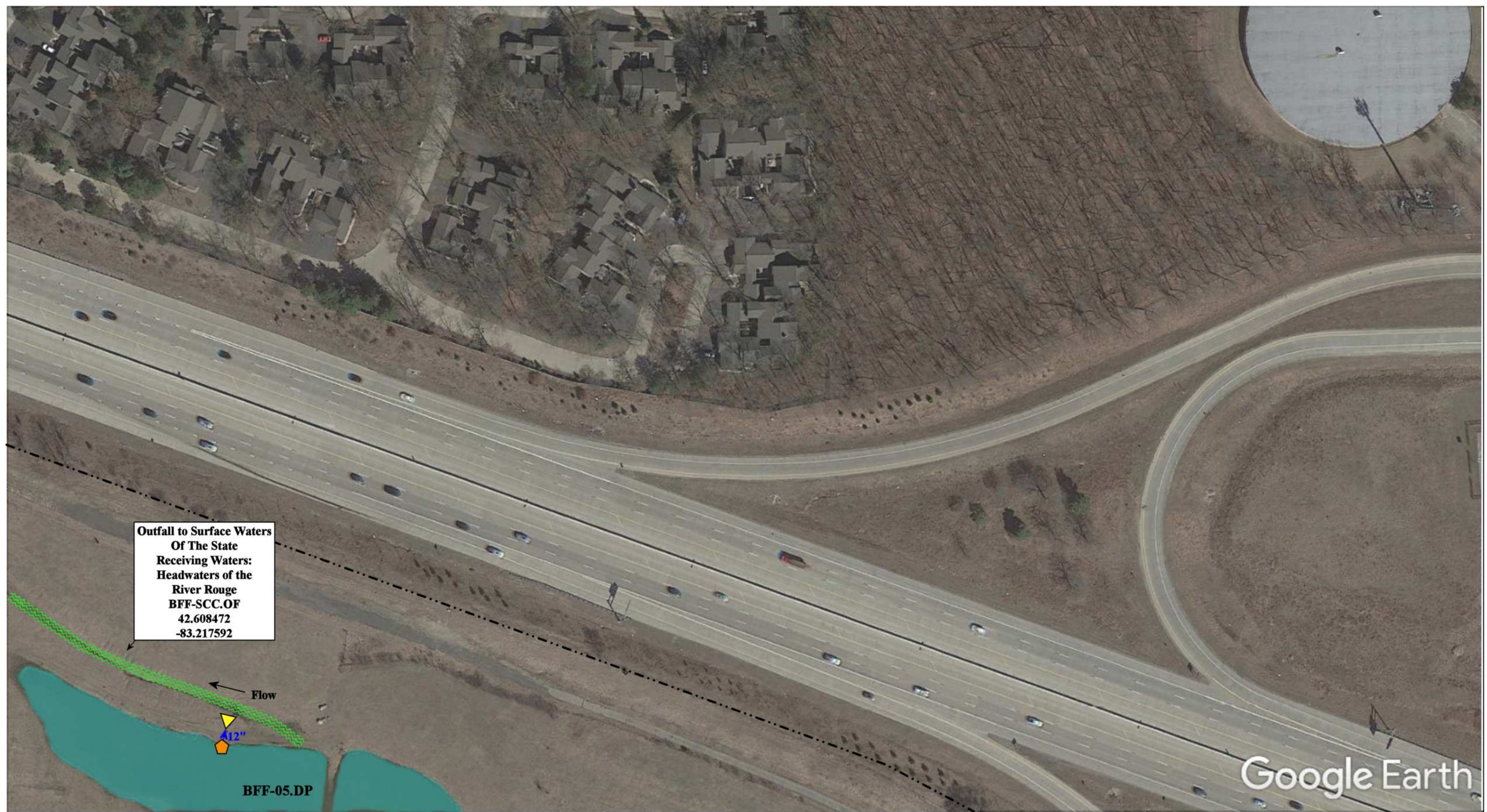

1223 E Square Lake Rd, Bloomfield Hills, MI 48304

= Catch Basin
= Manhole
= Basin Drain
= Offsite MS4
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North

Bowers School Farm

Bloomfield Hills Schools

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ASTI ENVIRONMENTAL

A DIVISION OF PEA GROUP

Limited Phase II Environmental Site Assessment

Bower's School Farm
1219 E. Square Lake Road, Bloomfield Hills,
Oakland County, Michigan 48304

Oakland County Parks & Recreation

October 28, 2026

Preserving what matters. Transforming what's next.

Limited Phase II Environmental Site Assessment

Bower's School Farm
1219 E. Square Lake Road
Bloomfield Hills, Oakland County, Michigan 48304

October 28, 2026

Prepared For:

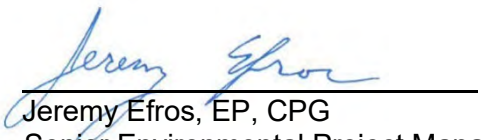
Oakland County Parks & Recreation
2800 Watkins Lake Road, Building 97W
Waterford, Michigan 48328

Report Prepared By:

ASTI Environmental
10448 Citation Drive, Suite 100
Brighton, Michigan 48116
(810) 225-2800

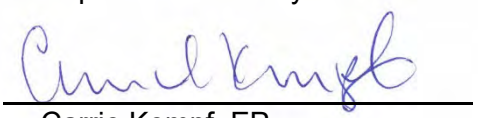
ASTI Project No. P26-0480.01

Report Prepared by:



Jeremy Efros, EP, CPG
Senior Environmental Project Manager
Due Diligence/Remediation Group

Report Reviewed by:



Carrie Kempf, EP
Department Manager
Due Diligence/Remediation Group

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

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1 Site Location Map
2 Sample Location Map

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2 Soil Sample Analytical Results

ATTACHMENTS
A Soil Boring Logs
B Laboratory Analytical Reports and Chain-of-Custody Documentation

1.0 INTRODUCTION

ASTI Environmental (ASTI) was retained by Oakland County Parks and Recreation (OCP&R) to conduct a Limited Phase II Environmental Site Assessment (ESA) for the property located at 1219 E. Square Lake Road, Bloomfield Hills, Oakland County, Michigan 48304 (Subject Property). The Subject Property encompasses 85.54 acres of land on three parcels with Parcel IDs C-19-01-376-006 (1219 E. Square Lake Road), C-19-01-451-002 (no address), and C-19-01-451-004 (1383 E. Square Lake Road). A Site Location Map is provided as Figure 1 – Site Location Map. This Limited Phase II ESA was prepared for the benefit of OCP&R and ASTI acknowledges that said party may rely upon the contents and conclusions presented in this report. ASTI understands that OCP&R became an operator of the Subject Property on July 1, 2026.

This Investigation was conducted in accordance with ASTI's proposal dated June 12, 2026.

2.0 PURPOSE AND PROPERTY HISTORY AND INFORMATION

Purpose

ASTI conducted a Phase I ESA of the Subject Property that was completed on June 4, 2026. The Phase I ESA was conducted in accordance with United States Environmental Protection Agency (US EPA) Standards and Practices for All Appropriate Inquiries (AAI, 40 CFR Part 312) and the American Society for Testing and Materials (ASTM) Practice E1527-21. The Phase I ESA results reported the following recognized environmental condition (REC) regarding the Subject Property:

REC: "It was reported that a diesel oil underground storage tank (UST) was recently discovered underneath the northern portion of a cottage at the Subject Property. The tank was located on the hill-facing façade behind a concrete retaining wall. A section of the retaining wall was removed to allow for tank removal. During site reconnaissance, ASTI observed posted signs prohibiting use of the cottage. A pungent oily odor was noted during inspection of the cottage. All that remains of the tank removal activity is a 55-gallon metal drum with impacted soil that was excavated after the discovery. No other information was given, but the former tank appears to have been an orphaned fuel oil tank. There is evidence of a release, which is a REC."

During the site reconnaissance for the Phase I ESA, a buried diesel UST was reported beneath the cottage building but had been removed. When ASTI conducted the Limited Phase II ESA sampling, a cement slab was in-place and intact at the location of the former tank. Therefore, the tank was most likely a heating oil above ground storage tank (AST) used to heat the cottage. The size of the AST was not reported. The purpose of this Limited Phase II ESA was to evaluate whether environmental contamination is present on the Subject Property from the above-listed REC.

Historical Uses of the Subject Property

According to the Phase I ESA, the Subject Property was used for agricultural and residential purposes from at least 1937 until the mid-1970s when it was repurposed as the current farm school. The farm school development continued into the 2010s. The eastern portion appears to have been used as a surface mine in the 1960s, which is around the time the adjoining highway was constructed.

Current Uses of the Subject Property

The Subject Property is currently used as a farm school.

Existing Infrastructure Features

The Subject Property is developed with eight buildings that include two commercial buildings, two farmhouses, three barns, and one cottage used for storage.

Potable water, sewerage, and storm sewers are available to the Subject Property through the City of Bloomfield Hills. Electrical and natural gas utilities are available to the area from DTE Energy.

3.0 SAMPLING LOCATIONS

On September 29, 2026, ASTI advanced three soil borings (SB-1, SB-2, and HA-1) at the Subject Property. The soil borings SB-1 and SB-2 were advanced to depths of 20 feet below ground surface (bgs) using a direct-push Geoprobe® drill rig. Soil boring HA-1 was advanced with a hand auger. The soil boring locations are depicted on Figure 2 – Sample Location Map.

Boring ID, boring location rationale, and boring depth were as follows:

Boring ID	Boring Location	Depth of Boring (bgs)
SB-1	On the central portion of the Subject Property, approximately 330 feet north of Square Lake Road and northwest of the cottage building that housed the AST within a basement enclosure.	20 feet
SB-2	On the central portion of the Subject Property, approximately 330 feet north of Square Lake Road and northwest of the cottage building that housed the AST within a basement enclosure.	20 feet
HA-1	Within the enclosure of the cottage where the AST was formerly located	3 feet

4.0 SAMPLE COLLECTION PROCEDURES

Using the drill rig, soil was extracted from the ground in pre-cleaned, 5-foot-long, acetate liners. For the boring advanced with a stainless-steel hand auger, soil was extracted from the ground in the auger bucket after the floor was cut with a concrete coring machine. Soil encountered during field activities was classified by ASTI's field personnel, examined for visual and/or olfactory evidence of impact, and screened for total volatile organic compounds (VOCs) using a photoionization detector (PID), with notes recorded in a field logbook. Prior to sampling, the PID was calibrated to manufacturer specifications using 100 parts per million (ppm) isobutylene calibration gas. All down-hole equipment was decontaminated using an Alconox® wash and clean water rinse prior to and between borings to minimize the risk of cross contamination of the samples.

One or two soil samples were collected from each soil boring. Each soil sample was collected into one 40-milliliter (ml) glass vial preserved with methanol and one unpreserved 4-ounce glass jar. ASTI collected one duplicate soil sample, DUP-1S, with parent sample SB-2 (9-10') for quality assurance/quality control (QA/QC) purposes. In addition, a methanol blank was retained with the samples during sampling and transport. The samples were placed on ice and submitted to Merit Laboratories, Inc. of Holt, Michigan (Merit), under standard chain-of-custody procedures. The soil samples were analyzed for a combination of the following: VOCs by US EPA Method 8260C and polynuclear aromatic hydrocarbons (PNAs) by US EPA Method 8270D.

Sample depth, sample depth rationale, and analysis are provided in the following table.

Boring	Sample Matrix	Sample Depth (feet bgs)	Rationale for Sample Depth	Analyses
HA-1	Soil	2-3	PID reading of 269.5 ppm and petroleum odor	VOCs and PNAs
SB-1	Soil	5-6	PID reading of 6.3 ppm and petroleum odor	VOCs and PNAs
		9-10	At a clayey sand/sandy clay interface and the anticipated depth beneath a UST	VOCs and PNAs
SB-2	Soil	9-10	At the interface where silty clay went from medium soft to stiff and the anticipated depth beneath a UST	VOCs and PNAs

5.0 PATHWAY EVALUATION

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Generic Residential Cleanup Criteria (GRCC), under Part 201 of the Natural Resources and Environmental Protection Act 451 of 1994 (NREPA), as amended (Part 201), were used for comparison to the soil analytical data. The specific GRCC were for the following exposure pathways, Drinking Water Protection (DWP), Groundwater Surface Water Interface Protection (GSIP), Direct Contact (DC), Finite Source Volatile Soil Inhalation (VSIC), Soil Volatilization to Indoor Air Inhalation (SVIAI), and Particulate Soil Inhalation (PSI).

Additionally, the soil results were compared to the residential volatilization to indoor air pathway screening levels (VIAP SLs) from EGLE's Guidance Document for the Vapor Intrusion Pathway dated February 2024.

6.0 SOIL AND GROUNDWATER CHARACTERISTICS

The following sections describe the encountered soil and groundwater conditions during the investigation.

Soil

The general subsurface lithology underlying concrete in HA-1, advanced beneath the building basement slab, was a silty sand exhibiting petroleum odors and VOC readings up to 269.5 ppm during screening with the PID. The silty sand extended to at least 3 feet bgs in that boring, which was where drilling refusal was encountered. However, no staining was observed in HA-1. In soil borings SB-1 and SB-2, underlying topsoil, a soil fill comprised of silty sand with trace brick was observed to 7.25 and 5.5 feet bgs, respectively. Petroleum odors were noted in this soil fill with the highest PID reading of 6.3 ppm in SB-1. No staining was observed in the soil fill. In SB-1 and SB-2, underlying the soil fill, a silty clay was present to 20 feet bgs except for occasional clayey sand or silty sand layers. Other than as noted above, no staining or odors were noted, and no VOCs were detected on the PID apart from SB-2 where the VOC readings extended 2 feet into the underlying stratum, but with a maximum reading of 1.8 ppm. For more detail on the encountered stratigraphy, refer to the boring logs included as Attachment A.

Groundwater

No groundwater was encountered in the soil borings advanced during this investigation.

7.0 ANALYTICAL RESULTS

Table 1 presents the laboratory analytical results for the soil samples in comparison to the EGLE Part 201 GRCC and the EGLE residential VIAP SLs.

PNAs

The laboratory reported 2-methylnaphthalene and phenanthrene in soil sample HA-1 (2-3') at concentrations exceeding the GRCC for GSIP and the residential VIAP SL. In addition, acenaphthene, fluorene, 1-methylnaphthalene, and pyrene were detected in this sample, but at concentrations less than the GRCC and VIAP SLs. No other PNAs were detected at or exceeding the laboratory reporting limits in the remaining soil samples.

VOCs

The laboratory reported 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene at concentrations exceeding the residential VIAP SLs in soil sample HA-1 (2-3'). Several other VOCs were detected in this sample, but at concentrations less than the GRCC and VIAP SLs. Acetone and xylenes were detected in SB-1 (5-6') at concentrations less than the

GRCC and VIAP SLs. No other VOCs were detected at or exceeding the laboratory reporting limits in the remaining soil samples.

QA/QC

The duplicate soil sample (DU-1S) results were within acceptable ranges of the parent sample (SB-2 [9-10']). In addition, no VOCs were reported at or exceeding laboratory reporting limits in the methanol blank sample.

The laboratory analytical reports and chain-of-custody documentation are provided in Attachment B.

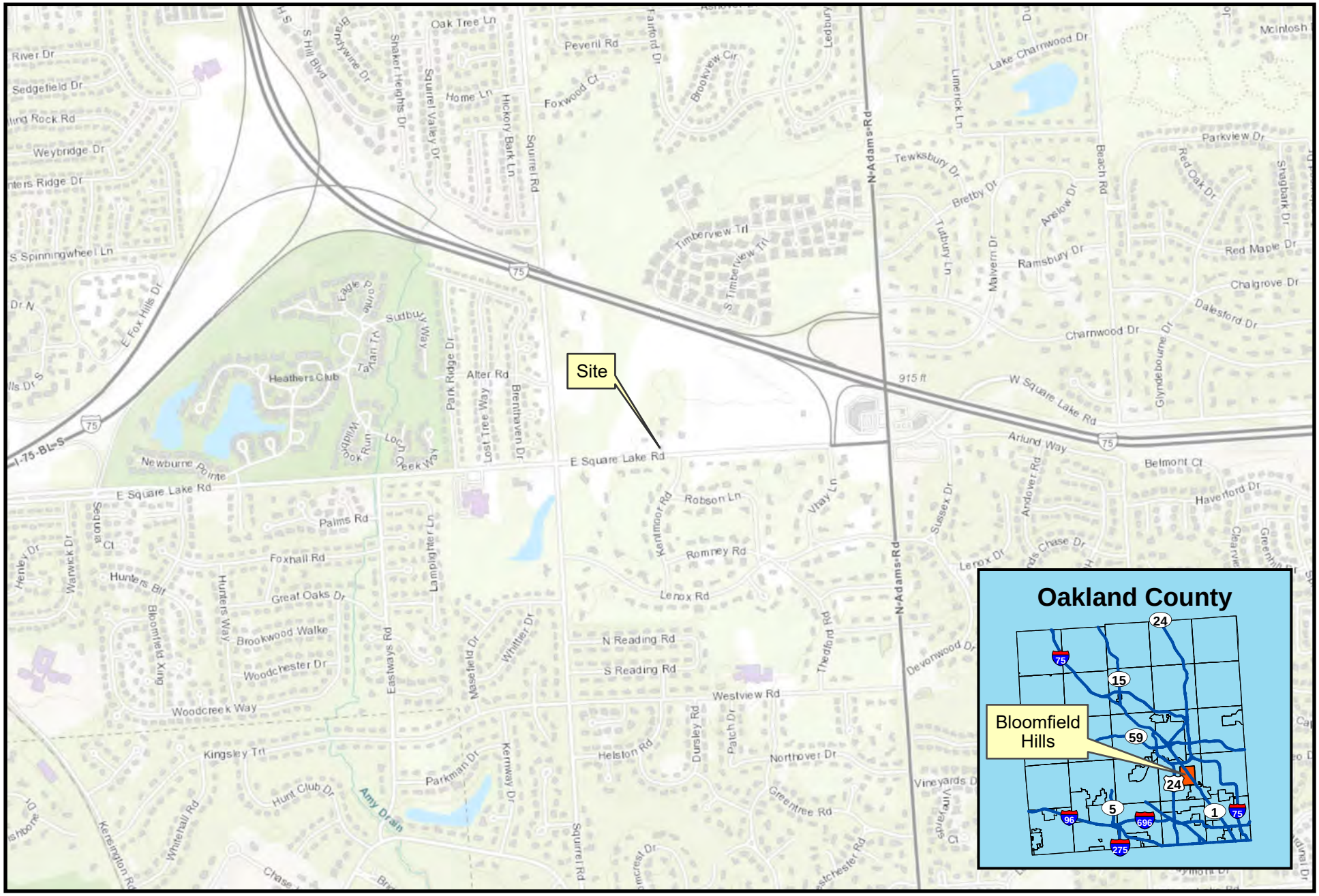
8.0 CONCLUSIONS

The laboratory analytical results for the samples collected at the Subject Property during this investigation indicate that 2-methylnaphthalene and phenanthrene are present in soil at concentrations exceeding the EGLE Part 201 GRCC for GSIP, therefore, the Subject Property qualifies as a "facility" under Part 201. Specifically, the parcel 19-01-376-006 with address 1219 E. Square Lake Road is the only "facility" parcel.

Because OCP&R became an operator of the Subject Property on July 1, 2026, a Baseline Environmental Assessment (BEA) will not secure liability protection for the pre-existing contamination. However, a Due Care Plan can be completed to assist OCP&R with EGLE Part 20107a due care obligations for the operator of a facility under Part 201. Depending on the use of the cottage building, additional sampling in the form of sub-slab soil gas sampling, or exterior soil gas wells may be installed and sampled to assess the vapor intrusion risk before preparation of the Due Care Plan.

FIGURES

1 Site Location Map
2 Sample Location Map



1219 E. Square Lake Road Bloomfield Hills, MI

2,000 1,000 0 2,000 Feet

N

ASTI ENVIRONMENTAL

Created for: Oakland County Parks and Recreation Created by: RMH, April 8, 2026, ASTI Project P26-0480.01

Figure 1 - Site Location Map



S:\PROJECTS\2026\26-0480 1219 E SQUARE LK RD BLOOMFIELD HILLS\26-0480.01 Lim PHII ESA\ENV\FIGURES\Figure 2 Samp Loc Map.dwg PLOT DATE:10/28/2026 BY:Emily Maretz

0 250 500 1000

SCALE: 1" = 500'
(paper size = 8.5x11)

LEGEND

- Approximate Property Boundary
- Approximate Parcel Lines
- Cottage Footprint
- Sample Location
- Former Tank Location

NORTH

ASTI ENVIRONMENTAL
A DIVISION OF PEA GROUP

1219 E. Square Lake Road

Bloomfield Hills, MI

Client: Oakland County Parks & Recreation

Figure 2 - Soil Boring Location Map

ASTI Project P26-0480.01, October 22, 2026

Drawn By: LAW

TABLES

1 Soil Sample Analytical Results

Table 1 - Soil Sample Analytical Results
1219 East Square Lake Road, Bloomfield Hills, Michigan
ASTI Project No. P26-0480.01

Parameters	Statewide Default Background Levels* µg/kg	Residential Drinking Water Protection Criteria* µg/kg	Groundwater Surface Water Interface Protection Criteria* µg/kg	Residential Soil Volatilization to Indoor Air Inhalation Criteria* µg/kg	Residential Finite Source Volatile Soil Inhalation for 5 Meter Source Thickness µg/kg	Residential Particulate Soil Inhalation Criteria* µg/kg	Residential Direct Contact Criteria* µg/kg	Residential Volatilization Indoor Air Pathway Screening Levels** µg/kg	**SB-1 (5-6')** 9/29/2026 µg/kg	**SB-1 (9-10')** 9/29/2026 µg/kg	**SB-2 (9-10')** 9/29/2026 µg/kg	**DUP-1S SB-2 (9-10')** 9/29/2026 µg/kg	**HA-1 (2-3')** 9/29/2026 µg/kg	**Methanol Blank** 9/29/2026 µg/kg
Polynuclear Aromatic Hydrocarbons (PNAs)														
Acenaphthene	NA	300,000	8,700	190,000,000	81,000,000	14,000,000,000	41,000,000	200,000	<300	<300	<300	<300	1,800	~
Acenaphthylene	NA	5,900	ID	1,600,000	2,200,000	2,300,000,000	1,600,000	DATA	<300	<300	<300	<300	<300	~
Anthracene	NA	41,000	ID	1,000,000,000 (D)	1,400,000,000	67,000,000,000	230,000,000	13,000,000	<300	<300	<300	<300	800	~
Benzo(a)anthracene	NA	NLL	NLL	NLV	NLV	ID	20,000	5.8 (MM)	<300	<300	<300	<300	<300	~
Benzo(a)pyrene	NA	NLL	NLL	NLV	NLV	1,500,000	2,000	NA	<300	<300	<300	<300	<300	~
Benzo(b)fluoranthene	NA	NLL	NLL	ID	ID	ID	20,000	NA	<300	<300	<300	<300	<300	~
Benzo(g,h,i)perylene	NA	NLL	NLL	NLV	NLV	800,000,000	2,500,000	NA	<300	<300	<300	<300	<300	~
Benzo(k)fluoranthene	NA	NLL	NLL	NLV	NLV	ID	200,000	NA	<300	<300	<300	<300	<300	~
Chrysene	NA	NLL	NLL	ID	ID	ID	2,000,000	NA	<300	<300	<300	<300	<300	~
Dibenzo(a,h)anthracene	NA	NLL	NLL	NLV	NLV	ID	2,000	NA	<300	<300	<300	<300	<300	~
Fluoranthene	NA	730,000	5,500	1,000,000,000 (D)	740,000,000	9,300,000,000	46,000,000	NA	<300	<300	<300	<300	<300	~
Fluorene	NA	390,000	5,300	580,000,000	130,000,000	9,300,000,000	27,000,000	4,900	<300	<300	<300	<300	1,600	~
Indeno(1,2,3-cd)pyrene	NA	NLL	NLL	NLV	NLV	ID	20,000	NA	<300	<300	<300	<300	<300	~
2-Methylnaphthalene	NA	57,000	**4,200**	2,700,000	1,500,000	670,000,000	8,100,000	**350**	<300	<300	<300	<300	**4,400**	~
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	<300	<300	<300	<300	7,400	~
Naphthalene	NA	35,000	730	250,000	300,000	200,000,000	16,000,000	67 (M)	<300	<300	<300	<300	<300	~
Phenanthrene	NA	56,000	**2,100**	2,800,000	160,000	6,700,000	1,600,000	**1,700**	<300	<300	<300	<300	**3,600**	~
Pyrene	NA	480,000	ID	1,000,000,000 (D)	650,000,000	6,700,000,000	29,000,000	25,000,000	<300	<300	<300	<300	500	~
Volatile Organic Compounds (VOCs)														
Acetone	NA	15,000	34,000	290,000,000 (C)	130,000,000	390,000,000,000	23,000,000	1,000,000	2,000	<1000	<1000	<1000	<1000	<1000
n-Butylbenzene	NA	1,600	ID	ID	ID	2,000,000,000	2,500,000	550	<60	<60	<50	<60	140	<50
sec-Butylbenzene	NA	1,600	ID	ID	ID	400,000,000	2,500,000	3,800	<60	<60	<50	<60	140	<50
p-Isopropyltoluene	NA	NA	NA	NA	NA	NA	NA	NA	<100	<100	<100	<100	200	<100
1,2,3-Trimethylbenzene	NA	NA	NA	NA	NA	NA	NA	**270 (JT)**	<60	<60	<50	<60	**430**	<50
1,2,4-Trimethylbenzene	NA	2,100	570	4,300,000 (C)	500,000,000	82,000,000,000	32,000,000 (C)	**150 (JT)**	<60	<60	<50	<60	**270**	<50
1,3,5-Trimethylbenzene	NA	1,800	1,100	2,600,000 (C)	380,000,000	82,000,000,000	32,000,000 (C)	**100 (JT)**	<60	<60	<50	<60	**290**	<50
m&p-Xylene	NA	5,600	980	6,300,000 (C)	61,000,000	290,000,000,000	410,000,000 (C)	280 (J)	300	<100	<100	<100	<100	<100
o-Xylene	NA	5,600	980	6,300,000 (C)	61,000,000	290,000,000,000	410,000,000 (C)	280 (J)	100	<60	<50	<60	110	<50
Xylenes	NA	5,600	980	6,300,000 (C)	61,000,000	290,000,000,000	410,000,000 (C)	280 (J)	400	<160	<150	<160	210	<150

µg/kg - micrograms per kilogram
*Generic Residential Cleanup Criteria (GRCC) per R299.46, October 12, 2023
**Per VI Guidance Document, updated September 2024
Bold and highlighted results exceed one or more GRCC and/or the VIAP SL
~ Parameter not tested for at this location.
CS - Compound specific.
<RL - Not detected. Below the laboratory reporting limit.
DATA- Insufficient physical chemical parameters to calculate a VIAP screening level for specified media. If detections arepresent in specified media, health-based soil vapor value should be used to evaluate risk.
J-Hazardous substance may be present in several isomer forms. Isomer-specific concentrations must be added togetherfor comparison to criteria.
JT- Hazardous substance may be present in several isomer forms.
M- The VIAP screening level may be below target detection limits (TDL).
MM- Hazardous substance is a carcinogen with a mutagenic mode of action.
ID - Inadequate data to develop criterion.
NA - Not available.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
C- The VIAP screening level exceeds the chemical-specific soil saturation screening level (Csat).
D - Calculated criterion exceeds 100%, hence it is reduced to 100% or 1.0e+9 ppb.

ATTACHMENTS

Attachment A

Soil Boring Logs

ASTI ENVIRONMENTAL

Boring ID: HA-1

Site Address:	1219 East Square Lake Road Bloomfield Hills, MI, 48304		**Size:**	N/A
Client:	Oakland County Parks and Rec	**Driller:**	Fibertec	**Type:**	N/A
Project Name:	Bowers School Farm	**Drilling Method:**	Hand Auger	**Screen Length:**	N/A
Project Number:	P26-0480.01	**ASTI Geologist:**	BTM	**Well Depth:**	N/A
Date Completed:	9/29/2026	**Total Depth:**	3 feet bgs	**Depth to GW:**	N/A

Depth (ft.)	Graphic Log	Lithologic Description	PID (ppm)	Sample Depth	% Recovery
0		CONCRETE			
		SILTY fine to very coarse SAND: trace gravel, petroleum odor, brown, moist, loose **(sandy loam)**	194.3		
1			241.7		100
2			269.5	Soil at 2-3'	
3		END OF BORING			

Comments:

Petroleum odor from 0-3 feet bgs. Boring terminated at 3 feet bgs due to refusal

ppm = parts per million MW = monitoring well bgs = below ground surface **( ) = USDA soil texture**

ASTI ENVIRONMENTAL

Boring ID: SB-1

Site Address:	1219 East Square Lake Road Bloomfield Hills, MI, 48304	**Size:**	N/A
Client:	Oakland County Parks and Rec	**Driller:**	Fibertec	**Type:**	N/A
Project Name:	Bowers School Farm	**Drilling Method:**	Direct Push	**Screen Length:**	N/A
Project Number:	P26-0480.01	**ASTI Geologist:**	BTM	**Well Depth:**	N/A
Date Completed:	9/29/2026	**Total Depth:**	20 feet bgs	**Depth to GW:**	N/A

Depth (ft.)	Graphic Log	Lithologic Description	PID (ppm)	Sample Depth	% Recovery
0–1		Topsoil: SILTY very fine to coarse SAND: trace gravel and organics, dark brown, moist, loose, fill **(sandy loam)**	0.1		90
1–7		SILTY fine to very coarse SAND: trace gravel, brick, and concrete, petroleum odor, brown, moist, medium dense, fill **(sandy loam)**	1.7 6.3	Soil at 5-6'	
7–9		CLAYEY fine to coarse SAND: trace gravel, brown, moist, medium dense **(sandy loam)**	0 0	Soil at 9-10'	90
9–12		SILTY CLAY: trace fine to coarse-grained sand, brown, medium stiff **(silty clay)** SILTY medium to coarse SAND: brown, moist, medium dense **(sandy loam)**	0		
12–17		SILTY CLAY: trace fine to coarse-grained sand, brown, medium stiff **(silty clay)**	0 0 0		90
17–18			0		75
18–20		SILTY medium to very coarse SAND: trace gravel, brown, moist, dense **(sandy loam)**	0		
20		END OF BORING			

Comments:

Petroleum odor from 0-7.25 feet bgs

ppm = parts per million MW = monitoring well bgs = below ground surface **( ) = USDA soil texture**

ASTI ENVIRONMENTAL

Boring ID: SB-2

Site Address:	1219 East Square Lake Road				
	Bloomfield Hills, MI, 48304		**Size:**	N/A	
Client:	Oakland County Parks and Rec	**Driller:**	Fibertec	**Type:**	N/A
Project Name:	Bowers School Farm	**Drilling Method:**	Direct Push	**Screen Length:**	N/A
Project Number:	P26-0480.01	**ASTI Geologist:**	BTM	**Well Depth:**	N/A
Date Completed:	9/29/2026	**Total Depth:**	20 feet bgs	**Depth to GW:**	N/A

Depth (ft.)	Graphic Log	Lithologic Description	PID (ppm)	Sample Depth	% Recovery
0–1		Topsoil: SILTY very fine to coarse SAND: trace gravel and organics, dark brown, moist, loose, fill **(sandy loam)**	0.4		100
1–5		SILTY fine to coarse SAND: trace clay, gravel, and brick, petroleum odor, brown, moist, medium dense, fill **(sandy loam)**	0.3 1.8		
5–7		SILTY fine to coarse SAND: trace clay and gravel, brown, moist, medium dense **(sandy loam)**	0.9		100
7–9		SILTY CLAY: trace fine to medium-grained sand and gravel, brown, medium soft **(silty clay)**	0	Soil at 9-10'	
9–20		SILTY CLAY: trace fine to medium-grained sand, brown, stiff **(silty clay)**	0		100
20		END OF BORING			

Comments:

Petroleum odor from 0.5-5.5 feet bgs

ppm = parts per million MW = monitoring well bgs = below ground surface **( ) = USDA soil texture**

Attachment B

Laboratory Analytical Reports and Chain-of-Custody Documentation

Analytical Laboratory Report

Revised Report

Report ID: S92512.01(02)
Generated on 10/08/2026
Replaces report S92512.01(01) generated on 10/08/2026

Report to

Attention: Jeremy Efros
ASTI Environmental
10448 Citation Drive, Suite 100
Brighton, MI 48116

Phone: 810-360-9310 FAX:
Email: jefros@asti-env.com

Addtional Contacts: Brad Buswell, Brady Metzger

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S92512.01-S92512.06
Project: P26-0480.01 1219 E. Square Lake Rd.
Collected Date(s): 09/29/2026
Submitted Date/Time: 09/30/2026 15:05
Sampled by: Brady Metzger
P.O. #:

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Maya Murshak
Technical Director

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General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Starred (*) analytes are not NY NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.
Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.
Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.
All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.
For a specific list of accredited analytes, please feel free to contact the laboratory or visit https://www.meritlabs.com/certifications.

Report Narrative

Samples SB-2 (9-10') and HA-1 (2-3') mislabeled in lab, the Merit ID numbers have been switched as seen on the COC to accurately reflect the samples analyzed.

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Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan EGLE	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
o	Associated EIS outside of control limits
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
q	Qualifier ion ratio outside of control limits
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched

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Method Summary

Method	Version
SM2540B	Standard Method 2540 B 2020
SW3546	SW 846 Method 3546 Revision 0 February 2007
SW5035A	SW 846 Method 5035A Revision 1 July 2002
SW5035A/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5035A Revision 1 July 2002
SW8270D	SW 846 Method 8270D Revision 4 February 2007

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Sample Summary (6 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S92512.01	SB-1 (5-6')	Soil	09/29/26 10:10
S92512.02	SB-1 (9-10')	Soil	09/29/26 10:20
S92512.03	SB-2 (9-10')	Soil	09/29/26 11:45
S92512.04	HA-1 (2-3')	Soil	09/29/26 11:00
S92512.05	DUP-1S	Soil	09/29/26 00:01
S92512.06	Methanol Blank	Methanol	09/29/26 00:01

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Lab Sample ID: S92512.01
Sample Tag: SB-1 (5-6')
Collected Date/Time: 09/29/2026 10:10
Matrix: Soil
COC Reference: 178569

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	3.5	IR
1	40mL Glass	None	Yes	3.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	10/01/26 15:30	JSW	
Sample wt. (g) / Methanol (ml)*	11.032/11	SW5035A	10/01/26 11:22	CEY	

Inorganics

Method: SM2540B, Run Date: 09/30/26 17:18, Analyst: JDW

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	94	1		%	1		

Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 10/02/26 20:17, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	
1-Methylnaphthalene	Not detected	300		ug/kg	10	90-12-0	

Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 06:20, Analyst: ASW

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	56.2	60-29-7	
Acetone	2,000	1,000		ug/kg	56.2	67-64-1	
Methyl iodide	Not detected	100		ug/kg	56.2	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	56.2	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	56.2	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	56.2	107-13-1	
2-Butanone (MEK)	Not detected	840		ug/kg	56.2	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	56.2	75-71-8	

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Lab Sample ID: S92512.01 (continued)
Sample Tag: SB-1 (5-6')

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 06:20, Analyst: ASW (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	300		ug/kg	56.2	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	56.2	75-01-4	
Bromomethane	Not detected	200		ug/kg	56.2	74-83-9	
Chloroethane	Not detected	300		ug/kg	56.2	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	56.2	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	56.2	75-35-4	
Methylene chloride	Not detected	100		ug/kg	56.2	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	56.2	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	56.2	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	56.2	156-59-2	
Tetrahydrofuran	Not detected	1,000		ug/kg	56.2	109-99-9	
Chloroform	Not detected	60		ug/kg	56.2	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	56.2	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	56.2	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	56.2	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	56.2	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	56.2	56-23-5	
Benzene	Not detected	60		ug/kg	56.2	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	56.2	107-06-2	
Trichloroethene	Not detected	60		ug/kg	56.2	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	56.2	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	56.2	75-27-4	
Dibromomethane	Not detected	300		ug/kg	56.2	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	56.2	10061-01-5	
Toluene	Not detected	60		ug/kg	56.2	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	56.2	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	56.2	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	56.2	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	56.2	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	56.2	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	56.2	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	56.2	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	56.2	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	56.2	100-41-4	
p,m-Xylene	300	100		ug/kg	56.2	179601-23-1	
o-Xylene	100	60		ug/kg	56.2	95-47-6	
Styrene	Not detected	60		ug/kg	56.2	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	56.2	98-82-8	
Bromoform	Not detected	100		ug/kg	56.2	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	56.2	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	56.2	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	56.2	103-65-1	
Bromobenzene	Not detected	100		ug/kg	56.2	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	56.2	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	56.2	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	56.2	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	56.2	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	56.2	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	56.2	541-73-1	

M-Result reported to MDL not RDL

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Lab Sample ID: S92512.01 (continued)

Sample Tag: SB-1 (5-6')

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 06:20, Analyst: ASW (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dichlorobenzene	Not detected	100		ug/kg	56.2	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	56.2	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	56.2	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	56.2	104-51-8	
Hexachloroethane	Not detected	300		ug/kg	56.2	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	56.2	96-12-8	
1,2,4-Trichlorobenzene	Not detected	370		ug/kg	56.2	120-82-1	
1,2,3-Trichlorobenzene	Not detected	370		ug/kg	56.2	87-61-6	
Naphthalene	Not detected	300		ug/kg	56.2	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	56.2	91-57-6	

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Lab Sample ID: S92512.02
Sample Tag: SB-1 (9-10')
Collected Date/Time: 09/29/2026 10:20
Matrix: Soil
COC Reference: 178569

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	3.5	IR
1	40mL Glass	None	Yes	3.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	10/01/26 15:30	JSW	
Sample wt. (g) / Methanol (ml)*	11.130/11	SW5035A	10/01/26 11:22	CEY	

Inorganics

Method: SM2540B, Run Date: 09/30/26 17:18, Analyst: JDW

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	92	1		%	1		

Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 10/02/26 20:36, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	
1-Methylnaphthalene	Not detected	300		ug/kg	10	90-12-0	

Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 06:44, Analyst: ASW

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	58.1	60-29-7	
Acetone	Not detected	1,000		ug/kg	58.1	67-64-1	
Methyl iodide	Not detected	100		ug/kg	58.1	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	58.1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	58.1	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	58.1	107-13-1	
2-Butanone (MEK)	Not detected	870		ug/kg	58.1	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	58.1	75-71-8	

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Lab Sample ID: S92512.02 (continued)
Sample Tag: SB-1 (9-10')

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 06:44, Analyst: ASW (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	300		ug/kg	58.1	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	58.1	75-01-4	
Bromomethane	Not detected	200		ug/kg	58.1	74-83-9	
Chloroethane	Not detected	300		ug/kg	58.1	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	58.1	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	58.1	75-35-4	
Methylene chloride	Not detected	100		ug/kg	58.1	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	58.1	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	58.1	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	58.1	156-59-2	
Tetrahydrofuran	Not detected	1,000		ug/kg	58.1	109-99-9	
Chloroform	Not detected	60		ug/kg	58.1	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	58.1	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	58.1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	58.1	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	58.1	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	58.1	56-23-5	
Benzene	Not detected	60		ug/kg	58.1	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	58.1	107-06-2	
Trichloroethene	Not detected	60		ug/kg	58.1	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	58.1	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	58.1	75-27-4	
Dibromomethane	Not detected	300		ug/kg	58.1	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	58.1	10061-01-5	
Toluene	Not detected	60		ug/kg	58.1	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	58.1	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	58.1	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	58.1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	58.1	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	58.1	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	58.1	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	58.1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	58.1	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	58.1	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	58.1	179601-23-1	
o-Xylene	Not detected	60		ug/kg	58.1	95-47-6	
Styrene	Not detected	60		ug/kg	58.1	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	58.1	98-82-8	
Bromoform	Not detected	100		ug/kg	58.1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	58.1	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	58.1	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	58.1	103-65-1	
Bromobenzene	Not detected	100		ug/kg	58.1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	58.1	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	58.1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	58.1	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	58.1	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	58.1	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	58.1	541-73-1	

M-Result reported to MDL not RDL

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Lab Sample ID: S92512.02 (continued)

Sample Tag: SB-1 (9-10')

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 06:44, Analyst: ASW (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dichlorobenzene	Not detected	100		ug/kg	58.1	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	58.1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	58.1	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	58.1	104-51-8	
Hexachloroethane	Not detected	300		ug/kg	58.1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	58.1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	380		ug/kg	58.1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	380		ug/kg	58.1	87-61-6	
Naphthalene	Not detected	300		ug/kg	58.1	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	58.1	91-57-6	

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Lab Sample ID: S92512.03
Sample Tag: SB-2 (9-10')
Collected Date/Time: 09/29/2026 11:45
Matrix: Soil
COC Reference: 178569

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	3.5	IR
1	40mL Glass	None	Yes	3.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	10/01/26 15:30	JSW	
Sample wt. (g) / Methanol (ml)*	10.915/10	SW5035A	10/01/26 11:22	CEY	

Inorganics

Method: SM2540B, Run Date: 09/30/26 17:18, Analyst: JDW

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	92	1		%	1		

Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 10/02/26 20:54, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	
1-Methylnaphthalene	Not detected	300		ug/kg	10	90-12-0	

Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 07:08, Analyst: ASW

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	54.1	60-29-7	
Acetone	Not detected	1,000		ug/kg	54.1	67-64-1	
Methyl iodide	Not detected	100		ug/kg	54.1	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	54.1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	54.1	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	54.1	107-13-1	
2-Butanone (MEK)	Not detected	810		ug/kg	54.1	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	54.1	75-71-8	

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Lab Sample ID: S92512.03 (continued)
Sample Tag: SB-2 (9-10')

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 07:08, Analyst: ASW (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	300		ug/kg	54.1	74-87-3	
Vinyl chloride	Not detected	50		ug/kg	54.1	75-01-4	
Bromomethane	Not detected	200		ug/kg	54.1	74-83-9	
Chloroethane	Not detected	300		ug/kg	54.1	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	54.1	75-69-4	
1,1-Dichloroethene	Not detected	50		ug/kg	54.1	75-35-4	
Methylene chloride	Not detected	100		ug/kg	54.1	75-09-2	
trans-1,2-Dichloroethene	Not detected	50		ug/kg	54.1	156-60-5	
1,1-Dichloroethane	Not detected	50		ug/kg	54.1	75-34-3	
cis-1,2-Dichloroethene	Not detected	50		ug/kg	54.1	156-59-2	
Tetrahydrofuran	Not detected	1,000		ug/kg	54.1	109-99-9	
Chloroform	Not detected	50		ug/kg	54.1	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	54.1	74-97-5	
1,1,1-Trichloroethane	Not detected	50		ug/kg	54.1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	54.1	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	54.1	591-78-6	
Carbon tetrachloride	Not detected	50		ug/kg	54.1	56-23-5	
Benzene	Not detected	50		ug/kg	54.1	71-43-2	
1,2-Dichloroethane	Not detected	50		ug/kg	54.1	107-06-2	
Trichloroethene	Not detected	50		ug/kg	54.1	79-01-6	
1,2-Dichloropropane	Not detected	50		ug/kg	54.1	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	54.1	75-27-4	
Dibromomethane	Not detected	300		ug/kg	54.1	74-95-3	
cis-1,3-Dichloropropene	Not detected	50		ug/kg	54.1	10061-01-5	
Toluene	Not detected	50		ug/kg	54.1	108-88-3	
trans-1,3-Dichloropropene	Not detected	50		ug/kg	54.1	10061-02-6	
1,1,2-Trichloroethane	Not detected	50		ug/kg	54.1	79-00-5	
Tetrachloroethene	Not detected	50		ug/kg	54.1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	50		ug/kg	54.1	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	54.1	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	54.1	106-93-4	M
Chlorobenzene	Not detected	50		ug/kg	54.1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	54.1	630-20-6	
Ethylbenzene	Not detected	50		ug/kg	54.1	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	54.1	179601-23-1	
o-Xylene	Not detected	50		ug/kg	54.1	95-47-6	
Styrene	Not detected	50		ug/kg	54.1	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	54.1	98-82-8	
Bromoform	Not detected	100		ug/kg	54.1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	50		ug/kg	54.1	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	54.1	96-18-4	
n-Propylbenzene	Not detected	50		ug/kg	54.1	103-65-1	
Bromobenzene	Not detected	100		ug/kg	54.1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	50		ug/kg	54.1	108-67-8	
tert-Butylbenzene	Not detected	50		ug/kg	54.1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	50		ug/kg	54.1	95-63-6	
sec-Butylbenzene	Not detected	50		ug/kg	54.1	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	54.1	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	54.1	541-73-1	

M-Result reported to MDL not RDL

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Lab Sample ID: S92512.03 (continued)

Sample Tag: SB-2 (9-10')

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 07:08, Analyst: ASW (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dichlorobenzene	Not detected	100		ug/kg	54.1	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	54.1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	50		ug/kg	54.1	526-73-8	
n-Butylbenzene	Not detected	50		ug/kg	54.1	104-51-8	
Hexachloroethane	Not detected	300		ug/kg	54.1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	54.1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	360		ug/kg	54.1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	360		ug/kg	54.1	87-61-6	
Naphthalene	Not detected	300		ug/kg	54.1	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	54.1	91-57-6	

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Lab Sample ID: S92512.04
Sample Tag: HA-1 (2-3')
Collected Date/Time: 09/29/2026 11:00
Matrix: Soil
COC Reference: 178569

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	3.5	IR
1	40mL Glass	None	Yes	3.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	10/01/26 15:30	JSW	
Sample wt. (g) / Methanol (ml)*	11.295/11	SW5035A	10/01/26 11:22	CEY	

Inorganics

Method: SM2540B, Run Date: 09/30/26 17:18, Analyst: JDW

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	95	1		%	1		

Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 10/02/26 21:13, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	1,800	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	800	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	1,600	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	3,600	300		ug/kg	10	85-01-8	
Pyrene	500	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	4,400	300		ug/kg	10	91-57-6	
1-Methylnaphthalene	7,400	300		ug/kg	10	90-12-0	

Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 07:32, Analyst: ASW

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	53.9	60-29-7	
Acetone	Not detected	1,000		ug/kg	53.9	67-64-1	
Methyl iodide	Not detected	100		ug/kg	53.9	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	53.9	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	53.9	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	53.9	107-13-1	
2-Butanone (MEK)	Not detected	810		ug/kg	53.9	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	53.9	75-71-8	

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Lab Sample ID: S92512.04 (continued)

Sample Tag: HA-1 (2-3')

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 07:32, Analyst: ASW (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	300		ug/kg	53.9	74-87-3	
Vinyl chloride	Not detected	50		ug/kg	53.9	75-01-4	
Bromomethane	Not detected	200		ug/kg	53.9	74-83-9	
Chloroethane	Not detected	300		ug/kg	53.9	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	53.9	75-69-4	
1,1-Dichloroethene	Not detected	50		ug/kg	53.9	75-35-4	
Methylene chloride	Not detected	100		ug/kg	53.9	75-09-2	
trans-1,2-Dichloroethene	Not detected	50		ug/kg	53.9	156-60-5	
1,1-Dichloroethane	Not detected	50		ug/kg	53.9	75-34-3	
cis-1,2-Dichloroethene	Not detected	50		ug/kg	53.9	156-59-2	
Tetrahydrofuran	Not detected	1,000		ug/kg	53.9	109-99-9	
Chloroform	Not detected	50		ug/kg	53.9	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	53.9	74-97-5	
1,1,1-Trichloroethane	Not detected	50		ug/kg	53.9	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	53.9	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	53.9	591-78-6	
Carbon tetrachloride	Not detected	50		ug/kg	53.9	56-23-5	
Benzene	Not detected	50		ug/kg	53.9	71-43-2	
1,2-Dichloroethane	Not detected	50		ug/kg	53.9	107-06-2	
Trichloroethene	Not detected	50		ug/kg	53.9	79-01-6	
1,2-Dichloropropane	Not detected	50		ug/kg	53.9	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	53.9	75-27-4	
Dibromomethane	Not detected	300		ug/kg	53.9	74-95-3	
cis-1,3-Dichloropropene	Not detected	50		ug/kg	53.9	10061-01-5	
Toluene	Not detected	50		ug/kg	53.9	108-88-3	
trans-1,3-Dichloropropene	Not detected	50		ug/kg	53.9	10061-02-6	
1,1,2-Trichloroethane	Not detected	50		ug/kg	53.9	79-00-5	
Tetrachloroethene	Not detected	50		ug/kg	53.9	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	50		ug/kg	53.9	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	53.9	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	53.9	106-93-4	M
Chlorobenzene	Not detected	50		ug/kg	53.9	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	53.9	630-20-6	
Ethylbenzene	Not detected	50		ug/kg	53.9	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	53.9	179601-23-1	
o-Xylene	110	50		ug/kg	53.9	95-47-6	
Styrene	Not detected	50		ug/kg	53.9	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	53.9	98-82-8	
Bromoform	Not detected	100		ug/kg	53.9	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	50		ug/kg	53.9	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	53.9	96-18-4	
n-Propylbenzene	Not detected	50		ug/kg	53.9	103-65-1	
Bromobenzene	Not detected	100		ug/kg	53.9	108-86-1	
1,3,5-Trimethylbenzene	290	50		ug/kg	53.9	108-67-8	
tert-Butylbenzene	Not detected	50		ug/kg	53.9	98-06-6	
1,2,4-Trimethylbenzene	270	50		ug/kg	53.9	95-63-6	
sec-Butylbenzene	140	50		ug/kg	53.9	135-98-8	
p-Isopropyltoluene	200	100		ug/kg	53.9	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	53.9	541-73-1	

M-Result reported to MDL not RDL

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Lab Sample ID: S92512.04 (continued)

Sample Tag: HA-1 (2-3')

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 07:32, Analyst: ASW (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dichlorobenzene	Not detected	100		ug/kg	53.9	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	53.9	95-50-1	
1,2,3-Trimethylbenzene	430	50		ug/kg	53.9	526-73-8	
n-Butylbenzene	140	50		ug/kg	53.9	104-51-8	
Hexachloroethane	Not detected	300		ug/kg	53.9	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	53.9	96-12-8	
1,2,4-Trichlorobenzene	Not detected	360		ug/kg	53.9	120-82-1	
1,2,3-Trichlorobenzene	Not detected	360		ug/kg	53.9	87-61-6	
Naphthalene	Not detected	300		ug/kg	53.9	91-20-3	
2-Methylnaphthalene	1,500	100		ug/kg	53.9	91-57-6	

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Lab Sample ID: S92512.05
Sample Tag: DUP-1S
Collected Date/Time: 09/29/2026 00:01
Matrix: Soil
COC Reference: 178569

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	3.5	IR
1	40mL Glass	None	Yes	3.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	10/01/26 15:30	JSW	
Sample wt. (g) / Methanol (ml)*	11.068/11	SW5035A	10/01/26 11:22	CEY	

Inorganics

Method: SM2540B, Run Date: 09/30/26 17:18, Analyst: JDW

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	92	1		%	1		

Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 10/02/26 21:31, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	
1-Methylnaphthalene	Not detected	300		ug/kg	10	90-12-0	

Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 17:35, Analyst: ASW

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	58.4	60-29-7	
Acetone	Not detected	1,000		ug/kg	58.4	67-64-1	
Methyl iodide	Not detected	100		ug/kg	58.4	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	58.4	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	58.4	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	58.4	107-13-1	
2-Butanone (MEK)	Not detected	880		ug/kg	58.4	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	58.4	75-71-8	

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Lab Sample ID: S92512.05 (continued)
Sample Tag: DUP-1S

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 17:35, Analyst: ASW (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	300		ug/kg	58.4	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	58.4	75-01-4	
Bromomethane	Not detected	200		ug/kg	58.4	74-83-9	
Chloroethane	Not detected	300		ug/kg	58.4	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	58.4	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	58.4	75-35-4	
Methylene chloride	Not detected	100		ug/kg	58.4	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	58.4	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	58.4	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	58.4	156-59-2	
Tetrahydrofuran	Not detected	1,000		ug/kg	58.4	109-99-9	
Chloroform	Not detected	60		ug/kg	58.4	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	58.4	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	58.4	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	58.4	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	58.4	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	58.4	56-23-5	
Benzene	Not detected	60		ug/kg	58.4	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	58.4	107-06-2	
Trichloroethene	Not detected	60		ug/kg	58.4	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	58.4	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	58.4	75-27-4	
Dibromomethane	Not detected	300		ug/kg	58.4	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	58.4	10061-01-5	
Toluene	Not detected	60		ug/kg	58.4	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	58.4	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	58.4	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	58.4	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	58.4	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	58.4	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	58.4	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	58.4	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	58.4	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	58.4	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	58.4	179601-23-1	
o-Xylene	Not detected	60		ug/kg	58.4	95-47-6	
Styrene	Not detected	60		ug/kg	58.4	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	58.4	98-82-8	
Bromoform	Not detected	100		ug/kg	58.4	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	58.4	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	58.4	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	58.4	103-65-1	
Bromobenzene	Not detected	100		ug/kg	58.4	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	58.4	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	58.4	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	58.4	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	58.4	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	58.4	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	58.4	541-73-1	

M-Result reported to MDL not RDL

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Lab Sample ID: S92512.05 (continued)

Sample Tag: DUP-1S

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 17:35, Analyst: ASW (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dichlorobenzene	Not detected	100		ug/kg	58.4	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	58.4	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	58.4	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	58.4	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	58.4	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	58.4	96-12-8	
1,2,4-Trichlorobenzene	Not detected	390		ug/kg	58.4	120-82-1	
1,2,3-Trichlorobenzene	Not detected	390		ug/kg	58.4	87-61-6	
Naphthalene	Not detected	300		ug/kg	58.4	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	58.4	91-57-6	

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Lab Sample ID: S92512.06
Sample Tag: Methanol Blank
Collected Date/Time: 09/29/2026 00:01
Matrix: Methanol
COC Reference: 178569

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40mL Glass	None	Yes	3.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.0/10	SW5035A	10/01/26 11:22	CEY	

Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 02:16, Analyst: ASW

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	50	60-29-7	
Acetone	Not detected	1,000		ug/kg	50	67-64-1	
Methyl iodide	Not detected	100		ug/kg	50	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	50	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	50	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	50	107-13-1	
2-Butanone (MEK)	Not detected	750		ug/kg	50	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	50	75-71-8	
Chloromethane	Not detected	300		ug/kg	50	74-87-3	
Vinyl chloride	Not detected	50		ug/kg	50	75-01-4	
Bromomethane	Not detected	200		ug/kg	50	74-83-9	
Chloroethane	Not detected	300		ug/kg	50	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	50	75-69-4	
1,1-Dichloroethene	Not detected	50		ug/kg	50	75-35-4	
Methylene chloride	Not detected	100		ug/kg	50	75-09-2	
trans-1,2-Dichloroethene	Not detected	50		ug/kg	50	156-60-5	
1,1-Dichloroethane	Not detected	50		ug/kg	50	75-34-3	
cis-1,2-Dichloroethene	Not detected	50		ug/kg	50	156-59-2	
Tetrahydrofuran	Not detected	1,000		ug/kg	50	109-99-9	
Chloroform	Not detected	50		ug/kg	50	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	50	74-97-5	
1,1,1-Trichloroethane	Not detected	50		ug/kg	50	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	50	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	50	591-78-6	
Carbon tetrachloride	Not detected	50		ug/kg	50	56-23-5	
Benzene	Not detected	50		ug/kg	50	71-43-2	
1,2-Dichloroethane	Not detected	50		ug/kg	50	107-06-2	
Trichloroethene	Not detected	50		ug/kg	50	79-01-6	
1,2-Dichloropropane	Not detected	50		ug/kg	50	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	50	75-27-4	
Dibromomethane	Not detected	300		ug/kg	50	74-95-3	
cis-1,3-Dichloropropene	Not detected	50		ug/kg	50	10061-01-5	
Toluene	Not detected	50		ug/kg	50	108-88-3	
trans-1,3-Dichloropropene	Not detected	50		ug/kg	50	10061-02-6	
1,1,2-Trichloroethane	Not detected	50		ug/kg	50	79-00-5	
Tetrachloroethene	Not detected	50		ug/kg	50	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	50		ug/kg	50	110-57-6	

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Lab Sample ID: S92512.06 (continued)

Sample Tag: Methanol Blank

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/07/26 02:16, Analyst: ASW (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	100		ug/kg	50	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	50	106-93-4	M
Chlorobenzene	Not detected	50		ug/kg	50	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	50	630-20-6	
Ethylbenzene	Not detected	50		ug/kg	50	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	50	179601-23-1	
o-Xylene	Not detected	50		ug/kg	50	95-47-6	
Styrene	Not detected	50		ug/kg	50	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	50	98-82-8	
Bromoform	Not detected	100		ug/kg	50	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	50		ug/kg	50	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	50	96-18-4	
n-Propylbenzene	Not detected	50		ug/kg	50	103-65-1	
Bromobenzene	Not detected	100		ug/kg	50	108-86-1	
1,3,5-Trimethylbenzene	Not detected	50		ug/kg	50	108-67-8	
tert-Butylbenzene	Not detected	50		ug/kg	50	98-06-6	
1,2,4-Trimethylbenzene	Not detected	50		ug/kg	50	95-63-6	
sec-Butylbenzene	Not detected	50		ug/kg	50	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	50	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	50	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	50	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	50	95-50-1	
1,2,3-Trimethylbenzene	Not detected	50		ug/kg	50	526-73-8	
n-Butylbenzene	Not detected	50		ug/kg	50	104-51-8	
Hexachloroethane	Not detected	300		ug/kg	50	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	50	96-12-8	
1,2,4-Trichlorobenzene	Not detected	330		ug/kg	50	120-82-1	
1,2,3-Trichlorobenzene	Not detected	330		ug/kg	50	87-61-6	
Naphthalene	Not detected	300		ug/kg	50	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	50	91-57-6	

M-Result reported to MDL not RDL

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Merit Laboratories Login Checklist

Lab Set ID: S92512
Client: ASTI (ASTI Environmental)
Project: P26-0480.01 1219 E. Square Lake Rd.
Submitted: 09/30/2026 15:05 Login User: GDP

Attention: Jeremy Efros
Address: ASTI Environmental
10448 Citation Drive, Suite 100
Brighton, MI 48116

Phone: 810-360-9310 FAX:
Email: jefros@asti-env.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 3.5
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Is the drop box locked	
06.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape present	
07.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape intact	
Chain of Custody					
08.	[ ] Yes	[X] No	[ ] N/A	COC adequately filled out	Missing collection dates
09.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
10.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
11.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
12.	[X] Yes	[ ] No	[ ] N/A	Do sample have correct chemical preservation	
13.	[ ] Yes	[ ] No	[X] N/A	Completed pH checks on preserved samples? (no VOAs)	
14.	[ ] Yes	[X] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
15.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
16.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
17.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
18.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
19.	[ ] Yes	[X] No	[ ] N/A	Samples require laboratory filtration	
20.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
21.	[ ] Yes	[ ] No	[X] N/A	Do water VOC, TOX, DO or Alkalinity bottles contain	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

178569

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Jeremy Efros / Brady Metzger
COMPANY: ASTI Environmental
ADDRESS: 10448 Citation Dr.
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810-599-5464 CELL NO.: P.O. NO.:
E-MAIL ADDRESS: jefros@asti-env.com bmetzger@asti-env.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: P26-0480.01 1219 E. Square Lake Rd.
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Brady Metzger

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: W=WATER GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR WS=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	COLLECTION DATE	COLLECTION TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	PNAs	Special Instructions
178569.01	9/29/26	1010	SB-1 (5-6')	S	2	1					1		X	X	
.02		1020	SB-1 (9-10')												
.04 .03		1100	HA-1 (2-3')												
.03 .04		1145	SB-~~3~~2 (9-10')												SB-2 (9-10') is correct Sample ID
.05		-	DUP-1S												
.06		-	Methanol Blank	L	1										

RELINQUISHED BY: SIGNATURE/ORGANIZATION: [signature] ☒ Sampler DATE: 9/29/26 TIME: 1330
RECEIVED BY: SIGNATURE/ORGANIZATION: ASTI Cold Storage DATE: 9/29/26 TIME: 1330
RELINQUISHED BY: SIGNATURE/ORGANIZATION: ASTI cold storage DATE: 9/30/26 TIME: 0730
RECEIVED BY: SIGNATURE/ORGANIZATION: [signature] DATE: 9/30/26 TIME: 0730

RELINQUISHED BY: SIGNATURE/ORGANIZATION: [signature] DATE: 9/30/26 TIME: 1505
RECEIVED BY: SIGNATURE/ORGANIZATION: [signature] DATE: 9/30/26 TIME: 1505

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

☐ ICE (SOLID) ☐ ICE (MELTED) ☐ BLUE ICE ☐ NONE TEMP. ON ARRIVAL: 3.5

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 02/25

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ASTI ENVIRONMENTAL

A DIVISION OF PEA GROUP

Our services include:

- Asbestos, Lead, Mold, and Radon Assessments
- Brownfield/Greyfield Redevelopment Assistance
- Development Incentives and Grant Management
- Ecological Assessments and Restoration
- Environmental Assessments and Impact Statements
- Environmental Opportunities Assessment
- GIS Mapping
- Hazard Mitigation Planning
- Mining and Reclamation Assistance
- Phase I ESA and Environmental Due Diligence Assessments
- Regulatory Compliance and Permitting
- Remediation Implementation, Operation, and Maintenance
- Soil and Groundwater Assessments
- Soil and Groundwater Remediation
- Storage Tank Compliance and Closure
- Stream Assessments and Mitigation Design
- Threatened and Endangered Species Surveys
- Tree Surveys
- Watershed and Stormwater Management Programs
- Wetland Delineation, Permitting, Mitigation, and Banking

For a full list of services, visit our website: www.asti-env.com

800.395.2784 ■ WWW.ASTI-ENV.COM ■ ENVIRONMENTAL@ASTI-ENV.COM

Charles Bowers School Farm

Short Summary of how it came to be

The present 85.3 acre Farm was acquired over more than 20 years in three (3) separate transactions - on from the Dowling piece in the E 1/2 of the SW 1/4 and two (2) from the Beardslee property in the SE 1/4.

First Acquisition – 1967

In January 1967 Sydney G Dowling (widow of Wm. E. Dowling) sold 47.9 acres to Wm. Pulte of Pulte Land Development Company. Mr. Pulte had been in the process of purchasing the land via a land contract from Mrs. Dowling with the intention of developing it into a residential subdivision. He determined that the cost per acre to develop the land was too high (over $5,000 per acre) and decides not to proceed with the development project. Pulte sold almost all of this property (46.877 acres) to the Bloomfield Hills School District. This property included the Barn and the various out building. The cost was not listed in the deed.

Second Acquisition – 1975

The BHSD expanded the Farm in 1975 through the acquisition of 7.04 acres of land immediately to the east of the Dowling parcel. This was composed of 300 feet of frontage on Square Lake Road and went back to a depth of about 1,000 feet. This was acquired from the Michigan State Highway Commission which had acquired it back in 1963 from the family of Floyd Beardslee. The MSHC used the land during the construction of I-75. The BHSD paid $80,000 for these 7.04 acres. It was on this parcel that the BHSD build the present Bowers Academy building.

Third Acquisition – 1981 – 1992

The 85.3 acre farm was completed with the acquisition of 33.48 acres from the Michigan Department of Transportation (MDOT) through a land contract entered into in February 1981 and complete with a deed from MDOT in July 1992. This land forms the east most portion of the Farm in the SE ¼ of Section 01. The cost to the BHSD was $243,900.

www.secrestwardle.com

DERK W. BECKERLEG
Direct: 248-539-2808
dbeckerleg@secrestwardle.com

Steve Gaynor, Superintendent
Bloomfield Hills School District
4175 Andover Road
Bloomfield Hills, MI 48302

RE: Land Lease Between Bloomfield Hills School District
and Preservation Bloomfield
Our File No. 5284 BLT

Dear Steve:

In reviewing my file, I was unable to find a signed copy of the Land Lease between the Bloomfield Hills School District and Preservation Bloomfield for the property on which the Log Cabin and the Barton House are currently located. It is possible that you may have already executed a copy of the Land Lease and I just never received a copy of the same.

Enclosed please find a copy of the Land Lease, which has already been signed by Pat Hardy on behalf of Preservation Bloomfield. If you have not already signed the Land Lease, it would be greatly appreciated if you could fill in the two blanks in Sections 1.01 and 1.02, sign the Land Lease and have your signature witnessed. Once you have signed the Land Lease, please forward the same to me and I will assemble a fully executed copy (in counterparts) and forward a it to both you and Pat.

I will note that the Land Lease refers to an Exhibit A to depict the land that is being leased by the School District to Preservation Bloomfield. It would be greatly appreciated if you could review the enclosed Exhibit A to ascertain whether the same accurately reflects the land being leased.

Thank you very much for your cooperation and courtesy.

Very truly yours,

Derk W. Beckerleg

DWB:jah
Enclosure
cc: Pat Hardy
1350147_1

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ARTICLE I GRANT AND TERM

Section 1.01 Leased Premises

In consideration of the mutual promises, covenants and agreements herein contained, the adequacy of which consideration is by both parties confessed and acknowledged, and in further consideration of the rents, covenants and agreements hereinafter reserved and contained on the part of the Tenant to be observed and performed, the Landlord leases to the Tenant, and the Tenant leases from the Landlord certain land located in the Charter Township of Bloomfield, Michigan, which land shall hereinafter be referred to as the "leased premises" and shall consist of those portions of the land depicted on attached **Exhibit A** upon which the Barton House and the Log Cabin are placed upon and areas immediately adjacent to the Barton House and Log Cabin necessary for appropriate landscaping, with the location of the Barton House and Log Cabin on such land to be designated by Landlord. The term "Barton House" as hereinafter used in this Lease, shall mean both the Barton House and the Log Cabin.

The leased premises shall consist of approximately _____ square feet of land located on the Bowers Farm Property in Bloomfield Township where it is contemplated the Barton House structure will be moved from its present location in the City of Bloomfield Hills to the leased premises and the Log Cabin will be moved from its present location in Bloomfield Township to the leased premises. During the term of this lease and thereafter the Barton House shall be the property of and owned by the Tenant or its successors, assigns or transferees. Upon termination of this Lease, the Tenant shall be responsible for the removal of the Barton House from the subject property and/or other disposition of the Barton House as may be agreed to between the Landlord and the Tenant.

Section 1.02 Length of Term

To have and to hold, together with appurtenances, for a term of ninety-nine (99) years, upon the terms and conditions as are herein set forth. Notwithstanding the foregoing, if Landlord determines to sell the leased premises and certain other property because of financial need to Bloomfield Township pursuant to a separate agreement between Landlord and Bloomfield Township, Landlord may terminate this Lease upon not less than _____ (__) prior written notice to Tenant.

Section 1.03 Moving of Barton House

Tenant agrees at Tenant's sole cost and expense to pay for the cost of moving the Barton

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premises are ready for use. In conjunction with the Tenant's use of the leased premises and the Barton House, the Landlord shall provide to the Tenant the access to and use of certain parking on the Landlord's property adjacent to the leased premises for the Landlord and Tenant, together with invitees of both the Tenant and the Landlord, with the amount of said parking not being less than that which currently exists on the Landlord's property. In the event that the aforementioned parking is not sufficient to provide adequate parking for the Tenant and the Tenant's invitees for its use of the Barton House and the leased premises, then the Tenant can request the Landlord's approval to allow the Tenant to construct, install and locate an additional hard surface parking lot in a location in the general proximity of the leased premises approved by Landlord and, provided the Landlord approves said additional hard surface parking lot, the Tenant may, at its own expense, construct and install the hard surface parking lot to be utilized by the Tenant and/or its invitees in conjunction with the Barton House and leased premises. The Landlord and/or its invitees shall have equal access to utilize any additional parking constructed and/or installed on the Landlord's property by the Tenant provided that there is no conflict with and/or impairment of Tenant and/or Tenant's invitees parking on said parking lot in connection with a planned event of the Tenant. The Tenant shall be responsible at its sole expense to pay for the cost of bringing all utilities to the leased premises and Barton House subject to the Landlord's prior approval of the plans and specifications of the same. In addition, the Tenant shall be responsible for site improvements including, but not limited to, grading, the installation of retaining walls, if necessary, parking, etc, provided Landlord approves such improvements. All construction and other work performed by Tenant pursuant to this Section 1.04 shall be performed (a) expeditiously, (b) in accordance with plans and specifications approved by Landlord and in compliance with all applicable laws, (c) in a good and workmanlike manner and using new materials of good quality, and (d) in a lien-free manner. Tenant shall restore any portion of Landlord's property damaged or disturbed in connection with the performance of any such construction or work to a condition at least as good as the condition that existed immediately prior to the performance of any such construction or work.

ARTICLE II RENT

Section 2.01 Minimum Rent

The fixed minimum annual rent during the terms of this lease shall be payable by Tenant on the first day of each year, in advance, at the office of the Landlord without any prior demand therefore. The Tenant shall pay to the Landlord the sum of One Dollar ($1.00) per year.

ARTICLE III USE OF PREMISES

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affecting the leased premises and the Barton House, and other improvements made by Tenant pursuant to this Lease, and the cleanliness, safety, occupation, condition and use of same. In effecting such compliance, Tenant may require the cooperation and consent of Landlord, which cooperation and consent shall not be unreasonably withheld.

Section 3.02 Care of Premises

A. Tenant shall not perform any acts or carry on any practices which may injure the leased premises and/or the Barton House and shall keep the premises under its control, including the sidewalks and landscaped areas adjacent to the premises, clean and free from rubbish and dirt at all times, and shall store all trash and garbage within the Leased premises and arrange for the regular pickup of such trash and garbage at Tenant's expense. Tenant shall not burn any trash or garbage of any kind in or about the Barton House. If Landlord shall provide any service or facilities for such pickup, then Tenant shall be obligated and shall pay the actual cost as determined by Landlord. Tenant may request a verification of any charge imposed upon Tenant pursuant to this Section.

B. Tenant shall maintain the windows in the Barton House in a neat and clean condition. Tenant shall not make any structural changes in the leased premises without the written consent of Landlord.

C. In the event that the Tenant constructs, installs and locates an additional hard surface parking lot on the Landlord's property, as referred to in Section 1.04 of this Land Lease, the Tenant shall keep said parking lot clean and free from rubbish and shall be responsible for the maintenance of said additional hard surface parking lot and all other improvements made by Tenant pursuant to this Lease (including repairs necessary to keep such improvements in good condition and repair and necessary replacements) and the Landlord shall be responsible for the snow removal from the sidewalks and the snow removal from said additional hard surface parking lot.

D. Tenant shall not erect or install any signs without the previous written consent of the Landlord.

ARTICLE IV UTILITY SERVICES

Section 4.01 Landlord's Obligation to Make Utility Services Available and Option to Supply Such Services.

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time to time covering such services. Separate meters shall be installed at Tenant's expense that measure Tenant's usage of such utilities. Landlord shall not be responsible to pay for any utility services.

ARTICLE V MAINTENANCE OF LEASED PREMISES

Section 5.01 Tenant's Obligations For Maintenance

The leased premises, Barton House and appurtenances and all other improvements made by Tenant pursuant to this Lease shall at all times be kept in good order, condition and repair by Tenant, and shall also be kept in a clean, sanitary and safe condition in accordance with the laws of the State of Michigan, and in accordance with all directions, rules and regulations of the health officer, fire marshal, building inspector or other proper officers of the governmental agencies having jurisdiction, at the sole cost and expense of Tenant, and Tenant shall comply with all requirements of law and ordinance. Tenant shall permit no waste, damage or injury to the leased premises, including the Barton House, and Tenant shall at its own cost and expense replace any glass windows, doors, door hardware and frames in the Barton House which may be broken. At the expiration of the tenancy created hereunder, Tenant shall surrender the leased premises in good condition, reasonable wear and tear, loss by fire or other unavoidable casualty excepted. The Landlord shall maintain and/or replace all parking lot poles and ensure that all parking lot lights are operable in the existing parking lots on the Landlord's property and the Tenant shall maintain and/or replace all parking lot poles and ensure that all parking lot lights are operable in any additional parking lots constructed and installed by the Tenant on the Landlord's property.

ARTICLE VI ACCESS RIGHTS

Section 6.01

Landlord shall provide unfettered access to the leased premises from Square Lake Road whereby Tenant and its invites shall have the right to enter the Landlord's property so as to access the leased premises.

ARTICLE VII INSURANCE AND INDEMNITY

Section 7.01 Covenant to Hold Harmless

Tenant shall defend and hold harmless Landlord from any liability for personal injury, injury to property and/or damages that Landlord may incur as a result of claims, demands, costs

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negligence. Tenant's obligations under this Section 7.01 shall survive the expiration or earlier termination of this Lease.

Section 7.02 Tenant's Obligation to Carry Public Liability Insurance

Tenant shall, during the entire term hereof, keep in full force and effect a policy of public liability insurance with respect to the demised premises and the business operated by Tenant in the demised premises, in which both Landlord and Tenant shall be named as parties covered thereby, or which provides equivalent protection to and is approved by Landlord, and in which the limits of liability shall be not less than One Million ($1,000,000.00) Dollars per person and Five Million ($5,000,000.00) Dollars for each accident or occurrence for bodily injury and One Million ($1,000,000.00) Dollars for property damages. Such insurance shall provide for coverage on an "occurrences" basis and at least thirty (30) days prior written notice to Landlord of the cancellation of coverage.

Tenant shall furnish Landlord with a certificate or certificates of insurance, or other acceptable evidence that such insurance is in force at all times during the term hereof.

Section 7.03 Insurance Costs

Tenant shall obtain fire and extended coverage insurance (including umbrella coverage) on the full replacement value of the Barton House with no deduction for depreciation and all improvements thereon in any Lease year or portion thereof following the commencement date. The insurance policy provided herein shall provide for thirty (30) day written notice to Landlord of an intent to cancel by the insurance company. The insurance required by this section shall be in an amount acceptable to Landlord and issued by an insurance company acceptable to Landlord within ten (10) days after receipt of written request for same from Landlord.

Tenant shall furnish Landlord with a certificate or certificates of insurance, or other acceptable evidence that such insurance is in force at all times during the term hereof.

ARTICLE VIII ASSIGNMENT AND SUBLETTING

Section 8.01

Tenant agrees not to assign or in any manner transfer this Lease or any estate of interest therein without the previous written consent of Landlord, and not to sublet said leased premises or any part or parts thereof without the previous written consent by Landlord.

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refund by Landlord of such rent as may have been paid in advance.

Section 9.02 Partial Condemnation

If all or any portion of the Leased premises including the Barton House, parking lot and landscaped areas shall be taken under eminent domain, the Tenant shall have the right to either rebuild that portion of the building taken or replace that portion of the landscaped area or parking lot taken and the Tenant under said circumstances shall be obligated to continue to be governed by the provisions of this Lease. Provided, however, that in the event that the Tenant shall not rebuild or replace that portion of the Barton House and/or leased premises which are taken then the Tenant shall have the right either to terminate this Lease and declare the same null and void, or, continue in the possession of the remainder of the Leased premises, and shall notify Landlord in writing prior to any such taking of Tenant's intention. In the event Tenant elects to remain in possession, all of the terms herein provided shall continue in effect.

ARTICLE X DESTRUCTION OR DAMAGE TO LEASED PREMISES AND/OR BARTON HOUSE

Section 10.01 Reconstruction of Damages to Premises

In case the leased premises and/or the Barton House shall be partially or totally destroyed by fire or other casualty insurable under full standard extended coverage insurance, as to become partially or totally untenantable, the same shall be repaired as speedily as possible at the expense of Tenant, unless Tenant shall elect not to rebuild as hereinafter provided, in which case the Tenant must terminate this Lease and declare the same null and void by notifying the Landlord in writing of the termination of the Lease.

ARTICLE XI DEFAULT

Section 11.01 Legal Expenses

In case suit shall be brought by Landlord for recovery of possession of the Leased premises, for the recovery of rent or any other amount due under the provisions of this Lease, or because of the breach of any other covenant herein contained on the part of Tenant to be kept or performed, and breach shall be established, Tenant shall pay to Landlord all expenses incurred therefor, including reasonable attorneys' fees. In case suit shall be brought by Tenant for the breach of any covenant herein contained on the part of the Landlord to be kept or performed and said breach shall be established, the Landlord shall pay to Tenant all expenses incurred therefor, including reasonable attorney fees.

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the Lease. In addition to the remedies provided in this section, the Landlord may pursue other legal and equitable remedies as provided for by law.

B. Notwithstanding anything contained herein to the contrary, if the Landlord should be in default in the performance of any of the terms or provisions of this Lease and if Tenant shall give to Landlord notice in writing of such default specifying the nature of the default and, if, Landlord shall fail to cure such default within forty-five (45) days, then the Tenant may forward to the Landlord written notice of termination of this Lease. In addition to the remedies provided for in this section, the Tenant may pursue other legal and equitable remedies as provided for by law.

ARTICLE XII TENANT'S PROPERTY

Section 12.01 Notice by Tenant

Tenant shall give immediate notice to Landlord in case of fire or accidents in the Leased premises or in the Barton House, or of defects therein or in any fixtures or equipment

ARTICLE XIII QUIET ENJOYMENT

Section 13.01 Landlord's Covenant

Upon payment by the Tenant of the rents herein provided, and upon the observance and performance of all the covenants, terms and conditions on Tenant's part to be observed and performed, Tenant shall peaceably and quietly hold and enjoy the Leased premises and the Barton House for the term hereby provided without hindrance or interruption by Landlord or any other person or persons lawfully or equitably claiming by, through or under the Landlord, subject, nevertheless, to the terms and conditions of this Lease.

ARTICLE XIV HOLDING OVER, SUCCESSORS

Section 14.01 Holding Over

Any holding over after the expiration of the term hereof, with the consent of the Landlord, shall be construed to be a tenancy from month to month at the rents herein specified (prorated on a **monthly** basis) and shall otherwise be on the terms and conditions herein specified, so far as applicable.

Section 14.02 Successors

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Section 15.01 Waiver

One or more waivers of any covenant or condition by Landlord shall not be construed as a waiver of a subsequent breach of the same covenant or condition, and the consent or approval by Landlord to or of any act of Tenant requiring Landlord's consent or approval shall not be deemed to waive or render unnecessary Landlord's consent or approval to or of any subsequent similar act by Tenant.

Section 15.02 Subordination

Tenant hereby grants the right to Landlord to, and Landlord hereby reserves the right to, subject and subordinate this Lease (at all times) to mortgage(s) or deed(s) of trust that may hereafter be placed upon the leased premises and to any and all advances to be made thereunder and to the interest thereon and all renewals, replacements and extensions thereof. Landlord may execute and deliver any instrument or instruments subordinating this Lease to any such mortgage or deed of trust without any further action or consent by Tenant, and Tenant hereby irrevocably appoints the Landlord the attorney-in-fact of the Tenant to execute and deliver any such instrument or instruments for and in the name of the Tenant.

Section 15.03 Notices

Whenever under this Lease a provision is made for notice of any kind, it shall be deemed sufficient notice and service thereof of such notice to Landlord if it is in writing, addressed to the Bloomfield Hills School District, 4175 Andover Rd, Bloomfield Hills, MI 48302 and sent by registered or certified mail with postage prepaid, and if such notice to Tenant is in writing, addressed to the last known post office address of Tenant and sent by registered or certified mail with postage prepaid. Notice need be sent to but one Tenant or Landlord where Tenant or Landlord is more than one person or entity.

Section 15.04 Construction

Nothing contained herein shall be deemed or construed by the parties hereto, nor by any third party, as creating the relationship of principal and agent or of partnership or of joint venture between the parties hereto, it being understood and agreed that neither the method of computation of rent, nor any other provision contained herein, nor any acts of the parties herein, shall be deemed to create any relationship between the parties hereto other than the relationship of Landlord and Tenant. Whenever herein the singular number is used, the same shall include the plural. In the event any language is deleted from this Lease, said language shall be deemed

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Section 15.06 Net Lease

It is the intent of the parties that the within Lease be a net Lease.

Section 15.08 Captions and Section Numbers

The captions, section numbers, article numbers and index appearing in this Lease are inserted only as a matter of convenience and in no way define, limit, construe or describe the scope or intent of such sections or articles of this Lease nor in any way affect this Lease.

Section 15.09 Partial Invalidity

If any term, covenant or condition of this Lease or the application thereof shall, to any extent, be invalid or unenforceable, the remainder of this Lease, or the application of such term, covenant or condition other than those to which it is held invalid or unenforceable, shall not be affected thereby and each term, covenant or condition of this Lease shall be valid and be enforced to the fullest extent permitted by law.

Section 15.10 No Option

The submission of this Lease for examination does not constitute a reservation of or option for the Leased premises and this Lease becomes effective as a Lease only upon execution and delivery thereof by Landlord and Tenant.

Section 15.11 Recording

Tenant shall not record this Lease without the written consent of Landlord. Tenant agrees to sign a short form Lease in recordable form at Landlord's request, which may be recorded.

Section 15.12 Set-Off Statement

Tenant agrees within ten (10) days after any request therefor by the Landlord to execute in recordable form and deliver to Landlord a statement, in writing, certifying (a) that this Lease is in full force and effect, (b) the date of commencement of the term of this Lease, (c) that rent is paid currently without set-off or defense thereof, (d) the amount of rent, if any, paid in advance, and (e) that there are no uncured defaults by Landlord or stating those claimed by Tenant.

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Section 15.14 Laws of the State of Michigan

This Lease shall be governed by and construed in accordance with the laws of the State of Michigan.

Section 15.15 Consent Not Unreasonably Withheld

Landlord agrees that whenever under this Lease provision is made of Tenant securing the written consent of the Landlord, such consent shall not be unreasonably withheld.

IN WITNESS WHEREOF, Landlord and Tenant have signed their names and affixed their seals on the day and year first above written.

WITNESSES:

Cheryl F. Zgilinski

DERK BECKERLEG

LANDLORD: BLOOMFIELD HILLS SCHOOL DISTRICT

BY: STEVEN A. GRAYNER

ITS: SUPT

TENANT: PRESERVATION BLOOMFIELD

BY:

ITS:

1073533_1

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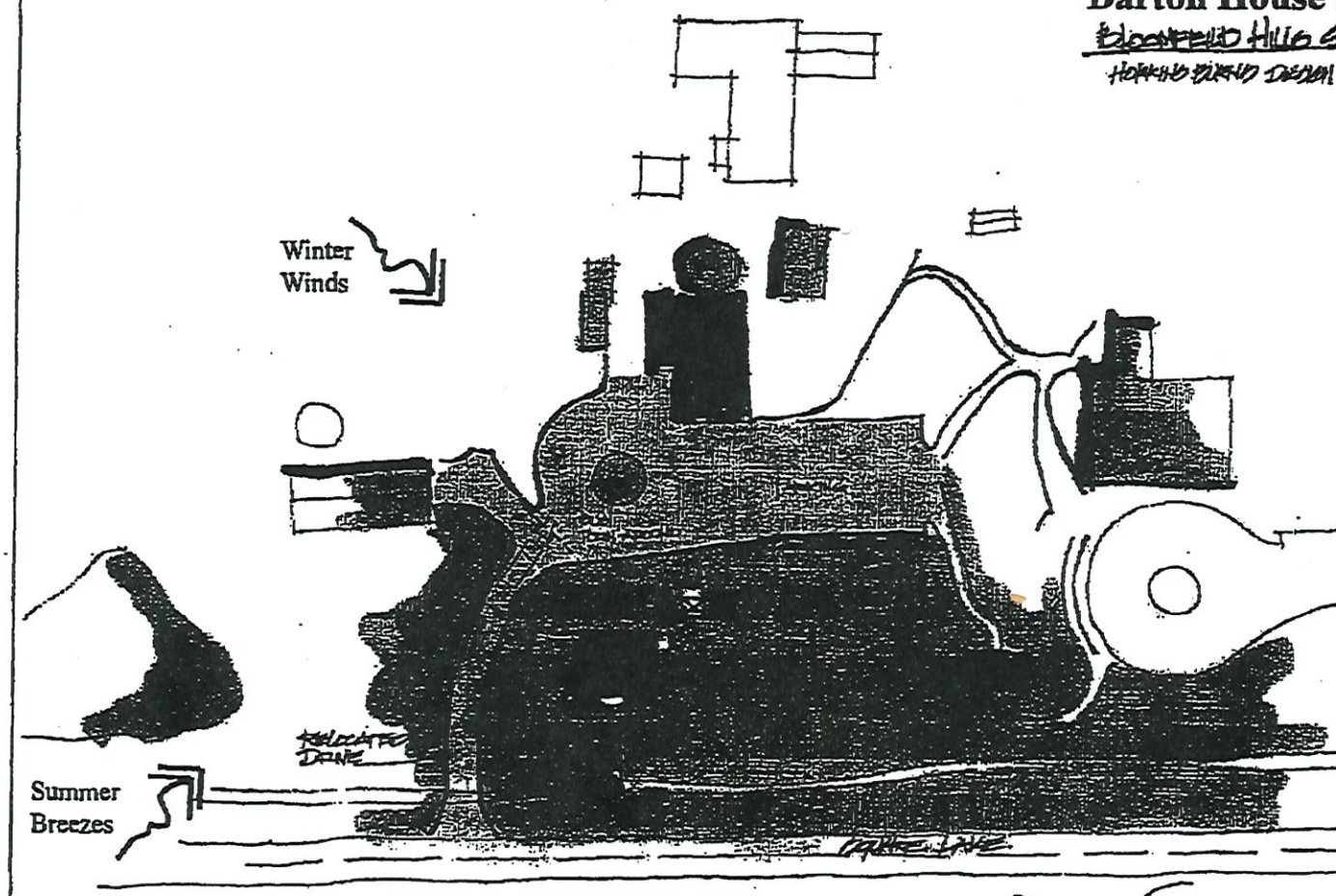
Barton House



Pros:

1. House location sim. to original Farmhouse.
2. Recreates farmyard connection between house, windmill and root cellar for educational opportunities.
3. Locates Log Cabin in natural setting of tree border and gardens.
4. Incorporates Bus turn around area at barn.

Cons:

1. Requires relocation of entrance drive to farm.
2. Potential utility locations (power & water).
3. Future sewer connection.

AGREEMENT

This Agreement made and entered into this _____ day of _____, 2010, by and between the CHARTER TOWNSHIP OF BLOOMFIELD (hereinafter referred to as "the Township"), whose address is 4200 Telegraph Road, P.O. Box 489, Bloomfield Hills, MI 48303-0489, and the BLOOMFIELD HILLS SCHOOL DISTRICT (hereinafter referred to as "the School District"), whose address is 4175 Andover Road, Bloomfield Hills, MI 48302.

RECITALS

A. The School District is the owner of an approximately 5.9 acre parcel of property having the legal description contained on Exhibit A, which is attached hereto and incorporated herein by reference, said property being hereinafter referred to as the "School District Property."

B. A portion of the School District Property is currently being leased by the School District to Preservation Bloomfield for the purpose of the location and operation of the Barton House and Log Cabin, said property being hereinafter referred to as the "Preservation Bloomfield Leased Property," subject to the terms and conditions of a certain Land Lease entered into between the School District and Preservation Bloomfield.

C. In the event that because of financial need and/or any other reason the School District decides to sell the School District Property, the parties hereto are desirous of entering into this Agreement to provide that subject to the terms and conditions contained herein, the School District will be obligated to sell the School District Property to the Township and the Township will be obligated to purchase the School District Property from the School District, and upon said purchase of the School District Property by the Township, the Township shall continue to lease the Preservation Bloomfield Leased Property to Preservation Bloomfield pursuant to the terms and

conditions contained in the existing Land Lease between Preservation Bloomfield and the School District.

D. The parties by entering into this Agreement desire to memorialize their agreement as it relates to the School District's possible sale of the School District Property to the Township.

NOW, THEREFORE, IT IS HEREBY AGREED by and between the parties hereto based upon good and valuable consideration, the receipt of which is acknowledged by both parties, as follows:

1. In the event that the School District decides to sell the School District Property, as legally described on Exhibit A, it shall be obligated to sell the School District Property to the Township and the Township shall be obligated to purchase the School District Property from the School District as provided herein. Upon the School District deciding to sell the School District Property, it shall send a written notice to the Township, which written notice shall indicate the sales price that the School District is seeking for the School District Property and, if the sales price is agreeable to the Township, the Township shall notify the School District of the same in writing and the parties shall, subject to the terms, conditions and provisions contained herein, within sixty (60) days from the date of the Township's written notice of acceptance of the sales price to the School District, close on the sale of the School District Property to the Township. In the event that the sales price that the School District is seeking for the sale of the School District Property is not agreeable to the Township, the Township shall notify the School District of the same in writing, and the Township and School District shall mutually select three independent appraisers who will appraise the School District Property, valuing said property as having a highest and best use as vacant single-family residential property and the median of the three independent appraisers' final conclusions of value shall be the sales price that the School District shall sell the School District Property to the

F-03 | original source page 2 | APP 1296

Township for with the closing on the sale of the School District Property to the Township to take place subject to the terms, conditions and provisions contained herein, within sixty (60) days from the date that the parties are advised in writing as to what the median of the three independent appraisers' final conclusions of value is.

2. On the date that the parties close on the sale of the School District Property, the School District shall convey to the Township by warranty deed fee simple title to the School District Property, subject only to the permitted encumbrances (as defined in Section 3 below), and the Township shall pay to the School District the sales price as established in this Agreement in the form of cash and/or certified check, said payment to be made in one lump sum. The closing of the sale of the School District Property shall take place at a mutually agreed upon location and, except as otherwise provided herein, the School District shall, at closing, deliver and the Township shall accept possession of the School District Property free and clear of the rights of all others and the School District Property shall be vacated at closing. At closing, each party agrees to execute and deliver such other documents called for by this Agreement and any additional documents as are reasonably requested by the other party in order to effectuate the purposes of this Agreement and the consummation of the transactions contemplated hereby.

3. As evidence of title of the School District Property, the School District agrees to furnish to the Township within thirty (30) days from the date that the sales price is established, a commitment for title insurance in an amount not less than the sales price and bearing a date later than the date that the sales price has been established, said title commitment to be from a title company agreeable to both parties, with said title commitment guaranteeing the title of the subject property required for performance of this Agreement. The cost of the title commitment and title insurance policy shall be split equally between the School District and the Township and the School

District and Township will each pay for one half (1/2) of the total cost of the title commitment and title insurance policy. If title can be conveyed as required by this Agreement and all other conditions of this Agreement are met, the Township agrees to complete the purchase of the School District Property when the conditions stated in Section 5 of this Agreement have been satisfied. If the Township objects to the title of the School District Property, the School District shall have twenty-eight (28) days from the date it is notified in writing of the particular defects claimed by the Township to either (1) remedy the title or (2) obtain title insurance as required above satisfactory to the Township. If the School District is unable to remedy the title or obtain title insurance within the time specified, the Township, in its sole discretion, shall have the right to terminate this Agreement unless the Township waives such objections. The exceptions to title shown on the title commitment that the Township does not object to are referred to as the "permitted encumbrances."

4. All taxes and assessments that have become a lien upon the School District Property, whether recorded or not recorded, as of the date of closing shall be paid for by the School District. Current taxes, if any, shall be prorated and adjusted as of the date of the closing in accordance with a due date basis of the municipality or taxing unit in which the School District Property is located. Interest, rents and water bills shall be prorated and adjusted as of the date of closing. The School District shall be responsible for and pay all transfer taxes with respect to the sale of the School District Property to the Township. The School District shall be responsible to pay all special assessments or liens against the property, or past due bills of any kind whatsoever associated with the property, including, but not limited to, water, sewer, natural gas, electricity, telephone, etc., prior to closing.

5. The Township shall have thirty (30) days "due diligence" from the date that the sales price for the School District Property is established to perform feasibility studies, examine the

property and obtain necessary approvals, as well as other required approvals and permits. The School District shall provide to the Township within fourteen (14) days from the date of commencement of the due diligence period all documents within the School District's possession related to the School District Property, including, but not limited to, topographical studies, boundary surveys, mortgage surveys, engineering studies and environmental studies. Within twenty-one (21) days from the date of commencement of the due diligence period, the School District shall provide a current ALTA or mortgage survey to the Township, certified to the Township if applicable. The cost of the current ALTA or mortgage survey to the Township shall be split equally between the parties and both the School District and the Township shall for one half (1/2) of the total cost of the current ALTA or mortgage survey to the Township.

6. At the closing, the School District shall execute an Affidavit attesting to the following:

(a) The property has been used by the School District in compliance with all environmental laws, and that the School District knows of no pollutants, contaminants, toxic waste, hazardous substances or other environmental hazards at, on or under the property.

(b) Other than the Lease between the School District and Preservation Bloomfield pertaining to the Preservation Bloomfield Leased Property, there are no other leases, agreements of sale, options, mortgages, encumbrances, or any other agreements or arrangements, oral or written, relating to, affecting or binding on the School District Property or any part thereof.

(c) The School District has not failed to disclose, in writing, to the Township any material fact or matter relating to the property.

7. In the event that the School District decides to sell the School District Property to the Township and the Township actually purchases and becomes the owner of the School District Property, the Township agrees to continue to lease to Preservation Bloomfield the Preservation

Bloomfield Leased Property subject to the same terms and conditions of the existing Lease between Preservation Bloomfield and the School District.

8. In the event that the School District decides to sell the School District Property to the Township and the Township actually purchases and becomes the owner of the School District Property, the School District shall have the option to notify the Township in writing at the same time it notifies the Township in writing that it is selling the School District Property, that the School District is exercising an option to have the Bowers Academy to remain located and in operation on the School District Property and, if said option is exercised by the School District, the parties agree to and shall execute a lease agreement allowing the Bowers Academy building to remain on the School District Property for a lease term of ninety-nine (99) years with rent of One Dollar ($1.00) per year, with the Bowers Academy to be limited to use only by the School District or its successor entity and to be used only for educational purposes. The School District's use of the Bowers Academy shall not interfere with or impair the Township's use of the remaining portion of the School District Property.

9. Within ninety (90) days from the date the parties close on the sale of the School District Property, the School District shall have the right to remove any of the School District's personal property located on the School District Property and, in the event said personal property is not removed by the School District within the ninety (90) day period, the Township shall at no cost become the owner of the personal property and shall have the right to use and/or dispose of said property in any way the Township desires.

10. The provisions of this Agreement and the covenants, promises, agreements, rights, responsibilities and obligations contained herein shall be binding upon and inure to the benefit of the parties and their successors and assigns.

11. This Agreement shall be construed under the laws of the State of Michigan.

12. This Agreement may be amended and/or modified only by the agreement of the parties in writing.

13. This invalidity or unenforceability of any part or provision of this Agreement shall not affect the validity or enforceability of any other part or provision.

IN WITNESS WHEREOF, the parties hereto have signed their names and affixed their seals on the day and year first above written.

BLOOMFIELD HILLS SCHOOL DISTRICT

_____

By:
Its:

CHARTER TOWNSHIP OF BLOOMFIELD

_____

By: David Payne
Its: Supervisor

1147710_3

BILL OF SALE AND TERMS OF DONATION

BLOOMFIELD HILLS OAKS, L.L.C., hereinafter referred to as the "Donor," whose address is 6850 Nineteen Mile Road, Sterling Heights, Michigan 48314, and PRESERVATION BLOOMFIELD, hereinafter referred to as the "Donee," whose address is P.O. Box 332, Bloomfield Hills, Michigan 48303, for and in consideration of their respective agreements as set forth herein in the amount of One Dollar ($1.00), agree to the following terms and conditions for Donee to remove a building known as the Barton House from Donor's real property located at 586 East Long Lake Road, Bloomfield Hills, Michigan, hereinafter referred to as "the premises," and for the automatic transfer and conveyance by Donor to Donee of all rights, title and interest in the Barton House upon Donee's commencement of the removal process as described below:

1. Donor, with the intention of severing, conveying and disposing of the Barton House separate from the premises that it is currently part of, effective July 14, 2008, hereby transfers and conveys to Donee all rights, title and interest in the Barton House. Donee and Donor agree and acknowledge that upon Donee commencing with the dismantling and moving of the Barton House from the premises, the Barton House will be personal property, considered as severed and detached from the premises with any possession and ownership rights, title and interest of the Barton House thereby being automatically transferred and conveyed to Donee, subject to Donee's obligations to remove the Barton House from the premises as described herein.

2. Donee has exercised its rights of inspection prior to entering into this agreement and will be accepting the transfer and conveyance of all of Donor's rights, title and interest in and to the Barton House "as is."

3. Upon the automatic transfer and conveyance to Donee of title and possession of the Barton House, risk of loss, destruction or damage of or to the Barton House is upon Donee, notwithstanding the location at which any such loss, destruction or damage may occur.

4. In the absence of a written extension by Donor, Donee must complete the removal of the Barton House from the premises no later than July 15, 2008.

5. Donor has made no verbal or written representations, promises, warranties or statements to Donee regarding the Barton House and its condition, including whether it complies with applicable laws, rules, regulations or standards, its suitability or adaptability to Donee's intended use or any other matter.

6. Donor grants to Donee and its contractors the right to enter in and upon the premises to perform the dismantling and moving of the Barton House. *In consideration for being granted permission to enter upon the Premises for the purpose of the removal of the Barton House, Donee and its contractors agree to defend, indemnify and hold harmless Donor from any and all claims, actions, suits, or damages by Donee or its agents, employees, volunteers, contractors, subcontractors, suppliers or third parties against Donor, its owners, agents, employees or designees arising out of or related in any way to these Terms of Donation, including, but not limited to, the entry upon the premises or removal of the Barton House by Donee or its agents, employees, volunteers, contractors, subcontractors, suppliers or third parties.*

7. Donee further agrees to provide proof of insurance for general liability and workmen's compensation insurance for itself and all contractors entering upon the premises. Such insurance shall name Donor as an additionally insured party and be of a stated minimum amount acceptable to Donor.

8. Donee further agrees that upon conclusion of its activities it shall remove its personal property ~~and restore, at its sole expense, the premises to its original condition~~, except that the Barton House itself shall be removed and not restored or replaced.

9. Donee further agrees to obtain from any and all contractors entering upon the Premises, the contractor's written acknowledgement that its agrees to these Terms of Donation.

10. This Bill of Sale and Terms of Donation shall be governed by and construed in accordance with the laws of the State of Michigan.

In witness whereof, the parties have signed their names and affixed their seals on this 14th day of July, 2008.

DONOR:

BLOOMFIELD HILLS OAKS, L.L.C.

By: Steve Mancini
Its:

By: Edward Mancini
Its:

STATE OF MICHIGAN)
) ss
COUNTY OF OAKLAND)

The foregoing Bill of Sale and Terms of Donation was acknowledged before me this 14th day of July, 2008, ~~by Steve Mancini, as~~ ~~_____~~ Emp, and ~~by~~ Edward Mancini, as Mng Member, on behalf of Bloomfield Hills Oaks, L.L.C.

Richard Joseph Matott
Notary Public
Oakland County, Michigan
Acting in Oakland County, Michigan
My Commission Expires:

RICHARD JOSEPH MATOTT
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF OAKLAND
My Commission Expires March 27, 2012

DONEE:

PRESERVATION BLOOMFIELD

Patricia Hardy
By: Patricia Hardy
Its: Chairperson

STATE OF MICHIGAN)
) ss
COUNTY OF OAKLAND)

The foregoing Bill of Sale and Terms of Donation was acknowledged before me this 14th day of July, 2008, by Patricia Hardy, as Chairperson, on behalf of Preservation Bloomfield.

Richard Joseph Matott
Notary Public
Oakland County, Michigan
Acting in Oakland County, Michigan
My Commission Expires: _____

Drafted by and when recorded return to:
Derk W. Beckerleg, Esq.
30903 Northwestern Highway
Farmington Hills, MI 48334

RICHARD JOSEPH MATOTT
NOTARY PUBLIC – STATE OF MICHIGAN
COUNTY OF OAKLAND
My Commission Expires March 27, 2012

1087021_1

F-04 | original source page 3 | APP 1304

LIBER 4981 PAGE 104 547

Form 563 2-64

Lawyers Title Insurance Corporation

WARRANTY DEED—CORPORATION—Statutory Form
Act 187 P. A. 1881 — M.S.A. 26.571

KNOW ALL MEN BY THESE PRESENTS: That PULTE LAND COMPANY, a Michigan Corporation whose address is P.O. Box 266, Birmingham, Michigan

Conveys and Warrants to BLOOMFIELD HILLS SCHOOL DISTRICT, a public school District of the State of Michigan

whose Street Number and Post Office address is 4175 Andover Road, Bloomfield Hills, Michigan

the following described premises situated in the Township of Bloomfield County of Oakland and State of Michigan, to-wit: Part of the east 1/2 of the S.W. 1/4 section 1, T. 2N., R. 10 E., Bloomfield Township, Oakland County, Michigan described as: Beginning at the south 1/4 corner of section 1 thence N. 88°57'20" W. 1335.52 ft. along the south line of section 1: thence N. 0°40'40" E. 1405.57 ft. along the centerline of Squirrel Road: thence N. 89°14'40" E. 300.09 ft.; thence N. 0°40'40" E. 119.00 ft.; thence S. 89°19'20" E. 338.29 ft.; thence N. 0°10' W. 199.04 ft. to a point on the south line of I 75; thence S. 67°17'40" E. 735.66 ft. along the south line of I 75; thence S. 0°01' E. 1463.65 ft. along the north-south 1/4 line of Section 1 to the point of beginning. Containing 46.877 acres.

together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining,

for the sum of ---------- One Dollar(s)

and other valuable considerations;

subject to Easements of Record and Existing Zoning Laws.

Dated this 3rd day of January A. D. 19 67

Signed, Sealed and Delivered in Presence of:

Dorothy Evans

Dorothy Walker

PULTE LAND COMPANY

William J. Pulte (L.S.)

William J. Pulte

President

(L.S.)

UNITED STATES INTERNAL REVENUE DOCUMENTARY JAN-4'67 PD METER 10254 $434.50

In the STATE OF MICHIGAN, COUNTY OF Oakland ss.

On this 3rd day of January A. D. 19 67 before me personally appeared William J. Pulte

to me personally known, who being by me sworn, did (1) himself say that (2) he is the President of PULTE LAND COMPANY

the corporation named in and which executed the within instrument, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and said William J. Pulte acknowledged said instrument to be the free act and deed of said corporation.

My commission expires February 24 A. D. 19 68

Dorothy L. Walker

Dorothy L. Walker

Notary Public Oakland County, Michigan

Note: If more than one officer acknowledges insert at (1) "each for himself," and (2) "they are respectively"

Business Address P.O. Box 266 Birmingham, Michigan

Instrument Drafted by Robert M. Mock

County Treasurer's Certificate

OAKLAND COUNTY TREASURER'S CERTIFICATE
No. 504 Pontiac, Michigan January 4, 1967
I HEREBY CERTIFY that there are no TAX LIENS or TITLES held by the State or any individual against the within description, and all TAXES on same are paid for five years previous to the date of this instrument, as appears by the records in this office except as stated. James E. Nesbitt
Deputy for Treasurer, County Treasurer
Sec. 135, Act 206, 1893 As Am

181

City Treasurer's Certificate

Recording Fee PKE

U. S. Revenue Stamps $434.50

When recorded return to Lawrence A. King, Esq.
318 Wabeek Bldg., Birmingham, Michigan

TITLE INSURANCE — ABSTRACTS — ESCROWS

TITLE INSURANCE — ABSTRACTS — ESCROWS

LIBER 4981 PAGE 105 67 548 Form 564 10-64

Lawyers Title Insurance Corporation

QUIT CLAIM DEED—CORPORATION—Statutory Form
Act 187 P. A. 1881 — M.S.A. 26.572

KNOW ALL MEN BY THESE PRESENTS: That PULTE LAND COMPANY, a Michigan Corporation
P. O. Box 266, Birmingham, Michigan

Quit Claims to Bloomfield Hills School District, a public School District of the State of Michigan

whose Street Number and Post Office address is 4175 Andover Road, Bloomfield Hills, Michigan

the following described premises situated in the Township of Bloomfield County of Oakland and State of Michigan, to-wit: Part of east 1/2 of southwest 1/4 of Section 1, beginning at a point distant south 0 degrees 37 minutes west 1043.64 feet from the northwest corner thereof, thence south 0 degrees 37 minutes west 1023.07 feet, thence south 85 degrees 32 minutes east 652.69 feet, thence north 0 degrees 1 minute west 1067.57 feet, thence south 89 degrees 23 minutes west 639.27 feet to a point of beginning, except that parcel described as beginning at a point distant south 0 degrees 37 minutes west 1043.64 feet from the northwest corner of the east 1/2 of southwest 1/4 of said Section 1, thence south 0 degrees 37 minutes west 126.50 feet, thence north 89 degrees 18 minutes 20 seconds east 300.09 feet, thence north 0 degrees 37 minutes east 119.00 feet, thence south 89 degrees 23 minutes west 300.00 feet to the point of beginning; and part of east 1/2 of s.w. 1/4 of Section 1, beginning at the center of said Section 1, thence south 0 degrees 1 minute east 2561.72 feet to south 1/4 corner, thence north 89 degrees 2 minutes west 1335.75 feet, thence north 0 degrees 37 minutes East along 1/8 line

(continued on reverse side)

together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining.

for the sum of $ 1.00 - One Dollar(s)

and other valuable considerations; Easements of Record and Existing Zoning Ordinances

Dated this 3rd day of January, A. D. 1967

Signed, Sealed and Delivered in Presence of:

Dorothy L Walker
Dorothy L. Walker

Dorothy M Evans
Dorothy M. Evans

1967 JAN 4 PM 4 30

Signed and Sealed:

PULTE LAND COMPANY

By William J Pulte (L.S.)
William J. Pulte
Its President

And (L.S.)
Its

In the STATE OF MICHIGAN, COUNTY OF Oakland ss.

On this 3rd day of January, A. D. 1967 before me personally appeared William J. Pulte

to me personally known, who being by me sworn, did (1) himself say that (2) he is the President of PULTE LAND COMPANY the corporation named in and which executed the within instrument, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and said William J. Pulte acknowledged said instrument to be the free act and deed of said corporation.

My commission expires Feb. 24, A. D. 1968

Note: If more than one officer acknowledges insert at (1) "each for himself," and (2) "they are respectively"

Dorothy L Walker
Dorothy L. Walker
Notary Public Oakland County, Michigan

Instrument Drafted by Robert M. Mock

Business Address P. O. Box 266, Birmingham, Michigan

Register of Deeds Office

Recording Fee 3.00

U. S. Revenue Stamps No Stamps Required

When recorded return to Lawrence A. King, Esq.
318 Wabeek Building, Birmingham, Michigan

TITLE INSURANCE — ABSTRACTS — ESCROWS

TITLE INSURANCE — ABSTRACTS — ESCROWS

509.00 feet, thence South 85 degrees 32 minutes east 652.69 feet, thence north 0 degrees 1 minute west 2105.36 feet, thence south 88 degrees 3 minutes east 214.51 feet, thence south 86 degrees 15 minutes east 464.99 feet, to point of beginning, except that part lying north of the southerly right of way line of Highway I-75, containing 32.40 acres, more or less.

QUIT CLAIM DEED
CORPORATION
STATUTORY FORM

NOTE 1

Print, typewrite or stamp names of all persons whose signatures appear on this instrument immediately below such signatures, and the addresses of Grantors.

NOTE 2

U. S. Revenue stamps required to be affixed by Grantor and Grantee's responsibility not to accept deed unless proper stamps are affixed. Stamp tax applies on amounts of consideration above $100.00 at the rate of 55 cents for each $500.00 or fraction thereof less all encumbrances on property before the sale which are not removed by the sale.

NOTE 3

Fill in address of Grantee (M.S.A. 26.1221).

NOTE 4

If there is not sufficient space on the face of the deed for all of the necessary data the remainder may be placed on the reverse side if the fact is clearly indicated on the face.

NOTE 5

Fill in name and address of person drafting this instrument.

Form 564

QUIT CLAIM DEED
CORPORATION
STATUTORY FORM

Lawyers Title
Insurance Corporation

27 JUNE 1954
DFP

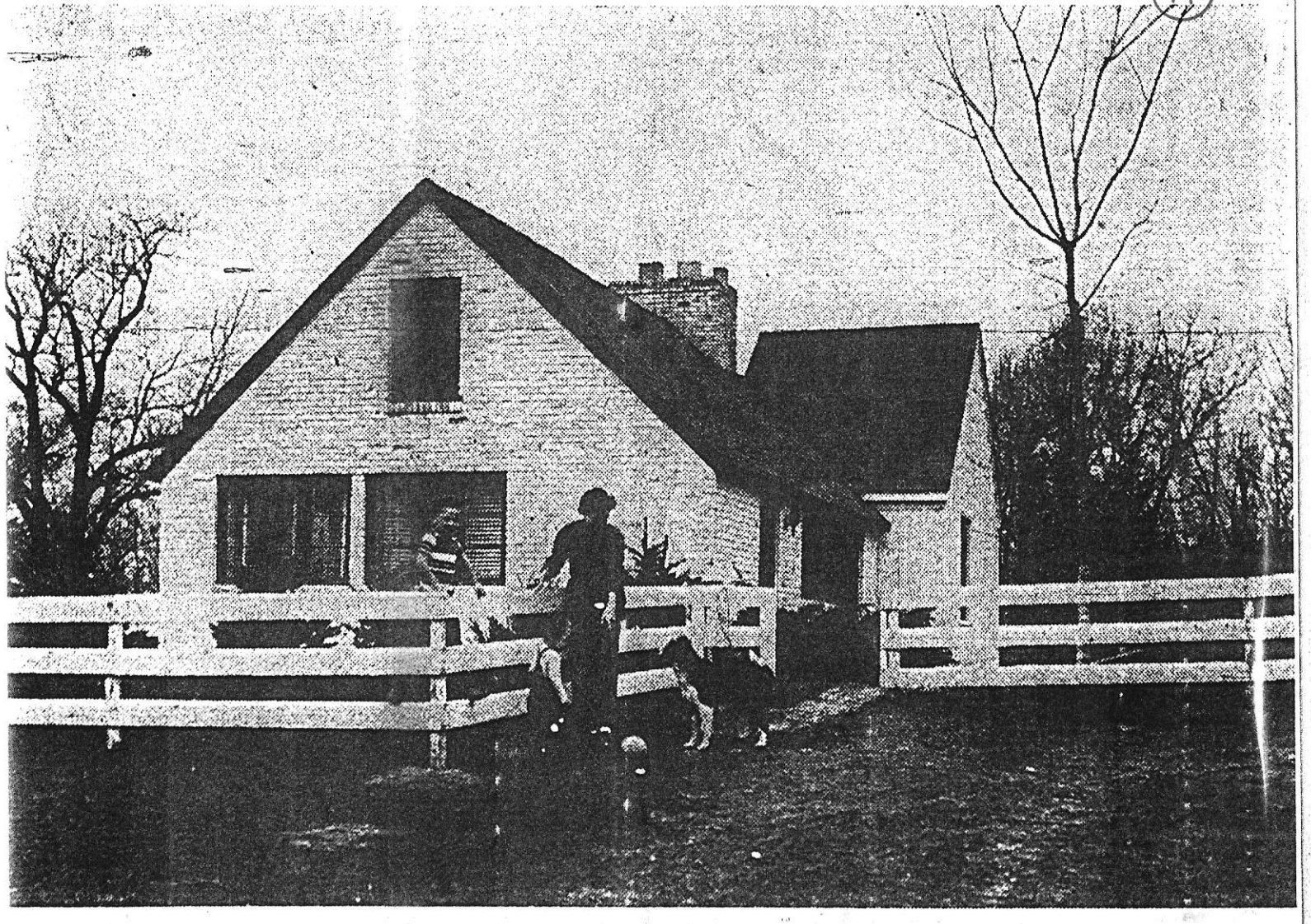
EDITOR'S NOTE: Not every house started out as a house. First tenants in some houses were pigs, chickens or students. This is the first in a series of articles on Detroiters who have remodeled unusual buildings into homes.

BY NANCY AYER
Free Press Staff Writer

Everything is topsy-turvy at "Ups and Downs," the Bloomfield Hills home of Mr. and Mrs. William E. Dowling.

A pigsty is a house . . .
A root cellar is a garage . . .
A chicken loft is a bedroom . . .
Doors that pigs ran in and out of are woodboxes . . .
A barn milk room is a laundry . . .
The cattle stalls are a maternity ward for lambs . . .
And a farmhouse was hauled away because it spoiled the view of pigsty and barn.

A



THIS IS the pigsty after remodeling. The wing at right is a recent addition. Mrs. Kemp, Freddy and Christine, and Jacques the dog, frolic around the white fence which surrounds the former pigsty.

TEXT page 1

3 of 4

(A)

SYDNEY DOWLING didn't plan it that way when she first drove down Squirrel Road and saw the white farmhouse, frame sty and red barn on a hill.

She thought of it being just two miles from the commuter's station.

She looked at the hill sloping away from the sty and shadowed with fruit trees and at the baby brook in the orchard. She knew that here she and her husband wouldn't miss their "Windy Hill" home near Oxford so keenly.

As soon as the deed was safe in their files, Mrs. Dowling took a critical look at the house, mentally cutting new windows, and ripping off gingerbread.

But the little pig sty, snuggling in front of the big red barn, kept creeping back like a teasing puppy. And Mrs. Dowling was dreaming of it, remodeled and without the farmhouse cluttering the view from the road.

●

SHE SUMMONED workmen and in a few days the farmhouse was on its way down Squirrel Road to a level spot on their property.

Not too many days later, a carpenter stamped away from the sty. Mrs. Dowling's plan brought an irrated, "Nonsense!"

Then she hired two boys from Auburn Heights. "They could hardly manage hammer and nails," she recalls, but they did what we told them."

Cut came the concrete feeding troughs under the wide windows.

Old white-washed brick covered the frame siding. Slate covered the cement floor.

The boys tore out rendering kettles to make room for a tiny entrance hall and a modern bathroom.

They carried beams and boards from the old carriage shed and used them for a ceiling.

A fireplace went into the living room.

A tiny loft that had been a home for chickens became a bedroom reached by a pulldown stairway.

●

BEFORE THE last coat of paint was dry, the Dowlings had decided to turn the pigsty over to her son,

TEXT-page 2

(B)

They Live In a Pigsty

● Continued from Page One ●

Lt. Comm. Ward Kemp and to remodel the farmhouse for themselves.

This year the former pigsty has a new family and a new room. Mrs. Dowling's other son, Jim Kemp, his wife, Phoebe, and their four children, a cat and a dog moved in.

And a bedroom was added on the orchard side of the house.

A small white board fence encloses the house and keeps little Christine (and the dog, Jacques) away from her grandmother's lambs.

Phoebe does her laundry in the milk room of the barn. It's just a few steps across the yard.

Jim's car is driven nightly into the grass covered garage that was once a root cellar. The top of it, growing with flowering bushes, is a play spot for the children.

●

JUST ACROSS the circular drive from this is the maternity ward of the barn. Here Mrs. Dowling hovers over each new crop of lambs.

Every house has its own quality and at the remodeled pigsty, it's the view. Every room and every window has a special one.

While Phoebe washes dishes in the pullman kitchen, she can watch the white lambs playing in the front yard.

At night when the curtains are open, a flood lamp lights a fir tree and the barn and, in winter, shadows the snow in the fenced pasture.

NEXT SUNDAY: "They Live in a Schoolhouse."

4 of 4

Board of Trustees Meeting
Charter Township of Bloomfield
December 10, 2007

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BLOOMFIELD HILLS SCHOOLS
BUSINESS SERVICES

PRESENT: Barnett, Buckley, Devine, Payne, Roncelli, Savoie, Stefanes
Also present, Attorney William Hampton

ABSENT: None

ITEM #14 Barton Farmhouse Resolution

The resolution, if adopted, indicates the Township's intent to join with the City of Bloomfield Hills to form a non-profit corporation (501c3). Eventually, the Bloomfield Hills School District and the Bloomfield Historical Society will become part of this corporation.

There has been discussion of the Township and City contributing money, but no decisions have been made. The idea is to have enough funds in the corporation so that the City and Township would not need to contribute.

The resolution incorrectly listed the Bloomfield Historical Society as the Bloomfield Hills Historical Society.

MOTION by Barnett and SUPPORT by Roncelli to APPROVE the Barton Farmhouse Resolution with the Correction Regarding the Historical Society.

STATE OF MICHIGAN
COUNTY OF OAKLAND
CHARTER TOWNSHIP OF BLOOMFIELD

Resolution Establishing Intent to Create Non-Profit Corporation

WHEREAS, the Charter Township of Bloomfield (the "Township") has engaged in discussions with the Bloomfield Hills Board of Education (the "Board of Education"), the City of Bloomfield Hills (the "City") and the Bloomfield Historical Society ("Historical Society") regarding whether to accept the offer of the Barton Farmhouse located in the City for relocation to the Charles L. Bowers Farm owned by the Bloomfield Hills School District (the "School District"); and

WHEREAS, various meetings have been held by the above entities in order to discuss the raising of funds for anticipated costs as well as the various options to create an entity to own the Farmhouse once it is relocated to the School District property known as the Charles L. Bowers Farm; and

WHEREAS, the Bloomfield Hills Board of Education has accepted the offer of the Barton Farmhouse for relocation of the farmhouse to the Charles L. Bowers Farm provided there are no present or future financial obligations for moving, renovating, maintaining, operating or otherwise sustaining the farmhouse; and

WHEREAS, it is the intent of the Township to create a non-profit corporation and enter into an inter-governmental agreement with the City in order to maintain the structure and pay for anticipated expenses including, but not limited to, insurance and

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utilities. It is contemplated that the Historical Society and the School District would be involved in the governance of the non-profit corporation.

NOW, THEREFORE BE IT RESOLVED by the Township Board of the Charter Township of Bloomfield that the Township Board hereby indicates its intent and willingness to join in the formation of a non-profit corporation in conjunction with City of Bloomfield Hills and enter into an intergovernmental agreement with the City and to thereafter apply for 501C-3 designation by the Internal Revenue Service.

AYES: Barnett, Buckley, Devine, Payne, Roncelli, Savoie, Stefanes
NAYS: None

STATE OF MICHIGAN)
) ss.
COUNTY OF OAKLAND)

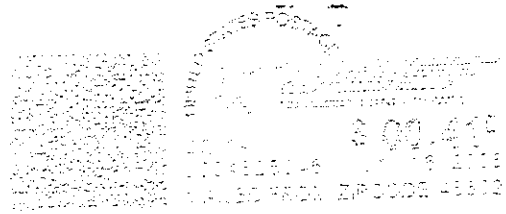
I, the undersigned the duly qualified and appointed Township Clerk of the Charter Township of Bloomfield, Oakland County, Michigan, do hereby certify that the foregoing is a true and complete copy of the Resolution adopted by the Township Board of the Charter Township of Bloomfield at a duly called meeting held on the 10th day of December 2007, the original of which is on file in my office.

IN WITNESS WHEREOF, I have hereunto affixed my official signature this 14th day of December 2007.

Janet Roncelli

Janet Roncelli, Township Clerk

BLOOMFIELD TOWNSHIP
4200 Telegraph Road | P.O. Box 489 | Bloomfield Hills, MI 48303-0489



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Bloomfield Hills School District
4175 Andover
Bloomfield Hills, MI 48302

F-07 | original source page 3 | APP 1312



THE BENJAMIN-BARTON HOUSE

EXISTING CONDITIONS ASSESSMENT AND MASTER PLAN



JUNE 2011

PRESERVATION BLOOMFIELD

HopkinsBurns DESIGN STUDIO
historic preservation & communities by design

1	Introduction
2	Existing Conditions Assessment
3	Evolution of The Benjamin-Barton House
4	Master Plan
5	Appendix

AVERY READY INDEX 6D0076

Introduction

Preservation Bloomfield is seeking to define the future development of the historic Benjamin-Barton House (the House). To assist in establishing a preferred direction they requested the development of an Existing Conditions Assessment and Master Plan, to:

- Evaluate the condition and historic integrity of the House,
- Provide treatment recommendations to address conditions and facilitate its future use, and
- Identify the potentials for reuse.

This document is intended to help inform the Board of Directors in their decision making process as to next steps in the future restoration/adaptive reuse of the Benjamin-Barton House.

HopkinsBurns Design Studio was retained by Preservation Bloomfield to produce this Existing Conditions Assessment and Master Plan. The HopkinsBurns team consisted of:

Eugene C. Hopkins, FAIA	Historic Preservation Architect
Gregory A. Jones, AIA	Technical Preservation Architect
David Rochlen, Assoc. AIA	Technical Staff/Intern Architect

The Benjamin-Barton House and the Charles L. Bowers School Farm on which it is located are key components of the educational programs of Bloomfield Hills Schools, providing educational opportunities and experiences that benefit all ages. The preservation and restoration of the historic Benjamin-Barton House, moved to the farm site in 2008, is one of the goals of Preservation Bloomfield, a non-profit organization established jointly by the Charter Township of Bloomfield, the City of Bloomfield Hills, the Bloomfield Hills Schools and the Bloomfield Historical Society. This organization is dedicated to the preservation of the heritage of the Bloomfield Hills/Bloomfield Township area. As such, these organizations, as well as the Board of Directors of Preservation Bloomfield are all key stakeholders in the restoration and future development of the House, and the role that it will play in enhancing the educational experiences provided at the School Farm.

Methodology

The HopkinsBurns Project Team approached this assessment and master plan in a three-pronged effort:

1. Assessment and Treatments: Under the direction of Eugene C. Hopkins, HopkinsBurns staff members Gregory A. Jones and David Rochlen conducted a physical assessment of the House to determine its condition, historic integrity, and evolution. The assessment consisted of visual observations in the basement, first and second floors, and attics, as well as the exterior of the structure. Visual observations were supplemented by minimally invasive probes using small hand tools such as pocket knives and screwdrivers. Observations included selective

demolition and observation holes. Physical assessment was supplemented by examination of the few historic photographs available, and other written historic documentation provided by Preservation Bloomfield. In addition, photographs taken by HopkinsBurns during the 2008 disassembly and moving of the House were studied to determine concealed conditions for clues relating to the evolution of the structure.

Work included the preparation of architectural base drawings that document the existing physical configuration of spaces and architectural characteristics of the structures. These drawings will also serve as the base documents for future design efforts.

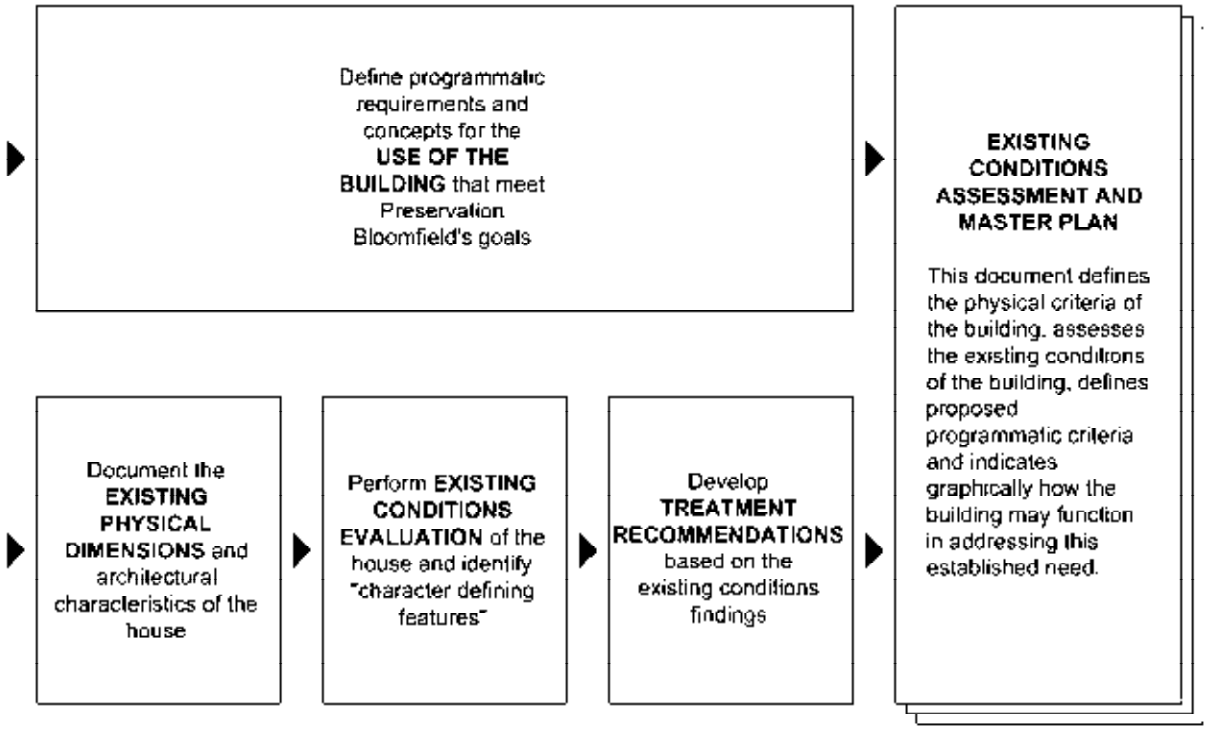
The team evaluated the existing conditions of the structure, and character-defining features were identified. Treatments were developed to address conditions and correct deficiencies, while providing the amenities needed to accommodate the activities that will take place in the structure to serve the needs of the School Farm and the community. Other treatments are intended to preserve the historic integrity of the House. Recommended treatments are in compliance with the U. S. Secretary of Interior's Standards for Rehabilitation of Historic Structures.

2. Programming: Eugene C. Hopkins, assisted by David Rochlen met with key project stakeholders in a series of meetings to understand how they envisioned the reuse and preservation of the Benjamin-Barton House as a functioning and useful component of the Bowers Farm to serve community needs and educational goals.

3. Development of Concepts: The desires of stakeholders were merged with historic preservation goals of educating the community and building users about the history of the area in general, as well as the specific history of the House and its meaning in the context of the City and Township. From these meetings, concepts were developed indicating the House's potential reuse as a facility and interpretation as a historic site.

   This effort defined the physical criteria of the building and proposed programmatic criteria. The information is presented graphically in this report, and indicates how the building may function in addressing this established programmatic and historic preservation needs.

The results of three components were merged into a set of recommendations that addressed need treatments to historically rehabilitate the house, as well as provide the necessary building code, life safety, accessibility and infrastructure upgrades to support the new use. The following graphic depicts the components of the methodology.



EXISTING CONDITIONS ASSESSMENT AND MASTER PLAN METHODOLOGY

History

The Benjamin-Barton House, currently located on the Charles L. Bower Farm on East Square Lake Road in the Charter Township of Bloomfield, is a classic example of Greek Revival residential architecture, of the "Upright-and-Wing" style, with an "Umbrage Porch" on the front elevation. It was most likely built by James D. Benjamin sometime after 1842 on Bloomfield Centre Road (now Long Lake Road). The exact date of construction is unknown. During this time period, Bloomfield and the surrounding areas were agrarian communities and the Benjamins used this home as a functional farmhouse.

Until circa 1900, changes to the House were primarily shifts in use of interior rooms, but overall the House still retained its essential original exterior and interior character. Circa 1905, Robert Heacock purchased the House, and it is believed that he made the first major change to the House by expanding the Upright to the rear.

After the turn of the twentieth century, with the subsequent burgeoning prosperity of the city of Detroit, many city-dwellers bought country homes in the accessible farmland of the Bloomfield area. In the 1920s the Hendrie sisters, daughters of George Hendrie, a highly successful businessman in Detroit, purchased the home. Jessie, Margaret and Sarah Hendrie, wealthy socialites from Grosse Pointe, known for their involvement in

charitable activities, significantly expanded the House, making changes to its interior organization and shifting the functional entry to the side of the House. This converted the pragmatic farmhouse into the country estate, suitable for entertaining and weekend retreats, that they dubbed "The Covert."

In 1937, Carl Barton, the founder of the internationally known Barton Malow Construction Company purchased the home. Like the Hendrie family, he too was successful in business and a philanthropist. Over the next seventy years, his family created their version of a comfortable single-family suburban home. They converted the Garage to occupied space, added another attached Garage, and made interior changes.

By 2007, the accumulated changes by the Hendries and Bartons had radically changed the original character of and interior organization of James Benjamin's original house. However, its original Greek Revival core was still generally respected by previous modifications, and was still present even after 150-plus years of modifications.

In February 2006 the farm site and house was purchased by residential developers, the Mancini Development Company, who planned to build large suburban estate homes on the farm site. The House did not fit into their plans, and they offered it to the city of Bloomfield Hills for $1, provided that the city would move the home from the site. The home was saved by the City and Preservation Bloomfield and moved to its current location at Bower's farm in 2008.

Executive Summary

The Benjamin-Barton House, originally built in approximately 1842 on Long Lake Road evolved over 160-plus years from a Greek Revival farmhouse, to an early 20th century rambling country retreat, to a late 20th century comfortable suburban home. At its core, however, it retained most all of the elements of its original farm house character, and as such, is a rare example of the type of residential design and farm lifestyle that once predominated in Bloomfield Township, but has now been almost totally lost to suburban development. Indeed, in 2008, the Benjamin-Barton House itself was threatened by development, and was sold by the developer to Preservation Bloomfield for $1, and its fundamental Greek Revival core was moved to its current site on the Bower's Farm.

Preservation Bloomfield wishes to use the House as part of their educational and outreach programs at the School Farm while preserving it as an example of mid19th century life on a rural farm in Bloomfield Township. To support this effort they commissioned HopkinsBurns Design Studio (HBDS) to produce an Existing Conditions Assessment and Master Plan for the Benjamin-Barton House. The Plan's intent was to assess the condition of the house and its historical integrity, as well as to work with stakeholders to identify programming needs and potential uses for the House. Based on these activities, HBDS and stakeholders collaborated further to determine overall treatments for the house that would preserve and present it as a specimen of 19th century farm house design and life, and as a multi-purpose venue to host community events, tours, and educational activities.

The Master Plan contains a detailed assessment of conditions for all spaces in the house, and recommended treatments to preserve and restore it, as well as to adaptively reuse it for contemporary uses. The west Wing and Parlor on the first floor will be restored to their pre-1920s configuration, while the north portion of the building will be adaptively reused to accommodate modern activities. The north portion of the house will be expanded to the west by rebuilding an interpretation of the pre 1920s kitchen. The existing first floor bathroom will be adapted to be a unisex accessible toilet room. The second floor will be adaptively reused for office functions to support the Bloomfield Historical Society's activities. The building's Period of Significance is circa 1842 to circa 1920. This is the period during which the house evolved to its maturity as a Greek Revival farmhouse. Following this period, the house underwent significant modifications that changed its overall character. The building's Period of Interpretation is pre-Civil War and therefore it will be restored, furnished and decorated as a farm home from that period.

All recommendations are in compliance with the U. S. Secretary of the Interior's Standards for the Rehabilitation of Historic Properties. The building will be brought up to modern building code standards, and provide accessibility to disabled individuals to the maximum extent possible considering its historic character. Recommendations include new infrastructure to support modern needs.

The Master Plan finds that the building is in fundamentally good condition, with necessary repairs addressing the accumulated impact of age, weathering, and the move to the current site. Significant components of the recommended treatments and improvements include a new geothermal heating/cooling system, new plumbing piping throughout the house, new electrical wiring throughout the house, and provision of access to disabled individuals

The Master Plan also provides a five-part evolution of the House that will aid Preservation Bloomfield in their interpretation of the House for users and visitors, and contribute to the historical record of the house. The plan concludes with a documentation of the results of the programming activity, makes recommendations for uses, and proposes changes necessary to accommodate the new uses.

Implementation

In the Implementation Section, recommended treatments and improvements are divided into the following six levels of priorities:

- Priority 1: Stabilize the Building
- Priority 2: Provide Code Compliance and Partial First Floor Restoration
- Priority 3: Complete First Floor Restoration
- Priority 4: Provide Space For Activities
- Priority 5: Reuse Second Floor
- Priority 6: Building Context

Priorities One and Two must be completed before the building can be inhabited.

Costs

Preliminary cost estimates have been developed for the six priority levels. All costs are in 2011 dollars.

- Priority One $73,206
- Priority Two $33,950
- Priority Three $43,033
- Priority Four $82,999
- Priority Five $30,686
- Priority Six $60,000

The sum of Priorities One and Two must be expended before the building can be inhabited. The sum of those two priority levels is $107,156. These numbers do not include Contractor's Profit and Overhead, Support Services, Construction Contingency, Architectural, Structural, Mechanical and Electrical Engineering Fees, Owner Direct Costs or Abatement. Those items amount to an additional amount of $136,969. That amount should be proportionately distributed over the six priority levels to obtain the total cost for each package of work. The total project cost for all phases, including known owner costs, is $470,843. This amount is subject to adjustment as costs are finalized.

Existing Conditions Assessment

Introduction

In this section the assessment observations and recommendations for treatment are presented. Information is provided first for the House's exterior, followed by the interior. Exterior items are depicted on elevation drawings. For the interior, significant items are indicated on floor plans. More routine treatments are indicated on room-by-room inventory sheets. Inventory sheets also indicate the level of surviving historic integrity in each room and identify the character-defining features of each room that should not be compromised so as to protect the building's historic character.

Next, assessment and recommendations for the building's mechanical, electrical and plumbing systems are presented. Finally a building code and accessibility overview is provided, accompanied by recommendations.

Retention of historic materials and components should be given the highest priority as restoration is undertaken. Materials should be repaired where possible rather than replaced. However, when removal is necessary, it is encouraged that materials from the house be donated to a building material reuse center or recycled.

Recommendations address needs for historic rehabilitation of the structure, as well as present improvements necessary to accommodate the proposed new uses for the House.

Exterior Conditions

The exterior is generally in fair to good condition. When the House was moved to the current location, some exterior repairs were carried out, and the House was painted. Some areas that are to receive future treatments or restoration were covered over with an EPDM membrane to provide weather protection until additional treatments are determined.

However, the exterior was not fully restored, and paint covers some areas where additional restoration and repairs are needed.

Refer to the exterior elevations for specific indications of necessary repairs.

Interior Conditions

This portion of the report starts with a *General* section containing discussion of conditions and recommendations for several items that apply universally to most rooms throughout the House that warrant detailed explanation. It is followed by the *Interior Assessments and Recommendations*, where specific conditions in each room are recorded, along with recommendations for treatment. Specific repair items are further noted on the floor plans and elevations that follow the room-by-room survey.

The following items address general issues that apply over the entire structure and are not shown on drawings.

Walls and Wallpaper:

The house had been unheated and vacant for a period of time and this contributed to some cracking and water damage to the plaster and wallpaper. It appears that considerable additional plaster cracking occurred throughout the structure due to the House moving process. This is not surprising because the structure was subject to unavoidable flexure in transit, and after being set on the new foundation, settling has likely occurred. Cracking is concentrated at points where stresses are concentrated, typically radiating out from corners of windows and doors, and at corners where plaster is weak, but also occurs in open flat wall and ceiling areas. Plaster cracking also affects wallpaper because it can cause wallpaper to buckle, distort, or even tear.

Repair of plaster cracks is impossible without at least partial removal of wallpaper. Even if wallpaper can be surgically sliced and peeled back, it is nearly impossible to get cut edges of patterned wallpaper to precisely match again when attempting to re adhere after plaster repairs. Attempting to selectively replace plaster at repaired areas is not advised, because there is almost no likelihood of finding a new paper identical to the existing. Even on the outside chance that a matching paper is still available, slight differences in lots due to inks used could make repairs unattractive and patchy.

Consequently, repair of plaster cracking generally necessitates total removal and replacement of wallpaper. Removal will also more fully reveal the condition of underlying plaster, in that wallpaper can sometimes hide considerable plaster cracking.

It is unfortunate to lose the wallpaper history, however, field investigations suggest that extant wallpaper layers may not be very old. Wallpaper was investigated by peeling back existing layers to reveal underlying layers, and by examining earlier layers concealed behind pieces of trim and crown moldings with the intent of comparing the layers to photographs from the Hendrie era found in the *Afterglow* and *Antiquarian* articles. It was hoped that layers would be found matching the Hendrie photographs and that even earlier layers might be found below that, perhaps giving an indication of wallpaper treatments from the period of significance.

Although earlier layers were observed during the wallpaper investigation, results were inconclusive. Layers found did not clearly match patterns visible in the Hendrie era photographs. It appears that early layers may have been removed as part of previous redecorating campaigns. The only definitive information that was gleaned from this investigation is that it appears that wall surfaces have always been wallpapered and that plaster surfaces did not receive any paint finishes until perhaps the Barton era.



Figure 1. Wallpaper in Parlor, showing earlier layers and picture molding.

It is still possible that total wallpaper removal may provide additional information about early wallpaper finishes in a room, and reveal early or original treatments for possible replication, or assist in identifying compatible off-the-shelf replacement materials and patterns. It is the recommendation of this report that off-the-shelf period wallpaper suitable for the period of interpretation is available and should be used in lieu of custom printed wallpaper.

As part of the restoration and interpretive efforts the Board may wish to leave certain areas of the historic construction visible to visitors as "vignettes" behind clear windows as an educational opportunity.

Windows:

Windows were removed when the House was moved. Five windows (three in the first floor Parlor, and two in the second floor South Bedroom) were restored by Lorri D. Sipes in 2009. The remaining double hung windows are in storage; ankle windows at second floor are still in place. All remaining windows should be restored and reinstalled.

Interior Floors:

It is believed that the original finished floors of the original House were the 1 ¼" X 7 ½" tongue-and-groove boards that are currently visible from the basement, and form the

substrate for the more recent existing finished flooring. It is speculated that the flooring is at least partially intact, however the condition of the boards is not known.

The original floors in all rooms except the Bathrooms have been covered with twentieth century tongue-and-groove strip flooring. The flooring in the Wing is 3 ¼" wide. In other rooms it is 2 ¼" wide. There is clear evidence that the flooring in the Wing and the Parlor has been shimmed to level it, and there is some evidence that shimming has been provided in other rooms as well. It is believed that the Hendries installed all of wood strip flooring, however there is a possibility that they only installed part of the Wing flooring.

The integrity and appearance of the original flooring (current subfloor) is not known, although various cut-outs have been observed in the basement. Exposure of this floor may open up a variety of difficult-to-predict restoration challenges related to patching and matching old worn boards. This may significantly add to the cost of the restoration. It is the judgment of this report that even though the strip flooring dates from after the period of significance, it is compatible with the interpretation of the House. For this reason, it is recommended that the contemporary oak strip flooring not be removed. This does not rule out future removal of the top layer of flooring from the Hendrie period. At that time assessment, repair and restoration of the historic floor can be carried out.

It appears that the subfloor and framing under the Multi-purpose Room are replacements, likely built by the Hendries. Prior to the moving of the House, it was noted that the floor framing under the Hendries' Sitting/Dining Room was all identical and of a more recent vintage that the remainder of the Upright, as evidenced by the 1 ½" wide joists, diagonal subflooring and cross-bracing between joists (20th century construction techniques). It appears that the Hendries completely replaced the floor and framing when they combined the two earlier rooms into their Sitting/Dining space.

Refer to *Open Questions* later in this report for a detailed discussion of the evolution of the floors and framing.

Code /Accessibility Life Safety

The Benjamin-Barton House was evaluated under the Michigan Rehabilitation Code for Existing Buildings (MRCEB), 2009 edition. Within this code, Chapter 11 provides for special provisions for historic structures. Since the House is not designated as a historic structure on the national, state or local level the Historic Buildings chapter (Chapter 11) of the MRCEB cannot be applied.

Preservation Bloomfield is encouraged to pursue determination of eligibility for the National Register of Historic Places from the Michigan Historic Preservation Office (SHPO) for the Barton-Benjamin House. Such designation would protect certain historic elements of the House from modifications necessitated by code and accessibility requirements. It should be noted, however, that if a determination of eligibility is pursued, the fact that the house has been moved from its original context may have an impact on its eligibility.

Under the MRCEB, the House is considered a building undergoing Level Two Alterations with a Change of Occupancy. Evaluation is made under MRCEB Chapter 9 – Change of Occupancy

Occupancy: A3 (Museums, Assembly Halls, Lecture Halls)

Change of Occupancy: from R3 to A3

Construction Type: V-B (combustible)

Fire Sprinklers: Required*

- Per MRCEB, change of occupancy to A3 requires compliance with Michigan Building Code (MBC), which requires sprinklers because the building has an A3 occupancy floor above the level of exit discharge.
- However, the Building Official has indicated that the second floor can be considered a business, non-public occupancy, which may eliminate the sprinkler requirement. The building Official must confirm that the business occupancy can exist without being separated from the A3 occupancy by a fire rated separation.

** May require consultation with Building Official*

Fire Alarm and Detection System: Not Required

- Change of occupancy to A3 requires compliance with MBC; MBC does not require system if occupant load is less than 300. May be provided as an option.

Floor Areas:	Basement	1221 sf
	First Floor	1243 sf
	Second Floor	655 sf
	Total	3119 sf

Occupants:	Basement	3 (@ 1 person/500 sf)
	First Floor	50 (Based on Building Official's opinion of maximum number of occupants)
	Second Floor	5 (@ 1 person/100 sf, excluding stair, hallway and bath)
	Total	58

Number of Exits Required (Change of Occupancy to higher hazard requires compliance with MBC)

Basement	1 required for storage occupancy, 29 or less occupants 1 provided via exterior door
First Floor	2 required for greater than 49 occupants 2 provided via exterior doors
Second Floor	1 required for 49 or less occupants 1 provided via interior stair

Minimum Total Exit Width Required (@ 0.2" per occupant)

Basement	0.6" – Requirement met
First Floor	14.6" – Requirement met
Second Floor	1.4" – Requirement met

Maximum Permitted Floor Area (A3 occupancy; Type V-B Construction):

- 6,000 sf per floor (9,000 sf with automatic sprinkler system).
- Building complies.

Maximum Permitted Height (A3 occupancy; Type V-B Construction):

- 1 story / 40' (2 stories / 60' per with automatic sprinkler system.
- 1 story limitation exceeded without sprinkler system.*

** May require consultation with Building Official*

Exterior Wall Fire Resistance Rating:

- Change of Occupancy to and equal hazard category.
- Existing walls and openings acceptable.

Panic Bars: Not Required

- Occupant load less than 100.

Means of Egress Lighting: Required

- Emergency lights are generally of a style that would detract from the historic character of the House.
- It is recommended that Preservation Bloomfield work with the Building Official to develop strategies emergency lighting that meets life safety needs, while respecting the character of the House.
- A recommended strategy is to wire decorative period fixtures with concealed battery packs to function as emergency lights.
- Contemporary means of egress lighting will be provided in the basement

Exit Signs (MRCEB requires compliance with MBC):

- Basement: Not required
  - Space with only one required exit does not require exit light.
- First Floor: Possibly Not Required*
  - Building Official has stated the opinion that the exits are obviously and clearly identifiable as exits, thus exit lights not required (MBC 1011.1 – Exception 2)
- Second Floor: Not Required
  - Space with only one required exit does not require exit light.

** May require consultation with Building Official*

Vertical Exit Enclosure: Not required

- Stairway not serving more than one adjacent floor.

Accessibility Requirements –MBC Chapter 9:

- Accessible parking required (this can be readily provided).
- Accessible route from accessible parking to building required (this can be readily provided).
- Minimum of one accessible building entrance required (this is provided by the proposed rehabilitation).
- Minimum of one accessible route from entrance to primary function areas is required.
    - First Floor: Primary function areas would be considered Multi Purpose Room, Kitchen/Living, Parlor, and first floor Bathroom. This accessibility requirement would not be met by the proposed rehabilitation because clear door openings are less than 32" measured from face of door to stop.
    - Removal of door leafs and stops at doors between the Multi Purpose Room and Kitchen/Dining Room, and the Kitchen/Dining Room and the Parlor may meet this requirement, but would be detrimental to the character and historic fabric of the House. The door to the first floor bathroom is only 2'-6" wide and thus would have to be widened to meet this requirement. *

      ** The Building Official may rule that the existing conditions meet the intent of the code requirements when combined with alternative means of compliance. Further consultation is recommended.*

    - Second Floor: It is the opinion of this report that the second floor office use does not qualify as a primary function area, because it would contain functions that are not accessible to the public, and that School Farm employees would have access to equivalent facilities at accessible buildings elsewhere on the site.

Accessibility Requirements – Americans with Disabilities Act (ADA)

- Accessible route must be provided to all accessible spaces.
- Alterations to primary function areas that could affect their usability must include an accessible path to the altered area.
- Accessible route to second floor not required (2 story building with 5 or fewer occupants at second floor.
- Altered elements must comply with accessibility requirements.

The general effect of the ADA requirements is the same as the MRCEB requirements above. It should be noted, however, that even if the Building official grants relief from the accessibility requirements of the Michigan Building Code that *does not* provide relief from the similar requirements of the ADA, and the building still would not be in compliance with the ADA. Since the ADA is civil federal rights legislation, the building official cannot grant exemptions from its requirements. It is only

enforced by lawsuits that may be raised by individuals who believe that their accessibility rights have been violated.

Hazardous Materials

Hazardous building materials are often present in historic structures due to the ubiquity of the offending building materials during certain eras and the longevity of the building in question. There is a high probability that at some point in the life of the House, some building products that contain hazardous materials, including asbestos and lead, were utilized and may still be present. HopkinsBurns Design Studio is not certified to identify and assess the risks of hazardous building materials. To that end, it is the recommendation of this report that (1) a hazardous materials specialist is hired to assess the risks and propose an abatement strategy; and (2) the proposed abatement is carried out by contractors who are specifically licensed to perform hazardous material abatement.

Lead

Prior to the late 1970s, lead pigment was a major component in oil-based paints because it contributed to superior hiding power, weathering, resistance to wear and decreased drying times. Lead poisoning is a disease initiated by eating, drinking or inhaling lead and can cause severe health issues and, in extreme cases, death. During the building renovation process, when building materials containing lead may be demolished, scraped, stripped or sawn, there is a high danger of ingesting airborne lead particles. Lead-based paints were banned in 1978. For more information, visit www.epa.gov/lead/.

Asbestos

Asbestos mineral fibers were used in many building materials beginning in the late 1800s and continuing through the first half of the twentieth century. It has been determined that, when inhaled, airborne asbestos fibers can penetrate lung tissue and increase the risk of contracting several serious lung diseases. Today, asbestos is no longer used as a constituent in building products and materials, and has been classified as a carcinogen by regulatory agencies. For more information, visit www.epa.gov/asbestos/.

Building Systems

Electrical Systems:

A new electrical service was provided to the House when it was moved to its current location. The authors of this report have some concern that this service may not be adequate to handle that loads of the new use and building systems. It is recommended that the power requirements of the new use and systems be analyzed to determine the service capacity required.

The new service is not connected to any distribution system at this time.

The existing power and lighting distribution wiring was present when the house was moved, and likely dates from several eras and may represent code requirements that are no longer valid. More importantly, the new use of the House represents a Change of Occupancy from Residential to Assembly under the building and electrical codes. A

Change of Occupancy requires that wiring be brought up to the code requirements of the new occupancy as if it were a new building. This renders the existing distribution system unusable.

In addition, the quantity and distribution of power outlets and switches is not adequate to serve the propose uses in the House, such as for flexible use of the Multi-Purpose Room where a variety of functions might require flexible and convenient access to electrical outlets. Similarly, at the second floor where there will be office use, adequate outlets must be required to accommodate a variety of electrical devices necessary in even the simplest modern office space.

Lighting is viewed in two ways in the House, depending on whether the space in question is a Preservation/Restoration zone, or an Adaptive Reuse zone. In Preservation and Restoration zones, permanent wall or ceiling mounted lighting would not be used so that the historic character from the period of significance can be respected. Instead lighting would be provided by lamps or concealed indirect sources. For energy conservation purposes and to achieve the appropriate color temperature, we recommend using LED lamps in a standard light fixture sockets throughout the building.

In adaptive reuse zones, wall or ceiling fixtures would be permitted to accommodate flexible needs of the various activities that may take place in those spaces. It is recommended that recessed cans or track lighting be used in the Multi-Purpose Room. Rooms such as bathrooms may utilize simple ceiling or wall mounted fixtures period fixtures, or "neutral" design fixtures such as round or elliptical globes.

Similarly, second floor office spaces may use simple period or neutral fixtures on the ceiling or wall, perhaps supplemented with recessed cans or track lights. In office areas, consideration should be given to maintaining low ambient lighting levels and providing task lamps at work areas. This has the combined effect of reducing electrical energy consumption, while avoiding the use of large or numerous modern fixtures that could detract from the historic character of even the Adaptive Reuse spaces.

Code requirements call for Exit Lights and Emergency lights to illuminate the egress path in an emergency.

Telephone and Data:

At a minimum, telephone and data wiring should be provided in the Multi-Purpose Room and the second floor offices. Consideration should be given to providing wi-fi access in the House as an amenity for organizations holding business meetings, conferences or seminars in the House.

Heating and Cooling:

Past heating/cooling systems at the House consisted of hot water boilers, and forced air. These systems were disconnected when the house was moved. Radiators and return and supply grilles still remain in the house.

It is recommended that the House be provided with a new forced air heating and cooling with a ground source heat pump. The heat pump should be connected to the existing geothermal wells already in existence serving the Bowers Farm Academy Building. The wells have capacity to handle the loads of the House. The use of a geothermal heating/cooling system would provide long-term economies in cost and energy usage, and provide an additional opportunity to educate the public on the use of sustainable technologies already started at the Academy Building.

The use of a forced air system necessitates the installation of ductwork in the house. It is challenging to install ductwork in a historic house without compromising the character through the introduction of shafts for vertical ductwork. It appears that the only concealed locations available in the house for vertical ducts are the two triangular spaces formed by the curvature of the stairway. It is not clear at this time if this space is adequate.

As an alternative to a standard forced air system, consideration should be given to use of a high velocity heating and cooling system. These systems use small diameter insulated round flexible ducts that will fit into 2 X 4 stud walls. Heated or cooled air is provided through these ducts at high velocity to compensate for their small diameter. Air is introduced into rooms through approximately 2" diameter orifices which have much less impact on historic character than large air grilles. High velocity systems are fully compatible with ground source heat pumps and geothermal systems.

Plumbing

The House's plumbing system was disconnected from all supply and waste piping at the underside of the line of the first floor when the house was moved. Plumbing piping above the first floor is still intact in walls and cavities. Due to the stresses from the flexing of piping during the moving the house, it possible that the piping has lost its integrity, and is subject to leakage. It is recommended that all supply and waste plumbing piping in the house be replaced with modern code compliant materials. Provide new domestic water and sanitary piping in the basement. Connect domestic water lines to existing line from street. Provide new lift chamber w/ grinder pump and connect to the new sanitary drainage systems serving the Bower's Academy.

It is recommended that existing plumbing fixtures be retained, except as required for accessible bathrooms. It is intended that the existing first floor bathroom become a unisex accessible bathroom, retaining as much of the room's existing tile as possible.

Interior Assessments and Recommendations

Room:	**BASEMENT**
Floor:	Basement
Level of Historic Integrity:	Low. Recent construction, however original first floor framing above has high level of historic integrity.
Character Defining Features:	Wood framing for first floor.

Location	Description	Condition	Recommendations
Basement	Varies	Refer to Sheet 2-4 for conditions and recommendations.	Refer to Sheet 2-4 for conditions and recommendations.

Room:	**THE WING**
Floor:	First
Level of Historic Integrity:	Moderate. Although this room has been much modified during its history, it retains a large portion of its historic integrity from the period of significance, and the portions lost (former bedroom walls) is easily restored. All but one of the original windows with trim survive, with the exception being a window on the north wall that may have once been located where the northwest exterior door is currently located. The northeast door appears to be original. The south door is said to date from the Barton era. Wood base on the west wall appears original; north and south base is newer, likely dating from the Hendrie era, but matches the original closely. The door to the parlor is also original and survives. Some of the existing plaster may be original, however, there have been many repairs. A non-original fireplace has been removed. Portions of the gilded molding survive and have been confirmed to be extant during the Hendrie period. Refer to the Building Evolution for detailed information on changes to this space over the building's history.
Character Defining Features:	Windows with divided lights, paneled doors, opening locations (except non-original opening to stairway and east door on north wall), window and door trim, base, concealed picture molding, spatial configuration (if missing bedroom walls are restored).

Location	Description	Condition	Recommendations
Floor	3 1/4" oak strip, dark stain	Good. Installed over board subfloor Dates from after period of significance, but compatible with character of space.	Clean and selectively refinish.
Walls	Wallpaper on rough grey plaster.	Fair. Scattered plaster cracking, buckled wallpaper. Older wallpaper present under top layer but appears to be after period of significance.	Remove wallpaper to repair plaster cracks; install new period-appropriate wallpaper. Patch plaster at removed door on north wall.
Ceiling	Wallpaper on plaster	Poor Peeling wallpaper in several areas, plaster generally wavy. Plaster & wallpaper likely not original.	Remove wallpaper to repair plaster cracks; paint ceiling.
Base	Painted wood Type 2 (original) on E wall; Type 2	Good.	Scrape, prep and paint.

Location	Description	Condition	Recommendations
	(newer) on N, S & W walls.		
Crown Molding	Large non-original ogee and cove, painted wood; installed over older small gold painted wood molding (visible @ N. wall).	Non-original molding: Fair. Missing on E wall Partially missing on N & S wall. Extent of older concealed molding not known, but believed to be present under non-original molding.	Remove non-original molding; replace any missing older molding to match existing; refinish to match gilding.
Doors	Painted wood paneled	Only two doors (south entrance and north east doors) currently installed; others in storage. Good condition.	Remove west door on north wall, infill. Reinstall stored doors. Scrape, prep and paint remaining doors.
Door Trim	Painted wood Type A	Good. Trim from east wall removed and in storage.	Remove trim for west door on north wall. Reinstall stored trim on east wall. Scrape, prep and paint remaining door trim.
Windows	Wood Double hung, 6/6. South windows restored by Lorri Sipes; west windows removed and in storage.	South windows: Excellent. West windows: need restoration	Restore west windows.
Window Trim	Painted wood Type A	Good.	Reinstall removed trim on west wall. Scrape, prep and paint.
Built-ins	Painted wood book shelves and cabinets	Good. Date from after period of significance.	Remove
Light Fixtures	None	N/A	Provide new historically appropriate light fixtures as needed
HVAC	Radiators under 3 of 4 windows Supply registers in floor	Physical: Fair Operation: Unknown. Radiators are contemporary style.	Remove. New heating system will be forced air. Provide compatible grilles.
Plumbing	None	N/A	N/A
Power	5 duplex outlets in base, 1 in wall. No switches.	Unknown. Not in compliance with current building codes.	Replace all switches and outlets, add new to accommodate new use.

Room:	**PARLOR**
Floor:	First
Level of Historic Integrity:	High. All doors, windows and trim except door to bathroom, appear to be original. The opening to the bathroom is believed to be original, however, the paneled door has a paint scheme that matches wing (presumably it was relocated from the former bedroom in the wing). The highly ornamental wood base appears to be original. Plaster appears to be original. Original coffin door has been covered over.
Character Defining Features:	Windows with divided lights, paneled doors, opening locations, window and door trim, base, spatial configuration.

Location	Description	Condition	Recommendations
Floor	2 1/4" oak strip	Good. Dates from after period of significance, but is judged to be compatible.	Clean and selectively refinish.
Walls	Painted grass cloth on plaster.	Fair. Peeling from plaster at corners; buckled. Dates from after period of significance.	Remove; provide new period wallpaper.
Ceiling	Painted plaster	Good	Prep and paint.
Base	11 1/4" painted wood Type 1	Good. Highly ornamental profile. Shoe mold fully removed on W, S & E walls, partially removed on N wall	Replace missing shoe mold. Scrape, prep and paint.
Crown Molding	Small, painted wood	Good	Scrape, prep and paint.
Doors	Painted wood paneled	Good. Door to bathroom not original.	Scrape, prep and paint. Provide new coffin door.
Door Trim	Painted wood Type B - Greek Revival with taper.	Good. Door trim at bathroom door not original.	Scrape, prep and paint. Provide trim for new coffin door.
Windows	Wood Double hung, 6/6. Restored by Lorri Sipes	Excellent	N/A
Window Trim	Painted wood Type B - Greek Revival with taper	Good	Scrape, prep and paint.
Built-ins	Two painted wood closets	Good. Date from after period of significance.	Remove
Light Fixtures	None	N/A	N/A
HVAC	Radiators under the two south	Physical: Good	Remove. New heating system will

Location	Description	Condition	Recommendations
	windows Supply registers in floor	Operation: Unknown	be forced air. Provide compatible grilles.
Power	3 duplex outlets in base, 1 in wall, 2 in floor. No switches.	Unknown. Not in compliance with current building codes.	Replace all switches and outlets, add new to accommodate new use.

Room:	**MULTI-PURPOSE**
Floor:	First
Level of Historic Integrity:	Low. French doors, projected window (now removed), fireplace (now removed) date from after period of significance. West wall was removed by the Hendries (currently infilled by temporary wall). These modifications obliterated original window configuration in room. Current trim appears to date from the Hendrie period. It is an imitation of the Parlor window trim, but lacks the taper. Portions of wood base appear to be original. Some plaster appears to be original, but there have been several modifications and infills.
Character Defining Features:	Crown molding, base. If restored: Double hung windows and locations.

Location	Description	Condition	Recommendations
Floor	2 1/4" oak strip, dark stain	Good. Floor, subfloor, and framing are believed to replacements. Considered compatible with the period of significance.	Clean and selectively refinish.
Walls	Painted on fabric wallpaper on plaster	Fair. 20 LF of plaster cracking	Remove wallpaper; prep and paint. Remove plaster and replace with gypsum wallboard.
Ceiling	Painted plaster	Fair Some peeling paint	Prep and paint. Remove plaster and replace with gypsum wallboard.
Base	7 1/4" Type 3	Good	Scrape, prep and paint.
Crown Molding	Painted wood, small	Good Some portion missing on N wall	Scrape, prep and paint; replace missing parts.
Doors	Wood/Glass French doors on north wall	Good	After period of significance – remove; infill opening to accommodate new double hung windows.
Door Trim	Painted wood Type D	Good	Existing French door opening will not be retained. Remove trim, salvage for possible reinstallation at new windows
Windows	One projected window – removed, temporary infill.	Removed	East wall: remove projected window remnants; rebuild jambs, partially infill opening, provide new wood double hung, 6/6 window to match typical. Provide

Location	Description	Condition	Recommendations
			two new wood 6/6 double hung windows at north wall
Window Trim	Painted wood Type D - Greek Revival with no taper	Good	Existing window opening will be resized to accommodate a new window. Remove trim, salvage for possible reinstallation, provide new trim where required.
Light Fixtures	None	N/A	Provide new light fixtures as required
HVAC	Radiator under E wall	Physical: Good Operation: Unknown	Remove. New heating system will be forced air. Provide compatible grilles.
Power	2 duplex outlets in base, 4 in wall. No switches.	Unknown. Not in compliance with current building codes.	Replace all switches and outlets, add new to accommodate new use.

Room:	**BATH**
Floor:	First
Level of Historic Integrity:	Low from period of significance, but high integrity from an era after the period of significance (bathroom dates from circa 1920-1926). It is a relatively pristine example of a bathroom from that era, with all fixtures and features consistent with the era of the bathroom. Compatible with the house's character. Plaster appears to be non-original (plaster on metal lath).
Character Defining Features:	Windows with divided lights, paneled doors, opening locations, window and door trim, spatial configuration, ceramic tile, sconces and fixtures.

Location	Description	Condition	Recommendations
Floor	Hexagonal porcelain ceramic tile	Fair Some cracking	Retain, repair and clean.
Walls	Painted wallpaper on plaster	Fair Buckled at corners	Remove wallpaper, prep. and paint.
Walls – Wainscot	Rectangular high gloss glazed 3 x 6 ceramic tile	Good A few minor cracks	Retain, repair and clean.
Ceiling	Painted wallpaper on plaster.	Fair Buckled at corners	Remove and paint ceiling.
Base	High gloss glazed ceramic tile	Good	Retain, repair and clean.
Crown Molding	None	N/A	N/A
Doors	Painted wood	Good	Scrape, prep and paint.
Door Trim	Painted wood Type A	Good	Scrape, prep and paint.
Windows	Wood 6/6 double hung	Removed, in storage Sash contains glass with etched historic signature	Restore, reinstall Alternative: retain sash with signature as historic artifact and replace with new to match
Window Trim	Painted wood Type A	Good	Scrape, prep and paint.
Built-ins	None	N/A	N/A
Light Fixtures	Wall-mounted switched incandescent "flame" fixtures	Physical: Fair – needs cleaning	Restore

Location	Description	Condition	Recommendations
	flanking mirror	Operation: Unknown	
HVAC	Radiator under window, circa 1940's.	Physical: Fair Operation: Unknown	Remove. New heating system will be forced air. Provide compatible grilles.
Plumbing	Cast-iron tub Ceramic toilet Ceramic sink with 2 metal legs	Physical: Fair Operation: Unknown	Retain
Power	1 duplex outlet on wall. 1 switch on wall.	Unknown. Not in compliance with current building codes.	Replace all switches and outlets, add new to accommodate new use.

NOTE: This bathroom is to be retained and modified to accommodate disabled individuals. Interior features will be retained where possible.

Room:	**STAIR HALL**
Floor:	First
Level of Historic Integrity:	Low from period of significance. High from period after period of significance (current configuration of this space underwent major modifications during a remodeling by the Hendries, circa 1920 -1926) that removed the original stair configuration. A door on north wall from Hendrie period, (possibly earlier) has been removed. Plaster and gypsum wallboard are generally not original.
Character Defining Features:	From period after period of significance: paneled doors, opening locations, door trim, base, detailing related to stair, spatial configuration.

Location	Description	Condition	Recommendations
Floor	2 1/4" oak strip, dark strip	Good	Clean and selectively refinish.
Walls	Painted plaster (south wall), gypsum wallboard and plaster on north wall.	Fair Peeling, and buckled at corners.	Remove, repair plaster cracks. Replace with period wallpaper.
Ceiling	Painted wallpaper	Fair. Cracking plaster, buckled wallpaper (30 lf)	Prep and paint
Base	Painted wood, Type 3 (north, west and east walls); a composite base on south wall.	Good	Scrape, prep and paint.
Crown Molding	None	N/A	N/A
Doors	Painted wood paneled	Good	Scrape, prep and paint.
Door Trim	Painted wood Type D	Good	Scrape, prep and paint.
Light Fixtures	None	N/A	N/A
HVAC	Modern return air grille on north wall.	Currently not connected.	Possibly retain for new HVAC system.
Power	3 duplex outlets in base, 1 double switch in wall.	Unknown. Not in compliance with current building codes.	Replace all switches and outlets, add new to accommodate new use.

Room:	**STAIR**
Floor:	First to Second
Level of Historic Integrity:	Low from period of significance. High from period after period of significance (current configuration of this space dates a remodeling by the Hendries circa 1920 -1926). Door on north wall from Hendrie period (and possibly earlier) removed.
Character Defining Features:	From period after period of significance: Stairway, handrail, balusters and related detailing and trim.

Location	Description	Condition	Recommendations
Risers	14 risers, 7 3/4" height Medium-stained oak	Good	Clean, selectively refinish.
Tread	Outside depth: 14” Inside depth: 5 1/2" Medium-stained oak	Good.	Clean, selectively refinish.
Handrail	Inside handrail: medium-stained 26” height No outside handrail	Good; slightly loose.	Clean, tighten.
Balusters	Painted wood	Good	Clean
Walls	Painted plaster on metal lath (curved).	Good. Previous wallpaper appears to have been removed.	Install period wallpaper.
Ceiling	See Second floor Stair Hall.	N/A	N/A
Base	Painted wood. Composite design	Good	Scrape, prep and paint.
Light Fixtures	See second floor hall.	N/A	N/A
Power	None	N/A	N/A

Room:	**STAIR HALL**
Floor:	Second
Level of Historic Integrity:	Low from period of significance. High from period after period of significance (current configuration of this space underwent major modifications during a remodeling by the Hendries, circa 1920 -1926) that removed the original stair configuration.
Character Defining Features:	From period after period of significance: paneled doors, opening locations, door trim, base, detailing related to stair, spatial configuration.

Location	Description	Condition	Recommendations
Floor	2 1/4" oak strip, light stain	Good	Scrape, prep and paint.
Walls	Painted wallpaper on plaster.	Good	Minor spackle repairs; prep and paint
Ceiling	Painted wallpaper	Good	Minor spackle repairs; prep and paint
Base	Painted wood Type 3	Good	Scrape, prep and paint.
Doors	Painted wood paneled	Good	Scrape, prep and paint.
Door Trim	Painted wood Type A	Good	Scrape, prep and paint.
Windows	None	N/A	N/A
Window Trim	None	N/A	N/A
Built-ins	Wood cabinets on west wall - painted	Good	Prep and paint
Light Fixtures	Switched overhead porcelain socket.	Non-historic, utilitarian.	Replace with compatible modern fixture.
HVAC	None	N/A	N/A
Power	1 switch on wall.	Unknown. Not in compliance with current building codes.	Replace all switches and outlets, add new to accommodate new use. Provide new light fixtures as needed.

Room:	**NORTH BEDROOM**
Floor:	Second
Level of Historic Integrity:	Moderate. Original east window with trim, and spatial configuration survive. North window and trim was relocated to current location during the Hendrie era, after the period of significance. Wood base appears to be original. Built-ins on south wall date from after the period of significance. Plaster throughout room likely non-original.
Character Defining Features:	Windows with divided lights, paneled doors, opening locations, window and door trim, base, spatial configuration.

Location	Description	Condition	Recommendations
Floor	2 1/4" oak strip	Good	Clean and selectively refinish.
Walls	Wallpaper over plaster	Fair. Some plaster cracking. Plaster is very hard – entire room may have been replastered.	Remove wallpaper, repair cracked plaster, Provide new period wallpaper.
Ceiling	Wallpaper over plaster	Fair Some plaster cracking	Remove wallpaper, repair cracked plaster, Provide new period wallpaper.
Base	7 1/2" Type 3	Good	Scrape, prep and paint.
Doors	Painted wood	Good	Scrape, prep and paint.
Door Trim	Painted wood Type A	Good	Scrape, prep and paint.
Windows	East wall: wood side-hinged, inswinging casement, 3 lights. North wall: Paired wood double hung 6/6.	Casement: good: North double hung windows removed, in storage. North window location not original.	Install two new or salvaged double hung windows on north wall at original locations. Casement: Restore
Window Trim	Painted wood Type A	Good. North windows not at original location.	At casement: Scrape, prep and paint. Provide new trim at new/salvaged north windows.
Built-ins	Closet and built in desk/shelves: painted wood	Good. Date from after period of significance (Barton era, post 1937)	Retain, prep and paint.
Light Fixtures	None	N/A	Provide new light fixtures as needed

Location	Description	Condition	Recommendations
HVAC	Radiator in corner	Physical: Fair Operation: Unknown	Remove. New heating system will be forced air. Provide compatible grilles.
Power	4 duplex outlets, 1 switch in wall at door.	Unknown. Not in compliance with current building codes.	Replace all switches and outlets, add new to accommodate new use.

Room:	**SOUTH BEDROOM**
Floor:	Second
Level of Historic Integrity:	High. Original south windows trim, base, and original east door remains. Small window on east wall is later, but still within the period of significance. West door dates from after the period of significance. Plaster appears to be original. Built-ins date from after period of significance (likely a Hendrie addition, circa 1920 – 1926). Presumed original perched brick masonry chimney survives concealed behind the built-ins.
Character Defining Features:	Windows with divided lights, paneled doors, opening locations, window and door trim, spatial configuration.

Location	Description	Condition	Recommendations
Floor	2 1/4" oak strip, dark stain Subfloor visible under built-in dresser	Good	Clean, selectively refinish.
Walls	Wallpaper on plaster	Fair. Some plaster cracking	Remove wallpaper, repair plaster cracking, provide new period wallpaper
Ceiling	Wallpaper on Plaster	Fair. Some plaster cracking	Remove wallpaper, repair plaster cracking, provide new period wallpaper
Base	6 1/2" Painted wood above finished floor Type B Shoe mold: stained wood	Condition: Good. Bottom edge of plaster wall terminates on top of base. Base sits on top of old floor. Shoe mold sits on top of new floor.	Scrape, prep and paint.
Doors	Painted wood	Good	Scrape, prep and paint.
Door Trim	Painted wood Type A	Good	Scrape, prep and paint.
Windows	South: two double hung windows. East: wood side-hinged, inswinging casement, 3 lights.	South windows: Excellent - restored by Lorri Sipes. East window – needs restoration	Restore west casement window
Window Trim	Painted wood Type A	Good	Scrape, prep and paint.
Built-ins	2 closets with drawers: painted wood	Good	Retain. Prep and paint.

Location	Description	Condition	Recommendations
Light Fixtures	None	N/A	Provide new light fixtures as needed.
HVAC	2 radiators, 1 in each exterior corner	Physical: Fair Operation: Unknown	Remove. New heating system will be forced air. Provide compatible grilles.
Power	3 duplex outlets in base.	Unknown. Not in compliance with current building codes.	Replace all outlets, add new to accommodate new use. Provide new light switch.

Room:	BATH
Floor:	Second
Level of Historic Integrity:	Low from the period of significance. This space has been modified three times over its history. Its north, east and south walls and wood base, date from the original upright construction. The west wall and base are later, likely from the date of construction of the addition to the upright, circa 1905. Its current configuration is believed to date from a circa 1920-1926 Hendrie remodeling. It retains high integrity from this period, which is after the period of significance. The bathroom fixtures are from a variety of periods. Refer to the Building Evolution for a detailed description of the evolution of this space.
Character Defining Features:	Elements from the period of significance: Window with divided lights, paneled doors, opening locations, window and door trim, wood base, spatial configuration. Because of changes made to the stairs by the Hendries, this space cannot be restored to the period of significance without a major reconfiguration of the stairs and the entire second floor layout.

Location	Description	Condition	Recommendations
Floor	+/-3 1/4" pine strip No subfloor.	Poor. Covered in linoleum adhesive.	Remove adhesive, provide new linoleum flooring.
Walls	Wallpaper on plaster	Fair Some plaster cracking	Remove wallpaper, repair cracks. Provide new period wallpaper or paint.
Ceiling	Wallpaper on plaster	Fair Some plaster cracking	Remove wallpaper, repair cracks. Provide new period wallpaper or paint.
Base	Type 3 on W wall Type 2 on N, S & E walls	Good	Scrape, prep and paint.
Doors	Painted wood paneled	Good	Scrape, prep and paint.
Door Trim	Painted wood Type A	Good	Scrape, prep and paint.
Windows	Wood top-hinged inswinging awning, 3 light	Fair	Restore
Window Trim	Painted wood Type A	Good	Scrape, prep and paint.
Light Fixtures	Incandescent sconce above vanity mirror Incandescent flush mount ceiling	Physical: Good Operation: Unknown	Replace sconce with period fixture. Replace ceiling fixture with neutral design modern fixture.

Location	Description	Condition	Recommendations
	light (switched).	Physical: Good Operation: Unknown	
HVAC	Radiator	Physical: Fair Operation: Unknown	Remove. New heating system will be forced air. Provide compatible grilles.
Plumbing	Cast-iron tub Ceramic toilet Ceramic sink on 2 metal legs	Physical: Fair Operation: Unknown	Reconnect to new supply lines. Verify sanitary drain function. Retain lavatory and toilet. Remove tub.
Power	1 duplex outlet on light over vanity, 1 switch on wall.	Unknown. Not in compliance with current building codes.	Replace all switches and outlets, add new to accommodate new use.

Room:	WING ATTIC
Floor:	Attic
Level of Historic Integrity:	High
Character Defining Features:	Wood framing, three covered abandoned stovepipe roof penetrations.

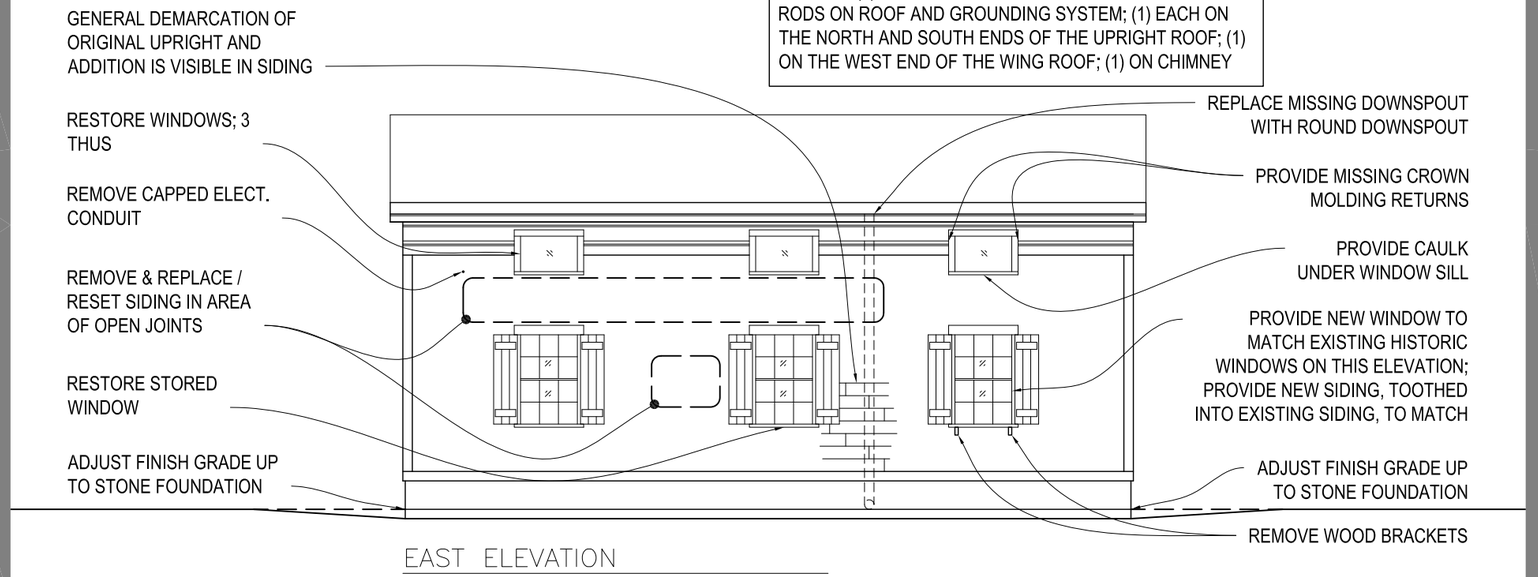
Location	Description	Condition	Recommendations
Roof Deck Stove Pipe Roof Penetrations	N/A	Good. Covered over on exterior with sheet metal panels.	Retain as is. No work recommended.

Room:	UPRIGHT ATTIC
Floor:	Attic
Level of Historic Integrity:	High. Depicts evolution of house by showing lumber differences and lack of ridge board in original section of Upright (addition of Upright has ridge board).
Character Defining Features:	Wood framing, at least one covered abandoned stovepipe roof penetrations.

Location	Description	Condition	Recommendations
Roof Deck Stove Pipe Roof Penetration	N/A	Good. Covered over on exterior with sheet metal panels.	Retain as is. No work recommended.



SOUTH ELEVATION



EAST ELEVATION



INCOMPLETE HISTORIC CORNER BOARD



OPEN JOINTS AROUND PORCH FLOOR



OPEN JOINTS IN SIDING ON SOUTH ELEVATION



OPEN JOINTS IN SIDING ON EAST ELEVATION



GHOSTING IN THE SIDING ON THE EAST ELEVATION, VISIBLE WHERE THE UPRIGHT ADDITION MEETS THE ORIGINAL HOUSE



EXPOSED FOUNDATION WALL

SOUTH & EAST ELEVATION

SCALE:
1/8" = 1'-0"

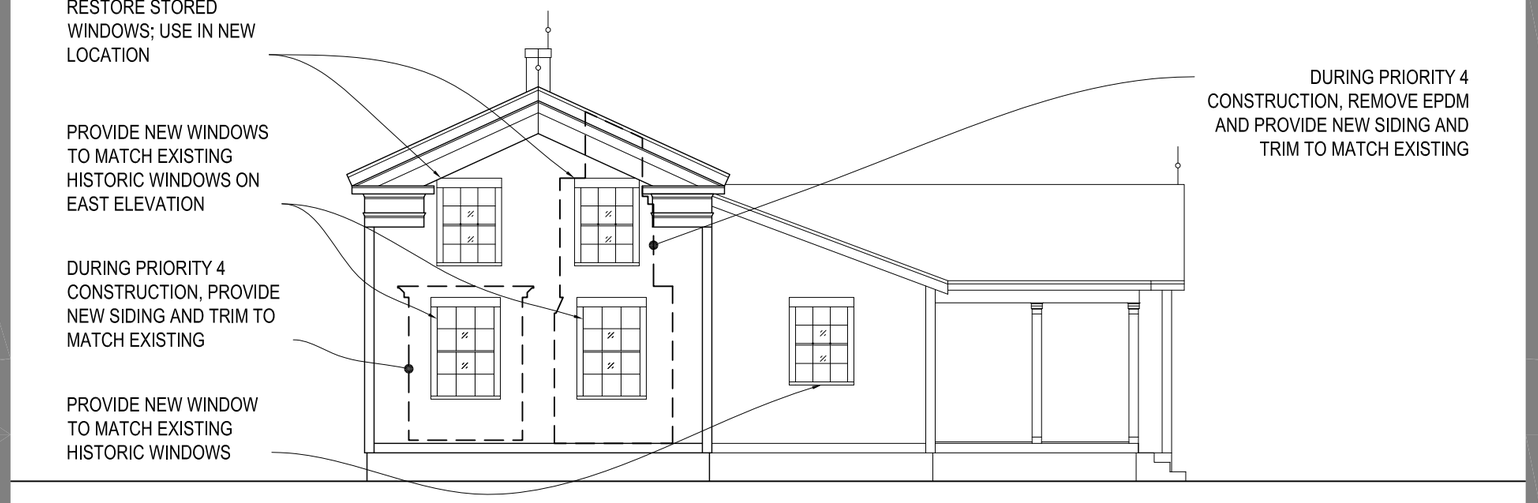


THE BENJAMIN-BARTON HOUSE
EXISTING CONDITIONS ASSESSMENT AND MASTER PLAN - JUNE 24, 2011

PRESERVATION BLOOMFIELD

HopkinsBurns DESIGN STUDIO
historic preservation & communities by design

SHEET
2-1



PROPOSED NORTH ELEVATION

NORTH ELEVATION



TEMPORARY FASCIA BOARD

MISSING CROWN MOLDING



GREEK REVIVAL TRIM DETAIL

MISSING FASCIA BOARD AND TRIM



HINGE ON CELLAR DOOR

OPEN JOINT BELOW WINDOW SILL

NORTH ELEVATION

SCALE:
1/8" = 1'-0"



THE BENJAMIN-BARTON HOUSE
EXISTING CONDITIONS ASSESSMENT
AND MASTER PLAN - JUNE 24, 2011

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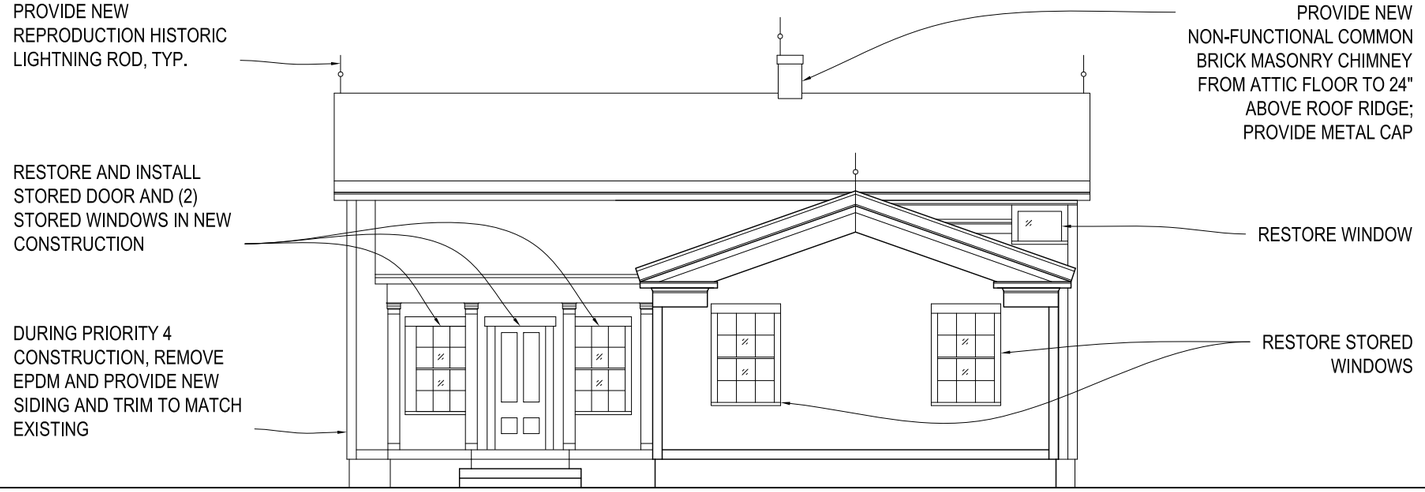
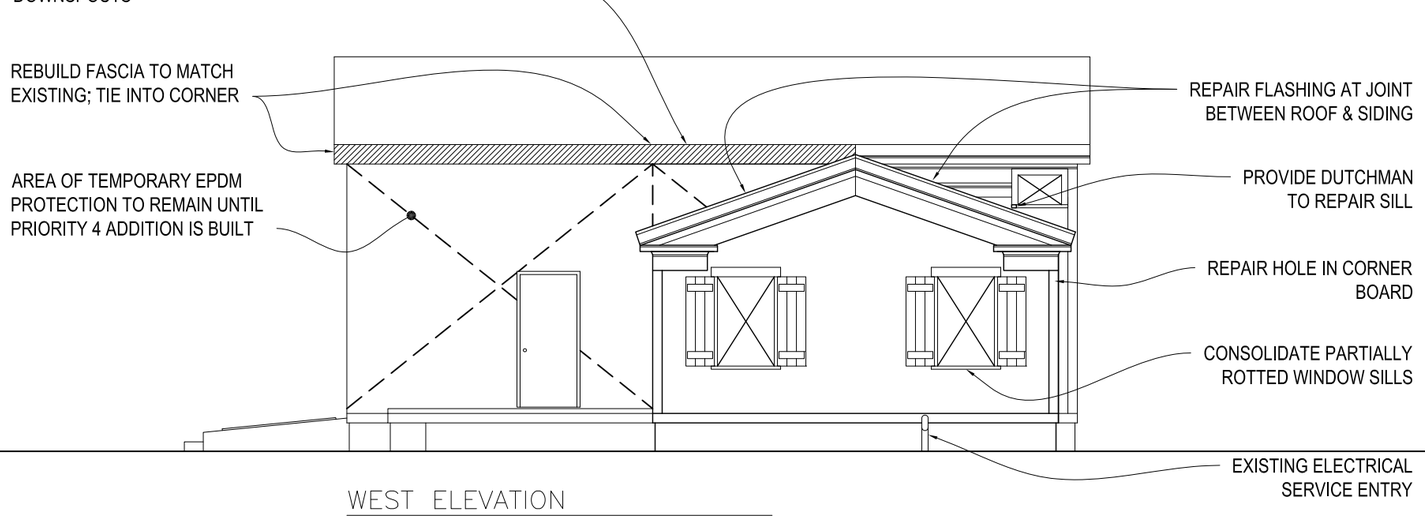
2-2



PROPOSED WEST ELEVATION



WEST ELEVATION



MISSING FASCIA BOARD



TEMPORARY OSB PROTECTION OF WINDOW OPENING



TEMPORARY EPDM PROTECTION



CORNER DETAIL



MISSING FASCIA BOARD



EXISTING ELECTRICAL SERVICE ENTRY

WEST ELEVATION

SCALE:
1/8" = 1'-0"



THE BENJAMIN-BARTON HOUSE
EXISTING CONDITIONS ASSESSMENT
AND MASTER PLAN - JUNE 24, 2011

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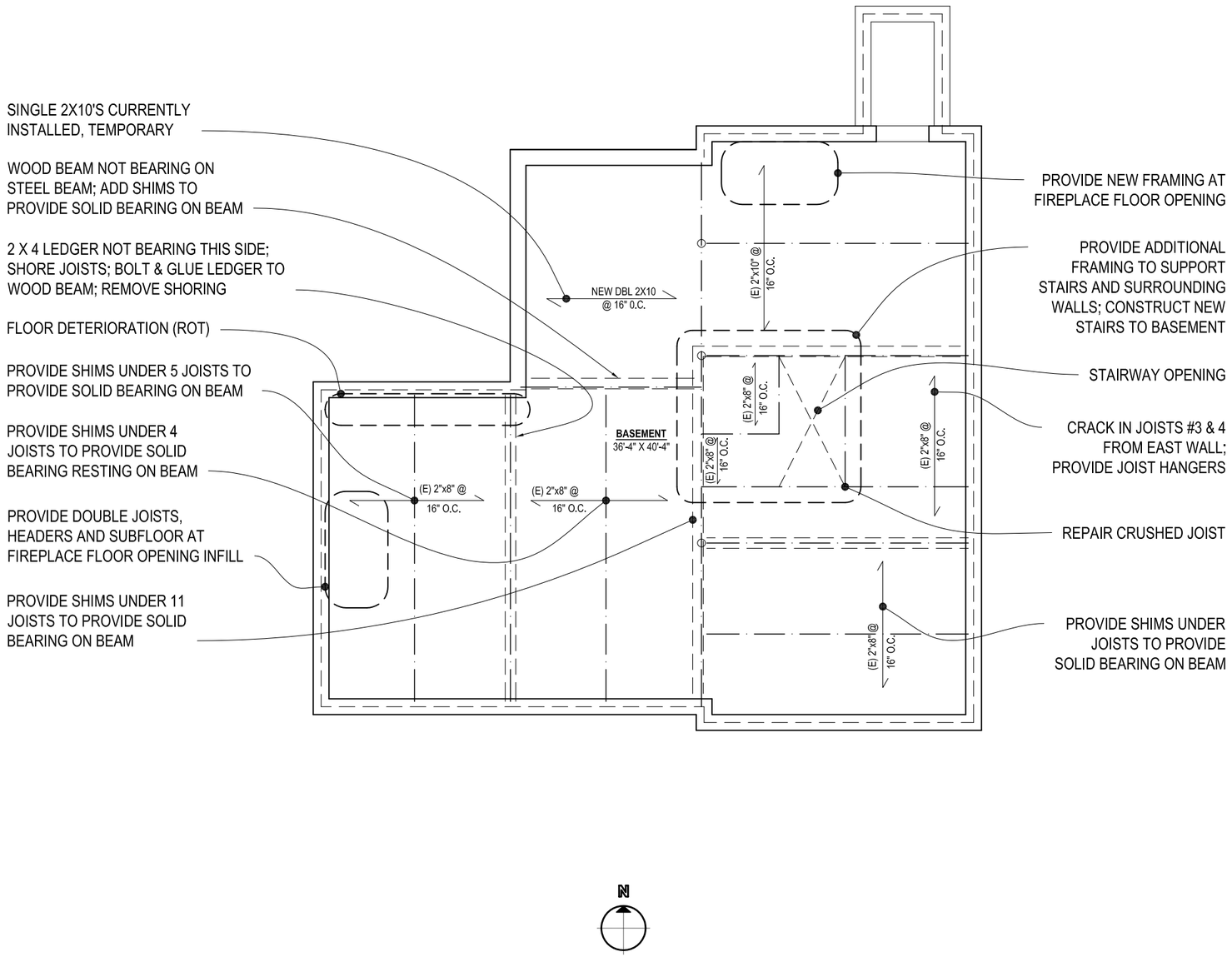
2-3





ORIGINAL, EXTRA-WIDE FLOOR BOARDS IN THE WING



CRACKS IN JOISTS



ORIGINAL OPENING FOR STAIR WAY



OPENING FOR CIRCULAR STAIR



NARROW MORTISE AND TENON JOINT AT ORIGINAL BASEMENT STAIR OPENING



CLOSE-UP OF NARROW MORTISE AND TENON JOINT AT ORIGINAL BASEMENT STAIR OPENING

BASEMENT FRAMING PLAN

SCALE: 1/8" = 1'-0"



THE BENJAMIN-BARTON HOUSE
EXISTING CONDITIONS ASSESSMENT AND MASTER PLAN - JUNE 24, 2011

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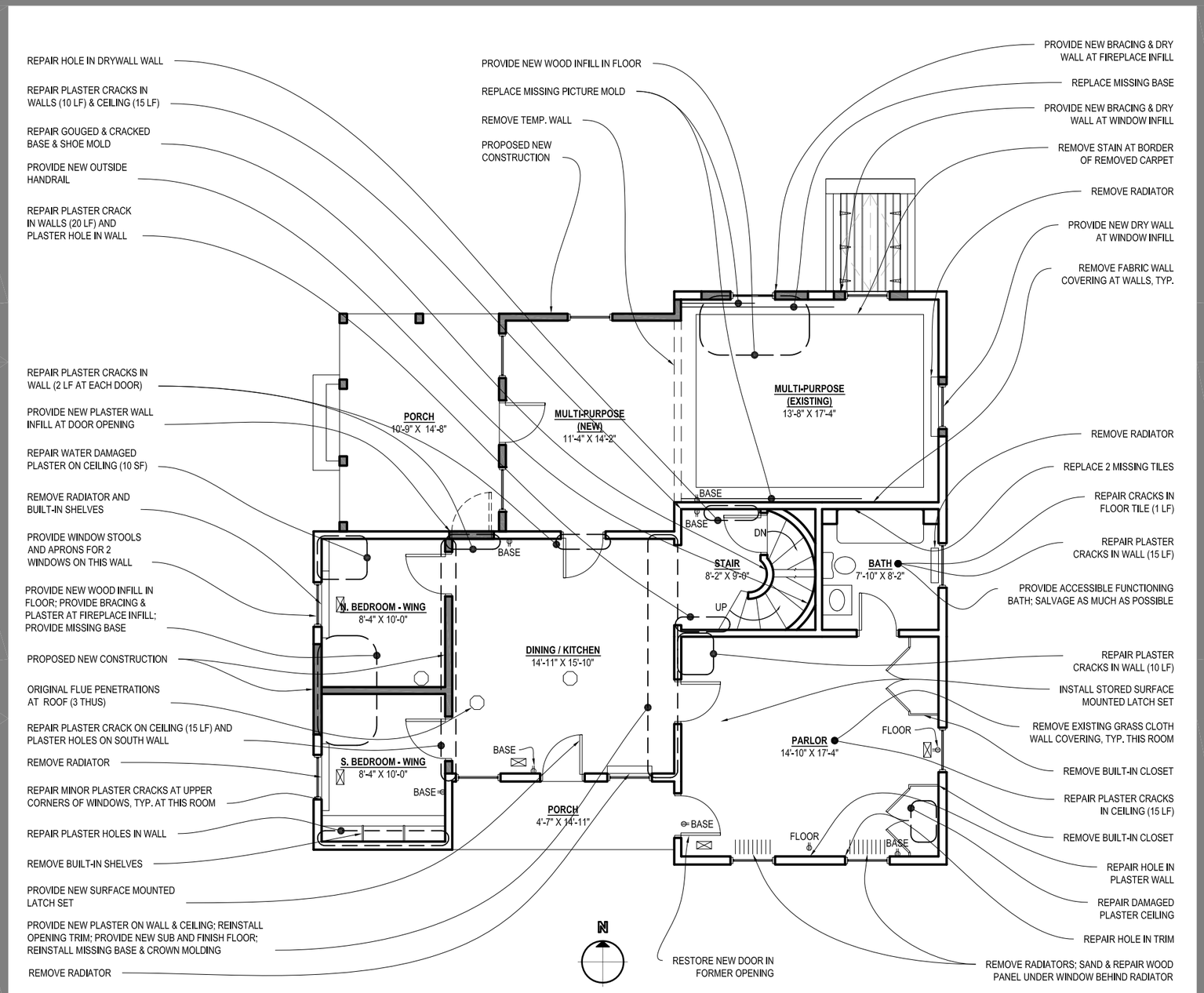




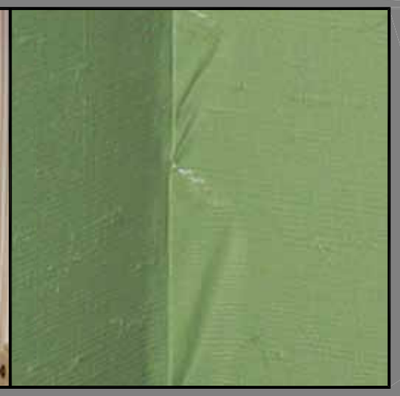
EXISTING BUILT-IN CLOSETS IN PARLOR



CIRCULAR STAIR, CIRCA 1926



GREEK REVIVAL DOOR TRIM (TYPE B) IN PARLOR



GRASS CLOTH WALL COVERING BUCKLED AT NORTHWEST CORNER OF PARLOR



WOOD BASE (TYPE 1) WITH MISSING SHOE MOLD IN PARLOR



TWO INSTALLATIONS OF CROWN MOLDING IN WING

FIRST FLOOR PLAN

SCALE:
1/8" = 1'-0"



THE BENJAMIN-BARTON HOUSE
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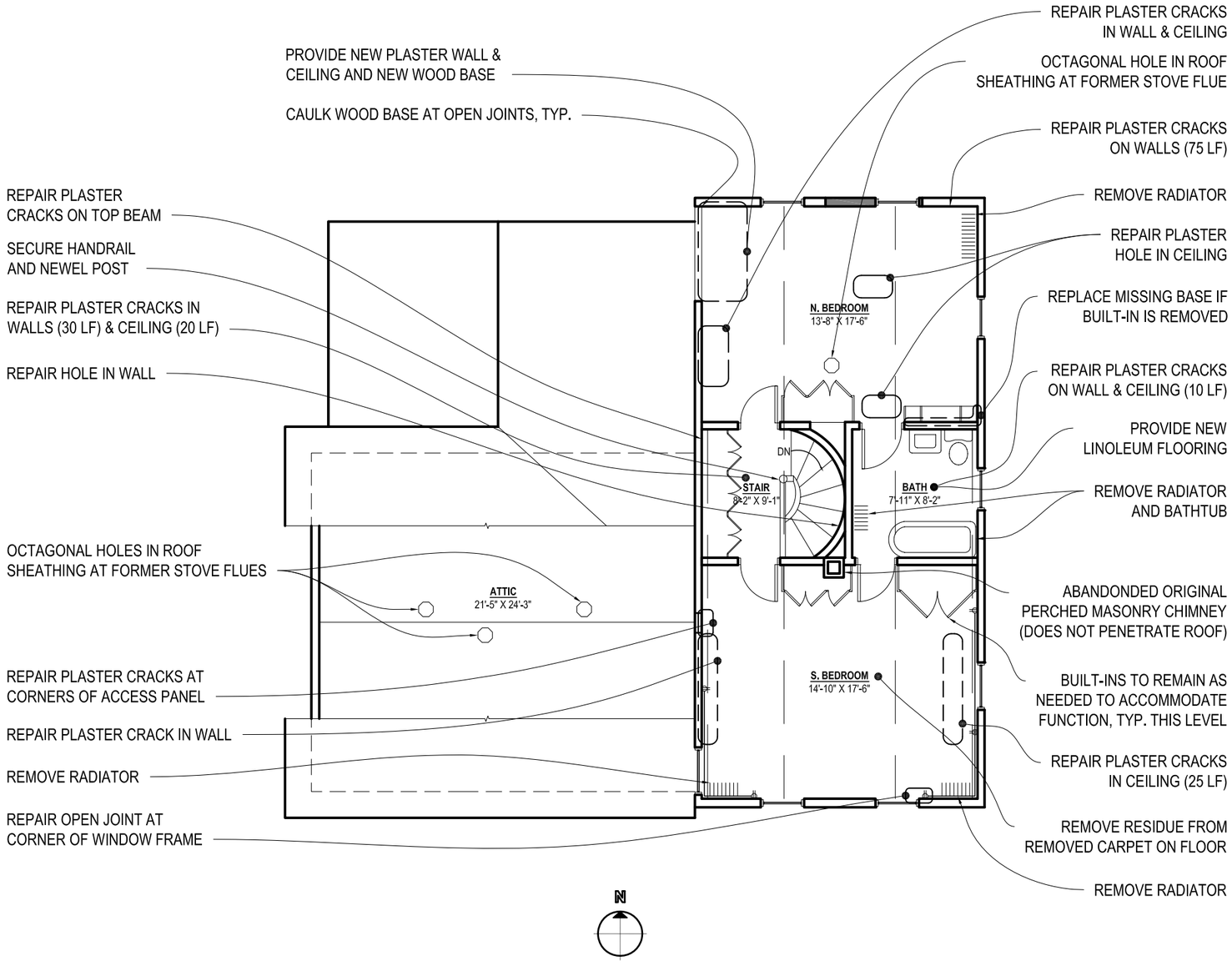
2-5





ROOF RAFTERS WITHOUT RIDGE BOARD IN ORIGINAL UPRIGHT



ROOF RAFTERS WITH RIDGE BOARD IN ADDITION TO UPRIGHT



OCTAGONAL FLUE PENETRATION IN SHEATHING IN UPRIGHT ADDITION ROOF



WINDOW TRIM (TYPE A) AND BASE (TYPE 3) IN N. BEDROOM



PLASTER FLUSH WITH BASE (TYPE 2) IN S. BEDROOM



PEELING PLASTER ON TOP BEAM IN BUILT-IN STORAGE IN SECOND FLOOR STAIR HALL

SECOND FLOOR PLAN

SCALE:
1/8" = 1'-0"

THE BENJAMIN-BARTON HOUSE
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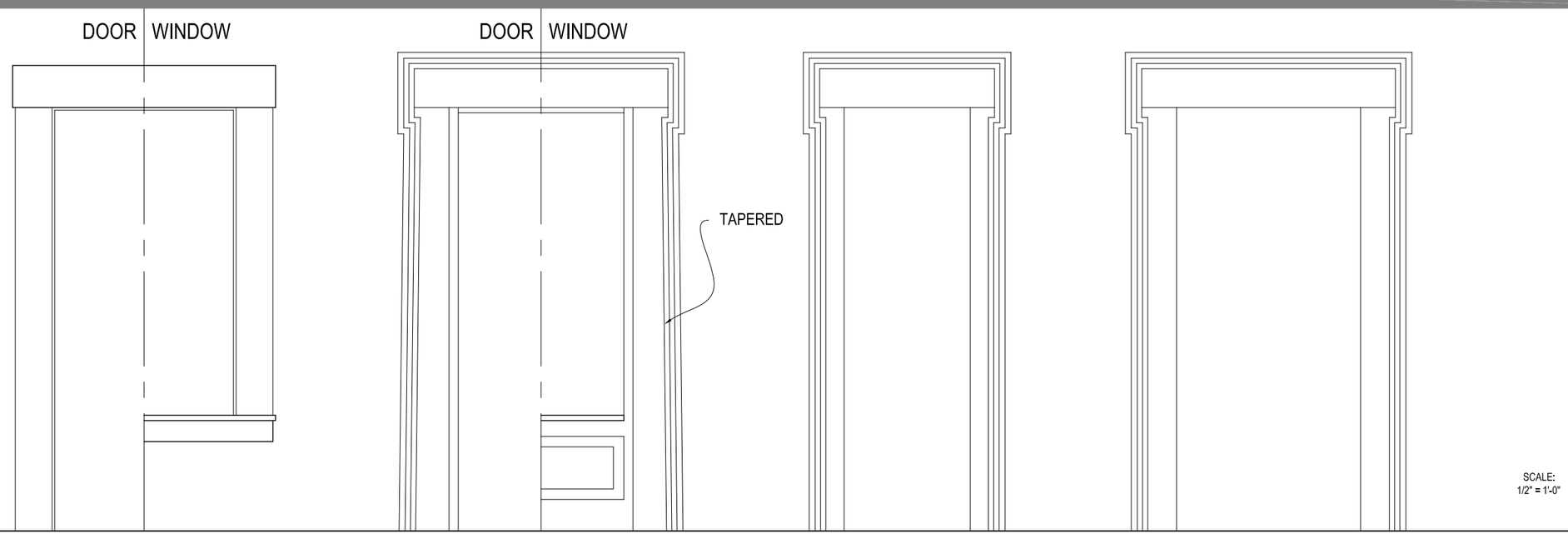
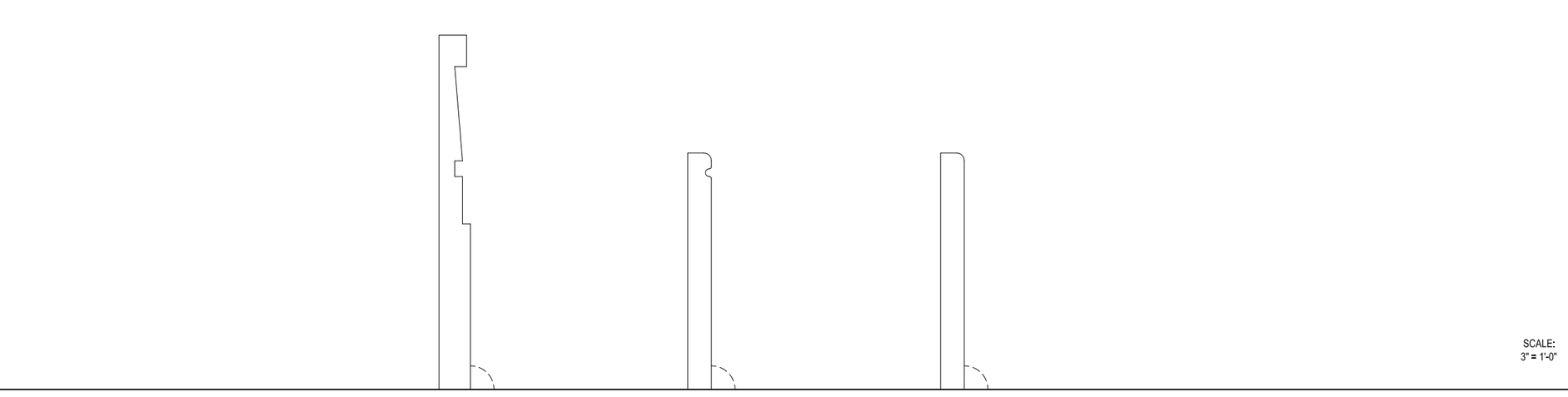
2-6



TRIM TYPES

SCALE:
1/2" = 1'-0"

TYPE A **TYPE B** **TYPE C** **TYPE D**



BASE TYPES

SCALE:
3" = 1'-0"

TYPE 1 **TYPE 2** **TYPE 3**

TRIM & BASE TYPES



THE BENJAMIN-BARTON HOUSE
EXISTING CONDITIONS ASSESSMENT
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2-7

Evolution of the Benjamin-Barton House

This section describes the various configurations that the Benjamin-Barton House went through between its original construction and the present day. An *Open Questions* section that presents discussion of unresolved historical evolution questions and alternative interpretations for inconclusive observations follows the descriptions of the five Episodes.

Historical Sources

At this time, limited detailed historical documentation on the Benjamin-Barton House has been found. Preservation Bloomfield has conducted diligent research that has yielded some historical information, including a few historic photographs, contemporaneous articles from the August-September issue 1926 *Afterglow* and the May 1927 *Antiquarian*, some information about owners transfers of ownership of the House, early tax records, and some records related to work done on the House, plus conversations with the Barton sisters. Little has been found regarding specific dates and events. Although Preservation Bloomfield continues to search for additional information, at this point much of the information we know about the evolution of the House has been gleaned from examinations of the construction details of the building. The following Episodes and timeline has been developed as an aid to establishing a period of historic significance for the House, and guiding the interpretation of the restored building. Although there are few firm dates, the sequence is fairly certain.

The information in this *Evolution* is based on the historical research provided by Preservation Bloomfield, as noted above, supplemented by targeted forensic investigations at the House carried out by HopkinsBurns Design Studio. Forensic investigations included the following:

- Limited selective demolition and cutting of observation holes to examine selected concealed conditions.
- Examination of cavities where rough construction can be observed.
- Close examination of building framing lumber, construction techniques, and materials such as plaster, lath, doors, windows and trim to determine differences in appearance, texture, profile, dimensions, configuration and composition that might inform the sequence of changes in the House.
- Basic paint serrations to identify the number of paint layers and general color sequence to help identify recent vs. old components, and to determine whether components have been relocated.
- Historic Paint Analysis, April 5, 2010 by HopkinsBurns Design Studio (included in Appendix).

The purpose of this *Evolution* description is to present the reader with an understanding of how the House evolved over its 160-plus years. It is beyond the scope of this report to provide a full *Developmental History* such as found in a full *Historic Structure Report* as defined by the National Park Service. Such a history would be documented by extensive

and exhaustive research, with a high level of detail presented in the text, and can run many dozens of pages in length for a house of this size and age.

Consequently, in this *Evolution*, detailed background for the information presented is provided only where it is germane to the understanding or justification of items that may not be immediately evident.

Preservation Bloomfield has provided a more detailed history of the building that can be found in the Appendix of this document.

Note: For the purposes of this report, references to compass directions refer to the current orientation of the House at the Bower's Farm site, not the original orientation on East Long Lake Rd.

Evolution Overview

The Benjamin-Barton House has undergone many changes over its 160-plus-year history. Changes such as the major additions by the Hendries are obvious when viewing the footprint of the House over its history. However, some interior changes are much less obvious. In addition, some changes obliterated previous configurations, making it difficult to find definitive physical evidence of original arrangements. To some extent it is impossible to determine, with absolute certainty, early configurations of spaces or components that no longer exist. In some cases various pieces of information and evidence are in conflict, and in other cases there may be no information or evidence. Information presented here is based on the best physical evidence available, historic photographs, documented history and interviews with living occupants. This is combined with knowledge of Greek Revival residential architecture and historic construction techniques, and represents the most plausible explanation of observations.

The areas of the interior which have seen the most change are the room(s) in the one-story Wing, and the Stair/Bathroom core of the Upright. The evolution of those areas is highlighted in detail in the following *Episodes.*

All history is subject to change as new information is discovered, and future discoveries may shed more light on the evolution of the Benjamin-Barton House. It is the belief of the authors of this report that the fundamental *Episodes* presented are well substantiated and will stand the test of time, although future discoveries may expand on the details within the Episodes.

Episode One (Circa 1842-Circa 1905)

According to Preservation Bloomfield's research, the House is estimated to have been built sometime after 1842. It is known that Mills Gillet paid taxes on the property in 1842 and the property was purchased by James D. Benjamin in 1844. The original configuration consisted of the one story Wing and the front portion of the 1½ story Upright, a common Upright-and-Wing configuration found in Greek Revival homes (refer to Sheet 3-1, Episode 1).

As this report developed, questions were raised as to whether the Wing was a non-original addition. However, during the move of the House in 2008, portions of the west wall of the Upright that are normally within the attic of the 1 story Wing were exposed, revealing the original west wall studs. The studs were not covered with siding, nor was there any evidence of nail holes corresponding to siding that may have been removed. There were in fact no nail holes in the west face of the studs, except for very small tack holes that precisely corresponded to the location of modern wire tacks that held a sheet cardboard sheathing in place, (removed by the authors of this report). If the Wing had been an addition, there would have been some evidence of siding attachment at this location.

The northern extent of the original 1½ story Upright portion was verified by examining roof construction in the attic. There is a clear change in roof construction technique and lumber size and type just north of the south wall of the North Bedroom. There is also a change in the internal roof ridge construction at that location, with the original portion of the House having no ridge board, while the addition to the Upright has a 1 X 6 ridge board. This corresponds exactly to where the original gable overhang would have terminated. Finally, "toothed in" siding can be seen on the east wall of the House at the juncture between the old and new sections. Clearly the north portion of the current Upright is a later addition.

There had also been some speculation that the recessed Porch was a non-original modification. However examination of attic framing suggests that it is part of the original construction. Furthermore, the Greek Revival Upright-and-Wing style of house with a recessed Umbrage Porch is common in books about Greek Revival architecture, and is found in other locations in Michigan.

One undated indistinct image from the August-September 1926 edition of the publication *Afterglow* shows the House in the Episode 1 configuration (Figure 2). The caption indicates that it shows the House "…before it was rejuvenated by the Hendries." Because it is indistinct, there was some speculation as to whether it showed the original configuration of the Upright, or the expanded Upright configuration that exists today. Computer models were made of the original and expanded configurations and were overlaid on the historic image. Using the relationship between the brick chimney (which clearly shows in the undated photograph, and still exists today) and the north end of the roof as a reference points, the models demonstrate that the image depicts the original unexpanded Upright. (Sheet 3-2)

Although the photograph in Figure 2 is undated, it is known that it can be no later than 1926 – the date of the *Afterglow* article. On the other end of the possible date range, we know that photography was still considered novel in the mid 1840s, and was primarily an in-studio practice, although itinerant photographers using cumbersome wet plates and tent darkrooms were taking photographs in the field during that time. However it is hard to imagine that someone would hire a photographer to take this rather nondescript photo of the back of a farmhouse. It instead has the look of an amateur photograph. By the 1880's dry plate and paper film processes had been developed, and the first consumer

cameras had been introduced by Kodak. Thus it is speculated that the photo dates from circa 1880s.

The image shows the immediate context of the farmhouse consisting of two outbuildings. The light colored building appears to be separated from the main house by a few feet, and is believed to have been a Summer Kitchen, a separate structure where the heat of the cooking in the summer could be kept away from the Living area of the main house. In the winter, cooking reverted to the main Kitchen in the House and helped warm the interior while the Summer Kitchen building typically served as storage. The Summer Kitchen structure appears to have either one double hung window and a door, or possibly two double-hung windows, and thus appears intended for habitation. The relationship of the two buildings implies the presence of a door at the rear of the main house Kitchen, and a corresponding door into the Summer Kitchen. The photograph also shows what appears to be a window or door at the rear corner of the Upright at the first floor.

The second darker colored building is clearly a farm-oriented outbuilding.



Figure 2. Photo of house, circa 1880s.Note outbuilding in foreground, presumed Summer Kitchen (center), and original Upright (left). Note sloped wall just to the right of the Upright: this is believed to be part of a porch covering than protected the back door. See Figure 3 for possible silhouette of this wall.

Examination of photographs from the 2008 move show a silhouette of early construction on the west wall of the Upright, offering evidence of a support for a small roof overhang over a portion of the rear of the House that extended up to the underside of the west eave of the Upright and covered the siding on the Upright above the west slope of the Wing. The circa 1880s photo from the *Afterglow* article also appears to show such a structure (Figure 2). The presumed configuration is shown in Figure 4, and is labeled “Storm

House Roof" on the rear of the House. A work log by Benjamin's son-in-law Miles Lowes references construction of "storm houses" being built in 1887, and that one was over "the stoop," and it is speculated that this refers to the Porch.



Figure 3. This picture was taken during preparation for the house move in 2008 showing silhouette of former construction at northwest corner of original upright. Note possible siding profile. This suggests a possible early porch overhang at the north wall of the wing. Note gutter on north wall of wing.

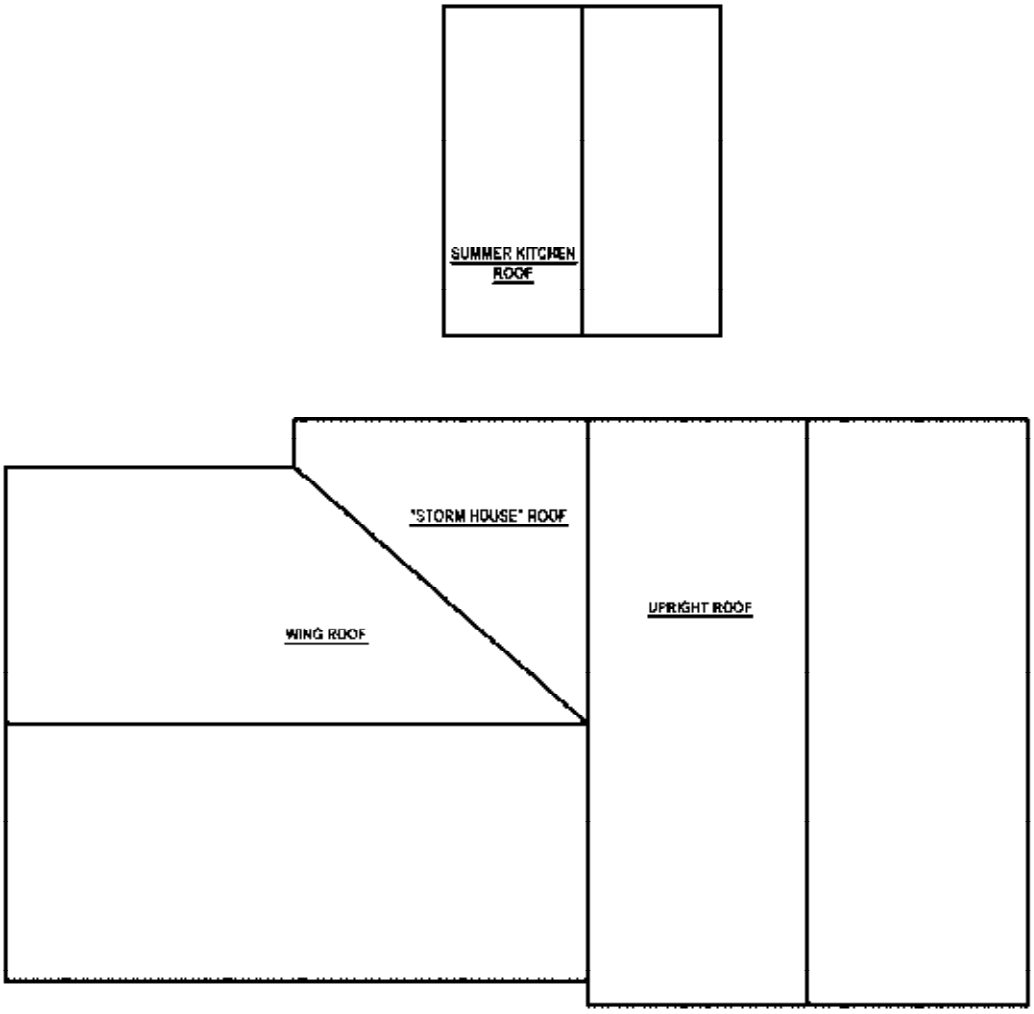


Figure 4. Presumed configuration of roof over rear door (labeled "storm house" roof).

It should be noted that the small "ankle windows" currently at the second floor were not present in Episode One. At first glance, the circa 1880s *Afterglow* photograph seems to show black blotches that have been interpreted as the ankle windows, however the blotches are not aligned with the first floor windows, and do not cut through the dark horizontal molding, and thus cannot be the ankle windows. Refer to Episode Two for additional information about these windows.

At the interior, the Parlor was clearly the finest room in the House, and features beautiful "elephant ear" trim, with an elegant taper on the jamb trim. Paint serrations suggest that this trim is original or very nearly so, based on its heavy paint buildup (6-7 layers), which

is consistent with the 8-9 layers found in the more aggressively used (and thus possibly more frequently painted) Winter Kitchen. The Parlor once had a “coffin door” opening on to the Umbrage Porch. Evidence of this door is found in a picture of the house during the Hendrie period (Figure 7). Joints in the wood base are visible in the Parlor, and the modern framing infill was visible during the moving of the House in 2008. There is some question regarding the door to the small Bedroom north of the Parlor. Its current door leaf appears to have paint stratigraphy that is identical to that of the Bedrooms in the Wing, suggesting that it is not original or has been modified at some point. The reason for this is not clear.

The one-story Wing of the House was originally partitioned into three rooms. Studies of other Upright-and-Wing Greek Revival homes with Umbrage Porches (including the Delano House in Kalamazoo, Michigan) support without exception the presumed three room arrangement in the Wing. There is written evidence that the Wing was once subdivided into two Bedrooms (*Afterglow* article, 1926), and studies of other houses of this type shows that the larger third room was typically a Winter Kitchen, and functioned as a Living space in the summer.



Figure 5. Evidence of former bedrooms walls in wing.

Forensic investigations revealed a joint and mismatched wood lathing where a north/south wall would be expected, as well as a trimmed-off window head trim where the wall would have interfered with the trim (Figure 5). Additionally, three covered-over

hexagonal holes in the roof decking in the attic further support the two Bedrooms and Kitchen arrangement, suggesting locations for earlier cook stove and/or heating stove flues that relate to the presumed wall locations. Finally paint serrations showed a different sequence of colors at trim in what would have been two of the three original rooms.

Some other Upright-and-Wing houses have a front-facing window in the alcove in the front Bedroom in the Wing (south west corner, south wall), however partial removal of plaster in that area showed no evidence of an earlier window in this house (Figure 6).



Figure 6. Investigations at south wall of wing show no indication of a window frequently found in house of this style. If a window had been covered at this location, a former header likely would have been found.

The east door on the north wall is believed to be original. Its heavy paint buildup (approximately 8 layers) is similar to all other samples taken in the room, and it is in a logical location to access the Summer Kitchen structure to the north. It is believed that there may have been a window west of the door, roughly where the current west door on the north wall is located. The current west door is not original. Its trim would have interfered with the Bedroom wall, and paint serrations revealed only 3-4 paint layers, compared to 8-9 layers on other trim in the room. A member of the Barton family recalled that the window was removed and replaced with a door.

The south door opening and flanking windows are original, having 9 paint layers, matching the paint accumulation on other trim in the room.

There is clear evidence that the current wide opening in the east wall of the Winter Kitchen is not original, due to details of construction, differences in the manner in which the trim is installed compared to other trim in the room, and presence of modern wood in south jamb of the opening. It is speculated that there were two openings in the wall, with the south opening serving the Stair to the second floor, and the north one serving a Hall (Sheet 3-1, Episode 1 and 2 plans).

It is speculated that the Hall to the north of the Stair provided access to the basement Stairs as shown. It is clear from examination of the mortise and tenon joinery of existing floor framing that there was an original floor opening to the basement at this location that has since been filled in with modern framing techniques. The location shown for the door to the basement is speculative, however plaster was observed on the east wall of the basement Stair opening, suggesting that there was no door there. Also, it seems unlikely that the basement would be accessed from the Bedroom or Parlor. As noted in the exterior description above, a circa 1880s photograph indicates either a door or window on the north wall, that would have served the Hall north of the Stairs.

It is known that the current Stair dates from the Hendrie era, but there is no documentation of the configuration of the original Stair. Field investigation revealed an angled gap in plaster behind the curved Stair wall that suggests the presence of an earlier stair stringer at that location. The angle of the plaster and size of the gap almost exactly corresponds to the dimension of a 2 X 12 stringer. It is therefore believed that the original stair to the second floor was a steep straight run stair. (Figure 10, top). This is consistent with other examples of Upright-and-Wing houses, including the Delano House in Kalamazoo.

The stair to the second floor is believed to have terminated into an open Hall at the second floor (the current location of the west Bathroom wall). The Hall provided access to the Bedroom to the south (Figure 10, top). It is possible that part of the Hall could have been partitioned off for storage.

Episode Two (Circa 1905-Circa 1920-1926)

Episode two is characterized by the northward extension of the Upright and the addition of a shed-roofed structure and Porch on the west wall of new Upright addition. These additions necessitated removal of the separate Summer Kitchen structure.

There is no precise historical documentation of when this addition was made, however it was after the grainy 1880's photo of the Episode 1 configuration, and based on the visual characteristics of the lumber observed in the attic of the addition, it is estimated to be during or after the early 1900s. Since Robert Heacock purchased the House in 1905, it is believed that the addition is his, and may have come soon after he purchased it, although this is not certain, and the date could have been later in his ownership.

It is obvious that the new second floor space in the Upright addition was a Bedroom, however the exact functions of the other new rooms are not known with certainty. At the first floor, it is speculated that the new shed roofed structure housed the year-round Kitchen, and the former Kitchen became a Living space such as a Sitting Room. This evolution – addition of a year-round Kitchen component, and conversion of the former Winter Kitchen component to Living space – was common in Upright-and-Wing houses. The first floor of the Upright addition may have become a Dining area.

Although the existence of the shed addition is certain based on evidence of a roof tucked under the Upright addition roof , the exact configuration is not certain. Based on examination of construction exposed during the moving of the House in 2008, it appears that the shed may have gone through at least two iterations over the building's history (see *Open Questions* below). Although a shed roof existed in this location at the time of the 2008 move, it was several inches above what appeared to be a piece of metal flashing that may have been part of an earlier roof tucked under the original eave of the Upright. This is believed to be the Episode 2 shed roof.

The west and north walls of the shed is believed to have been the same wall as the corresponding walls of the Episode Four Dining Room (Sheet 3-1, Episode 2 and Sheet 3-4, Episode 4). At the time that the House was moved in 2008, the west wall contained a door and two double hung windows, and had siding on the outside. Although in 2008 it was an interior wall, it clearly had once been an exterior wall. The windows and door appeared old, but well maintained, and were in a configuration that would be consistent with the wall of the Kitchen. The north wall had been much modified and contained a pair of French doors and a single door to the Hendries' Kitchen addition, and gave no indication of its original configuration.

Although this portion of the structure was not moved from the original building site on Long Lake Rd. in 2008, the two double-hung windows, door and related trim were removed and retained for future reinstallation.

At the second floor of the Upright addition, it is speculated that a new door was cut into the new Bedroom in the center, where the former window was located (Figure 10, bottom). Although this is not certain, it is logical, considering that a headered opening already existed there for the window. It is reinforced by the fact that the *current* door to the north Bedroom was clearly relocated from one of the first floor west Bedrooms by the Hendries when they removed the first floor Bedrooms, as evidenced by the matching paint stratigraphy on the door and the first floor Bedroom trim.

The small ankle windows along the east wall and west walls were added at the time of the Upright addition. This is evidenced by the fact that all ankle windows have bull nose jamb trim, which is used for the first time at the trim on addition. In addition, the paint stratigraphy for the ankle windows matches that on other trim in the addition at the second floor, and clearly shows fewer paint layers (approximately 3) than is evident on the trim on other older windows in the south Bedroom (approximately 6 layers). It seems logical that an ankle window would be added at this time to the landing room at the top of

the stairs because the addition to the north otherwise would have rendered the space windowless. Because ankle windows are a common Greek Revival characteristic that permitted introduction of light into long low second floor walls, their addition is not surprising.

A second floor Bathroom may have also appeared during Episode Two (see Figure 11, top), but its exact date is unknown. An alternative interpretation is that this Bathroom was not built until Episode 3 (Figure 11, bottom). Because of the range of time during which the Bathroom could have been constructed, and the significant changes that have occurred to the Stairway and Bathroom core, and the limited amount of physical evidence, the evolution of the second floor Bathroom is somewhat speculative. What is presented here is a possible logical evolution based on limited physical evidence.

Assuming that the addition was built circa 1905, it is unlikely that the Bathroom was built at the same time, since American-made vitreous china water closets first appeared in 1907. The use of elevated tank water closets ended circa 1910-1915. The water closet in second floor Bathroom is not elevated, but is of an early wall-mounted tank design, so it is speculated that the Bathroom is circa 1915.

It is also speculated that the current configuration of the Bathroom could not have coexisted in Episode Two with the straight run stair because it would require a person to go through the Bathroom to access the north and south Bedrooms. Instead it is believed that the Bathroom was smaller, as shown in Figure 11, top. This would mean that the current bathtub was a later addition, and that the original bathtub was smaller. It is known that the current lavatory sink is identical to the sink installed by the Hendries in the first floor Bathroom circa 1926, so it is clearly a replacement, supporting the theory that the earlier sink was much smaller, and perhaps a corner sink to conserve space.

The arrangement of other rooms during Episode Two was unchanged from Episode One.

Episode Three (Circa 1920-1937)

Episode 3 represents ownership and occupancy of the House by the Hendrie sisters. In this episode, major modifications to the footprint and interior organization of the House were made, transforming its character significantly, and turning it into a rambling country estate (Figure 7). However, much of the integrity of the early Upright-and-Wing was respected.



Figure 7. The House during the Hendrie era, circa 1926. The Hendries' addition is to the left. The original Greek Revival core is to the right. Note coffin door in the recessed Umbrage Porch at right.

Between 1920 and 1926, the Hendrie sisters carried out a major transformation of the House. A two-story addition with a separate basement was built at the northwest corner of the House. On the first floor it contained large Kitchen and informal Dining area, as well as a butler's pantry, Bathroom, storage, and support areas. Off the Kitchen, a service stairway led to the second floor. On the second floor the addition contained Bedrooms and a Bathroom. The second floor rooms in the addition were joined to the Upright by a door into the north Bedroom.

An attached Garage with carriage doors with multiple lights was built on the west side of the new addition.

In the older portion of the House, the former Dining Room and Kitchen to the north were combined into one formal Living Room, with a brick fireplace flanked by French doors. In the northwest corner of the room was a door that accessed the Kitchen in the new addition. The trim in this room was replaced with trim that mimicked the "elephant ear" Greek Revival trim in the Parlor, but lacked its elegant subtle taper. A terrace was built immediately north of the large Living area, accessed by the French doors. Sometime prior to 1926 the terrace gained a metal pipe framed canvas roof/awning. Finally a new Porch was built on the northeast corner of the Upright, also accessed by French doors from the enlarged Living Room.

The Porch on the west side of the House was retained, however it is speculated that its roof may have been raised at this point, based on examination of framing when the House was moved. Significantly, however, with the addition to the House and the changes to its

interior organization, the west Porch now became the main entry to the home. The original front entry facing the street remained, but was secured shut.

In the original Wing, the walls that defined the two Bedrooms and Kitchen were removed, converting the whole Wing into a formal Parlor, also with a new brick fireplace. The old Parlor became a Bedroom and the small Bedroom behind it was converted into a new tiled Bathroom. The door to this Bathroom was clearly relocated from one of the first floor west Bedroom walls in the Wing that were removed during this remodeling. Evidence of this is the matching paint stratigraphy on the door and the first floor window trim on windows located in the former Wing Bedrooms. It is not clear why this door was relocated. It is possible that the door opening location was shifted slightly in the wall during this period for improved functionality of the Bedroom and Bath. The trim on the east side of the Parlor side of the opening appears to have been adjusted to accommodate the adjacent built-in cabinetry, which is known to have been installed during this period.

The original straight stair to the second floor in the Upright was removed and replaced with a curved colonial style stair, and a full glazed door with divided lights was installed to connect the first floor Stair Hall to the new Living/Dining Room.

At the second floor the introduction of the curved stairway permitted a new connection between the old north and south Bedrooms along the west side of the House, and the built-ins along the west wall were likely built at that time. It is speculated that the small Episode Two Bathroom was enlarged, receiving a new larger claw foot tub, and new lavatory sink matching the sink at the first floor Bathroom. The Bathroom was made directly accessible to both Bedrooms, and a new wall was built between the Stair and Bath. As noted in Episode Two, and similar to the first floor Bathroom, the north Bathroom door was relocated from one of the first floor west Bedroom walls in the Wing that were removed during this remodeling campaign. Evidence of this is the matching paint stratigraphy on the door and the first floor window trim on windows located in the former Bedrooms in the Wing.

Because the Hendrie era is the first where interior photographs are available, there is an opportunity to gain some information regarding interior finishes. Unfortunately the information is limited. Photographs from the *Afterglow* and *Antiquarian* articles show only the Wing, first floor Stair Hall, and Living/Dining Room (Figure 8). At that time, interior trim was painted in those rooms, that the current wood finished flooring in the Wing was present, that wall finishes in the Wing, first floor Stair Hall, and Living/Dining Room were wallpaper, and that there was a small picture molding at the top of the wall in the Wing and Living/Dining space. These moldings are still present in both rooms.



Arnold

The little circular stair goes up from a small hall at one end of the "parlor." The center-table with its album, shell and stiff little vase of zineas is typical of the Victorian atmosphere of this room.



Arnold

Most of the furniture in the dining room is old maple. The screen is made of green and white French wall paper and you can just glimpse a piece of the maple corner cupboard with its hoard of old china.

Figure 8. The interior of the house during the Hendrie era. First floor Stair, looking from the Hendries' Parlor (top); Sitting/Dining Room (bottom).

Many additional minor modifications were no doubt made to the interior during this Episode including wall finishes and construction of built-ins and trim modifications, however the dates of these cannot be identified with certainty. Some of the modifications present before the building was moved in 2008 could have dated from either this Episode or Episode Four. Readers interested in further details and photographs may wish to consult the 1926 *Afterglow* and 1927 *Antiquarian* articles.

A photograph dated circa 1937 shows the House toward the end of Episode Five, and most likely represents the House as the Bartons bought it.

Episode Four (1937-2008)

Episode Four covers the period 1937 to 2008, representing the seventy-year period that the Barton family owned it, as well as the brief ownership by the Mancini Development Company, ending at the time when it was transferred to the City of Bloomfield Hills (Figure 9).

During this Episode, the Porch on the west was fully enclosed and the roof was extended west to form a new shallow Porch. Existing windows on the north and south end of the enclosure were converted to doors, creating a passageway between the Kitchen Wing and the formal Parlor in the original Greek Revival Wing.

In the Kitchen Wing beyond the passage, the Bartons added a wall of storage closets and added or remodeled a guest powder room. The orientation of the service stairway changed. Modifications were made to the back exterior doorway in the Kitchen and Stairs to the basement. A walk-in safe was added to the back basement.

In the older portion of the House, a change was made in the first floor area at the bottom of the curved stair. A wall was modified and the glass door with lights was changed to a panel door. At some point, presumably late in this period, the door was completely removed and walled over. In the master Bedroom (original Parlor), a small closet in the southwest corner where the coffin door was in the *Afterglow* article, was removed at some point and replaced with the two large closets on the east wall. There was also an early electrical security system located on that wall. Extensive changes were made to the foundation and floor in the front basement.

A three-car Garage addition was built late in this Episode, linked by way of a covered breezeway to the former Hendrie Garage, which was built on grade. The former Garage was converted to a laundry/utility room, enclosing the overhang at the south wall, and installing double hung windows.



Figure 9. The House at the end of the Barton era, showing the original Greek Revival core (left), the Hendrie addition (center), and the Barton's new garage (upper right).

The Bartons enclosed the Hendries' Terrace at some point during their tenure in the House by adding columns supporting a permanent roof, and sliding glass doors. The Porch on the east end of the Dining/Sitting Room was removed and the French Doors to the Porch were replaced with a projected window.

No doubt other lesser modifications to the interior details were made during this Episode, however it is difficult to know their dates with any certainty. These items may include built-in bookcases, changes in door locations and floor finishes.

Episode Five (2008-present)

This Episode is characterized by the decision to move the House to the School Farm and restore it to one of its earlier pre-Hendrie time periods. When the House was divided into sections to move it to the Bowers Farm, the portions built by the Hendries and Bartons were left behind and demolished.

Period of Significance

The Benjamin-Barton House has in effect had two distinct lives. The first was as one of the early farm homes in the area, and the second as a rambling retreat and suburban home.

As a farm home, it evolved from its construction circa 1842 in an orderly fashion with understated additions that grew organically and reflected its original construction as a fine example of the Greek Revival Upright-and-Wing residential style. Even as it grew as a farm home, it continued to reflect the lifestyle of the working farm family.

By contrast, its second life was characterized by major transformation, introducing a more casual, rambling floor plan. Although these additions were executed with attention to design and workmanship, utilized Greek Revival details, and created interesting living spaces, they were in no way a continuation of the simple Greek Revival aesthetic or the working farm lifestyle. The changes served a more leisurely way of life, providing a retreat for the Hendrie sisters, and later a comfortable suburban home for the Bartons. In this context, the house was only one of many beautiful suburban homes that evolved in the area during the twentieth century.

A major part of the House's historical significance is that it still retains its original character as one of the area's earliest Greek Revival homes. The earliest portions of the exterior and interior of the House are still largely intact. And even where changes were made, the house still bears evidence that tell of its configuration before the modifications were made. It represents a unique specimen from the early years of Bloomfield Township's history, and a rare example of the rural farming life that has now been largely consumed.

The portions of the House that reflect the rural farming lifestyle are those built prior to circa 1920, when the house was sold to the Hendries. They consist of the original Upright-and-Wing, the extension of the Upright, the former Kitchen addition and the Side Porch. The period that encompasses construction and use of these elements is broad, extending from circa 1842 – circa 1920. More specifically, however, the years that reflect the House in its maturity as a farm home are circa 1850 – early 1900s. By this time the Upright, Kitchen, and Porch additions had been built, and the home would remain in this configuration until the Hendrie sisters started its major transformation to a completely different type of home in the 1920s.

The circa 1850 – early 1900s period of significance permits the farm life story to be told in the context of the School Farm, and dovetails with the desire to celebrate that period in Bloomfield Township via the oldest portions of the House.

For purposes of interpreting the House through exhibits and furnishings, and decoration, and telling its story in the context of the School Farm, the interpretive period that the interior of the house's preservation zones will portray has been selected to be Pre Civil War (Pre-1861).

Open Questions

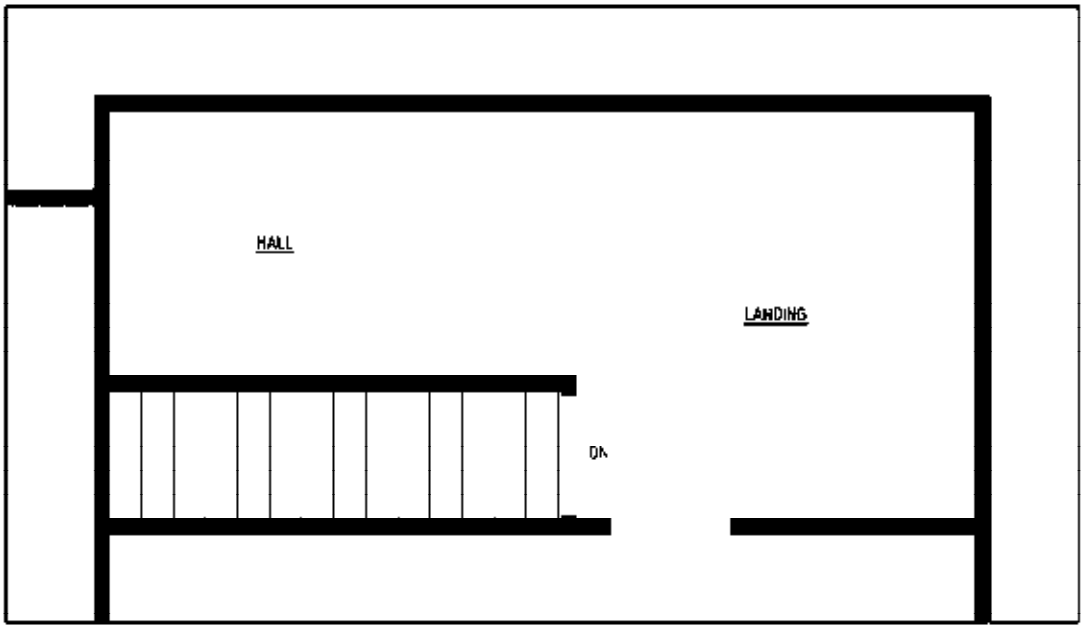
The authors of this report feel that the overall evolution of the Benjamin-Barton House set forth above is generally reliable. Continued research is encouraged to attempt to further identify dates associated with the steps in the House's evolution. However some uncertainties remain that should be noted.

North Wall of Wing – Episode One:

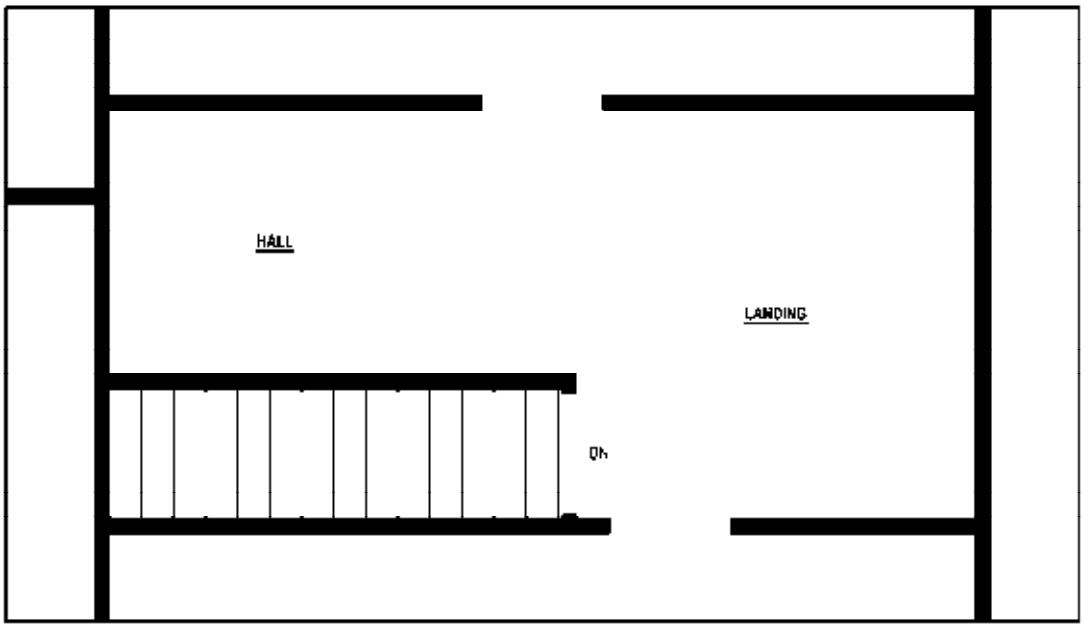
There is some evidence of a roof over the rear door at the north elevation, as described in Episode One. However its date is not certain. In addition, observations made during the disassembly of the building for moving in 2008 revealed some remnants of early construction that are difficult to explain. There is no eave for the east 2/3 of the wall. This is consistent with the addition of the shed roofed Kitchen in Episode 2, however there is also a piece of gutter attached to the edge of the roof at the line of the wall, that has been bent up as if it was used as a piece of flashing. It is difficult to understand why there would be no eave, but still a gutter in place, bent up as a piece of flashing. It is speculated that there may have been an earlier overhang attached to the edge of the roof. Perhaps the eave was removed, or even never existed at that location, and the gutter represented some interim configuration that was consumed by later construction. Unfortunately no explanation has been developed at this point that fully explains this condition.

Second Floor Bathroom:

There is some uncertainty about when the addition to the Upright was built, and that impacts the evolution of the second floor Bathroom. If the addition to the Upright was built later than estimated in the Episode Two description, such as circa 1915-1920, the Bathroom could have been built at the same time as the addition. If so, the large open second floor open landing may have never existed during Episode Two, and the Stair/Bath configuration jumped directly from the Episode 1 configuration to the Episode 2.1 layout (Figure 10, top and Figure 11, top).

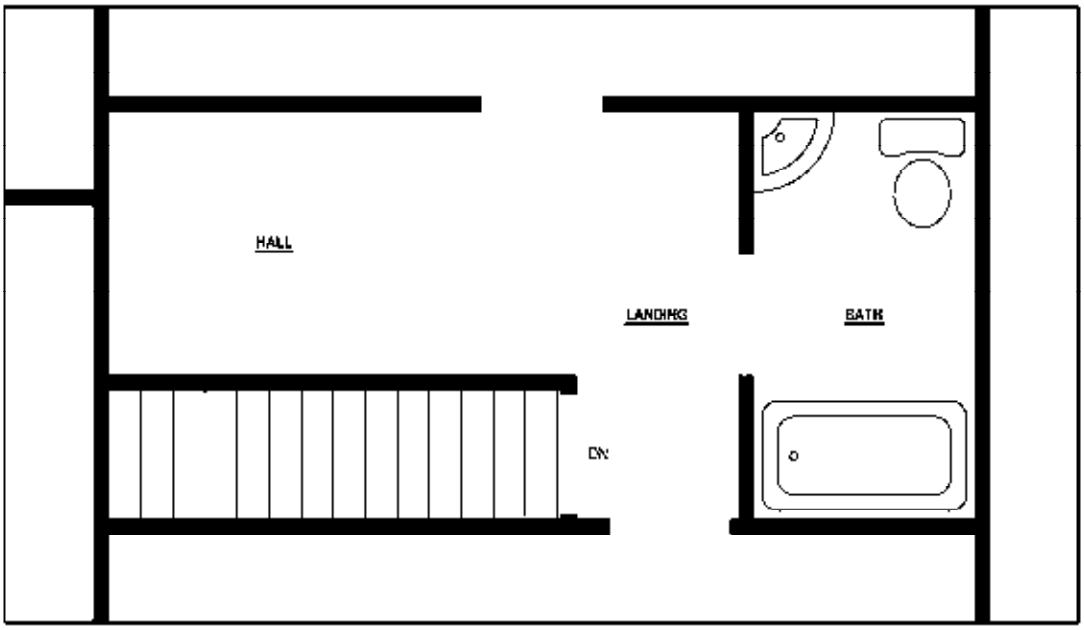


2ND FLOOR STAIR HALL PLAN
EPISODE 1
SCALE 1/4" = 1'-0"

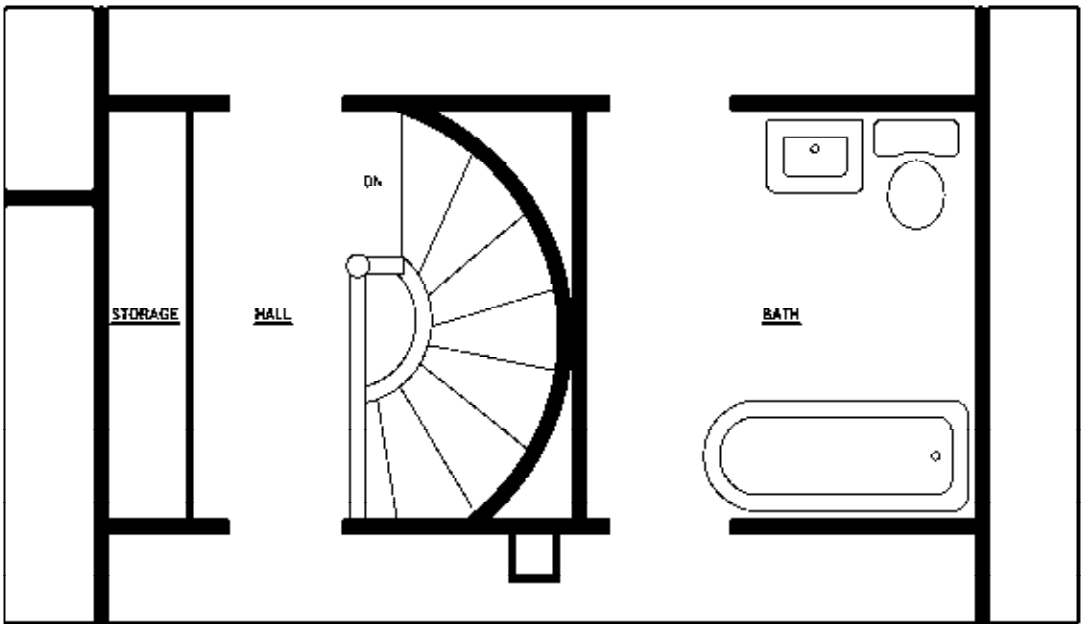


2ND FLOOR STAIR HALL PLAN
EPISODE 2
SCALE 1/4" = 1'-0"

Figure 10. Presumed original stair configuration (top); presumed stair configuration afer Upright addition (circa 1880s, bottom).



2ND FLOOR STAIR HALL PLAN
EPISODE 2.1
SCALE 1/4" = 1'-0"



2ND FLOOR STAIR HALL PLAN
EPISODE 3
SCALE 1/4" = 1'-0"

Figure 11. Presumed stair and bathroom configuration if bathroom was added in Episode 2 (top); current bathroom configuration, built by the Hendries during Episode 3.

Although the small second floor Bathroom scenario selected as most likely for Episode Two may seem surprising, and is acknowledged as being somewhat speculative, it in fact best fits the evidence discovered. An alternative scenario was also considered where the Bathroom would have originally been built in its 2008 configuration during Episode Two. However this would have necessitated an interim stair configuration – perhaps a square L- or U-shaped stair that would have created a passageway connecting the Bedrooms on the west similar to today's configuration. Without such a stairway revision, the straight run stairway would have terminated in the Bathroom, and one would have had to pass through the Bathroom to access either Bedroom – a highly unlikely scenario. This scenario was also felt to be inconsistent with paint stratigraphy that clearly indicated that the north Bathroom door was originally one of the first floor Wing Bedroom doors, and thus could not have been installed in its current location until the Hendries removed the Wing Bedrooms during their tenure.

Another alternative interpretation is that there was no Bathroom during Episode Two, and that the Hendries built both Bathrooms. However, the water closet at the second floor is of a much earlier vintage, while the lavatory sink is identical to the first floor sink, and it is difficult to explain this odd combination of fixture vintages.

Admittedly, the selected scenario also raises questions:

- As stated in the Episode Two description, the original bathtub would have to have been smaller than the current tub in order to fit in the assumed Bathroom size. Although this may not seem realistic, small tubs – approximately 48" long – were in use at that time, and that was a time period when "modern" indoor Bathrooms were frequently being squeezed into tiny interior spaces such as this, so this is plausible.
- Why did the Hendries install another larger claw foot tub when they expanded the second floor Bathroom instead of leaving the smaller tub, or installing a modern tub such as the one installed at the first floor? The answer may be this: a larger tub was desired to meet expectations of the day. Since a full size tub would have to extend into the doorway several inches, a modern enclosed tub such as that installed at the first floor could not have been installed, while a larger claw foot tub without a skirt would still be visually acceptable, even if it extended into the doorway.
- Why are the tub and water closet of an early vintage, while the lavatory sink is newer? The answer could be that the removal of the wall by the Hendries provided an opportunity to install a larger more useful sink to replace an earlier cramped sink, and it was convenient to purchase the same sink as that was being used at the first floor. It is also possible that the Barton's update both sinks when they made improvements to the house.

Flooring In The Wing:

As noted elsewhere in this report, the flooring in the Wing is 3 ¼", while other strip flooring in the building is 2 ¼". This is curious, and the reason for the difference is not clear. Since there is currently no evidence of silhouettes or nail holes from original Bedroom walls in the flooring, the flooring is speculated to date from the Hendrie sisters'

remodeling in the 1920's, prior to 1926. Supporting this theory is the fact that a picture of the Wing in 1927 *Antiquarian* article shows a floor register near the original front door, and the current floor shows a wood patch at that location.

However it is also possible that the flooring predated the Hendries. When they renovated the Wing, they may have replaced only the flooring in the area where they removed the former Bedrooms, and replaced it new material that matched the old flooring that remained.

Flooring and Framing Under Wing:

The joists under the Wing have without a doubt been replaced at some point.

The current joists are fairly smooth with faint circular saw marks, and are approximately 1 5/8" wide, whereas the joists under the first floor of the Upright are very rough, 1 7/8" wide, with clear vertical saw cut marks. The notches in the main beams that carry the new 1 5/8" joists under the Wing are wider than the "new" joists (resulting in gaps on the sides of the notches), whereas the notches for all other joists in the building are tight. This suggests that the notches under the Wing were originally cut to carry the original wider joists. However it is puzzling that the floor boards that rest on both the newer joists in the Wing and the older joists in the Upright are identical. They both have circular saw cut patterns, are tongue and groove, are the same width - 7 1/2", are very thick - approximately 1 1/4" (Figure 12). It is speculated that one of three things must have occurred:

a) The floor of the Wing was pulled up, the joists were replaced, and then the floor was reinstalled. This seems unlikely because the floor boards would have likely been damaged considerably during the removal, and survey team didn't see any evidence of that.

b) The current floor boards of both the Parlor and the Wing are not original, and were replaced when the joists of the Wing were replaced. Although this seems odd, it is plausible. It might explain the very old 18" wide boards in the corner of the Wing. Perhaps the original floor boards were those wide boards, and were rough and thin and cupped, and needed to be replaced, and perhaps there was something built in that corner that prevented their removal.

   However evidence against this is that the older floor boards on the second floor (visible under the drawer in the front Bedroom) appear to be the same 7 1/2' boards. It unlikely the flooring in the entire building would be removed and replaced. More evidence against this is that the floor boards under the second floor drawer extend under the base, suggesting that they were there BEFORE the base was installed, and thus are not likely replacements.

c) The joists were replaced from below, leaving the floor of the Wing intact. This is possible, especially considering the manner in which the joists bear on a beam at midspan - bearing on a ledger on a new beam instead of being notched in. This

theory is supported by the fact that the second floor boards (under the drawer in the front Bedroom closet) also appear to be approximately 7" in width.

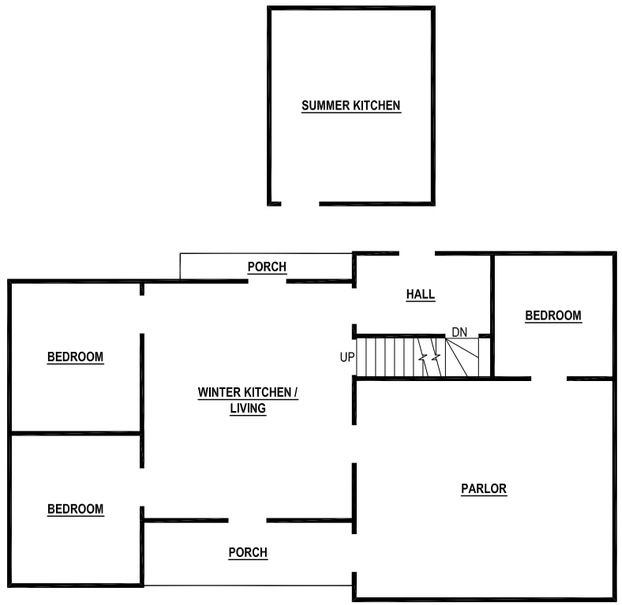
There are things to be said for and against each of these three scenarios, however it is the opinion of this report that Scenario C is most likely what occurred.



Figure 12. Underside of flooring under Parlor showing modern oak strip flooring (top), on top of shims for leveling, 1 ¼" tongue-and-groove flooring (believed to be original), and original floor joist (bottom). Note vertical saw marks on joists.

The reason for replacement is unknown, although it was observed that a smooth, non-original north/south wood beam exists under the floor midway between the Upright and the west wall of the Wing, and it is speculated that the floor may have sagged, possibly aided by leakage from the Porch, and required a new beam and joist replacement.

Some 18" wide rough sawn boards were observed in the northwest corner of the Wing floor, visible from the basement. They were first speculated to have been remnants of earlier original floor boards, however this does not appear to be consistent with other evidence found, so the origin of the 18" wide boards remains a mystery.



EXISTING SITE NORTH ARROW

(USED FOR ALL REFERENCES TO CARDINAL DIRECTION IN THIS REPORT)

HISTORIC SITE NORTH ARROW

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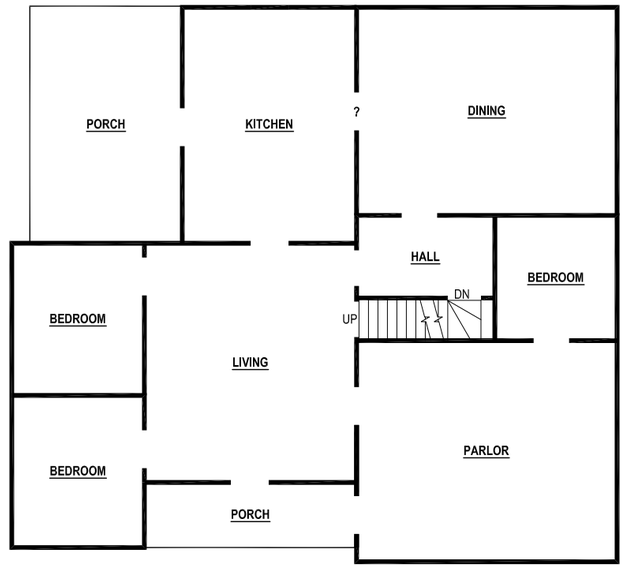
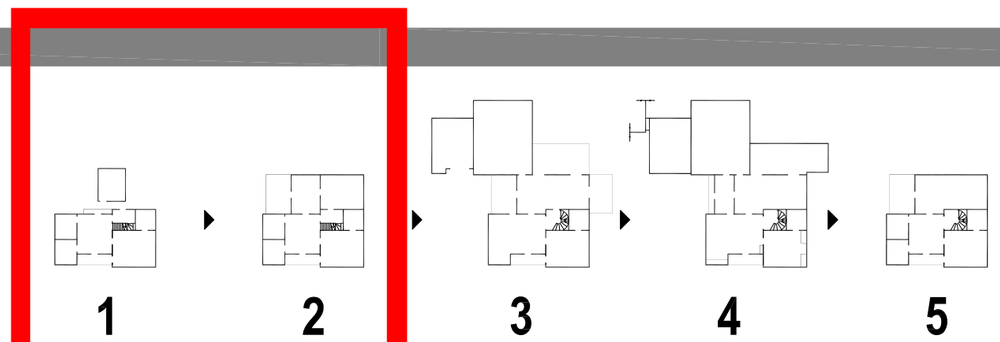


2

EVOLUTION OF THE BENJAMIN-BARTON HOUSE



SHEET 3-1

INSET PHOTO FROM "THE AFTERGLOW", 1926

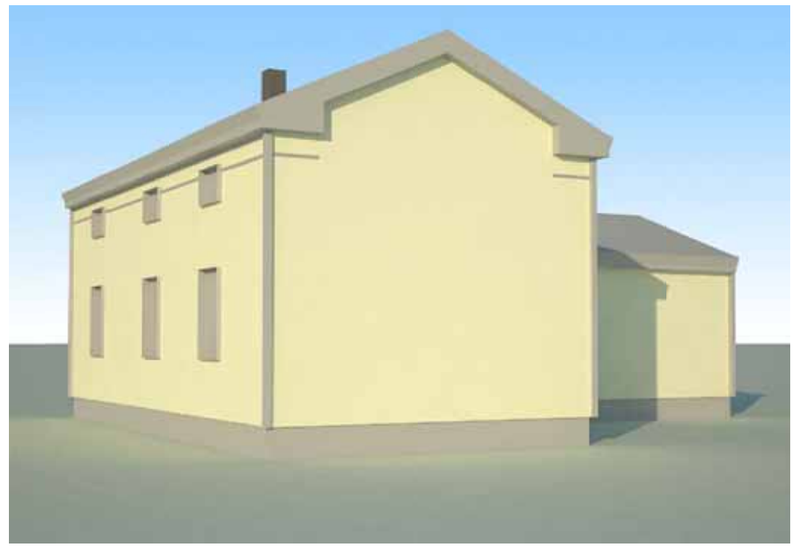




"BEFORE ADDITION" RENDERING
(FROM SCALED 3D MODEL)

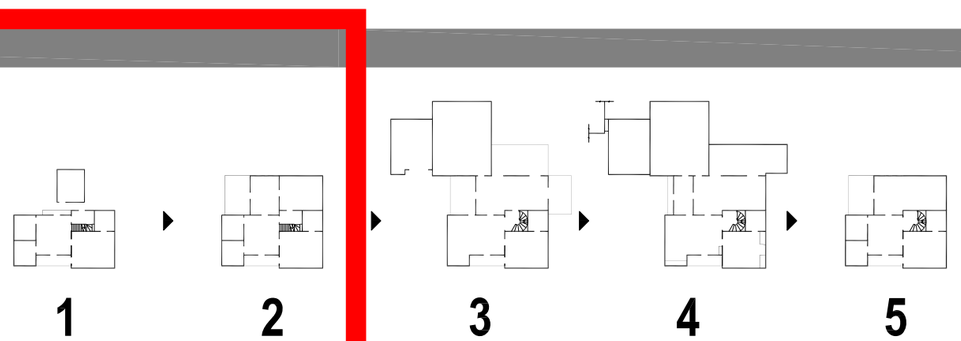


"BEFORE ADDITION" WIREFRAME OVERLAY ON HISTORIC PHOTO
(FROM SCALED 3D MODEL)



"AFTER ADDITION" RENDERING
(FROM SCALED 3D MODEL)

EVOLUTION OF THE BENJAMIN-BARTON HOUSE



SHEET
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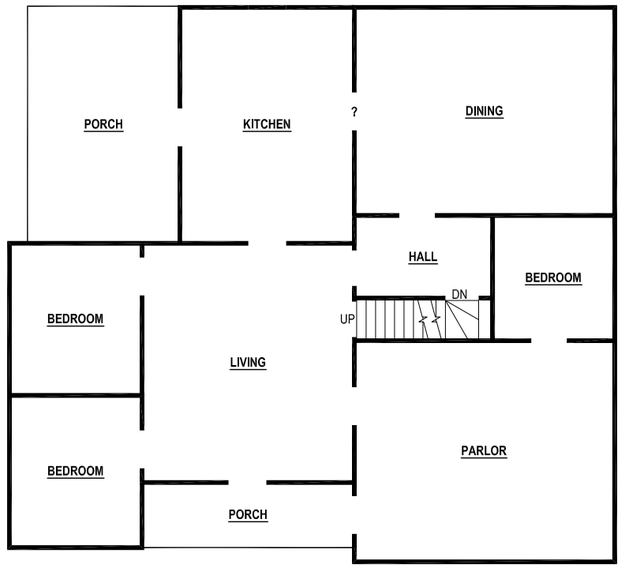

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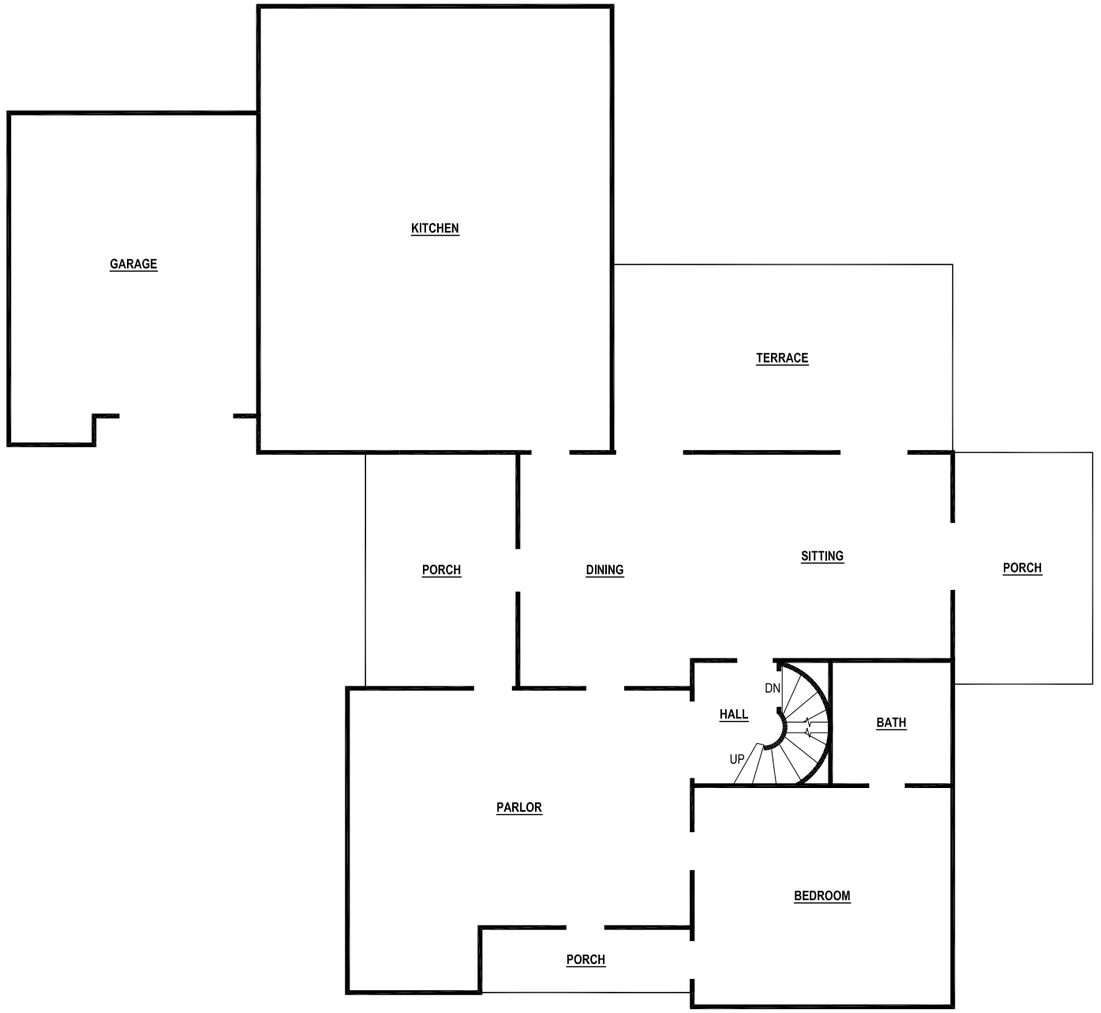

3

EXISTING SITE NORTH ARROW

(USED FOR ALL REFERENCES TO CARDINAL DIRECTION IN THIS REPORT)

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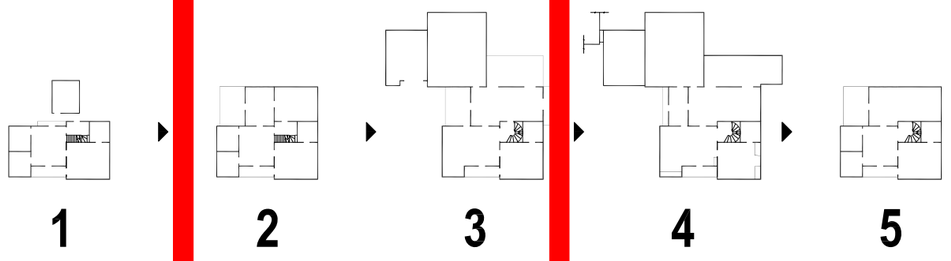
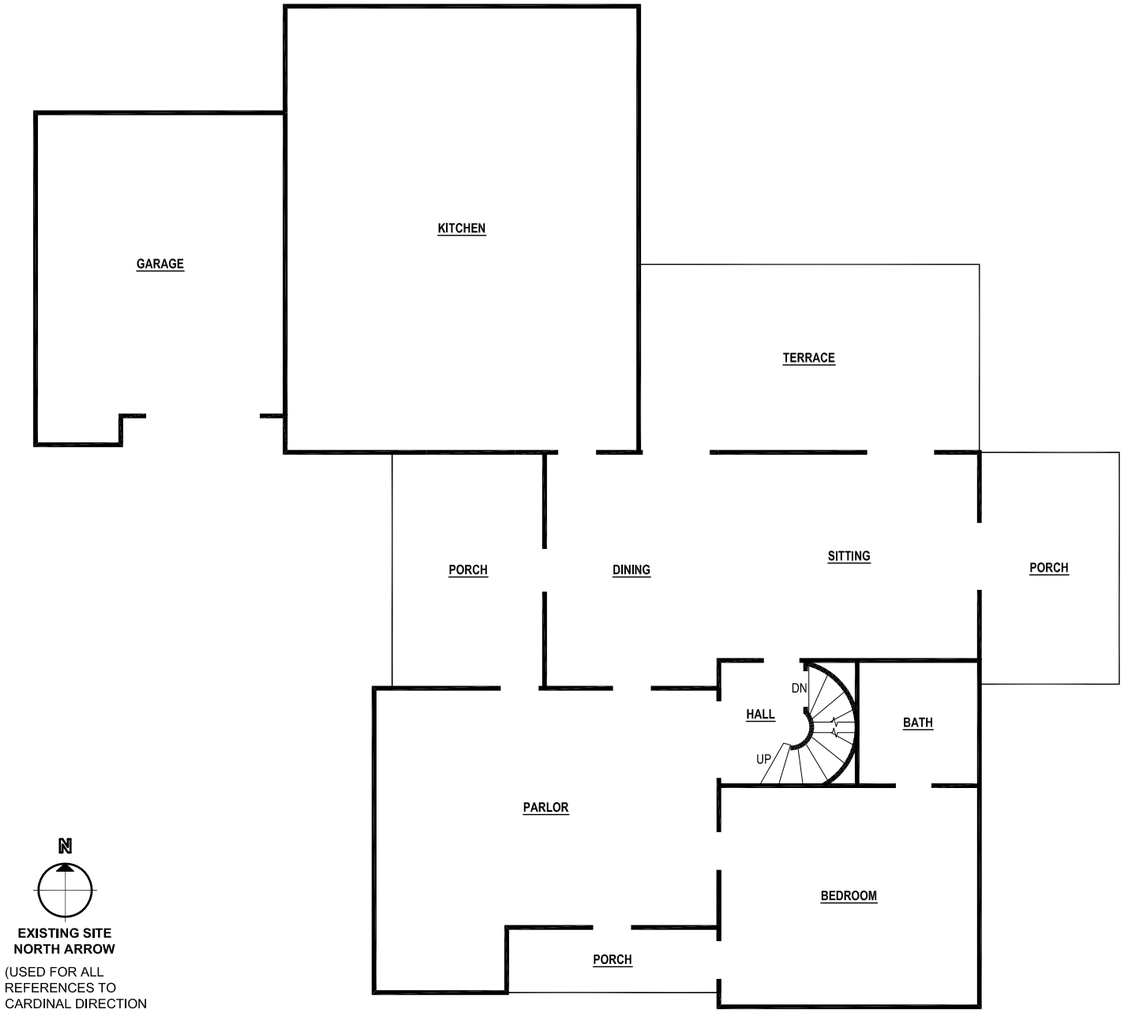
EVOLUTION OF THE BENJAMIN-BARTON HOUSE



SHEET 3-3



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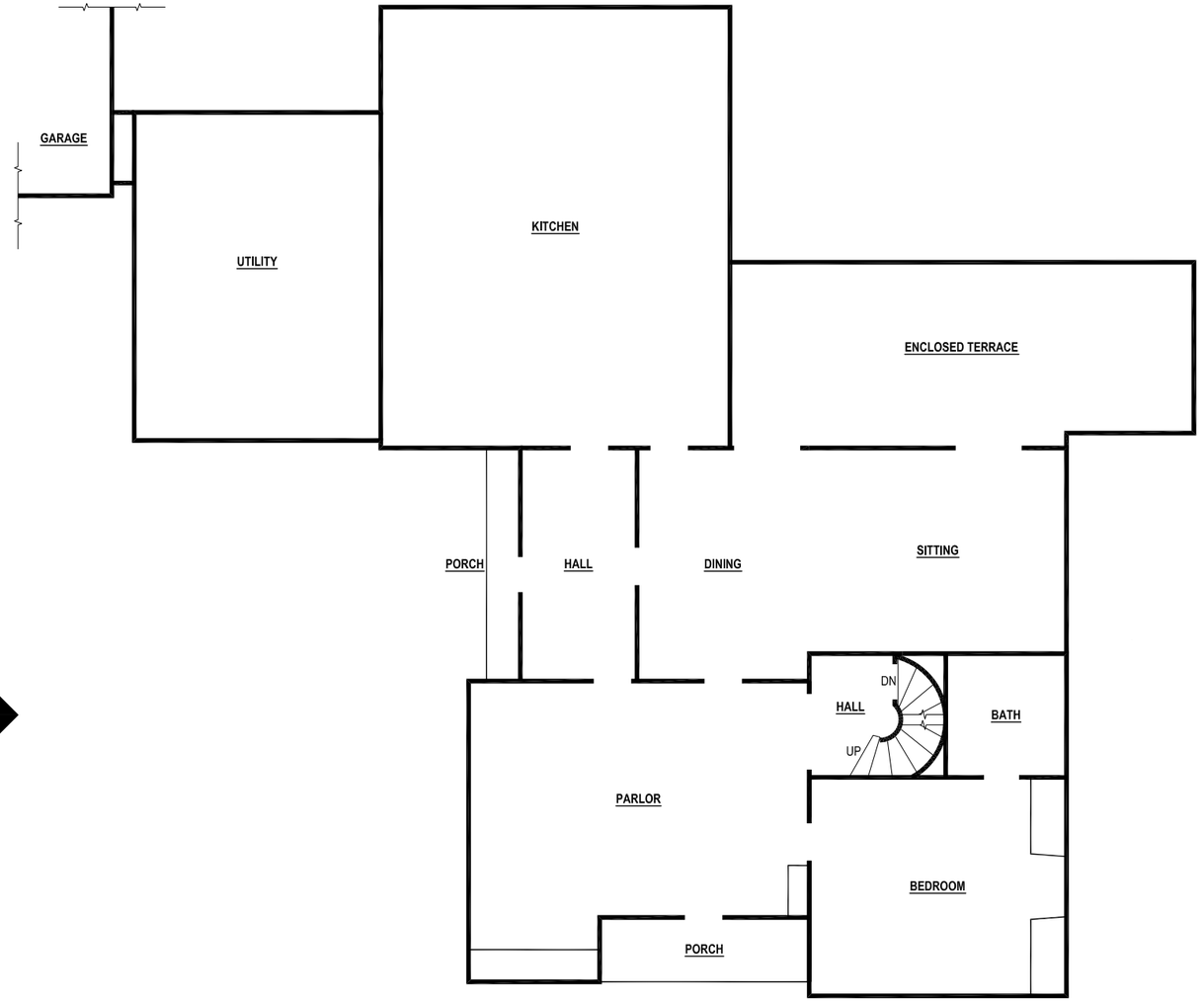

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EXISTING SITE NORTH ARROW

(USED FOR ALL REFERENCES TO CARDINAL DIRECTION IN THIS REPORT)

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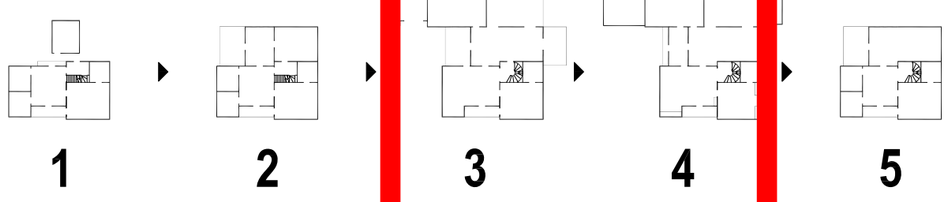
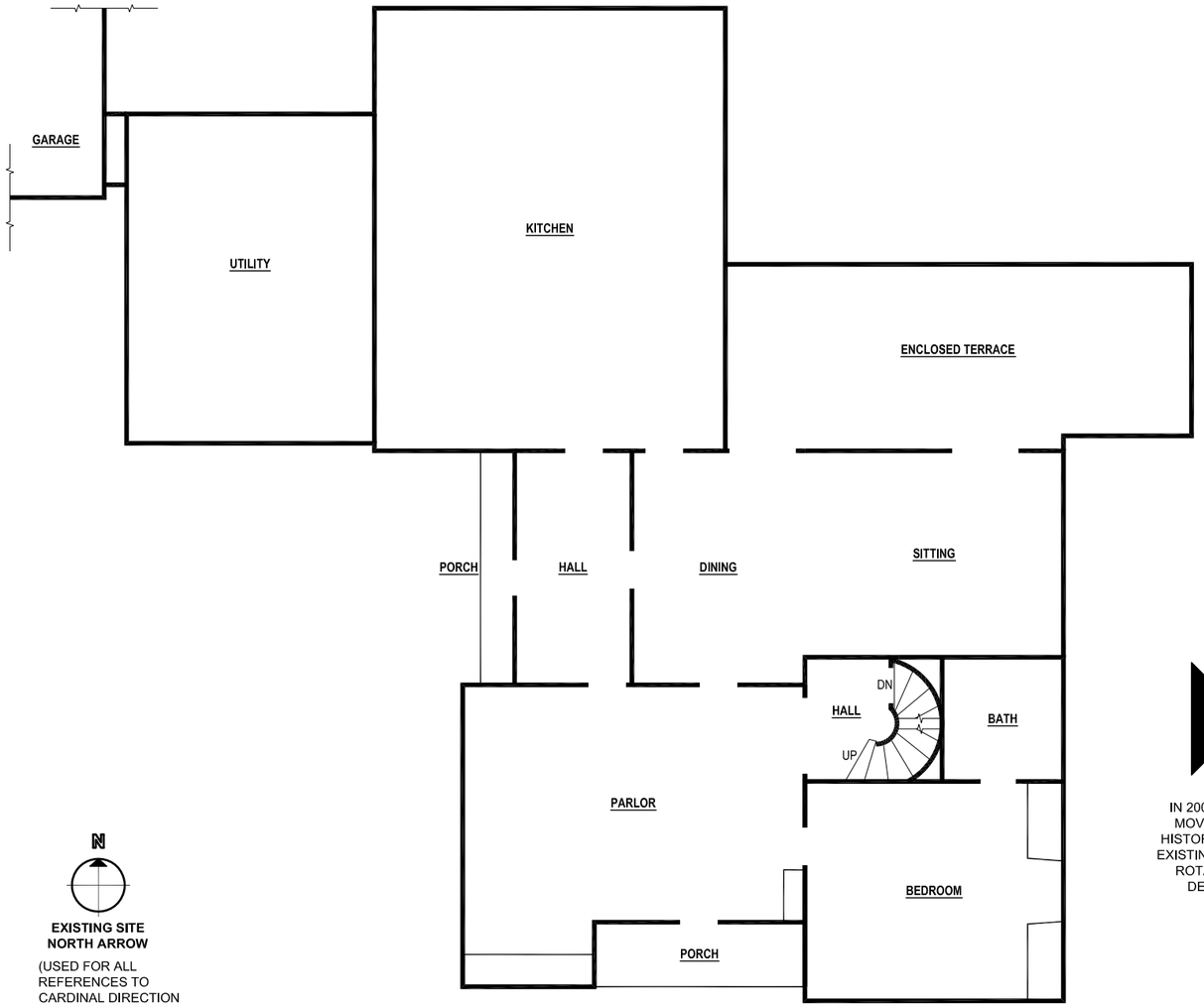
EVOLUTION OF THE BENJAMIN-BARTON HOUSE

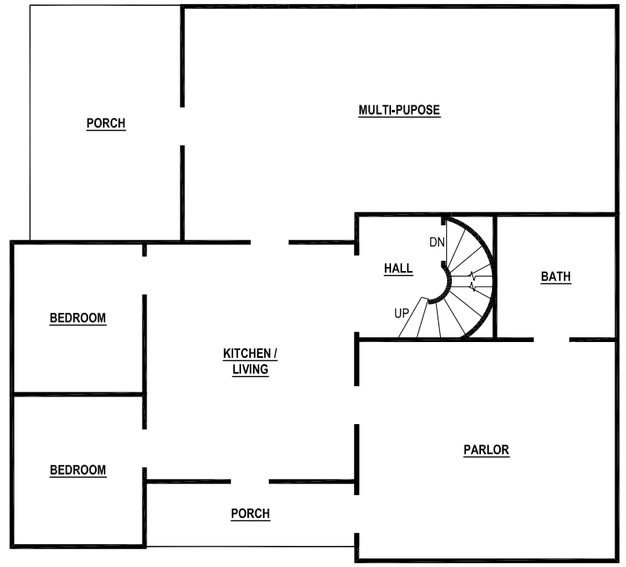


SHEET
3-4



4

IN 2008, HOUSE MOVED FROM HISTORIC SITE TO EXISTING SITE AND ROTATED 180 DEGREES



5

N

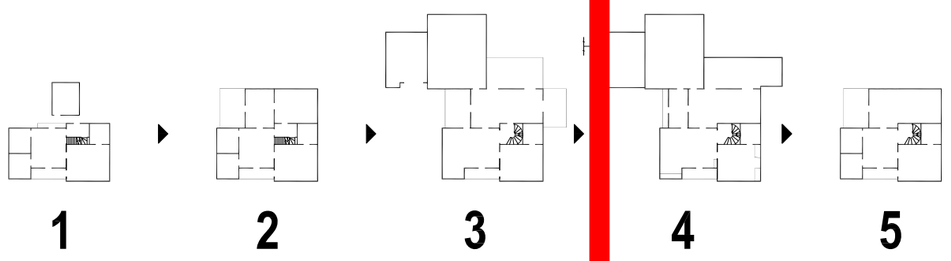
EXISTING SITE NORTH ARROW

(USED FOR ALL REFERENCES TO CARDINAL DIRECTION IN THIS REPORT)

N

HISTORIC SITE NORTH ARROW

EVOLUTION OF THE BENJAMIN-BARTON HOUSE



SHEET 3-5

Master Plan

Building Programming

Introduction

The Board of Preservation Bloomfield, with the assistance of the HopkinsBurns Design Studio, has been engaged in an ongoing programming effort for the Benjamin-Barton House. The assessment of the existing conditions and the analysis of the historic evolution of the Benjamin-Barton House have informed this programming effort. The results of this effort, discussed here, will guide future development of the House, and is the basis for the treatments needed to support programming described elsewhere in this report.

Methodology and Results

In order to facilitate a discussion on the desired uses for the House, each entity on the Board submitted their description of what types of activities should be hosted there. The brainstorming exercise produced a plentiful list of creative ideas that ranged from quilt-making seminars to chess tournaments to woman's suffrage historic reenactments. The list of submitted activities was grouped into ten categories; see Sheet 4-1 for details. In a workshop led by HopkinsBurns, the board discussed the merits of each category and determined that the House would not be used as a guest house or as a voting site. The group also decided that the House's primary activity categories would be the following: Experiential Learning, Meetings, Community Events, Office Work and Storage. The Board did not want to rule out the other categories (Exhibitions, Festivals, Private Receptions), but they would not be the primary activities driving the design of the House.

The programming efforts also yielded an organization of these activity categories into discrete areas within the house, which can be viewed on Sheet 4-2. From the start, it was universally accepted that the best use for the Basement level would be for Archives and Storage. Due to accessibility issues as well as structural limitations, the best use for the second level was also clear: it would be used for Office Work, primarily by the Bloomfield Historical Society. For the rest of the activities, the first floor was subdivided into the north and south sections. The north section of the first floor, which contains the entry and the Multi-purpose room, will be a contemporary space in terms of its function and, therefore, it will be very flexible from an activity standpoint. Higher impact uses should be performed in this space.

The south section of the first floor will be the area of the house where the visitor is immersed in the history of a 19th century farm house. This is the area of the home that student groups and interested community members will participate in Experiential Learning activities related to the history of Bloomfield. Because of the historic treatment of the south section of the first floor, it will be less flexible from an activity standpoint. It is not recommended that an art exhibition be held in this area because of the lack of modern lighting and display areas. However, it is encouraged that other activities

(Meetings, Community Events, Festivals and Private Receptions) take advantage of the authentic historic setting provided by this section of the home.

To get a feel for what it would look like to host some of these proposed activities at the House, HopkinsBurns mocked up some furniture layouts, for discussion purposes, that can be seen on Sheets 4-3 & 4-4. These include potential layouts for a music recital, a board meeting, a chess tournament and a wedding.

Depending on the extent of interpretive elements, such as stoves, pianos, large period furnishings, the capacity of rooms for these uses could be reduced.

Preservation Zones

The general approach to preserving the Benjamin-Barton House has been in place for many years due to the careful planning that took place prior to moving the House to its existing site in 2008. All of the work documented in this report has both reinforced this approach and provided the next layer of details for moving forward. The Preservation Zones, documented on Sheets 4-5 & 4-6 frame the understanding for what type of intervention will be necessary in each section of the house.

The definitions of the preservation zones are provided below by the National Park's Service (NPS) within the *Secretary of the Interior's Standards for the Treatment of Historic Properties.* The team is using these definitions to help the project team frame an understanding for the approach to the House. For further description of these terms, see the website for the http://www.nps.gov/hps/tps/standguide/index.htm

Preservation
Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

Adaptive Reuse (referred to as "Rehabilitation" by NPS)
Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.

Restoration
Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular

period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

New Construction (referred to as "Reconstruction" by NPS)
Reconstruction is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location

Implementation

Phasing and Cost Estimates

It is recognized that the work described in this report cannot all be implemented at one time. For purposes of fundraising, the work is proposed to be phased as follows, based on the following phasing criteria:

- Priority 1: Stabilize the Building
  - Provide the required infrastructure for the building services (power, water, HVAC, etc.).
  - Repair existing and install new building exterior as required to protect the building from the elements.
- Priority 2: Provide Code Compliance and Partial First Floor Restoration
  - Life Safety/Accessibility
    - Building code compliance
    - Access by disabled individuals
  - Make First Floor of Original Building Usable
    - 1st Story, South Wing
- Priority 3: Complete First Floor Restoration
  - 1st Story, South Wing (Bed Room walls)
- Priority 4: Provide Space For Activities
  - Northwest Addition w/ Side Porch
  - Future Meeting Room
- Priority 5: Reuse Second Floor
  - 2nd Story Offices
- Priority 6: Building Context
  - Landscape and Site Improvements

The Benjamin-Barton House

HopkinsBurns DESIGN STUDIO historic preservation & communities by design

Program: The premise for the House Restoration and Adaptive Reuse is based on the following:

The House shall be the historical centerpiece of the community, a place to share/interpret/gather history, house and site be looked at holistically, a place for education (community as well as school use), an example of best practices (site and building), use as a community gathering place for events with kitchenette, place for small retreats, archival storage, Historical Society Office, a preservation prototype, demonstration for sustainability, the house shall be experiential.

House Restoration & Adaptive Reuse

24-Jun-11	Work Scope	Quantity	Unit	Unit Cost	Cost	Totals					Notes
Priority 1: Original Building Stabilization								Stabilize building and allow to be habitable			
1A:	***Infrastructure***										
	Electrical service	1	ls	3,500.00	$ 3,500			$ 3,500			Power to bldg, panel in basement
	Lightning Protection	4	ea	1,000.00	$ 4,000			$ 4,000			Historic lightning rods and grounding
	Gas service	0	ls	0.00	$ -			$ -			None required
	Telephone & data service	1	ls	TBD							Coordinate w/ School District
	Water Service	1	ls	4,000.00	$ 4,000			$ 4,000			From Square Lake Rd if possible or well
	Sewer System	1	ls	12,000.00	$ 12,000			$ 12,000			Lift chamber w/ grinder pump connected to Bower's Academy septic system
	Fire Alarm System	1	ls	4,500.00	$ 4,500			$ 4,500			Optional TBD
	HVAC, complete HTG & Clg system	1	ls	26,436.00	$ 26,436			$ 26,436			Geothermal source, ducted supply & return
						$ 54,436			$ 54,436		
1B:	***Building Exterior (Original)***										
	Exterior walls, 2x4 w/wood siding (12 ft)	168	sf	15.00	$ 2,520			$ 2,520			Include Sheathing, 2 Headers
	Siding repair	500	sf	7.00	$ 3,500			$ 3,500			Does not include work described below
	Trim Replacement	100	lf	10.00	$ 1,000			$ 1,000			Does not include work described below
	Asphalt shingle roof repairs	500	sf	1.00	$ 500			$ 500			See option for Cedar shingle roof
	Restore Existing Wood Window w/ new storm, Trim, Finished	3	ls	1,000.00	$ 3,000			$ 3,000			Restore to historic consideration
	Restore Existing Wood Door, Trim, Hardware, Finished	2	ls	1,500.00	$ 3,000			$ 3,000			Exterior
	Painting	3000	sf	1.50	$ 4,500			$ 4,500			single color
	Electrical, Power circuits w/ outlets	1	ea	750.00	$ 750			$ 750			1 circuit
						$ 18,770			$ 18,770		
							$ 73,206			$ 73,206	
Priority 2: Life Safety-First Floor Original Building Usable											
2A:	***Basement Completion (1416 SF) (New Construction)***										
	Structural repair at stairway	1	ls	1,500.00	$ 1,500			$ 1,500			Engineering design required
	Stairway	1	ea	3,500.00	$ 3,500			$ 3,500			Circular & Straight, contemporary to code inc. rails
	Miscellaneous Carpentry	1	ls	2,000.00	$ 2,000			$ 2,000			
	Electrical, Lighting	15	ea	50.00	$ 750			$ 750			keyless fixtures
	Electrical, Power circuits w/ outlets	3	ea	750.00	$ 2,250			$ 2,250			3 circuits
	Electrical for HVAC equipment, etc	3	ea	2,500.00	$ 7,500			$ 7,500			
	Fire suppression, limited area system	5	hds	300.00	$ 1,500			$ 1,500			Limited to basement
						$ 19,000			$ 19,000		
2B:	***1st Story, South Wing (882 SF) (Historic Preservation/Restoration)***										
	Reframe floor at removed fireplace & Parlor wall	1	ls	1,200.00	$ 1,200			$ 1,200			match existing floor boards
	Construct front porch Steps	1	ls	1,500.00	$ 1,500			$ 1,500			
	Repair Plumbing add/Tankless W.H.)	1	ls	2,500.00	$ 2,500			$ 2,500			Maintain bathtub, historic consideration
	Millwork Repair	1	ls	1,500.00	$ 1,500			$ 1,500			
	Electrical, Lighting	6	ea	750.00	$ 4,500			$ 4,500			Specialty fixtures, minimal fixed lighting
	Electrical, Power circuits w/ outlets	5	ea	750.00	$ 3,750			$ 3,750			5 circuits, minimal requirements, historic considerations
	HVAC	n/a									See Infrastructure
						$ 14,950			$ 14,950		
							$ 33,950			$ 33,950	
										$ 107,156	

24-Jun-11	Work Scope	Quantity	Unit	Unit Cost	Cost	Totals					Notes
Priority 3:											
	1st Story, South Wing (882 SF) (Historic Preservation/Restoration) Completion										
	Window Shutters, Pair	22		400.00	$ 8,800						17 pairs to be repaired, 5 new pairs
	Construct Bedroom walls (plaster, doors, trim)	28	lf	300.00	$ 8,400						
	Selective demo: radiators, cabinets, wall covering, closets,	1	ls	1,500.00	$ 1,500						
	Wood Door w/ hardware & Frame & Trim, Hardware, Finished	1	ls	3,500.00	$ 3,500						Match original, (coffin door)
	Stair railing to second floor	1	ls	1,500.00	$ 1,500						
	Plaster Patching	500	sf	10.00	$ 5,000						Estimated quantity
	Interior chimney	1	ea	1,500.00	$ 1,500						approx. 16 ft tall, requires structural support @ floor
	Millwork: Wood Trim (base, etc) Repair & New	300	lf	7.00	$ 2,100						Match existing
	Painting	3,000	sf	1.00	$ 3,000						
	Finish existing wood floor	882	sf	6.50	$ 5,733						Patching included
	Toilet Room Rehab for accessibility	1	ls	2,000.00	$ 2,000						
	Cedar shingle roof (Optional)	*2000*	*sf*	*10.00*							*in lieu of asphalt shingle repair, add $20,000 for wood shingle roofing*
						$ 43,033					
Priority 4:											
4A:	***Northwest Addition (180 SF) w/ Side Porch (180 SF) (New construction)***										Basement walls & floor deck exists.
	Rough frame addition, demo existing exterior west wall	180	sf	50.00	$ 9,000						
	Sheathing & Wood Siding	30	lf	100.00	$ 3,000						
	Asphalt Shingles	200	sf	3.50	$ 700						
	Ceiling - Gypsum Bd & Insulation	180	sf	3.00	$ 540						
	Interior Wall Finish - Gypsum Bd & Insulation	54	lf	30.00	$ 1,620						
	New Wood Window w/ new storms & Trim, Finished	1	ls	2,000.00	$ 2,000						Match existing
	Restore Existing Wood Window w/ new storm, Trim, Finished	2	ls	700.00	$ 1,400						Restore to historic consideration
	Wood Door w/ hardware & Frame & Trim, Hardware, Finished	1	ls	2,500.00	$ 2,500						Higher quality
	Millwork (P Lam)	8	lf	450.00	$ 3,600						
	Plumbing (Sink and Faucet w/ Tankless W.H.)	1	ls	1,800.00	$ 1,800						
	Painting	564	sf	2.00	$ 1,128						
	Flooring, wood	180	sf	8.50	$ 1,530						
	Flooring, Wood Base	40	lf	7.00	$ 280						
	Electrical, Power circuits w outlets	3	ea	750.00	$ 2,250						3 circuits
	Electrical, Lighting	5	ea	250.00	$ 1,250						5 standard fixtures
	Low Voltage, Communications	n/a									See Infrastructure
	HVAC	n/a									See Infrastructure
	Open Side Porch	180	SF	125.00	$ 22,500						Wood post ftgs, floor, & columns, crawl space trellis siding, shed style roof deck w/ 2x8 joists, wood clg. (all painted), wood steps, flat seam metal roof, 2 light fixtures & 1 elec GFI outlet
						$ 55,098					
4B:	***Future Meeting Room (270 SF) (Adaptive Reuse)***										
	Exterior walls, 2x4 w/wood siding (8ft)	120	sf	20.00	$ 2,400						Include Sheathing, Header
	Reframe (2 x 4) north wall and 2 window openings	144	sf	12.50	$ 1,800						Include Sheathing, 2 Headers
	Reframe floor at removed fireplace	1	ls	500.00	$ 500						
	5/8X Gypsum Bd walls	528	sf	5.00	$ 2,640						Laminate to existing Plaster
	5/8X Gypsum Bd clg	270	sf	5.00	$ 1,350						Laminate to existing Plaster
	New Wood Window w/ new storms & Trim, Finished	3	ea	2,000.00	$ 6,000						Match existing
	Restore Existing Wood Window w/ new storm, Trim, Finished	1	ea	700.00	$ 700						Restore to historic consideration
	Selective demo of existing plaster & wall covering	1	ls	500.00	$ 500						
	Painting	798	sf	2.00	$ 1,596						
	Flooring, existing wood, clean & refinish	270	sf	4.50	$ 1,215						
	Flooring, Wood Base	60	lf	70.00	$ 4,200						
	Electrical, Power circuits w outlets	4	ea	750.00	$ 3,000						4 circuits
	Electrical, Lighting	5	ea	400.00	$ 2,000						5 standard fixtures
	Low Voltage, Communications	n/a									See Infrastructure
	HVAC	n/a									See Infrastructure
						$ 27,901					
							$ 82,999				

24-Jun-11	Work Scope	Quantity	Unit	Unit Cost	Cost	Totals	Notes
Priority 5:							
	2nd Story Reuse (684 SF) (Adaptive Reuse)						Basement walls & floor deck exists.
	Stairway, plaster repair	1	ls	1,000.00	$ 1,000		Minor repairs
	Stairway, wood handrail clean and secure	1	ls	500.00	$ 500		simple design, installed per code
	Restore Existing Wood Window w/ new storm, Trim, Finished	6	ls	800.00	$ 4,800		Restore to historic consideration
	Selective demo: radiators, tub, cabinets	1	ls	500.00	$ 500		
	Plaster Securing & Patching	1	ls	2,000.00	$ 2,000		
	Wood Door repairs	4	ea	200.00	$ 800		Scope to be determined
	Millwork repairs	1	ls	1,000.00	$ 1,000		Keep functional
	Bathroom wall repairs	1	ls	1,000.00	$ 1,000		
	Bathroom floor repairs, add linoleum	1	ls	1,500.00	$ 1,500		
	Plumbing (W.C., Sink, and Faucet w/Tankless W.H.)	1	ls	3,000.00	$ 3,000		remove bathtub
	Painting	1668	sf	2.00	$ 3,336		
	Flooring, Refinish & clean existing wood	630	sf	5.00	$ 3,150		
	Electrical, Power circuits w/ outlets	5	ea	700.00	$ 3,500		5 circuits
	Electrical, Lighting	4	ea	400.00	$ 1,600		standard fixtures
	Restore perched masonry chimney above attic	1	ls	3,000.00	$ 3,000		Assume some structural modifications will be required
	Low Voltage, Communications	n/a					See Infrastructure
	HVAC	n/a					See Infrastructure
						$ 30,686	
Priority 6:							
	Site Improvements						
	Hardscape	1	ls	25,000.00	$ 25,000		Barrier free ramps, walks, fences
	Landscaping	1	ls	35,000.00	$ 35,000		Trees, shrubs, amenities allowance
						$ 60,000	
	Subtotal					$ 323,874	
Total for House Restoration & Adaptive Reuse							
	Total of restoration and Reuse:					$ 323,874	
	Contractors Overhead and Profit:	1		10%	$ 32,387		
	Support Services	1		5%	$ 16,194		
	Construction contingency:	1		10%	$ 32,387		
	Architectural Design Fee				$ 37,000		
	Structural Engineering Fee				$ 3,000		
	Mech/Elec Engineering Fee				$ 16,000		
						$ 136,969	
	Owner Direct Purchases						
	Kitchen appliances, Htg Stove, Furniture			TBD			By Owner
	Hazardous Material Abatement					$ 10,000	
	Restoration and Adaptive Reuse Total					**$ 470,843**	

EXPER. LEARNING

- canning and preserving foods seminars
- farm-related activities
- flower gardening
- food and cooking seminars
- gardening
- herb gardens
- historical society programs
- historical tours
- knitting
- landscaping
- quilt making
- recycling seminars
- school activities
- smoking meats
- sustainability seminars
- vegetable gardening
- wild game preparation

MEETINGS

- book club meetings
- bridge club meetings
- business retreats
- fundraisers
- gem rock club meetings
- historical society programs
- professional seminars

COMMUNITY EVENTS

- bake sales
- bicycle gatherings
- canning and preserving foods seminars
- christmas markets
- class picnics
- coffeehouse
- concerts
- family board game night
- family movie night
- farmer's markets
- farm-related activities
- flower gardening
- food and cooking seminars
- fundraisers
- fun-runs
- garden parties
- gardening
- geology/ geography lectures
- graduation photos
- heirloom pumpkins and vegetables
- herb gardens
- historical lectures
- Historical Society programs
- historical tours
- Knitting
- landscaping
- Michigan statehood events
- open house
- open mic night concerts
- outdoor gatherings
- piano playing
- picnics
- quilt making
- recitals
- recycling seminars
- retail shop
- seed exchanges
- smoking meats
- storytelling
- study sessions
- sustainability seminars
- tea parties
- tours
- vegetable gardening tips
- Veteran's ceremonies
- vintage car events
- warming hut for XC skiing or snow-shoeing
- wedding photos
- wild game preparation
- winter ice carving events
- women's suffrage historic reenactment

EXHIBITIONS

- antique shows
- art/ photography exhibits (local artists)
- historical artifacts exhibits
- historical society programs
- knitting
- tours
- vintage car events
- winter ice carving events

FESTIVALS

- bloomfield days of old (with period costumes)
- civil war historic reenactment
- historical society programs
- michigan statehood events
- oktoberfest
- storytelling festival
- vintage car events
- winter ice carving events
- women's suffrage historic reenactment

OFFICE WORK

- historical society programs
- home for artist in residence
- home for guests of bloomfield
- home for visiting teachers
- professional seminars
- study sessions

STORAGE

- antique shows
- art/ photography exhibits (local artists)
- historical artifacts exhibits
- historical society programs
- knitting
- retail shop

PRIVATE RECEPTIONS

- birthday parties, bar mitzvahs, bat mitzvahs
- business retreats
- family board game night
- family movie night
- fundraisers
- garden parties
- parties
- picnics
- professional seminars
- showers
- small dinner parties
- Stay on the Farm (overnight, weekend getaway, etc.)
- tea parties
- weddings

GUEST HOUSE

- home for artist in residence
- home for guests of bloomfield
- home for visiting teachers
- stay on the farm (overnight, weekend getaway, etc.)

VOTING

- voting location
- women's suffrage historic reenactment

USERS

- 4h, boy / girl scouts
- bloomfield historical society
- chess club
- churches
- community groups / organizations
- corporations / local businesses
- environmental groups
- lions club / optimists
- local artists
- master gardeners
- neighborhood / sub-division / condo associations
- preservation bloomfield
- quilters group
- school children / students
- seniors
- service organizations
- small groups / clubs / organizations
- township board/ commissions/ departments
- volunteers
- wool spinners

USES - WORKING SESSION RESULTS

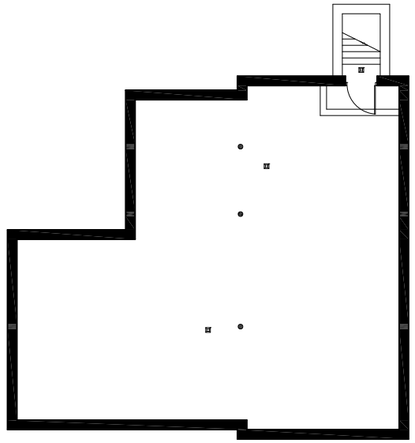


THE BENJAMIN-BARTON HOUSE
EXISTING CONDITIONS ASSESSMENT
AND MASTER PLAN - JUNE 24, 2011

PRESERVATION BLOOMFIELD

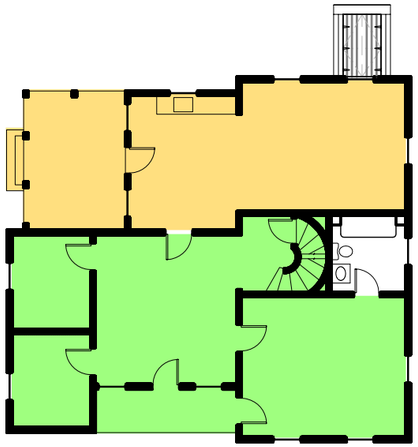
HopkinsBurns DESIGN STUDIO
historic preservation & communities by design

SHEET
4-1



BASEMENT USES

- ARCHIVES
- STORAGE



FIRST FLOOR USES

NORTH

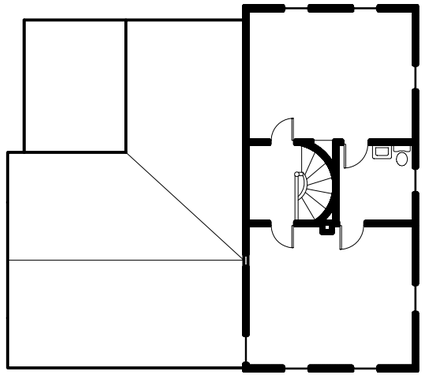
- EXPERIENTIAL LEARNING (Hands-on Activities)

- MEETINGS
- COMMUNITY EVENTS
- FESTIVALS
- PRIVATE RECEPTIONS
- EXHIBITIONS

SOUTH

- EXPERIENTIAL LEARNING (History of Bloomfield)

- MEETINGS
- COMMUNITY EVENTS
- FESTIVALS
- PRIVATE RECEPTIONS



SECOND FLOOR USES

- OFFICE WORK

N

USES - BY AREA OF HOUSE

SCALE:
1/16" = 1'-0"

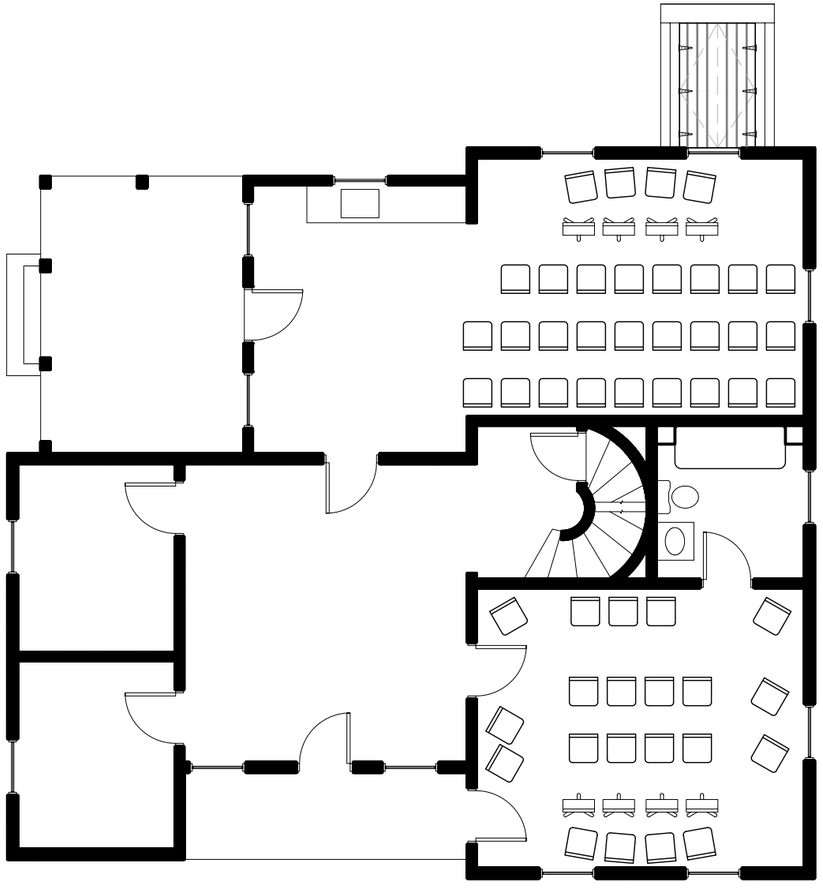


THE BENJAMIN-BARTON HOUSE
EXISTING CONDITIONS ASSESSMENT
AND MASTER PLAN - JUNE 24, 2011

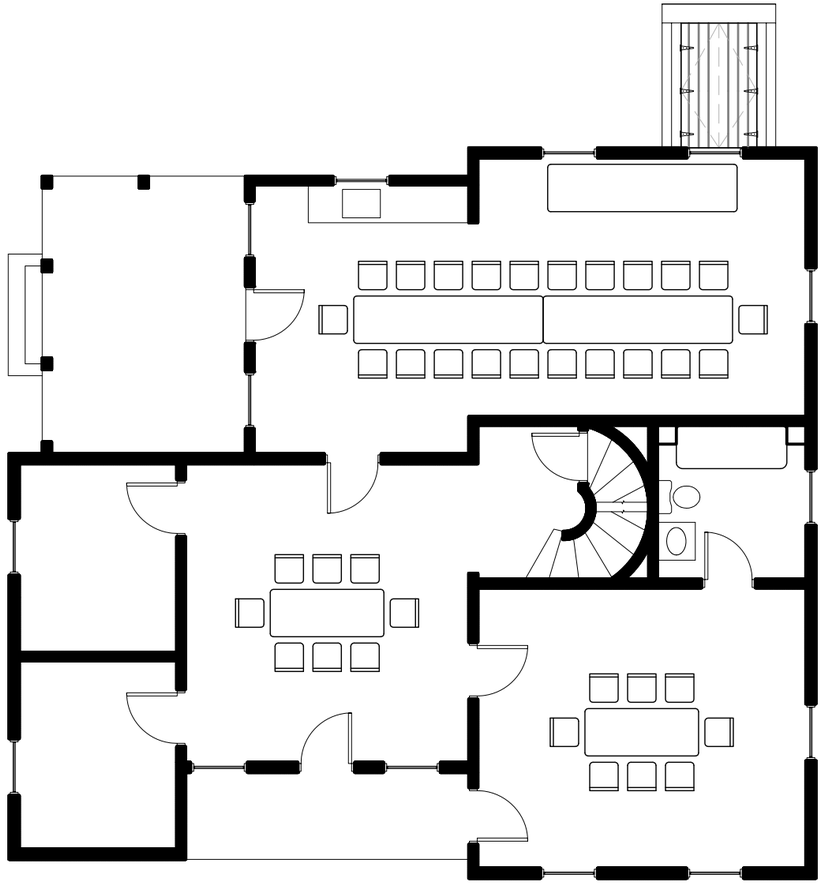
PRESERVATION BLOOMFIELD

HopkinsBurns DESIGN STUDIO
historic preservation & communities by design

SHEET
4-2



MUSIC RECITAL
26 ATTENDEES IN MULTI-PURPOSE ROOM
17 ATTENDEES IN PARLOR



BOARD MEETING
22 ATTENDEES IN MULTI-PURPOSE ROOM
8 ATTENDEES IN PARLOR
8 ATTENDEES IN WING

N

USES - LAYOUTS

SCALE:
1/8" = 1'-0"

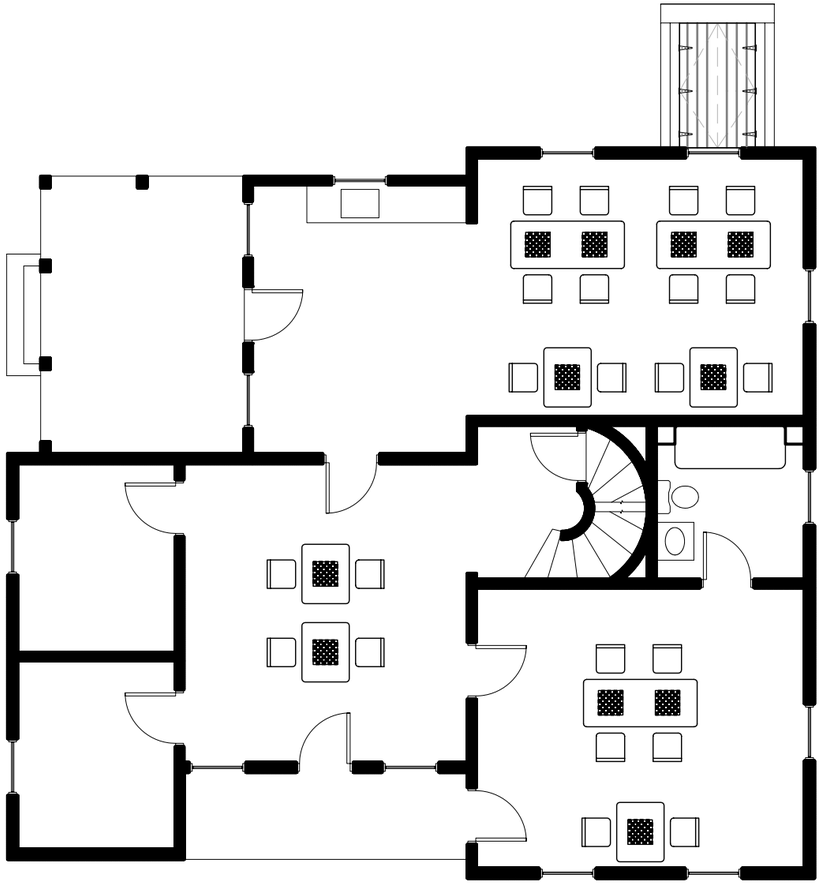


THE BENJAMIN-BARTON HOUSE
EXISTING CONDITIONS ASSESSMENT
AND MASTER PLAN - JUNE 24, 2011

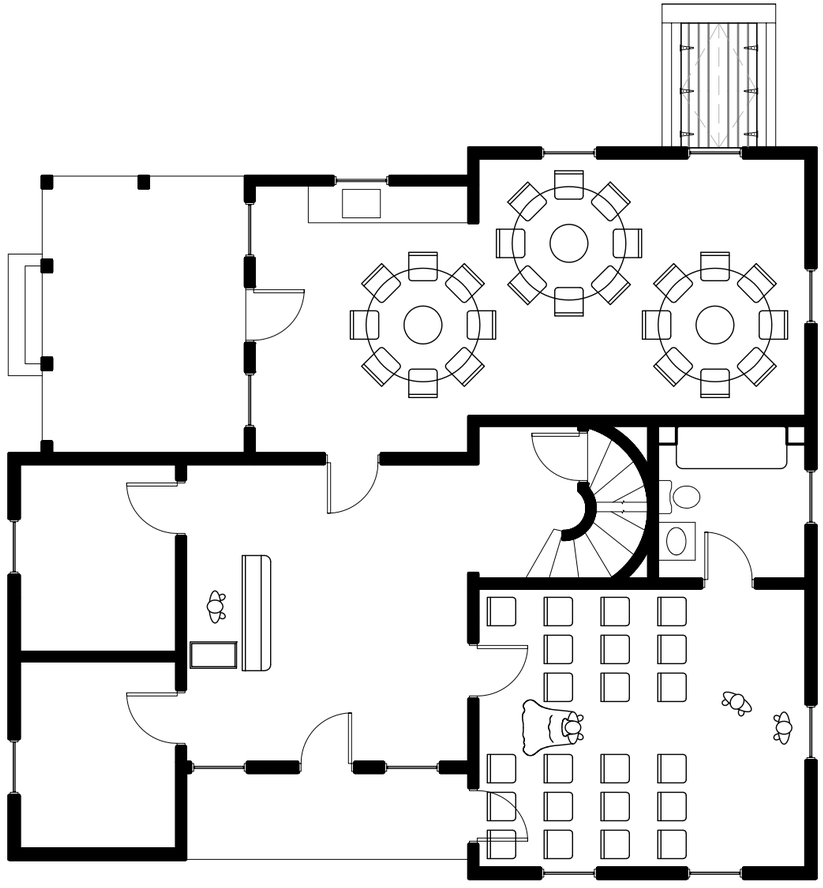
PRESERVATION BLOOMFIELD

HopkinsBurns DESIGN STUDIO
historic preservation & communities by design

SHEET
4-3



CHESS TOURNAMENT
22 ATTENDEES



WEDDING
24 ATTENDEES

N

USES - LAYOUTS

SCALE:
1/8" = 1'-0"

THE BENJAMIN-BARTON HOUSE
EXISTING CONDITIONS ASSESSMENT
AND MASTER PLAN - JUNE 24, 2011

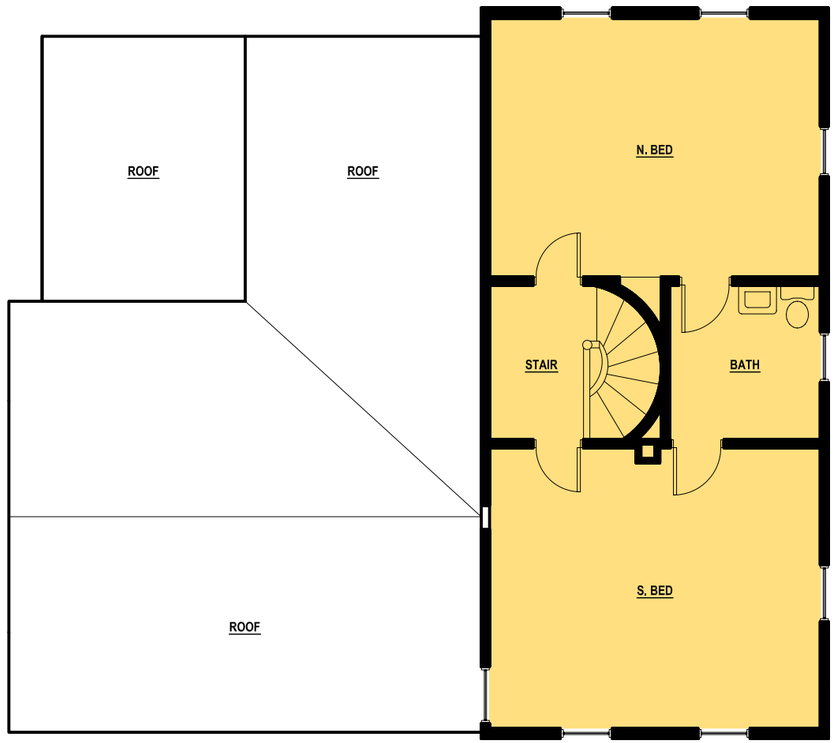
PRESERVATION BLOOMFIELD

HopkinsBurns DESIGN STUDIO
historic preservation & communities by design

SHEET
4-4



FIRST FLOOR PLAN



SECOND FLOOR PLAN

N

- PRESERVATION
- RESTORATION
- ADAPTIVE REUSE
- NEW CONSTRUCTION

PRESERVATION ZONES

SCALE:
1/8" = 1'-0"

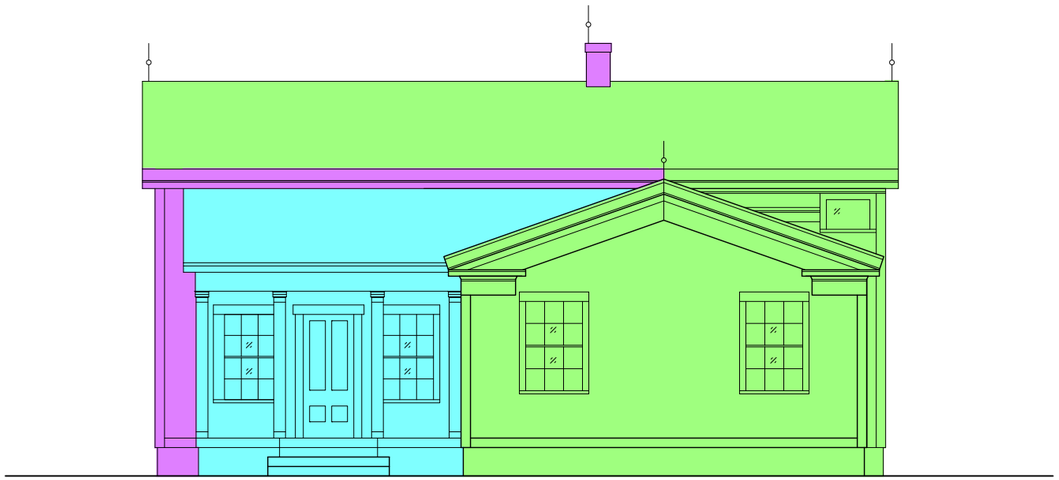


THE BENJAMIN-BARTON HOUSE
EXISTING CONDITIONS ASSESSMENT
AND MASTER PLAN - JUNE 24, 2011

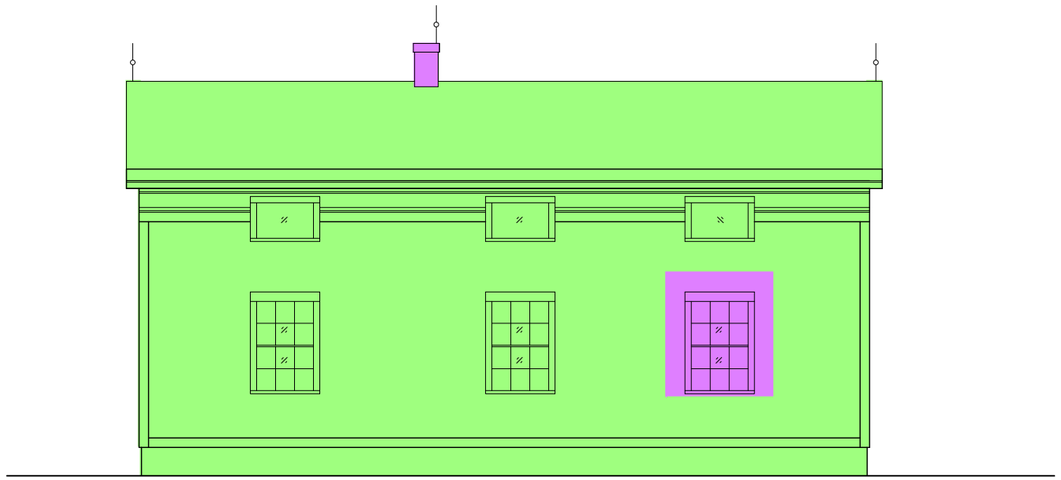
PRESERVATION BLOOMFIELD

HopkinsBurns DESIGN STUDIO
historic preservation & communities by design

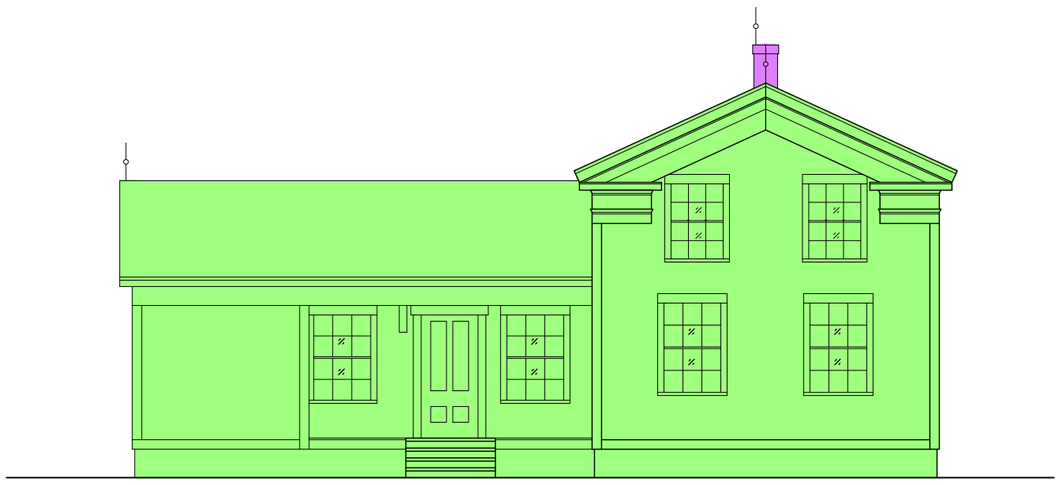
SHEET
4-5



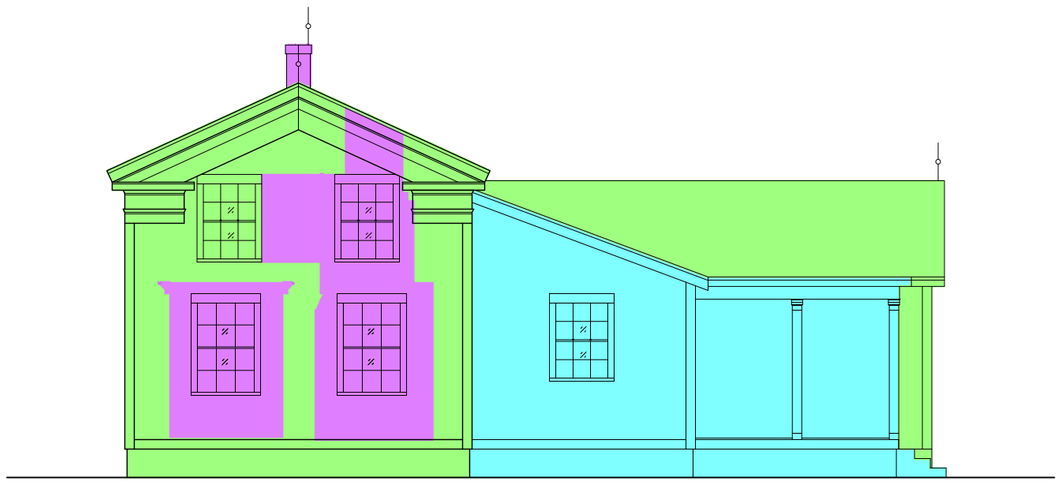
PROPOSED WEST ELEVATION



PROPOSED EAST ELEVATION



PROPOSED SOUTH ELEVATION



PROPOSED NORTH ELEVATION

PRESERVATION
RESTORATION
ADAPTIVE REUSE
NEW CONSTRUCTION

PRESERVATION ZONES

SCALE:
1/8" = 1'-0"



THE BENJAMIN-BARTON HOUSE
EXISTING CONDITIONS ASSESSMENT
AND MASTER PLAN - JUNE 24, 2011

PRESERVATION BLOOMFIELD

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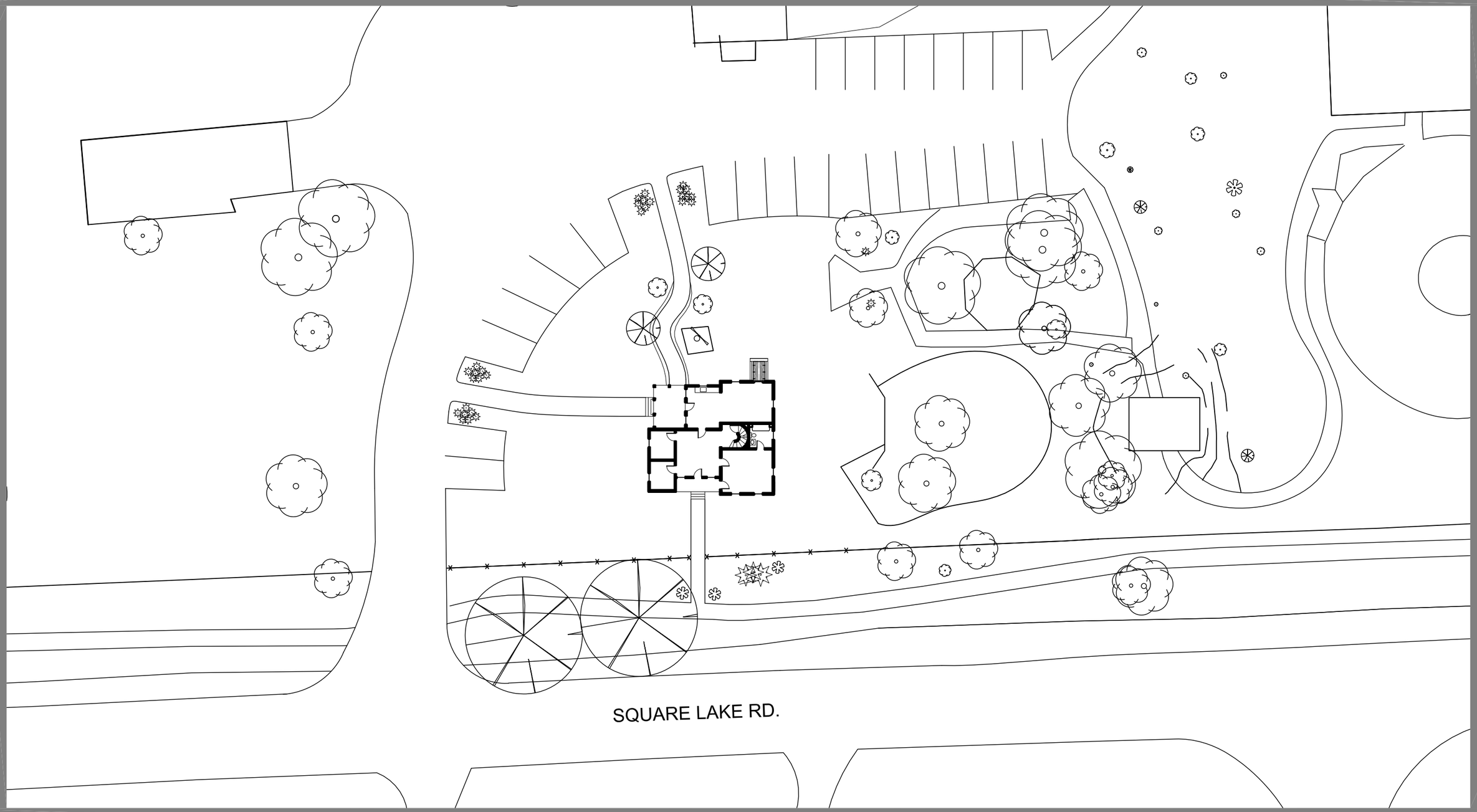
SHEET
4-6



PROPOSED SITE PLAN

SCALE:
1/32" = 1'-0"

THE BENJAMIN-BARTON HOUSE
EXISTING CONDITIONS ASSESSMENT
AND MASTER PLAN - JUNE 24, 2011

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SHEET
4-7

Charles Bultman
Architect

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20 September 2021 (rev again 5 August 2024)

Mr. Pierre DePorre
Bloomfield Historical Society
1099 Lone Pine Road
Bloomfield Hills, MI 48302

Re: Pickering Barn on Franklin Road

Note: all 5 August 2024 changes are made in red.

On the evening of 16 September 2021 at 5:00 pm I had the privilege of touring the Pickering Barn with Bill Pickering, his son, and representatives from the Bloomfield and Franklin Historical Societies, to look at the barn, get an impression about its condition, and discuss what its future might be. What follows is my report.

The Pickering Barn is a three-bay gable barn located just 60 feet off of Franklin Road. It is said to have been on the property when the first Pickerings (Cooper and Eliza) bought the land in 1879. The barn is oriented with its long wall (sliding doors) facing west toward Franklin Road. The barn has a stone foundation and a full height basement, which walks out to the rear yard to the east. To the north of the barn there is an early 20th century, wood-framed heated addition, which is about the same volume as the barn. It was apparently added as a showroom / office for the farm.

The barn has four structural frames (called bents) that divide the space into three relatively equal bays. The barn measures approximately 32 feet by **44** feet, and has 15 foot high eave walls. The footprint of the barn is slightly smaller than is common here in Michigan (40 by 50 to 60 is more common) which may be explained by the fact that this was more of a fruit farm and the demand for hay storage was less, and it may indicate that it is older..

The barn's property is said to have originally been 166 acres, most of which was west of Franklin Road. But much of that land has since been developed. The barn, the 1888 house, and a smattering of other buildings built over the years, now occupy an approximately ten-acre triangular parcel, which is also slated for development. The question is what should be done with the barn?

The timber framed barn (everything above the basement)

The barn has been well cared for over the years and therefore shows little evidence of damage and / or rot. The walls are plumb and true, the roof planes are flat, which is all good to see. There are no major holes in the building and no signs of water leaking into the structure in any major way.

The bent configurations are those of a fairly typical Midwest barn with dropped tie-beams and plumb purlin posts. The only elements noticeably missing are the purlin ties from bents 2 and 3 have been removed for the hay trolley system (very common) and the waste wall has been cut to walk between the bays (also very common). That means that most of the barn is intact and in great shape making this barn a prime candidate for saving.

All of the large timbers in the barn are hewn (squared with an ax) as are the girts. This may mean there was not a sawmill sufficiently close to at the time of construction to get sawn girts from. This can be an indication that it is older. Some of the element that are sawn (braces and ladder rails) do show faint evidence of being sawn with a water-powered sash saw, while others show radial saw marks. Water powered saws were

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rapidly replaced with steam-powered radial saws right after the Civil War. Therefore it is likely that this barn dates from around that period. However since the barn was originally built as a ground barn (see below) it is also possible that replacement braces from newer stock was introduced during a past renovation. I would strongly recommend doing dendrochronology testing to determine the year(s) the trees were cut. This can be done easily during the barns restoration.

The basement

The barn has a stone foundation on three walls, with a wood walkout wall to the east. The stone walls are in a predictably questionable state, due to the freeze / thaw cycles every year. As such there are some deep cracks, but nothing appears to be imminently dire. However if the barn is to remain in its current location, this foundation will have to be addressed.

The timber framing in the basement, particularly the first floor's platform, appears as I would expect. It has a 10 to 12 inch sill system with three-quarter round joists. The sills and joists are visually in fair shape but there is some evidence of rot and powder post beetle damage. I would consider this material to be questionable.

The basement's system of interior posts are all not tenoned into the bent's sill beams above. And there are no mortises in these beams to indicate the basement construction was built with the original barn. This implies that this barn may have been a ground barn when it was originally built and the basement was 'added' later. That also may mean the barn was in a different location before the basement was added. Typically we never solve the mystery of where it originally was built.

The north addition.

Sometime in the early 20th century an addition was built against what is now the north gable of the barn (touching bent #1). This addition features hewn tie beams and plate, while the rest is circular sawn. The addition measures approximately 30 feet by 32 feet and has a ridge line perpendicular to the older barn to the south. This addition is minimal; with two gable bents and a centered beam below the upper floor. This addition also has no south wall; meaning the tie beams of the gable bents have been fitted into the gable faces of the corner posts on bent #1 of the original barn.

The roof of the adition is a simple gable on the noth slope. But the south slope also needed a saddle to create valleys with the original barn. The valley rafters are simply braced against the corner posts of bent #1 and are somewhat over spanned. This roof probably sagged soon after construction and now has an array of bracing added from the ridge to the floor to stiffen it.

Whether at that time, or later. other smaller additions were also added. There is an 8 foot projection of the addition to the east that stretches the roof-line to cover mechanical spaces and an elevator. There is also a small brick box north of the north addition that served as an entry.

At some point, a decision was made to clad the main floor level of the addition, as well as the space under the loft between bents #1 and #2 of the original barn in plasterboard. A small amount of exploratory demolition was done (4 Aug 24) to verify that the beams that are wrapped in plasterboard are wood timbers. They are.

Under the 32 foot by 30 foot wood addition is a steel framed, concrete floor system of unknown thickness at this time. The floor between bents #1 and #2 of the original barn has an approximately 3" thick concrete floor poured on the wood (log) floor framing system of the orignal barn.

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Reclaiming process

To reclaim / salvage the parts of this structure, this building will have to be taken apart in the reverse order it was built. All of the "small" additions (brick box, and structures / rooms east of the addition) need to be demolished down to the main floor level; leaving the first platform and foundation. All of the plasterboard needs to be stripped out of the addition's main floor if this material is to be salvaged, and the plasterboard needs to be stripped off of bents #1 and #2 to expose the timbers of those bents.

All of the asphalt roof shingles must be stripped and properly disposed of. Then the barn's siding can be stripped and denailed and the barns can be craned apart. The addition must be taken down before the original barn, as it is structurally dependant on the original barn

Conclusions

As we discussed on site, when barns are salvaged we focus on everything above the sill beams, as the sill beams and the first floor framing has been exposed to more water and powderpost beetles. In this case almost all of the barn's framing members above are in very good condition (dry and intact), and little is missing or altered. This makes this barn an excellent candidate to be saved and given a new future.

The addition seems to be in reasonable shape, however one can never know what hides behind a cladding until that cladding is completely removed. Certainly there is material in the upper part of the addition that may be useful to us in the future. However the approach to how and what is salvaged from this structure has to be weighed against the labor involved in undoing the plasterboard and mechanical work that has been installed in and around that volume.

Along with its condition, this barn's provenance should be noted. Not only is this barn a relatively old barn for this part of the country / state its history is known and documented. That should make it very valuable to the people who live in the area. The Pickering family owned this property for over 140 years, and this barn was the center of their farming operation for that time. It should therefore carry a lot of meaning to the neighbors who live there too to have a top-notch example of a Midwest barn that was owned by one of the early families who helped to build the Bloomfield Township / Village of Franklin communities.

Respectfully submitted,
Charles Bultman, architect *Inc*



Charles T. Bultman II



BHS MP Program and Budgets

Worksheet BSF RollOut | Columns 1–8 | Printed cached source values

Original workbook is embedded in the PDF binder. Formula definitions, objects and source formatting remain available in that file. Blank cells are preserved within displayed rows. Entirely blank or zero-only rows are omitted from this print view; original row numbers are shown. For the shared master-plan workbook, this print view covers BSF and shared worksheets; JNC worksheets remain in the embedded original.

Source row	1	2	3	4	5	6	7	8
1	Bowers School Farm							
2	Roll-Out Plan							
4	Phase	Projects	1.0	2.0	3.0	4.0	5.0	6.0
5	1.0	Children's Garden	1048320					
6	2.0	Production Gardens (Hoophouse, greenhouse, deer fence, etc.)		2254560				
7	3.0	Our Roots (ie Heritage Farm, Bank Barn reno, service, etc)			2936640			
8	4.0	None				0.0		
9	5.0	Livestock Learning Lab (pasture redesign, etc)					3352160	
10	6.0	Community & U-Pick Gardens (remote shelter & toilet, etc)						596960
11	7.0	Ropes Course						
12	8.0	Casual Visitor Entrance (parking, drop-off, hwy buffer, etc.)						
13	9.0	None						
14	10.0	Equine Pavilion (parking, FAB reno, service, etc.)						
15	11.0	None						
16	12.0	None						
17	13.0	Admin & Education Building (messy garden, etc)						
18	14.0	None						

Source row	1	2	3	4	5	6	7	8
19	15.0	Land Interpretive Trail (sustainability, machines, etc.)						
21		Total Capital by Year	1048320	2254560	2936640	0	3352160	596960
22	0.04	Inflated	1090000	2439000	3303000	0	4078000	755000
23		Running Total of Capital Costs	1090000	3529000	6832000	6832000	10910000	11665000

BHS MP Program and Budgets

Worksheet BSF RollOut | Columns 9–16 | Printed cached source values

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Source row	9	10	11	12	13	14	15	16
4	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0
11	362880							
12		6868960						
13			0.0					
14				#ERROR!				
15					0.0			
16						0.0		
17							8809920	
18								0.0
21	362880	6868960	0	#ERROR!	0	0	8809920	0
22	478000	9401000	0	#ERROR!	0	0	14669000	0
23	12143000	21544000	21544000	#ERROR!	#ERROR!	#ERROR!	#ERROR!	#ERROR!

BHS MP Program and Budgets

Worksheet BSF RollOut | Columns 17–19 | Printed cached source values

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Source row	17	18	19
4	15.0	Total	
5		1048320	
6		2254560	
7		2936640	
8		0	
9		3352160	
10		596960	
11		362880	
12		6868960	
13		0	
14		#ERROR!	
15		0	
16		0	
17		8809920	
18		0	
19	738080	738080	
21	738080	#ERROR!	2023 $$ Total
22	1329000		
23	#ERROR!	#ERROR!	Inflated Total

BHS MP Program and Budgets

Worksheet BSF Project Budgets | Columns 1–8 | Printed cached source values

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Source row	1	2	3	4	5	6	7	8
1	Bowers School Farm							
2	Estimate Summary							
3			Construction Cost	Construction Contingency	Construction Subtotal	Owner Contingency	Construction & Owner Contingency Itemized Subtotal	A/E Fee Itemized
4				0.25		0.2		0.12
5	Land Zone		#ERROR!	#ERROR!	#ERROR!	#ERROR!	#ERROR!	#ERROR!
6		Highway Vegetative Buffer & Signage	27000	6750	33750	7000	41000	4920
7		Livestock Pastures	264250	66062.5	330312.5	67000	398000	47760
8		Perimeter Deer fence	500000	125000	625000	125000	750000	90000
9		Utilities upgrades	150000	37500	187500	38000	226000	27120
10		Pollinators	141500	35375	176875	36000	213000	25560
11		Avian Farm	276000	69000	345000	69000	414000	49680
12		History Interpretive Trail	405000	101250	506250	102000	609000	73080
13		Land Interpretive Trail	439000	109750	548750	110000	659000	79080
14		Equine Center	#ERROR!	#ERROR!	#ERROR!	#ERROR!	#ERROR!	#ERROR!
15	Body Zone		2946137.5	736534.375	3682671.875	736534.375	4419206.25	530304.75
16		U-pick Fields	70000	17500	87500	17500	105000	12600
17		Ropes Course (Entry from Farm & new course)	216000	54000	270000	54000	324000	38880
18		Sled Hill (relocated)	50000	12500	62500	12500	75000	9000
19		Community Gardens	190000	47500	237500	47500	285000	34200
20		Production Gardens & Hoophouse	691200	172800	864000	172800	1037000	124440
21		Livestock Learning Lab (Pig Habitat)	826125	206531.25	1032656.25	206531.25	1240000	148800
22		Ruminants Barn	902812.5	225703.125	1128515.625	225703.125	1355000	162600
23	Soul Zone		4978700	1244675	6223375	1244675	7468050	896166

Source row	1	2	3	4	5	6	7	8
24		Event Rental @ Bank Barn	822600	205650	1028250	205650	1234000	148080
25		Rustic Camp / Picnic	95000	23750	118750	23750	143000	17160
26		Casual Visitor Entry	4061100	1015275	5076375	1015275	6092000	731040
27	Mind Zone		5867950	1466987.5	7334937.5	1466987.5	8801925	1056231
28		Education / Administration Building	5243950	1310987.5	6554937.5	1310987.5	7866000	943920
29		Children's Garden	624000	156000	780000	156000	936000	112320
30	Service Areas		2811750	702937.5	3514687.5	702937.5	4217625	506115
31		East Service Area	2761000	690250	3451250	690250	4142000	497040
32		West Service Area	50750	12687.5	63437.5	12687.5	77000	9240
33			#ERROR!					Total

BHS MP Program and Budgets

Worksheet BSF Project Budgets | Columns 9–16 | Printed cached source values

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Source row	9	10	11	12	13	14	15	16
3	Construction & Design Total in 2023 $							
5	#ERROR!							
6	45920							
7	445760							
8	840000							
9	253120							
10	238560							
11	463680							
12	682080							
13	738080							
14	#ERROR!							
15	4949511							
16	117600							
17	362880							
18	84000							
19	319200							
20	1161440							
21	1388800							
22	1517600							
23	8364216							
24	1382080							
25	160160							
26	6823040							
27	9858156							
28	8809920							
29	1048320							
30	4723740							

Source row	9	10	11	12	13	14	15	16
31	4639040							
32	86240							
33	#ERROR!							

BHS MP Program and Budgets

Worksheet BSF Project Budgets | Columns 17–20 | Printed cached source values

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Source row	17	18	19	20
4		0.12		0.2

BHS MP Program and Budgets

Worksheet BSF Estimate_Detail | Columns 1–8 | Printed cached source values

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Source row	1	2	3	4	5	6	7	8
1	Bowers School Farm							
2	Estimate							
3			Quantity	Unit	Cost	Subtotal	Total	
4	Land Zone						#ERROR!	
5		General Site					941250	
6		Highway Vegetative Buffer & Signage	180.0	ls	150.0	27000		Evergreen 10' on center
7		Livestock Pastures	10950	lf	15.0	164250		fencelines; Includes Forest pasture fence (1250 LF), Ruminant Pasture (1200 LF)
8		Waterers at Pastures	5.0	ls	20000.0	100000		running waterlines / wells ; 20,000 per well historically
9		Utilities upgrades	1.0	ls	150000.0	150000		
10		Perimeter Deer fence	1.0	ls	500000.0	500000		
11		Pollinators					141500	
12		Reno of cottage into classroom	750	sf	150.0	112500		
13		Interpretives	6.0	ls	2500.0	15000		
14		Pathways	700	sf	20.0	14000		
15		Avian Farm					276000	
16		Outdoor Habitats	31000	sf	6.0	186000		site prep, new substrate, utilities, fences, ffe, etc.
17		Chicken coop & wash station	500	sf	125.0	62500		
18		Pathways	1000	sf	20.0	20000		
19		Interpretives	3.0	ls	2500.0	7500		
20		History Interpretive Trail					405000	

Source row	1	2	3	4	5	6	7	8
21		Renovation of Root Cellar	600	sf	200.0	120000		waterproofing, electrical, ventilation, etc.
22		Farmhouse indoor interpretives / displays	1.0	ls	25000.0	25000		
23		Cabin indoor interpretives / displays	1.0	ls	25000.0	25000		
24		Barn indoor interpretives / displays	1.0	ls	25000.0	25000		
25		Relocated Heritage Garden	800	sf	25.0	20000		plants, lighting, irrigation, retaining walls, etc.
26		Outdoor interpretives / displays	1.0	ls	25000.0	25000		
27		Pathways	5500	sf	30.0	165000		lighting
28		Land Interpretive Trail					439000	
29		Pasture overlook / interpretation	8.0	ls	5000.0	40000		
30		Farm Machines hands-on museum	26000	sf	6.0	156000		Equip collection donated; site prep, lighting, substrate, etc.
31		Native Ecology / Pollinator Garden (Horticultural garden)	2200	sf	15.0	33000		plants, lighting, irrigation, etc.
32		Pathways	6000	sf	20.0	120000		
33		Land Pavilion	600	sf	150.0	90000		
34		Equine Center					#ERROR!	
35		Stables and supporting building	5000	sf	250.0	1250000		
36		Arena building	24700	sf	150.0	3705000		
37		FAB renovation	3500	sf	100.0	350000		
38		Hay barn	4800	sf	125.0	600000		
39		Pony Yard	9100	lf	6.0	54600		Includes all small pastures adjacent to Eq Pav; site prep, new substrate, fences, etc.
40		Outdoor Arena with bleachers / viewing	23400	sf	10.0	234000		
41		Pathways	7500	sf	20.0	150000		
42		Horse Pastures	5730.0	lf	25.0	143250		fences only

Source row	1	2	3	4	5	6	7	8
43		Equine / Event Parking Lot	#ERROR!	sf	15.0	#ERROR!		
44	Body Zone						2946137.5	
45		U-pick Fields					70000	
46		New U-Pick at existing Production Gardens	1.0	ls	25000.0	25000		plants, irrigation, fences, etc
47		New U-Pick at existing Community Gardens	1.0	ls	25000.0	25000		plants, irrigation, fences, etc
48		Pathway	2500	sf	8.0	20000		
49		Ropes Course (Entry from Farm & new course)					216000	
50		Ropes course toilet	64	sf	250.0	16000		composting toilet
51		Ropes course	1.0	ls	200000.0	200000		
52		Sled Hill (relocated)	1.0	ls	50000.0	50000	50000	using existing grades only; site misc.
53		Community Gardens					190000	
54		Gardens	1.0	ls	75000.0	75000		site prep, new substrate, utilities, etc.
55		Community & Master Gardener storage	200	sf	150.0	30000		
56		Pathways	3500	sf	20.0	70000		
57		Interpretives	6.0	ls	2500.0	15000		
58		Production Gardens & Hoophouse					691200	
59		Greenhouse	1.0	ls	85000.0	85000		
60		Gardens	51600	sf	4.0	206400		site prep, irrigation, etc.
61		Hoophouse 2	2160	sf	15.0	32400		
62		Hoophouse 3	2160	sf	15.0	32400		
63		Wash station & storage & cooler	550	lf	250.0	137500		
64		Outdoor kitchen with seating	900	sf	75.0	67500		
65		Pathways	4000	sf	20.0	80000		
66		Interpretives	10.0	ls	5000.0	50000		
67		Livestock Learning Lab (Pig Habitat)					826125	
68		Barn	2522.5	sf	250.0	630625		includes interpretives

Source row	1	2	3	4	5	6	7	8
69		Outdoor Habitats	16500	sf	7.0	115500		site prep, new substrate, utilities, fences, ffe, etc.
70		Pathways	4000	sf	20.0	80000		
71		Ruminants Barn					902812.5	
72		Barn	2031.25	sf	250.0	507812.5		includes interpretives
73		Outdoor Habitats	45000	sf	7.0	315000		site prep, new substrate, utilities, fences, ffe, etc.
74		Pathways	4000	sf	20.0	80000		
75	Soul Zone						4978700	
76		Event Rental @ Bank Barn					822600	
77		New Toilets	600	sf	350.0	210000		
78		Renovation of Upper Barn	1800	sf	200.0	360000		structural / window renovations, HVAC, finishes, kitchen, etc.
79		New deck	720	sf	80.0	57600		
80		New outdoor rental space (cocktail garden)	4200	sf	35.0	147000		paving, lighting, gardens, utilities, etc.
81		Pathways	2400	sf	20.0	48000		
82		Rustic Camp / Picnic					95000	
83		Shelter	300	sf	150.0	45000		
84		Composting Toilet	200	sf	250.0	50000		
85		Casual Visitor Entry					4061100	
86		Entry Building	6531.25	sf	400.0	2612500		
87		Entry Outdoor seating / dining	700	sf	75.0	52500		FFE, lighting, paving, etc.
88		Outdoor gathering / picnic space w/ play elements (outside of gate)	6300	sf	50.0	315000		FFE, lighting, paving, garden, etc.
89		Wagon loading / unloading	1600	sf	8.0	12800		
90		Wagon loading shelter	150	sf	150.0	22500		
91		Pathways	12000	sf	20.0	240000		
92		Education shelter	120	sf	150.0	18000		
93		Horticultural gardens @ Entry	5000	sf	25.0	125000		plants, lighting, irrigation, etc.

Source row	1	2	3	4	5	6	7	8
94		Casual Visitor Parking Lot	33600	sf	10.0	336000		
95		Entry Road	31680	sf	10.0	316800		
96		Square Lake Orchard (Road Buffer with Fruit Trees)	100.0	ls	100.0	10000		15' on center
97	Mind Zone						5867950	
98		Education / Administration Building					5243950	
99		Major renovation of existing	3077.0	sf	150.0	461550		only areas of major renovation
100		Minor renovation of existing	8000.0	sf	50.0	400000		
101		Academy building expansion	9432.0	sf	350.0	3301200		Gym (1/3 of total expansion), two large dividable classrooms, library, office, toilets, corridors, storage, etc.
102		Staff building expansion	1594.0	sf	350.0	557900		
103		Lobby addition	588.0	sf	350.0	205800		
104		Outdoor Academy student lounge	900	sf	75.0	67500		lighting, seating, shelter, utilities, gardens, etc.
105		Messy Garden	2500	sf	4.0	10000		site prep, new substrate, etc.
106		Pathways	12000	sf	20.0	240000		
107		Children's Garden					624000	
108		Garden	6400	sf	25.0	160000		
109		Green Roof Pavilion	2400	sf	185.0	444000		
110		Pathways	1000	sf	20.0	20000		
111	Service Areas						2811750	
112		East Service Area					2761000	
113		Tractor / equipment garage	9600	sf	125.0	1200000		2 buildings
114		New storage barn	1200	sf	125.0	150000		
115		Workshop	3200	sf	200.0	640000		
116		Residence	1400	sf	250.0	350000		

Source row	1	2	3	4	5	6	7	8
117		Landscape materials piles	1800	sf	4.0	7200		
118		Hay Barn	1800	sf	125.0	225000		
119		Pathways	23600.0	sf	8.0	188800		
120		West Service Area					50750	
121		Barn	150	sf	125.0	18750		
122		Parking & Pathways	4000.0	sf	8.0	32000		

BHS MP Program and Budgets

Worksheet BSF Annual Attendance | Columns 1–8 | Printed cached source values

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Source row	1	2	3	4	5	6	7	8
1	Bowers School Farm							
2	Projected Annual Attendance							
4	Year	Projects	1.0	2.0	3.0	4.0	5.0	6.0
5	1.0	Children's Garden	1339.8					
6	2.0	Production Gardens (Hoophouse, greenhouse, deer fence, etc.)		689.997				
7	3.0	Our Roots (ie Heritage Farm, Bank Barn reno, service, etc)			6122.249595			
8	4.0	None				-3603.057262		
9	5.0	Livestock Learning Lab (pasture redesign, etc)					4786.918933	
10	6.0	Community & U-Pick Gardens (remote shelter & toilet, etc)						-1053.122165
11	7.0	Ropes Course						
12	8.0	Casual Visitor Entrance (parking, drop-off, hwy buffer, etc.)						
13	9.0	None						
14	10.0	Equine Pavilion (parking, FAB reno, service, etc.)						
15	11.0	None						
16	12.0	None						
17	13.0	Admin & Education Building (messy garden, etc)						
18	14.0	None						

Source row	1	2	3	4	5	6	7	8
19	15.0	Land Interpretive Trail (sustainability, machines, etc.)						
20		44660.0	45999.8	45349.997	51472.2466	47869.18933	52656.10827	51602.9861
21		Projected Annual Growth Rates	0.03	0.015	0.135	-0.07	0.1	-0.02
23		1.0	0.03	-0.015	0.0			
24		2.0		0.03	-0.015	0.0		
25		3.0			0.15	-0.075	0.0	
26		4.0				0.005	0.0	
27		5.0					0.1	-0.05
28		6.0						0.03
29		7.0						
30		8.0						
31		9.0						
32		10.0						
33		11.0						
34		12.0						
35		13.0						
36		14.0						
37		15.0						

BHS MP Program and Budgets

Worksheet BSF Annual Attendance | Columns 9–16 | Printed cached source values

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Source row	9	10	11	12	13	14	15	16
4	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0
11	774.0447915							
12		4452.047626						
13			-2557.308533					
14				5427.176999				
15					-2686.452614			
16						285.0624718		
17							1718.926705	
18								-590.1648355
20	52377.03089	56829.07852	54271.76999	59698.94698	57012.49437	57297.55684	59016.48355	58426.31871
21	0.015	0.085	-0.045	0.1	-0.045	0.005	0.03	-0.01
27	0.0							
28	-0.015	0.0						
29	0.03	-0.015	0.0					
30		0.1	-0.05	0.0				
31			0.005	0.0				
32				0.1	-0.05	0.0		
33					0.005	0.0		
34						0.005	0.0	
35							0.03	-0.015
36								0.005

BHS MP Program and Budgets

Worksheet BSF Annual Attendance | Columns 17–20 | Printed cached source values

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Source row	17	18	19	20
4	15.0			
5			Regular Growth	0.5
6			Small Project	3.0
7			Med Project	10.0
8			Large Project	15.0
10			Decay by half in second year, 3rd year decay back to regular growth	
19	1168.526374			
20	59594.84509			
21	0.02	0.0225	Ave Annual Growth	
35	-0.01			
36	0.0			
37	0.03			

BHS MP Program and Budgets

Worksheet BSF Program | Columns 1–5 | Printed cached source values

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Source row	1	2	3	4	5
1	BHS BSF & JNC				
2	BOWERS SCHOOL FARM DESIGN PROGRAM				
4	PLAN #	ELEMENT NAME	INDOOR AREA (SF)	OUTDOOR AREA (SF)	NOTES
5		Land Zone			
6		Pollinators			
7		Reno of cottage into classroom	750		south side of bldg maintained; north side demo'd
8		Avian Farm			
9		Outdoor Yard 1		14000.0	32000
10		Outdoor Yard 2		17000.0	
11		Chicken coop & wash station		500	min 1.5 sf per hen; washing station for eggs; max 200 birds; storage
12		History Interpretive Trail			
13		Renovation of Root Cellar	600.0		
14		Farmhouse indoor interpretives / displays	200.0		
15		Cabin indoor interpretives / displays	100.0		
16		Barn indoor interpretives / displays	1500.0		
17		Relocated Heritage Garden		800.0	2x existing
18		Outdoor interpretives / displays		600.0	
19		Land Interpretive Trail			
20		Pasture overlook / interpretation			10 interpretives
21		Farm Machines hands-on museum		26000	10 'machines'; 15 interpretives
22		Native Ecology / Pollinator Garden (Horticultural garden)		2200	3 interpretives
23		Land Pavilion	600		30 person capacity @ 20 sf per person
24		Equine Center	36462.5		includes additional 25% for corridors, etc.
25		Indoor riding arena w/ bleachers	18000		90 x 200 arena

Source row	1	2	3	4	5
26		Hay barn	4800		60 x 80
27		Grain storage	800		20 x 40
28		Stables (permanent & rental)	3456		12 stables; 12 x 12 sf per stall + work area
29		Tack room	200		10x20 tack room
30		Dressing Room	180		30 person capacity
31		Storage / Laundry	150		working sink, counter
32		Multi-purpose room (gathering, meetings, etc) / observation room	864		60 person seated / 100 standing (36 x 24)--viewing into the arena
33		Welcome center / lobby / interpretation	240		30 person standing capacity
34		Toilets	480		per capacity of bleachers (300)--4 toilets per side; 60sf per toilet
35		Pony Yard		9100	3 interpretives
36		Outdoor Arena with bleachers / viewing		23400	260 x 90
37		Horse Pastures		784080	18 acres; 4 pastures
38		Highway Vegetative Buffer & Signage		1800.0	LF; hedge of evergreens with 130 maples and redbuds (in action); 10' on center =
39		Livestock Pastures		1176120	Cattle--2 acres; 5 head; running water to each paddock
40		Equine / Event Parking Lot		52900	102 spots
41		Body Zone			
42		U-pick Fields			
43		Pumpkin Patch (no improvements)		136500.0	
44		New U-Pick at existing Production Gardens		45500.0	
45		New U-Pick at existing Community Gardens		61000.0	
46		Ropes Course (Entry from Farm & new course)			
47		Ropes course toilet		64.0	1 unisex toilet
48		Sled Hill (relocated)		9000.0	
49		Community Gardens		79300	30% larger than existing (61,000)
50		Community & Master Gardener storage	200		10 x 20 shed
51		Production Gardens & Hoophouse			

Source row	1	2	3	4	5
52		Greenhouse	2160		30 x 72
53		Gardens		51600	
54		Hoophouse (Existing--no changes)			
55		Hoophouse 2	2160		
56		Hoophouse 3	2160		
57		Wash station & storage & cooler	550		sinks and countertops (10 x 15); storage: tool shed and separate packing materials (20 x 20)
58		Outdoor kitchen with seating		900	seating for 10; pizza oven
59		Livestock Learning Lab (Pig Habitat)	2522.5		
60		Flex indoor housing	576		4 general (sized for cow) @ 12 x 12
61		Swine indoor housing	192		4 pig; 48 sf per pig
62		Interpretive experience / orientation lobby	450		30 capacity @ 15 sf per person
63		General storage	400.0		
64		Gear library	400.0		high school; 20 x 20 with benches, laundry, hooks, etc
65		Outdoor livestock yard 1		10800	min 125 sf per cow; min 50 sf per goat
66		Outdoor livestock yard 2		3600	
67		Outdoor swine yard 1		1200	min 200 sf per animal
68		Outdoor swine yard 2		900.0	min 200 sf per animal
69		Ruminants Barn	2031.25		
70		Livestock indoor housing (cow, goat)	775		6 cow (100 sf per cow); 7 goat (25 sf per goat)
71		Interpretive experience / orientation lobby	450		30 capacity @ 15 sf per person
72		General storage	400.0		
73		Outdoor Habitat		21600.0	same as existing yard at street; min 50 sf per goat
74		Kids (Goats) Yard		23400	with climbing structure
75		Soul Zone			
76		Event Rental @ Bank Barn			
77		New Toilets	600		4 per side
78		Renovation of Upper Barn	1800.0		20 sf per person seated; capacity of 90; catering kitchen (200 sf)
79		New deck		720	same capacity as upper barn indoor space seated; 8 sf per person

Source row	1	2	3	4	5
80		New outdoor rental space (cocktail garden)		4200	equal to indoor space
81		Rustic Camp / Picnic			
82		Shelter		300	30 person capacity; 10 sf per person
83		Composting Toilet	200		2 family ADA composting toilets
84		FAB renovation	3500.0		
85		Casual Visitor Entry	6531.25		includes 25% additional for corridors, storage, etc
86		Ticketing	36		1 window / POS is needed for attendance now; may need second window for growth?
87		Family ADA toilet (outside of gate)	100.0		
88		Toilets	512		4 per side to accommodate field trip / bus drop off
89		Retail / farm store (outside of gate)	2208		Double current space
90		Concessions & Production Kitchen	864		Kitchen & 1 POS window; on display cooking; donut robot, pizza oven, convection oven large-scale; 36 x 24
91		Teaching kitchen	480		multiple teaching stations
92		Indoor interpretives / display / orientation	500.0		
93		Indoor seating / dining	525		35 person capacity = (9) 4 tops @ 15 sf / person
94		Entry Outdoor seating / dining		700	35 person capacity = (9) 4 tops @ 20 sf / person
95		Outdoor gathering / picnic space w/ play elements (outside of gate)		6300	Play: 60 people capacity for field trips; 35 sf / person; hort gardens surrounding
96		Wagon loading / unloading		1600	same as existing wagon circle
97		Wagon loading shelter		150	25 people capacity in queue; 6 sf / person
98		Education shelter		120.0	multi-purpose shelter for crafts, information, small classes, etc.
99		Horticultural gardens @ Entry		5000	
100		Casual Visitor Parking Lot		33600	63 spots designed
101		Entry Road		31680	new road, drop off, etc
102		Square Lake Orchard (Road Buffer with Fruit Trees)		1500.0	LF; 15' on center
103		Mind Zone			
104		Education / Administration Building	29272.5		

Source row	1	2	3	4	5
105		Formal Education (Academy & HS)			
106		Toilets	600		4 per side
107		Academy/HS classrooms (existing)	1738		garage doors
108		Social worker office	120		
109		Student unisex ADA toilet	100.0		single toilet
110		Academy director / principal's office	300		space for 6 to meet
111		Academy teacher workspace	372		6 desks
112		Academy library / student lounge	864		24 x 36
113		New Academy classrooms	9000		(3) capacity for 30; 100 sf per person
114		Academy cafegymatorium (multipurpose space)	3500.0		half court basketball & storage (elementary sized gym)
115		Academy storage room	288		12 x 24
116		Community / Instructional / Programs			
117		Ed Program classrooms (existing)	1040		
118		Multi-purpose space (lobby conversion)	1104		
119		Toilets (existing)	600		4 per side
120		Gear library	400		high school; 20 x 20; laundry, benches, hooks
121		Administration / Staff Support Area			
122		Kitchen (conversion to breakroom)	432		convert to staff & student kitchen / breakroom
123		Director's office	300		space for 6 to meet
124		Instructional / Programs office	192		programs / 3 people; 64sf / person
125		Camp office	192		3 people
126		Operations Office	192		3 people
127		Admin office	192		3 people
128		Guest services office	192		3 people
129		General workspace / office supply storage	432		4 people / 18 x 24
130		Reception / Lobby	240		capacity for 30
131		Conference room	500		capacity for 20; 25 sf per person
132		Staff / volunteer breakroom & lockers	300		capacity for 30; 10 sf per person
133		Staff toilet	228		1 ADA unisex; 2 unisex
134		Outdoor Academy student lounge		900	capacity for 50; 15 sf per person; shelter

Source row	1	2	3	4	5
135		Messy Garden		2500.0	
136		Children's Garden			
137		Garden		6400	
138		Green Roof Pavilion		2400	120 person capacity for seated event
139		Mind Parking Lot (no improvements)			54 spaces
140		Service Areas			
141		East Service Area			
142		Tractor / equipment garage	9600		60 x 80 (2)
143		Laydown lot (multi-purpose open space)		3500.0	
144		Existing storage barn	1200.0		30 x 40
145		New storage barn	1200		same as existing
146		Workshop	3200		same as JNC
147		Residence	1400.0		2 bedroom apartment
148		Landscape materials piles		1800	Manure, compost, topsoil, mulch, etc
149		Hay Barn	1800.0		
150		West Service Area			
151		Hay barn	150		
152		Feed storage	100		
153		Parking for 3 cars		750	

BHS MP Program and Budgets

Worksheet BSF Attendance, PIP | Columns 1–8 | Printed cached source values

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Source row	1	2	3	4	5	6	7	8
1	Bowers School Farm							
2	Design Day Analysis							
4	BSF	Existing Attendance Trends:					Notes:	
5			Annual Attendance:		44660.0		FY 2022 (programs and gate)	
6			Days of Operation:		0.0			
7			Ave Peak Day:	0.009762651142	436.0		Average of top 25 days	
8			Maximum Day:	0.09258844604	4135.0	1547.828117	Fall Fest day? 2019 4135 total	
9			Design Day:	0.008441558441558441	377		Average of top 15 - 25 days	
10			Casual Guest Design Day, Peak in Park:	0.31	116.87000000000002			
11			Friday Camp Day + Open Barn, Peak in Park:	0.3743236074	141.12			
12			Length of Stay:		1.2500000000000002			
19			Peak In Park on Design Day				Saturday in June -- Casual Guest only	
20				Arrival		Departure		In Park
21			Before 8:00 AM	0.0	0	0.0	0	0
22			08:00:00	0.0	0	0.0	0	0
23			09:00:00	0.0	0	0.0	0	0
24			10:00:00	0.31	116.87	0.14	52.78	0.17
25			11:00:00	0.23	86.71	0.2	75.4	0.2
26			12:00:00	0.1	37.7	0.09	33.93	0.21
27			13:00:00	0.19	71.63	0.09	33.93	0.31
28			14:00:00	0.12	45.24	0.21	79.17	0.22
29			15:00:00	0.03	11.31	0.15	56.55	0.1

Source row	1	2	3	4	5	6	7	8
30			16:00:00	0.02	7.54	0.08	30.16	0.04
31			17:00:00	0.0	0	0.04	15.08	0
32			18:00:00	0.0	0	0.0	0	0
33				1		1		
35			Maximums	0.31	116.87	0.21	79.17	0.31
36								Length of Stay
40			Peak In Park on Design Day				Friday School Year + Open Barn	
41				Arrival		Departure		In Park
42			Before 8:00 AM	0.0	0	0.0	0	0
43			08:00:00	0.1	35	0.0	0	0.1
44		All students arrive	09:00:00	0.3	105	0.0	0	0.4
45			10:00:00	0.01	3.5	0.01	3.5	0.4
46		AM students depart / PM students arrive	11:00:00	0.26	91	0.28	98	0.38
47			12:00:00	0.01	3.5	0.01	3.5	0.38
48			13:00:00	0.01	3.5	0.01	3.5	0.38
49		Half PM students depart / Open Barn opens	14:00:00	0.09	31.5	0.15	52.5	0.32
50			15:00:00	0.09	31.5	0.15	52.5	0.26
51		Half PM students depart	16:00:00	0.09	31.5	0.15	52.5	0.2
52			17:00:00	0.04	14	0.15	52.5	0.09
53			18:00:00	0.0	0	0.09	31.5	0
54				1		1		
56			Maximums	0.3	105	0.28	98	0.4
57								Length of Stay
60			Peak In Park on Design Day				Friday Camp Day + Open Barn	
61				Arrival		Departure		In Park
62			Before 8:00 AM	0.0	0	0.0	0	0
63			08:00:00	0.25	84	0.0	0	0.25
64			09:00:00	0.05	16.8	0.0	0	0.3
65			10:00:00	0.0	0	0.0	0	0.3
66			11:00:00	0.0	0	0.0	0	0.3

Source row	1	2	3	4	5	6	7	8
67			12:00:00	0.0	0	0.0	0	0.3
68			13:00:00	0.0	0	0.0	0	0.3
69			14:00:00	0.1	33.6	0.0	0	0.4
70			15:00:00	0.4	134.4	0.38	127.68	0.42
71			16:00:00	0.12	40.32	0.4	134.4	0.14
72			17:00:00	0.08	26.88	0.15	50.4	0.07
73			18:00:00	0.0	0	0.07	23.52	0
74				1		1		
76			Maximums	0.4	134.4	0.4	134.4	0.42
77								Length of Stay
83			PIP on Max Day				Fall Fest Saturday	
84				Arrival		Departure		In Park
85			Before 8:00 AM	0.0	0	0.0	0	0
86			08:00:00	0.0	0	0.0	0	0
87			09:00:00	0.0	0	0.0	0	0
88			10:00:00	0.35	1447.25	0.01	41.35	0.34
89			11:00:00	0.23	951.05	0.17	702.95	0.4
90			12:00:00	0.1	413.5	0.18	744.3	0.32
91			13:00:00	0.19	785.65	0.12	496.2	0.39
92			14:00:00	0.12	496.2	0.13	537.55	0.38
93			15:00:00	0.01	41.35	0.2	827	0.19
94			16:00:00	0.0	0	0.19	785.65	0
95			17:00:00	0.0	0	0.0	0	0
96			18:00:00	0.0	0	0.0	0	0
97				1		1		
99			Maximums	0.35	1447.25	0.2	827	0.4
100								Length of Stay

BHS MP Program and Budgets

Worksheet BSF Attendance, PIP | Columns 9–16 | Printed cached source values

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Source row	9	10	11	12	13	14	15	16
4					Projected Attendance Trends:			
5						Annual Attendance:		59594.84509
6						Days of Operation:		0.0
7						Ave Peak Day:	0.009762651142	581.8036824
8						Maximum Day:	0.09258844604	5517.794098
9						Design Day:	0.008441558441558441	503.0733676
10						Casual Guest Design Day, Peak in Park:	0.5545513199	278.98
11						Friday Camp Day + Open Barn, Peak in Park:	0.3743236074	188.3122378
12						Length of Stay:		1.2500000000000002
14			2802.0					
19					Projected Peak In Park on Design Day			
20						Arrival		Departure
21	0				Before 8:00 AM	0.0	0	0.0
22	0				08:00:00	0.0	0	0.0
23	0				09:00:00	0.0	0	0.0
24	64.09				10:00:00	0.3	113.1	0.01
25	75.4				11:00:00	0.25	94.25	0.01
26	79.17				12:00:00	0.2	75.4	0.03
27	116.87				13:00:00	0.12	45.24	0.08
28	82.94				14:00:00	0.1	37.7	0.12
29	37.7				15:00:00	0.02	7.54	0.2
30	15.08				16:00:00	0.01	3.77	0.27
31	0				17:00:00	0.0	0	0.28
32	0				18:00:00	0.0	0	0.0

Source row	9	10	11	12	13	14	15	16
33						1		1
35	116.87				Maximums	0.3	113.1	0.28
36	1.25							
38	471.25	calculation key						
40			Average May or October Friday					
41			Students	75.0	250.0			
42	0		gate		100			
43	35		total		350.0			
44	140							
45	140		Arrival	Dep	Dep			
46	133		9:30am	11:30am	2:30pm			
47	133		12.0	2pm	4pm			
48	133							
49	112							
50	91							
51	70							
52	31.5							
53	0							
56	140							
57	2.91							
59	1018.5	calculation key						
60			Average June / July Friday					
61			Students	100.0	125			
62	0		gate		211			
63	84		total		336.0			
64	100.8							
65	100.8							
66	100.8		9am camp arrival					
67	100.8		3pm pick up					
68	100.8		3-4pm peak open barn					
69	134.4							
70	141.12							

Source row	9	10	11	12	13	14	15	16
71	47.04							
72	23.52							
73	0							
76	141.12							
77	2.78							
79	934.08	calculation key						
85	0							
86	0							
87	0							
88	1405.9							
89	1654							
90	1323.2							
91	1612.65							
92	1571.3							
93	785.65							
94	0							
95	0							
96	0							
99	1654							
100	2.02							
102	8352.7	calculation key						

BHS MP Program and Budgets

Worksheet BSF Attendance, PIP | Columns 17–24 | Printed cached source values

Original workbook is embedded in the PDF binder. Formula definitions, objects and source formatting remain available in that file. Blank cells are preserved within displayed rows. Entirely blank or zero-only rows are omitted from this print view; original row numbers are shown. For the shared master-plan workbook, this print view covers BSF and shared worksheets; JNC worksheets remain in the embedded original.

Source row	17	18	19	20	21	22	23	24
4		Notes:					Capacity Programming	
5		FY 2022 (programs and gate)						% Util.
6							Dining (Outdoor)	0.25
7		Average of top 25 days					Dining (Indoors)	0.25
8	3059.9						Dining (Queue)	0.25
9		Average of top 15 - 25 days					Kitchen	
10							Retail (Exit Shop)	0.9
11							Retail (Total)	0.25
12							Exhibits	0.85
13							Ticketing	0.4
14							Ticketing Queue	0.6
15							Toilets in Park	
16							Toilets at Entry	
17							Max Toilets in Park	
18							Max Toilets at Entry	
19	Saturday in June -- Casual Guest only							
20		In Park					Parking Programming	
21	0	0	0					
22	0	0	0					
23	0	0	0				Existing PIP	
24	3.77	0.29	109.33				Projected PIP	
25	3.77	0.53	199.81				Existing Max Day PIP	
26	11.31	0.7	263.9				Projected PIP	
27	30.16	0.74	278.98					
28	45.24	0.72	271.44					

Source row	17	18	19	20	21	22	23	24
29	75.4	0.54	203.58					
30	101.79	0.28	105.56					
31	105.56	0	0					
32	0	0	0					
35	105.56	0.74	278.98					
36		Length of Stay	2.847695967					
38			1432.6	calculation key				

BHS MP Program and Budgets

Worksheet BSF Attendance, PIP | Columns 25–32 | Printed cached source values

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Source row	25	26	27	28	29	30	31	32
5	Capacity Timing		Capacity / Hour	Turn Time (min)	%	Instan Capacity	Area (sf) / Person	Total Needed
6	Peak Meal Hour		69.745	30.0	0.5	34.8725	20.0	697.45
7	Peak Summer Meal Hour		69.745	30.0	0.5	34.8725	15.0	523.0875
8	Peak Meal Hour		19.7925	5.0	0.08333333333	1.649375	10.0	16.49375
9			69.745				5.0	348.725
10	Peak Departure Hour		50.895	15.0	0.25	12.72375	30.0	381.7125
11	Design Day PIP		278.98	15.0	0.25	17.43625	30.0	523.0875
12	Peak In Park		237.133					
13	Peak Arrival		113.1	3.0	0.05	2.262		1
14	Peak Arrival		113.1	3.0	0.05	3.393	10.0	33.93
15	Design Day PIP		60.0		# of Fixtures:	4.649666667	45.0	209.235
16	Highest Total Arrival + Correl. Depart.		60.0		# of Fixtures:	1.947833333	45.0	87.6525
17	Design Day PIP		60.0		# of Fixtures:	25.79713528	45.0	1160.871088
18	Highest Total Arrival + Correl. Depart.		60.0		# of Fixtures:	28	45.0	1260
21	Visitors	ppl / car	Needed spots	ADA Needed	Area (sf) / Spot	Parking Area (sf) Needed		Number of Parking Spaces Provided in Facility
23	141.12	2.5	56.448	3.0	320.0	18063.36		
24	278.98	3.5	79.70857143	3.0	320.0	25506.74286		
25	1547.828117	2.5	619.1312467	7.0	320.0	198121.9989		
26	3059.9	3.5	874.2571429	7.0	320.0	279762.2857		1 to 25
27								26 to 50
28								51 to 75
29								76 to 100
30								101 to 150
31								151 to 200

BHS MP Program and Budgets

Worksheet BSF Attendance, PIP | Columns 33–34 | Printed cached source values

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Source row	33	34
6	sf	
7	sf	
8	sf	
9	sf	Metric based on total seats
10	sf	Total shop: retail + storage
11	sf	Alternative way to size, Retail shop only (not storage)
13	windows	% = how many are served at window vs standing in queue
14	sf	
15	sf	Split 50/50 gender, then males get split 60/30 urinals/ toilets
16	sf	Split 50/50 gender, then males get split 60/30 urinals/ toilets
17	sf	
18	sf	
21	Minimum Number of Accessible Spaces (car and van)	Mininum Number of Van-Accessible Parking Spaces (1 of 6)
26	1.0	1.0
27	2.0	1.0
28	3.0	1.0
29	4.0	1.0
30	5.0	1.0
31	6.0	1.0

BHS MP Program and Budgets

Worksheet Facilities_BSF | Columns 1–8 | Printed cached source values

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Source row	1	2	3	4	5	6	7	8
1		Bowers School Farm						
2		Facilities Evaluation						
3		Flint Riverquarium						
4		Facilities Evaluation						
6		BSF	Ave / Priority	Age / Condition	Functionality / Efficiency for Current Use	Guest Experience		Known Improvements Needed
7		Hoop House / New Field Wash Pack	0.0					Needs to be created.
8		Academy Café	1	1.0	1.0	1.0		Café used as social work office space now; Carpeted floor; Storage for food; Too many uses and too small;
9		Root Cellar	1	1.0	1.0	1.0		leaks. Needs a full space review - needs to be rodent proof. Historic structure.
10		Horse & Goat Barn	1	1.0	1.0	1.0		it's time to replace. not ideal for any animal. we have made many modifications to work current needs.
11		Bowers Cottage	1	1.0	1.0	1.0		it is a space that has potential. needs total overhaul
12		Toilet Building	1	1.0	1.0	1.0		needs to be replaced.
13		Laundry Room	1.333333333	2.0	1.0	1.0		Beat up, older stuff. Not enough lockers or space. Office supplies in there. Need additional washer and dryer for kitchen vs animal stuff. Need biosecure entry for all from Farm

Source row	1	2	3	4	5	6	7	8
14		Toilets Entry / Academy	1.333333333	2.0	1.0	1.0		All people use the same toilet…need additional and separate areas. Bad toilet, gaps in doors…
15		Produce Display (in store)	1.333333333	2.0	1.0	1.0		Since we are growing produce, we need to be able to get it to the customer. Closed coolers, not have to move it back and forth.
16		Store	1.333333333	2.0	1.0	1.0		Not intended for retail. Was originally a lunch room. No secure inventory storage. Lack of power. No wall for display. No water line for ice cream. Sound issues.
17		Ticketing	1.333333333	1.0	1.0	2.0		
18		Livestock Pastures	1.333333333	1.0	1.0	2.0		poor ground, poor drainage, lack of guest experience access.
19		Event Storage Barn: FAB Garage	1.333333333	2.0	1.0	1.0		needs to be organized.
20		Outdoor Flex Space "parking lot area"	1.333333333	1.0	1.0	2.0		use for show ring - use for teaching space - not a parking lot. used for events - more entertainment vs parking lot. needs better water management.
21		Hillside Pasture	1.333333333	1.0	1.0	2.0		poor soil. lack of water access. fences are patched together. guests love to say hello. concern of biosecurity with animals nose to nose with dogs on walks. too far from core of animal care.
22		Residence	1.333333333	1.0	1.0	2.0		Needs major improvements (roof, soffits)

Source row	1	2	3	4	5	6	7	8
23		Production Gardens	1.333333333	1.0	2.0	1.0		Needs new shed roof, ok for growing - hard to get to, lack of consistent management for optimal weed and pest management. back part is on a big hill - erosion issues. No electricity. Far from everything - especially the store and the cooler. Will benefit with full site deer fencing. Groundhog issues. NO equipment storage.
24		Wash Pack (area where produce is prepped)	1.333333333	2.0	1.0	1.0		Currently a car port - no electricity. No rodent proof storage space. One season use. Drainage issues.
25		I-75 Pond	1.333333333	1.0	1.0	2.0		when there is water, it is pretty - it's all run off. not ideal for animals. very shallow - attracts unwanted water birds Not ideal for pasture animals.
26		Ropes Course	1.333333333	1.0	2.0	1.0		Was built in 1991 - 4 out of 6 elements will have to be retired by spring and needs a complete rework. Accessibility is a challenge. No site maps. No signage. No electricity. Lots of room for improvements and opportunities.
27		Staff Break Room (Hall)	1.5	2.0	1.0			Not really a room, old equipment
28		Admin 1st Floor Offices	1.5	2.0	1.0			Lacking HVAC, too small…
Source row	1	2	3	4	5	6	7	8
29		Loft Offices	1.5	2.0	1.0			HVAC…intended to be guest experience space, but is used as offices; No storage;

Source row	1	2	3	4	5	6	7	8
								No storage for personal items; Break out space in the open space; Copy and office supplies located here.
30		Gazebo	1.666666667	1.0	2.0	2.0		Starting to show age. needs power. ADA concerns. Slippery when wet
31		Academy Staff Office	1.666666667	3.0	1.0	1.0		Student work space and staff work space, storage and copy all together--too small. Storage and copy pulled out as separate.
32		Academy Common Space (Hall)	1.666666667	3.0	1.0	1.0		Too many things happening here--lunchroom, storage, office, kitchen, hallway, ticket window…
33		Academy Library	1.666666667	3.0	1.0	1.0		Needs to be much bigger--holds 2 kids right now; would like seating, study space, more book storage; 25 kids max.
34		Academy Science Classroom	1.666666667	3.0	1.0	1.0		Not designed for science lab (needs plumbing for sinks; overhead electric; lab tables). Furniture change. Needs more storage. Need chemical storage. Eye wash station. Need Exterior access.
35		Greenhouse	1.666666667	2.0	1.0	2.0		Mechanics for the temperature controls are unreliable. Too hot in the summer. Control of systems needs a reboot. Too small for current needs.
Source row	1	2	3	4	5	6	7	8
36		Kitchen	1.666666667	3.0	1.0	1.0		Too small right now for teaching… equipment is wrong for use for teaching or for bulk

Source row	1	2	3	4	5	6	7	8
								production; Like concession and pizza oven. Storage lacking.
37		Chicken Mobile Coop	1.666666667	2.0	1.0	2.0		needs to be reworked in areas. water and feed challenges. inside parts have started to come apart. Animal husbandry? Would like to look at an improved space for care.
38		Bank Barn	1.666666667	1.0	2.0	2.0		needs historical correct repairs. Wood rot. Water drain issues. electrical issues - not enough power. hard to clean. Functionality is not designed for current methods of use.
39		Outside Lower Barn (bank barn)	1.666666667	2.0	2.0	1.0		could be improved by leveling the concrete and finding a way for a skidsteer to enter for cleaning. LOVE the outside animal space.
40		Community Gardens	1.666666667	1.0	2.0	2.0		Will benefit with full site deer fencing. Concern of hydrant reliability. Some areas are too wet and should not be used for growing. Needs a dedicated, enclosed compost area.
41		Chicken / Bee Classrooms	2	2.0	2.0	2.0		
42		Riding Arena	2	2.0	2.0	2.0		does the job - needs shade shelter - look at shade all cattle shades not adjacent to a horse barn
43		Academy Classroom 1	2.333333333	3.0	2.0	2.0		Too many functions…needs exterior door. Needs storage. Add additional spaces for gym and office.
44		Academy Classroom 2	2.333333333	3.0	2.0	2.0		connected to #1

Source row	1	2	3	4	5	6	7	8
45		Hoop House	2.333333333	3.0	2.0	2.0		Excited to use this! Still under construction. Need interior tables for production support. Being used as a supplemental space to the existing greenhouse -> this is not ideal, but working with what we have.
46		Farm Activities Building	2.333333333	3.0	2.0	2.0		Deck needs to be covered to increase space to accomdate a group of 100. Tent is not a permanent solution
47		Barton Farmhouse	2.333333333	2.0	2.0	3.0		wonderful old home. needs a care plan for continuing to maintain not owned by BHS
48		Hort "Master" Gardens	2.333333333	2.0	2.0	3.0		beautiful and great community connection with the master gardeners.
49		Pumpkin Patch	2.333333333	2.0	2.0	3.0		working on plans for improvement. need a deer perimeter fence around full property. fun destination for guests. great for field trips. use of a porta potty helps each season. Site wide crop rotation plan. Weed issues are great. Groundhog damage.
50		Tubing / Winter Park Facilities	2.333333333	2.0	2.0	3.0		people love it - drain on staff. Need to increase capaity, change operational model to reduce staff inputs. Auto snow maker and snow carpet would help.
51		Cooler (not the freezer)	2.5	3.0	2.0			At times it is not large enough for kitchen and garden use.

Source row	1	2	3	4	5	6	7	8
52		Craig Log Cabin	2.666666667	2.0	3.0	3.0		love it! aware of ADA accessibility. what is the plan for long term maintenance not owned by BHS
53		Academy Admin Office	3	3.0	3.0	3.0		

BHS MP Program and Budgets

Worksheet Facilities_BSF | Columns 9–9 | Printed cached source values

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Source row	9
6	Known Costs

BHS MP Program and Budgets

Worksheet Facilities_JNC | Columns 1–8 | Printed cached source values

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Source row	1	2	3	4	5	6	7	8
1		BHS BSF & JNC						
2		Facilities Evaluation						
3		Flint Riverquarium						
4		Facilities Evaluation						
6		JNC	Ave / Priority	Age / Condition	Functionality / Efficiency for Current Use	Guest Experience		Known Improvements Needed
7		Prep House	1	1.0	1.0			
8		Garage	1	1.0	1.0			Roof & Electrical; Bigger--30x40 w/ 10' lean-to; Taller
9		Bridge & Docks	1	1.0	1.0	1.0		T-floating dock aged but okay; bridge / boardwalk--doesn't account for seasonal changes of pond water; slippery; need canoe / kayak launch
10		East Loop	1	1.0	1.0	1.0		Too narrow; old wildlife trail; spooky
11		Sugar Shack	1.333333333	2.0	1.0	1.0		Too small; hard to see; no bottling area; Could be much better experience
12		Picnic Area	1.333333333	1.0	1.0	2.0		Near Prep House / "Grey thing"; Not accessible; Pretty
13		Connector Trail from Tower to Stream	1.333333333	1.0	1.0	2.0		Unusable during wet times
14		Woodland Trail (by pond)	1.333333333	2.0	1.0	1.0		Steep
15		Owl Habitat	1.666666667	1.0	2.0	2.0		Hard to find
16		Trail along Telegraph	1.666666667	2.0	2.0	1.0		Noisy

Source row	1	2	3	4	5	6	7	8
17		Coyote Den (first room at stair)	1.666666667	3.0	1.0	1.0		Traffic flows through this classroom from upstairs and outside; bathroom inside
18		Bat Cave	1.666666667	3.0	1.0	1.0		Meeting space…not a classroom really; workspace shared inside the meeting room; overflow program staging / storage
19		Restroom	1.666666667	2.0	2.0	1.0		
20		Deer Habitat	2	2.0	2.0	2.0		Location is not best for animal well-being
21		Raptor Habitat	2	2.0	2.0	2.0		
22		Outdoor Classroom	2	1.0	2.0	3.0		
23		Tower	2	2.0	2.0	2.0		Aged, but safe; capacity is 12 elem kids or 6-8 adults; weird bench thing in the middle
24		Guest Toilets	2	2.0	2.0	2.0		short for kids; capacity is small for large groups for programs; only one sink
25		Visitor's Center (Upper Level)	2.333333333	3.0	2.0	2.0		Exhibits need updating; Not enough staff space; Deck expansion; Retail and snacks
26		Sugar Bush	2.333333333	1.0	3.0	3.0		Very old and needs succession planting; 20 years…won't have maple sugaring (need 40+ old trees)
27		Trails	2.333333333	2.0	2.0	3.0		Accessibility; material
28		Log Cabin	2.666666667	3.0	2.0	3.0		Not accessible; Limited hours make it difficult to experience; Visitor flow is awkward
29		Cabin Barn	3	3.0	3.0	3.0		
30		Kitchen / Library (downstairs)	3	3.0	3.0			Doesn't support events--shallow sink; 'tea room'

BHS MP Program and Budgets

Worksheet Facilities_JNC | Columns 9–9 | Printed cached source values

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Source row	9
6	Known Costs

BHS MP Program and Budgets

Worksheet Revenues | Columns 1–8 | Printed cached source values

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Source row	1	2	3	4	5	6	7	8
1	BHS BSF & JNC							
2	Revenues Analysis							
4	FARM Per Cap DATA							
5	FY Ending	Annual Attendance		Food & Retail Per Cap	Admissions Per Cap	Site Rental Revenue	Ed. Programs (incl Camp) Revenue	Events / Member. Revenue
6	2016.0	0.0	2016.0					
7	2017.0	0.0	2017.0					
8	2018.0	#REF!	2018.0	#REF!				
9	2019.0	#REF!	2019.0	#REF!				
10	2020.0	#REF!	2020.0	#REF!	#REF!			
11	2021.0	#REF!	2021.0	#REF!	#REF!			
12	2022.0	#REF!	2022.0	#REF!	#REF!			
15	FARM Revenues DATA							
16		FY Ending	Food & Retail Revenues	Site Rental Revenue	Ed. Programs (incl Camp) Revenue	Events	Memberships	Livestock Sales Revenues
17		2016.0	9244.0	0.0	217085	9087.0	0.0	237.0
18		2017.0	10495.0	0.0	207855	25426.0	0.0	2431.0
19		2018.0	37004.0	10144.0	124820	13602.0	0.0	1455.0
20		2019.0	123219.0	22960.0	191344	41482	0.0	3467.0
21		2020.0	16636.0	24329.0	201430	34516	0.0	8055.0
22		2021.0	339338.0	15211.0	3999.0	62346	72590.0	10928.0
23	Only year of clear data	2022.0	170947.0	31645.0	285255.0	349948	98430.0	9250.0
25	NC Per Cap DATA							
26	FY Ending	Annual Attendance		Food & Retail Per Cap	Admissions Per Cap	Site Rental Revenue	Ed. Programs (incl Camp) Revenue	Events / Member. Revenue
27	2016.0	0.0	2016.0					
28	2017.0	0.0	2017.0					
29	2018.0	#REF!	2018.0	#REF!				

Source row	1	2	3	4	5	6	7	8
30	2019.0	0.0	2019.0					
31	2020.0	#REF!	2020.0	#REF!				
32	2021.0	#REF!	2021.0	#REF!				
33	2022.0	#REF!	2022.0	#REF!				
36	NC Revenues DATA							
37		FY Ending	Food & Retail Revenues	Events Revenues	Site Rental Revenue	Ed. Programs (incl Camp) Revenue	Events / Member. Revenue	Livestock Sales Revenues
38		2016.0						
39		2017.0						
40		2018.0						
41		2019.0						
42		2020.0						
43		2021.0						
44		2022.0	170947.0		31645.0	285235.0	514338.0	9250.0
48	Per Cap ZOO COMPS							
49			Annual Attendance	Concessions Per Cap	Site Rental Revenue	Educational Program Revenue	Events / Member. Revenue	
50	Farm FY 2022		#REF!					
51	National							
52		Ops $1-2mm AVE	293200.86363636365	1.5821572502145822	34191.21285714286	227031.05687499998		National
53		Ops $1-2mm MAX		5.90492631440826	54526.23	719167.0		
54		Attend. <125k AVE	258718.26666666666	2.309116904803499	79830.4	197279.09133333334		
55		Attend. <125k MAX		7.626732498331305	142828.0	548071.0		
56	Regional							
57		Ops $1-2mm AVE	239457.93333333332	1.2182817397451584	54526.23	150228.18875		Regional
58		Ops $1-2mm MAX		2.4626705101522903	54526.23	390281.0		
59		Attend. <125k AVE	260477.8947368421	2.023722816654619	76075.66666666667	216457.35857142857		
60		Attend. <125k MAX		6.400089712371153	142828.0	390281.0		

BHS MP Program and Budgets

Worksheet Revenues | Columns 9–16 | Printed cached source values

Original workbook is embedded in the PDF binder. Formula definitions, objects and source formatting remain available in that file. Blank cells are preserved within displayed rows. Entirely blank or zero-only rows are omitted from this print view; original row numbers are shown. For the shared master-plan workbook, this print view covers BSF and shared worksheets; JNC worksheets remain in the embedded original.

Source row	9	10	11	12	13	14	15	16
5	Livestock Sales Revenues				FARM GENERAL OPERATING REVENUE & EXPENSES			
6				Fiscal Year	Actual Revenue	Actual Expenses	Profit	
7				2016.0	173441.0	389012.0	-215571	
8				2017.0	155072.0	415442.0	-260370	
9				2018.0	45138.0	536308.0	-491170	
10				2019.0	53616.0	558906.0	-505290.0	
11				2020.0	58719.0	698290.0	-639571.0	
12				2021.0	35928.0	806544.0	-770616.0	
13				2022.0	336750.0	1221925.0	-885175.0	
14								3.106187753
16	Admissions Revenues	events / membership			Pancake Break / Winter Park	Fall Fest	Total	
17	0.0			2019.0	15113.0	26369.0	41482	
18	0.0			2020.0		34516.0	34516	
19	0.0			2021.0	62346.0		62346	
20	0.0			2022.0	319049.0	30899.0	349948	
21	19670			2023.0		51280.0	51280	
22	43000	-2104.0		547412				
23	65960	514338.0						
26	Livestock Sales Revenues				JNC GENERAL OPERATING REVENUE & EXPENSES			
27				Fiscal Year	Actual Revenue	Actual Expenses	Profit	
28				2016.0	9510.0	154312.0	-144802	
29				2017.0	15500.0	166922.0	-151422	
30				2018.0	16834.0	183240.0	-166406	
31				2019.0	0.0	243885.0	-243885	

Source row	9	10	11	12	13	14	15	16
32				2020.0	0.0	240826.0	-240826	
33				2021.0	0.0	305771.0	-305771	
34				2022.0	0.0	488166.0	-488166	

BHS MP Program and Budgets

Worksheet Revenues | Columns 17–22 | Printed cached source values

Original workbook is embedded in the PDF binder. Formula definitions, objects and source formatting remain available in that file. Blank cells are preserved within displayed rows. Entirely blank or zero-only rows are omitted from this print view; original row numbers are shown. For the shared master-plan workbook, this print view covers BSF and shared worksheets; JNC worksheets remain in the embedded original.

Source row	17	18	19	20	21	22
5		FARM COMMUNITY REVENUE & EXPENSES				
6	Fiscal Year	Actual Revenue	Actual Expenses	Profit		
7	2016.0	62211.0	69753.0	-7542		
8	2017.0	91135.0	59596.0	31539		
9	2018.0	141887.0	72903.0	68984		
10	2019.0	378836.0	244383.0	134453		
11	2020.0	296094.0	303064.0	-6970		
12	2021.0	356444.0	366219.0	-9775		
13	2022.0	1002165.0	990364.0	11801		
14					-2.564704322	
26		JNC COMMUNITY REVENUE & EXPENSES				
27	Fiscal Year	Actual Revenue*	Actual Expenses	Profit		
28	2016.0	0.0	0.0	0		
29	2017.0	0.0	0.0	0		
30	2018.0	0.0	0.0	0		
31	2019.0	20576.0	743.0	19833		
32	2020.0	26523.0	226.0	26297		
33	2021.0	12624.0	22726.0	-10102		
34	2022.0	71890	107909.0	-36019	-2.816114557	Farm to Table Profit
35	2023.0	114705	129490.8	-14785.8	-1.745515051	42815.0
37		*Includes FoJNC Revenues				







School & Group Program Guide

Preschool through Elementary School
2021-2022

EST.1967

BOWERS SCHOOL FARM

BLOOMFIELD HILLS, MI

Bloomfield Hills Schools

Johnson Nature Center



Bowers School Farm and Johnson Nature Center are owned and operated by Bloomfield Hills Schools (BHS), which provides a public school experience for pre-kindergarten to high school.

The Farm & Nature Center extend learning beyond the classroom to BHS and local area schools. Their diverse habitats support a variety of native plants and wildlife, livestock and crops. From stepping into the historical buildings and back in time, to digging deep into the soil and imagining a more sustainable future, these unique sites offer dynamic educational experiences to serve the needs of today's students.

OUR CORE VALUES

COMMUNITY

EDUCATION

ENVIRONMENT

SCHOOL PROGRAMS AT BOWERS SCHOOL FARM **PAGE 6**

SCHOOL PROGRAMS AT JOHNSON NATURE CENTER **PAGE 10**

SMALL GROUP PROGRAMS **PAGE 14**

PROFESSIONAL DEVELOPMENT PROGRAMS **PAGE 19**



our goals

We aim to strengthen classroom teaching and learning by engaging teachers and students in authentic, meaningful experiences that enrich their identities and expand their skills, knowledge and perspectives.

Together we will develop a deeper understanding and appreciation of each other and the world around us through inquiry-based, developmentally appropriate practices that promote joy and discovery.

We will build connections within our local community in order to spark action and service. We hope to leverage this action to work toward a healthier community and environment.

our approach

We believe in a place-based educational approach that embraces deep learning and high impacts by immersing learners in the natural world, land heritage and local food systems. We encourage students to make connections by contributing and applying their own unique knowledge, strengths and interests to develop a stronger sense of themselves and their role in their communities, sparking learning that is cross-cultural and centered on respect and belonging.

our commitment

We are committed to designing educational experiences utilizing research-based learning objectives, frameworks and strategies to guide learners in achieving valuable academic and social-emotional outcomes. We will promote the appreciation and value of outdoor experiences for all in order to reach those outcomes by teaching and valuing the whole person.







we encourage learners to...

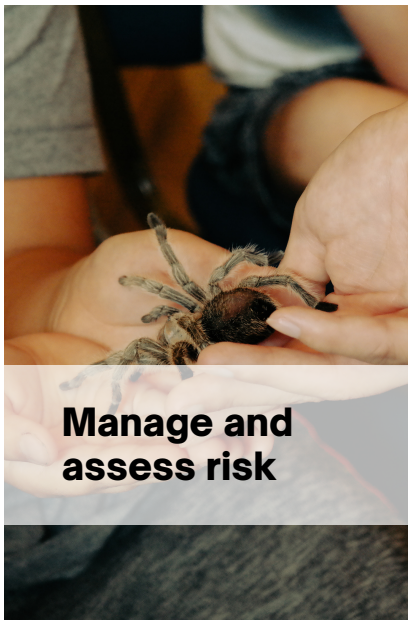






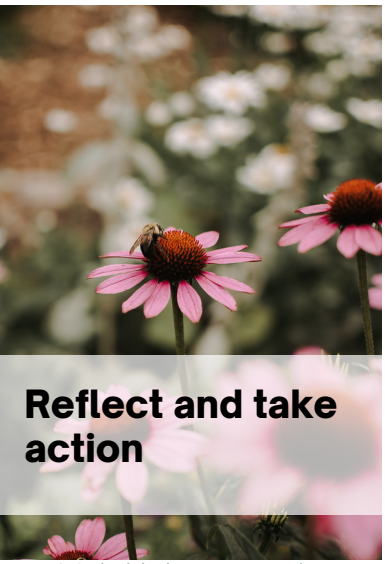
















BOWERS SCHOOL FARM

School Programs



GRADES PRE-K TO KINDERGARTEN

1 ½-2 Hours Spring or Winter: $12 per person
1 ½-2 Hours Fall: $14 per person
Field trips include the option of per child parent/caregiver chaperones with the per person fee.

FRIDAYS ON THE FARM

Experience daily life on the farm during this blended staff-guided and self-guided program. A guide will provide an interactive tour with hands-on opportunities to discover the plants and animals living and growing in our barns, fields, and gardens, then enjoy time to explore the farm at your own pace. Observe and learn more about places and animals of interest, taste farm products and treats available for purchase, and engage in special activities such as a wagon ride around the farm as part of our Open Barn days. The fall adventure includes a pie-size pumpkin. Groups are welcome to enjoy lunch at our picnic area.

FARM DETECTIVES

Explore the joys and mysteries of life on the farm in the fall, winter or spring with our farm guides. Discover how the field, pond and garden habitats support the survival of the plants and animals that visit and grow in them and how food journeys to your table. Enjoy a wagon ride around the farm. The fall adventure includes a pie-size pumpkin from our patch.

BOWERS SCHOOL FARM

School Programs



GRADES K-2

2 Hours: $12 per student / 4 Hours: $16 per student

FARMER FOR A DAY

Experience the seasonal activity of a farm preparing for winter by engaging in the purposeful work of farmers and gardeners. Observe as the animals adapt through natural instincts and learn about their basic needs. Harvest crops in the gardens, tend to the barns, gather freshly laid chicken eggs from the coop and enjoy a scenic wagon ride.

ARE YOU MY MOTHER? (2-HOUR PROGRAM ONLY)

Why do baby animals look like their parents? Discover whether the characteristics of animals are inherited or acquired through this literacy-based farm adventure. Compare and contrast animals at different stages within their life cycle. Make purposeful observations about the basic needs of animals living at the farm by gathering clues and working together.

BOWERS SCHOOL FARM

School Programs



GRADES K-2

2 Hours: $12 per student / 4 Hours: $16 per student

ANIMAL INVESTIGATIONS

Explore animal classifications by investigating their habitats, diet and anatomy along with the role they play within the food and ecosystem. Engage in hands-on tasks and experiments to guide a developing understanding of life cycles while forming meaningful connections to the farm and the food system. This program includes the additional option to engage in classroom incubation and chick hatching with the purpose of adding chickens to our free-range flock.

POCKET FULL OF HISTORY

Immerse in the local history of the local area through exploration of the Barton Farmhouse, the Craig Log Cabin and the farm environment. Engage in farm tasks that would have been common in the 1800's through the mid 1950's. Discover how to manipulate, use and create items and tools from those eras.

BOWERS SCHOOL FARM

School Programs



GRADES 3-5

2 Hours: $12 per student / 4 Hours: $16 per student

THE SCIENCE OF AGRICULTURE

How does a farm grow? Examine the life cycle of several species found on the farm. Distinguish the differences and similarities between them and learn to question, hypothesize, experiment and analyze data through scientific procedures and processes. Determine how the growth of these organisms may not only play a role in individual health and well-being, but to the farm as part of the food system.

ANIMAL BODIES & BEHAVIORS

Become animal scientists for the day by engaging in animal interaction, discovery and reflection. Collect and analyze data from farm animals' digestive, reproductive and immune systems as well as through observation of their behaviors. Based on these findings, determine the animals' needs to ensure they continue to live in a healthy, comfortable environment.

HARVEST & HERITAGE

How is what we value today different from what humans valued in the past? Investigate the history and heritage of Indigenous peoples and early settlers. Card wool, grind corn, churn butter and discover how technologies and ways we interact with the natural world have changed over time. Build connections and celebrate the differences among our own individual identities and heritage.

JOHNSON NATURE CENTER

School Programs





PRE-KINDERGARTEN

1 ½-2 Hours Spring or Winter: $12 per person
Field trips include the option of per child parent/caregiver chaperones with the per person fee.

NATURE DETECTIVES
Explore our forests, prairie, pond and trails, detective-style. Come along with us as nature detectives to solve a seasonally-based mystery! Engage the senses, play as animals and join in song or story. We'll embark on a guided hike with time for self-discovery and play-based provocations.

JOHNSON NATURE CENTER

School Programs







GRADES K-2

2 Hours: $12 per student / 4 Hours: $16 per student

LOG CABIN LIVING (2-HOUR PROGRAM ONLY)

Step back into the 1800s into our log cabin to immerse into the daily chores and routines of the time period. How is life different today than in the past? What other people have stories to tell on the Land? Engage in dough preparation for baking, churn butter, wash clothes and more while enjoying tales of hunting and fishing.

FOREST DAY

Explore the science and joys of living and non-living things alongside Indigenous perspectives. Investigate the basic needs of living things through authentic tasks and contributions with our resident deer and visiting birds. Engage in hands-on investigations of earth materials through 3D map-making, cooperative fort-building, journaling and creative storytelling.

NATURE PREPS FOR WINTER

Make a move with us to experience the ways plants and animals get ready for the winter months ahead. Collect weather data and look for patterns between weather and animal behavior.

PLANT-IT: A JOURNEY OF A SEED

Every plant has a plan on how to grow and develop. The seeds of plants hold the key to the survival of the species. Investigate how plant species root into the Land and become invested in their intimate stories of resilience.

JOHNSON NATURE CENTER

School Programs





GRADES 3-5

2 Hours: $12 per student / 4 Hours: $16 per student

THE SWEET STORY OF MAPLE SUGARING

Investigate what life was like in the 1800s by engaging in activities such as candle dipping, era-approved games and safe tool usage. Explore the sweet history of the sugar maple tree grove and peek into the future of sugaring. Discover the joys and science of maple-tree tapping, sap collection and syrup tasting.

BIRD FIELD RESEARCH

Engage in an authentic scientific study conducting a bird census of the Nature Center, an ongoing study since 1991. Birds are considered excellent indicators of environmental health so the ongoing census data collected can act as a warning if there are contamination problems in our land, air or water. Learn about bird ecology, conservation, biology, behavior and environmental needs.

JOHNSON NATURE CENTER

School Programs





GRADES 3-5

2 Hours: $12 per student / 4 Hours: $16 per student

OUR CHANGING EARTH

Model the skills of an earth scientist to observe and describe the patterns and features that dot the landscapes of Southeast Michigan. Uncover the story of the Land. Investigate geologic clues to understand past events and the process of weathering and erosion.

POND ECOLOGY INVESTIGATIONS

Trace the life of a leaf to discover the energy and activity happening within the plant and below soil and water surfaces! When we start thinking like field scientists, we discover that energy is being used or stored all around us, but where does it go? Through investigation, participants will resolve this very question.

BOWERS SCHOOL FARM

Group Programs

All programs can be personalized to meet the needs and interests of your group, including scout badge requirements as noted within the program descriptions. Programs are open to all groups with an organizing leader.

Thursdays 4:30-6:30 pm & Saturdays 9-11 am
2 Hours: $15 per person; group leader free



Ages 4-6

OUTDOOR ART MAKER
GIRL SCOUT DAISY
(SEPTEMBER - OCTOBER; APRIL - JUNE)
Explore the farm through the eyes of an artist. Investigate the different shapes, colors and sounds that can be found all over the farm. Gather inspiration through various crafts and games.

5 FLOWERS, 4 STORIES, 3 CHEERS FOR ANIMALS!
GIRL SCOUT DAISY
(SEPTEMBER - NOVEMBER; APRIL - JUNE)
What is one similarity between people and animals? We all need care! This program is designed to get scouts engaged with caring for themselves, while also understanding what it takes to care for the animals on the farm.

BOWERS SCHOOL FARM

Group Programs

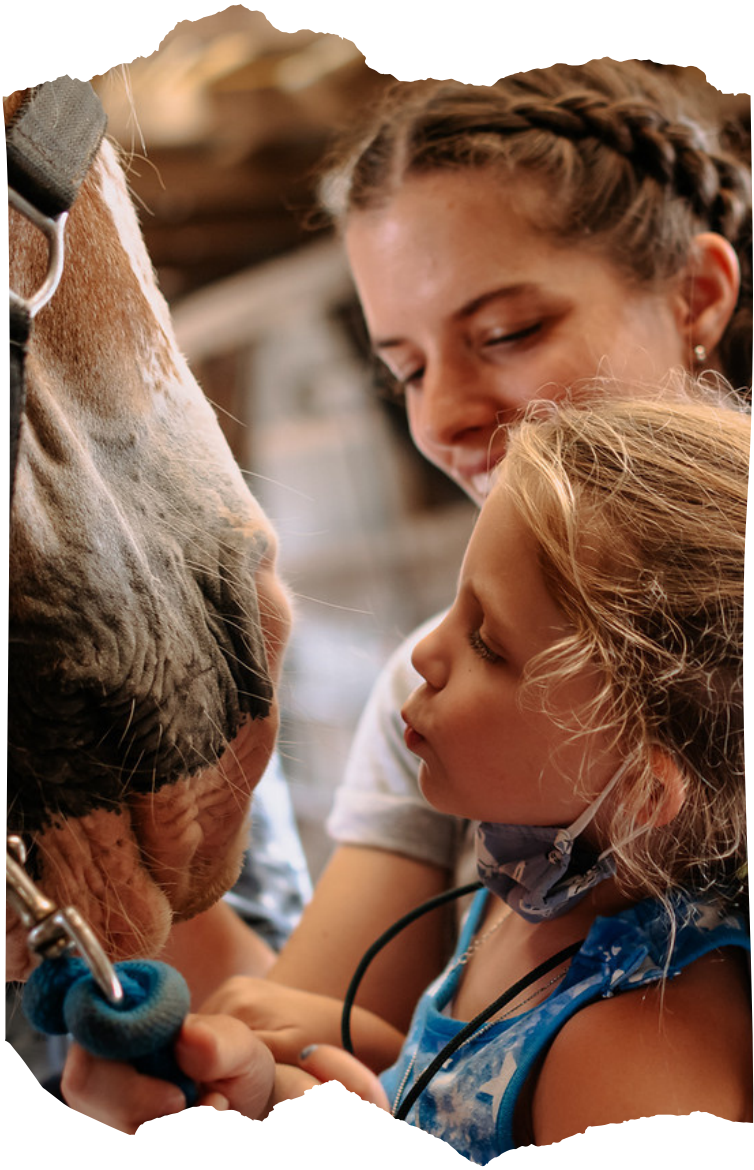
Ages 4-6

SNOW ADVENTURE

GIRL SCOUT DAISY

(DECEMBER - FEBRUARY; CONDITIONS PERMITTING)

Winter in Michigan is a special time to head outdoors! Learn about the ways to enjoy the cold weather here at the farm, like snow tubing or ice skating. Keep warm with hot cocoa while enjoying shared experiences in the snow.



READY, SET, GROW!

CUB SCOUT LION ADVENTURER

(SEPTEMBER - OCTOBER)

Explore all the places that we grow and manage food at the farm. What does a plant need to survive, and how does the farmer take care of a garden? Discover where our food comes from through different games, activities and sightseeing.

BOWERS SCHOOL FARM

Group Programs

Ages 7-9

THE WORLD OF BUGS
GIRL SCOUT BROWNIE
(APRIL - JUNE)
From perky pollinators to crawling critters, discover the smallest creatures living at the farm. Investigate as scientists and engage in crafts, projects or games.



OUTDOOR ADVENTURER
GIRL SCOUT BROWNIE
(SEPTEMBER - NOVEMBER; APRIL - JUNE)
Want to become an environmental steward? Nature is both beautiful and exciting! Hike and explore, care for an animal, play games and grow more adventurous and confident in the outdoors.

JOHNSON NATURE CENTER
Group Programs

Ages 4-6

ECO LEARNER

GIRL SCOUT DAISY **(SEPTEMBER - JUNE)**

From the small American goldfinch to the noisy woodpecker, investigate and explore the many birds that call Johnson Nature Center "home." Learn to use some of the tools and tricks of a seasoned birder.

TIGERS IN THE WILD

TIGER CUBS **(SEPTEMBER - JUNE)**

Discover and observe different kinds of plants, animals or signs of animals that have been around the trail. We'll commune with nature directly by touch, taste, smell, sight and sound.

PAWS ON THE PATH

WOLF CUBS **(SEPTEMBER - JUNE)**

Experience a sense of wonder by just watching quiet ordinary things with close attention. During this learning path, identify different animals in the area and watch and record two interesting things you might never have seen before.





JOHNSON NATURE CENTER
Group Programs

Ages 7-9

ECOFRIEND - *BROWNIE* **(MAY - OCT)**
Explore and investigate the outdoors by learning how to respect the environment and how the nature center animal residents manage their lives. Develop an understanding of risk and safety management and gain confidence in the control of fire-building as a skill.

HIKER - *BROWNIE* **(SEPTEMBER - JUNE)**
Every trail leads to a new adventure! Enjoy time with your group and a nature center guide out on the trails. Embark on a scavenger hunt that encourages discovery, fun and learning.

TRAIL ADVENTURE - *BROWNIE* **(SEPTEMBER - JUNE)**
Let's go on a woods hike adventure! What will we discover along the way? Nature is always changing and never without something new to find. Make this adventure an experience you'll remember forever with time for journaling along the way.

FUR, FEATHERS AND FERNS - *BEAR CUBS* **(SEPTEMBER - JUNE)**
With your local map as a reference and the growing knowledge of map symbols, use our trails to look for and identify six signs of living things. Discover the intimate parts of plants to look at plants more closely.





Professional Development Programs






OPT OUTSIDE: A WORKSHOP FOR EARLY CHILDHOOD EDUCATORS

Contact us for a curricular consultation to develop a customized professional learning workshop experience that meets your learning goals and objectives for grades Pre-K-2. Possible topics include: practicing field science, exploring inquiry-based learning methods, reimagining your schoolyard as an outdoor learning environment and adapting/designing learning experiences for the outdoors.

Brooke Larm, Education Specialist: blarm@bloomfield.org

Bowers School Farm and Johnson Nature Center sit on Land that was made by warm shallow seas and slow moving glacial formations, with the most recent glaciers receding 14,000 years ago. This is the ancestral Land of the Indigenous Peoples of the Potawatomi and Ojibwe, who along with the Ottawa, were the People of The Three Fires, the Anishinabek. This Land remains the contemporary dwelling of the Anishinabek people.



The sites are located 5 miles apart and encompass a combined 133 acres in Southeast Michigan, each situated approximately 25 miles from Detroit. We welcome 60,000 a year and seek to make nature and agricultural educational experiences more accessible to all. From serene pond views to production fields, breathtaking forests, and a working red barn, we believe in protecting our state's natural and cultural heritage to support environmental quality and community well-being now and in the future. Each year we serve residents in Oakland County and beyond through our camp, school, and family programs and engage thousands more through our public events and volunteer opportunities. We invite you to explore and discover at Bowers School Farm and Johnson Nature Center, find inspiration and get involved.

Public Programs Inventory

G-05 · Historical working compilation · April 28, 2026

Source text reproduced in full below. Historical offerings, prices, schedules and working assumptions are not current operating commitments.

---
type: reference
status: working
project: "[[BHS Integration]]"
related:
- "[[BHS Integration Fact File]]"
- "[[Discovery Oaks Preliminary PAP]]"
- "[[Bloomfield Oaks Preliminary PAP]]"
sources:
- schoolfarm.org (current as of April 28, 2026)
- johnsonnaturecenter.org (current as of April 28, 2026)
- oakgov.com BHS partnership page
- Decision-Grade Assessment of JNC and Bowers
- BHS Integration Fact File
last_updated: 2026-04-28

Public Programs Inventory — Discovery Oaks and Bloomfield Oaks
Purpose
Inventory of all public-facing programs currently operated at both BHS partnership sites. Establishes the operational footprint Oakland County Parks will assume on October 1, 2026, organizes programs by category for POMP development, and identifies revenue, partnership, and continuity considerations for the Final PAP.

Discovery Oaks (Bowers School Farm)
Open Barn — flagship public access program
Detail	Value
Season	April 10 – September 26
Hours	Fridays 5:00–8:00 PM; Saturdays 9:00 AM–4:00 PM
Admission	Ticketed; tickets sold at door (sales close 30 min before close)
Resident discount	None
Membership benefit	Unlimited Open Barn admission included
Activities	Animal visits across all barns, wagon rides, farm kitchen, farm store
Accessibility	Mainly gravel paths, few paved; at least one bridge with steps; full accessibility named as future goal
Food/beverage	Farm Kitchen (paid); light snacks may be brought in
Pet policy	Service animals only
Signature seasonal events
Fall Festival (October weekends). Pumpkin picking, wagon rides, animal visits, horse rides, live music (Fridays), hay climbing tower, crafts, games, axe-throwing, food, straw tower, performances. **NEW for 2026: 1.3-mile corn maze.** Adult Beer Garden sponsored by Friends of Bowers Farm and Griffin Claw Brewing Company.
Winter Park (January – March). January 9 – March 1, 2026 schedule: Fridays 4:00–9:00 PM; Saturdays 2:00–9:00 PM; Sundays 2:00–9:00 PM. Free admission. Glow tubing $17 per 50 minutes. Synthetic-surface tubing hill operational regardless of snow. Illuminated for evening hours. Hay stack, animal visits, farm store, farm kitchen with hot cocoa and s'mores. **Hosted by Friends of Bowers Farm; sponsored by Oakland County Parks.** Ice skating rink not offered for 2026 season.
Spring Open Barn / Earth Day Celebration / Farm After Five / U-Pick / Progress Showdown: Livestock Expo. Augmented Open Barn experiences interleaved through the active season. Farm After Five features Friday-evening beer garden and live music with Friends of Bowers Farm and Griffin Claw partnership; 21+ for

beverage purchase, all ages admitted.
Education programs
School field experiences. Year-round on-site programs for school groups of all sizes. Online registration. Three-season program structure (Fall, Winter, Spring) for some classroom partnerships. Students must register all three dates throughout the school year.
BHS Developmental Kindergarten alternation. BHS DK classes alternate weekly visits between Bowers and JNC across the school year, integrating agricultural and nature-based learning into the K curriculum.
Bowers Worm Farming Fun. Off-site vermicomposting program with toolkits, Red Wigglers, and personalized support delivered to teachers and young learners. Worm bins return to Bowers; participants encouraged to graduate to larger bins.
MSU Extension Partnership. Bowers is a proud partner of Michigan State University Extension. Research-based curriculum and experiential methodology inform instructional design; MSU educators enhance learning experiences, activities, and hands-on workshops.
Community classes (sliding-scale model)
Sliding scale pricing: Three tiers — full-cost, mid-tier, supported — designed to welcome participants regardless of financial status while paying educators a living wage. Sliding scale available on some programs, not all. No refunds or date changes once purchased.
Examples of current/recent offerings:
- Toddler farm visits with seasonal themes (bee hives, fresh eggs, wagon rides, story time)
- Sourdough bread baking (beginner classes; gluten-free variant)
- Holiday turkey pre-orders (pasture-raised, fresh-processed)
- Pre-order weekly sourdough loaves (Friday 3–6 PM pickup)
Equine programs
Riding School and equine programs — major program category with dedicated infrastructure (Horse Camp Arena per Exhibit B).
- **Little Riders Pony School** — ages 3–5, play-based with parent/grandparent/caregiver participation
- **Introductory horse program** — ages 4–8, three-week × 1-hour sessions with instructor; adult family member spots/leads
- **Two-part horse foundations** — skill-building for safe horse handling and care
- Adult and child equine programming
Farm Camps (summer)
Farm Camp — ages 3–14, hands-on farming, planting/harvesting, animal care, farm-to-table cooking.
Over 800 youth participate annually. Weekly themes (switched away from multiple themes for 2026 to a unified weekly camp structure). Many sessions sell out; waitlists active.
Stewards Leadership Program — ages 14–18 volunteer-leadership program at summer camp; bridges camper and staff roles for job-readiness experience.
B.O.B. Camp (Bowers + JNC). Joint camp where participants drop off and pick up at Bowers Farm Mon–Tues and at JNC Wed–Thurs. Operational integration between the two sites.
Community engagement programs
- **75 Community Gardens** — public gardener plots
- **21 Curated Botanical Gardens** — maintained in partnership with Oakland County Master Gardener Society
- **4-H Club** — active youth-development partnership for ages 5–19
- **Volunteer programs** — operational and event support
- **Native plant sales** — seasonal
- **Birthday parties** — private rentals during Open Barn hours; private rooms and spaces available
Farm Kitchen and Store
Operates during Open Barn hours and select winter Friday evenings. Sells eggs, meats, prepared foods, baked goods, produce, gifts. Pre-order pasture-raised turkeys for holidays. Pizza, hot cocoa, s'mores, popcorn during Winter Park. **This is a commercial operation embedded in a public-school site.**
Membership program
Tiered memberships supporting site mission. Benefits include unlimited Open Barn admission, special "First on the Farm" preview events with guided tours, members-only farm-to-table experiences, e-news subscription, special access to spring plant pre-sales, early registration for summer camps, early access for Fall Festival and Winter Park, professional photographer access by appointment.
Operational note: dual revenue model

Per Bowers' own statements: "The Farm is funded through the Bloomfield Hills School general fund... Direct expenses for activities that fall outside of the K-12 teaching and learning mission are passed along to participants of community events hosted by the farm." Education programs subsidized by district; community programs self-funded through user fees, memberships, and earned income. **This dual-stream model is operationally distinct from a typical OCP park and must be preserved through transition or deliberately restructured.**

Bloomfield Oaks (Johnson Nature Center)

Public access (free)

Detail	Value
Trails	Open daily 8:00 AM to sunset
Trail surface	Wood-chipped, hard-packed in dry conditions; no paved trails
Trail length	2+ miles of interconnected loops
Visitor Center hours	Saturdays 10:00 AM – 4:00 PM; first Sunday of month 10:00 AM – 4:00 PM
Visitor Center access	Closed on school holidays
Trail fee	None for casual visitors
Group requirement	Groups of 10+ must book a guided program
Pet policy	Pets prohibited
Bike policy	Bikes prohibited
Wildlife enclosures	Orphaned deer, injured falcons and owls observable

TreeSchool — flagship early childhood program

Detail	Value
Population served	Children ages 3–5
Schedule	Tuesdays 9:30 AM – 1:30 PM; February 28 – May 30 (current cohort)
Format	Once-weekly nature-based preschool
Operating period	September through May
Founded	February 2023
Inaugural class	11 students
Ratio	Small-class, instructor-led
Curriculum	Place-based, emergent, student-led; outdoor-first
Lead educator	Brooke Larm (Education Specialist, JNC + Bowers); supported by certified preschool teachers
State precedent	Modeled after Washington State's first-in-nation 2021 nature-based child care licensing
Funding model	Tuition and fees largely cover staffing; donations support gear, supplies, equipment
Partner support	Christine and Scott Alix, Alix Foundation, Cohen Foundation, Bloomfield Hills Rotary Club, Placemaking Realtor Grant
Outdoor classroom	Built 2024–2025; covered area, fort-building zone, art easel, mud and water play, building/construction zone, two raised garden beds; ~$50,000 project cost

Strategic significance. TreeSchool emerged as the highest write-in priority at JNC's October 2025 in-person engagement event (29 votes). Already flagged in fact file as POMP/Final PAP item.

Maple Sugaring — Sap Happy

Self-guided community program. March weekends (March 1, 7, 14 in 2026). Self-guided tours every half hour from 9:30 AM – 12:00 PM (event-day variant) or 9:30 AM – 2:30 PM (some events). $12 per person ages 2+; toddlers under 1 free. Pre-registration required.

Activities: tour the Sugarbush, identify and tap a sugar maple tree, explore the Sugar Shack and Log Cabin, tree identification, syrup tasting. Cookies and tasting available with additional fee.

Partnership: Girl Scouts of Southeast Michigan offers parallel "Maple Sweetness" Outdoor Adventure programming on the same dates. West Bloomfield Parks offers chaperoned bus trips to JNC Maple Sugaring on select dates.

Camps (summer)

Camp programs for ages 3–14. Weeklong camps offering science and natural-world exploration. Financial aid available (the only camps in either site offering financial aid).

- **Forest Friends** — early childhood track requiring state-licensing immunization records by May 1
- **B.O.B. Camp** — joint Bowers/JNC camp (Mon–Tues at Bowers, Wed–Thurs at JNC)
- **Various age-segmented camps** — registration opens annually in early February

Field experiences (school groups)

Detail	Value
Cost	$168 per program slot for max 14 students
Deposit	$80 non-refundable per slot
Duration	1.5–2 hours
Teacher	One free per slot; additional teachers/support staff free as needed
Chaperones	Up to 14 per group, max 1:1 ratio with students, $14/person

Available programs include:

- Native habitats exploration (forests, wetlands, prairies, sugarbush)
- Native plant species
- Native wildlife
- Birding (binoculars provided for up to 30 people)
- Maple Sugar program (with optional cookie tasting add-on)
- Log Cabin Living (1800s historical immersion; bread dough and butter add-on)
- Three-season program for classrooms (Fall, Winter, Spring registration required)
- Off-site outreach available (1-hour, indoor or outdoor); special pricing for public libraries

Scout and small-group programs

10–24 scouts/youth, 2-hour program format, $16/person, scout leader free. Programs available on Thursdays 4:30–6:30 PM by request. Scout-badge-aligned programming.

Naturalist series and special programs (selected current offerings)

- **Birds and Blooms** — immersive naturalist series
- **Owl Prowl** — guided nighttime hike
- **Deer tracking and habitat hike**
- **Enchanted Dwellings: Nature's Architecture** — fairy house and gnome home building with natural materials
- **Pinecone snowy owl craft programs**
- **Birding programs**
- **Fishing** — limited to advertised guided dates only

Volunteer and stewardship programs

- **Earth Day work events** — invasive species removal, litter removal, trail management
- **ReLeaf Michigan partnership** — five-year sugar maple planting program (DTE Energy Foundation funded)
- **Sugar Bush restoration** — long-term volunteer-supported succession planting
- **Adopt a Tree** — Friends-of-JNC sponsorship program
- **Goosechase "Nature Invaders"** — gamified invasive species scavenger hunt

Friends-led fundraising programs

- **Forest to Table** — annual chef-led fundraising dinner using invasive plant species; zero-waste event
- **Friends memberships** — $35 individual to $500 donor tier
- **Photography passes** — $150/day, $500/year (professional photographers, by appointment)
- **Birthday parties** — ages 3–12
- **Targeted fundraising** — trail maintenance, signage, native plantings, sugar-bush restoration, animal care, land acquisition

Operational note: contemplative-use carrying capacity

The October 2025 engagement surfaced a tension at JNC: some respondents want extended hours, more guided programs, and lower fees; others explicitly fear that bringing in more visitors or paving more of the site would damage the peace-and-quiet value they currently use it for. **Per the Decision-Grade Assessment, this is a carrying-capacity and identity issue, not a throughput problem.** The POMP must establish use thresholds, not maximize throughput.

Joint and integrated programs

Program	Both sites	Notes
BHS Developmental Kindergarten	Yes — alternates weekly	Curriculum-integrated across both sites
B.O.B. Camp	Yes — split logistics	Mon-Tues Bowers; Wed-Thurs JNC
Education Specialist (Brooke Larm)	Yes — shared role	JNC + Bowers Education Specialist
TreeSchool field trips	Occasionally to Bowers	TreeSchool participants visit Bowers
Off-site outreach	Yes — both sites offer	Library partnerships, schoolyard programs

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Mission 26 zone alignment of programs
Discovery Oaks programs by Mission 26 zone type
Zone Type	Programs
Discovery & Learning	School field experiences, MSU Extension partnership, BHS DK alternation, Worm Farming, Open Barn educational components
Stewardship & Cultivated Landscapes	Community Gardens, Curated Botanical Gardens, 4-H Club, native plant sales, equine programs, livestock care programming, sourdough/turkey/cooking classes
Healthy Activity & Social Connection	Open Barn social experience, Farm After Five, Spring Open Barn, U-Pick, family-oriented events
Enterprise	Winter Park (revenue-generating), Farm Kitchen, Farm Store, Fall Festival ticketed events, equine riding lessons, birthday party rentals, memberships
Bloomfield Oaks programs by Mission 26 zone type
Zone Type	Programs
Discovery & Learning	TreeSchool, school field experiences, scout programs, naturalist series, bird/wildlife programs, BHS DK alternation, off-site outreach
Habitat & Ecological Protection	Trail-based wildlife observation, wildlife enclosures, ecological monitoring, native habitat exploration
Stewardship & Cultivated Landscapes	Maple Sugaring (Sap Happy), Sugar Bush restoration, ReLeaf Michigan tree planting, Earth Day stewardship work, Adopt a Tree
Restorative Nature Immersion	Free trail access (8 AM – sunset), Owl Prowl, deer tracking hikes, photography pass program, contemplative natural-area use
---
Visitation and program-volume context
Discovery Oaks (Bowers): ~40,000 annual visitors per Survey Full Report; alternative figures of 20,000+ (county page; Open Barn/store/events only) and 55,000+ (BHS job posting). **Use 40,000 as PAP authoritative figure** per fact file decision.
Bloomfield Oaks (JNC): ~10,000 annual visitors per Survey Full Report.
Combined: ~50,000 annual park experiences — these are existing recurring program contacts that flow directly into Mission 26 Tier 1 metrics (Countywide Distributed Repeat Household Participation, Cost per Experience) on October 1, 2026.

Key continuity considerations for Final PAP
1. **Open Barn schedule and pricing model** — currently runs through September 26, 2026; transition into OCP operations (October 1) requires no Open Barn season disruption.
2. **Winter Park relationship** — operated by Friends of Bowers Farm with OCP sponsorship for 2026 season. Post-transition operating model and revenue allocation between Friends and OCP needs explicit POMP definition.
3. **Sliding-scale community classes** — preserves access; contrast with standard OCP fee structures; POMP item.
4. **MSU Extension partnership** — pre-existing third-party agreement; per Interlocal §3.2.2 BHS provides agreements within 30 days of Effective Date. **`[DATA NEEDED]`**
5. **Friends groups operational role** — Friends of Bowers Farm operationally hosts Winter Park; Friends of JNC operationally hosts Forest to Table and stewardship volunteer events. Per Interlocal §4.9.2, Friends become OCP volunteer organizations post-transition. Operational scope retention must be explicit.
6. **TreeSchool licensing and continuity** — state-licensed early childhood program. Licensing pathway under OCP operation requires Corporation Counsel review.
7. **BHS Developmental Kindergarten alternation** — curriculum-integrated district program; operational schedule preserved through OCP transition per Interlocal §4.18 building access protocols.
8. **B.O.B. Camp logistics** — joint-site camp requires coordinated transportation, drop-off/pickup protocols, and staff scheduling across both sites.
9. **Farm Kitchen and Farm Store as commercial operations** — food service licensing (Oakland County Health Division), retail operations, food safety protocols. Operational complexity exceeds standard OCP food/retail concession arrangements.

10. **Equine program** — Horse Camp Arena infrastructure, equine staff, horse care, riding instruction certification, liability insurance for horse-handling programs. **Operational complexity not present at any other OCP park.**
11. **Animal husbandry across both sites** — Bowers livestock (sheep, horses, goats, poultry, llama, cattle); JNC rescue animals (deer, owls, falcons). Animal care expertise, veterinary protocols, biosecurity, and feed/care budgets transfer with operations per Interlocal §4.11.
12. **Birthday parties and private rentals** — both sites operate private-event rentals during public hours. Revenue allocation, scheduling, and host responsibilities require POMP definition.

Programs not currently offered but flagged in engagement or partnership materials

- **Expanded JNC public hours** — community priority; constrained by carrying-capacity concerns
- **Lower-cost JNC programming** — community priority for equity reach
- **More STEM programming at Bowers** — community write-in priority
- **More accessible trails at Bowers** — community priority; ADA upgrade contemplated in CIP
- **Year-round destination programming at Bowers** — Decision-Grade Assessment recommendation
- **Public food-system interpretation at Bowers** — Decision-Grade Assessment recommendation
- **More guided wellness/nature programming at JNC** — Decision-Grade Assessment recommendation

G-06 | Outdoor Learning Program Inventory

Discovery Oaks worksheet. Source: supplied Outdoor_Learning_Program_Inventory_DO-BO_Final(1).xlsx. Original two-site workbook is embedded in this PDF binder; Bloomfield data are not treated as Discovery data. Reporting periods and mixed participation measures require source-owner confirmation.

Worksheet record 4

Program Name: School Field Trips

Purpose: Extends classroom learning through curriculum-connected farm experiences in agriculture, food systems, animal care, and environmental stewardship.

Main Activities: Hands-on agricultural activities, farm animal interactions, barn and garden exploration, and farm history.

Audience: DK–12th grade

Season: School year, September–June

Delivery Lead: Outdoor Learning Team

Partners: Bloomfield Hills Schools; Birmingham Public Schools (long-standing agreement, Jr. K–5th); Cranbrook, Detroit Country Day, and one West Bloomfield school (three-season programming)

Current Status: Running/Growth

Primary Facility: Primarily outdoor, hands-on farm exploration complemented by indoor educational experiences

Annual Participants: 7500 (not including chaperones)

Fee / Revenue: 12

Staffing: Outdoor learning team

Review Notes: Purpose rewritten; the original was a general mission statement. Confirm which West Bloomfield school. Audience says DK–12 but the Birmingham agreement covers Jr. K–5th; confirm both are accurate.

Worksheet record 5

Program Name: Traveling Farms

Purpose: Brings farm education to schools and community sites, removing transportation as a barrier to participation.

Main Activities: Farm animal encounters, animal care demonstrations, and sensory-based learning about farming and food production, adapted to each group's needs.

Audience: All ages, including early childhood, Pre-K–12, families, older adults, assisted living and memory care residents, and people with disabilities

Season: Year-round, by request and staff availability

Delivery Lead: Outdoor Learning Team

Current Status: Running (Turkey Visits)

Primary Facility: Schools, community centers

Annual Participants: 1408 (8 Visits)

Fee / Revenue: $150-$400

Staffing: Outdoor learning team

Review Notes: Partners blank in original; add host organizations if there are regular ones.

Worksheet record 6

Program Name: Grown-Up & Me

Purpose: Introduces children ages 2–6 and their caregivers to farm life and nature through play-based learning.

Main Activities: Animal encounters and grooming, gardening, seasonal farm activities, nature walks, sensory play, storytelling, and crafts.

Audience: Children ages 2–6 with a parent, guardian, or caregiver; sessions grouped by age

Season: Fall, winter, spring, and summer sessions; typically weekly with rotating themes

Delivery Lead: Outdoor Learning Team

Partners: Open to collaboration with community organizations and early childhood partners

Current Status: Running

Primary Facility: Outdoor Farm exploration

Annual Participants: 315

Fee / Revenue: 20

Staffing: Early Learning Team

Worksheet record 7

Program Name: Adventure Ropes Course

Purpose: Challenge-based outdoor recreation that builds confidence, teamwork, leadership, and problem-solving.

Main Activities: Facilitated ropes challenges, team-building initiatives, cooperative problem-solving, balance obstacles, trust exercises, and group reflection.

Audience: School-age youth, teens, adults, school and community groups, and corporate teams

Season: Spring, summer, and fall; group bookings, field trips, camps, and events

Delivery Lead: Trained ropes course staff

Partners: IA

Current Status: Closed

Primary Facility: Low Ropes and High Ropes Course Located in Forest of Discovery Oaks

Annual Participants: 200 IA Students/ ~700-800 Camper utilize during the sessions

Fee / Revenue: 3000 - IA

Staffing: Facilitator must be 18+ years old. Completion of a recognized ropes facilitator training (e.g., ACCT). Demonstrated competency in: Belay systems and fall protection Course facilitation and rescue procedures Annual refresher training and documentation maintained.

Review Notes: Original label read "Rope Course- Gym lit" and the partner is listed only as "IA." Confirm what both mean, and why the course is closed (facility condition, staffing, certification).

Worksheet record 8

Program Name: Scout Programs / Badge-a-Palooza

Purpose: Helps scouts earn badges through hands-on farm and outdoor learning.

Main Activities: Badge stations, farm animal encounters, agricultural exploration, nature hikes, outdoor skills, and conservation activities. Badge-a-Palooza events run multiple themed stations at once.

Audience: Girl Scouts, Scouts BSA, Cub Scouts, and other youth groups, primarily ages 5–18

Season: Year-round troop visits; Badge-a-Palooza events in fall, winter, and spring

Delivery Lead: Outdoor Learning Team

Partners: Girl Scouts of Southeastern Michigan, local scouting councils, and troop leaders

Current Status: Paused; partnership resuming spring

Primary Facility: Outdoor Farm exploration

Annual Participants: 585

Fee / Revenue: 16

Staffing: Early Learning Team

Worksheet record 9

Program Name: Equine Programs: Riding Lessons and Pony School

Purpose: Teaches horsemanship, horse care, and barn safety while building confidence and responsibility.

Main Activities: Riding lessons: riding fundamentals, horse handling, grooming, and tacking, progressing by skill level. Pony School: grooming, basic horse care, barn safety, crafts, and supervised riding with an adult.

Audience: Riding lessons: ages 8 and up. Pony School: ages 3–5.

Season: Seasonal; outdoor lessons pause for winter. Lessons run in recurring sessions; Pony School runs as single classes and series.

Delivery Lead: Trained equine staff, coordinated with farm operations

Partners: n/a

Current Status: Running/Growth

Primary Facility: Outdoor Riding Arena onsite

Annual Participants: 1,320....165 individuals enrolled in the program Equine lesson series. 140 Pony School individuals enrolled in Pony School Sessions

Fee / Revenue: $275-$415 Lesson Packages / $50-$125 PonySchool

Staffing: Equine programming facilitation was primarily managed and delivered by one staff member.

Opportunities & Notes: Strong community demand. Capital investment in facilities and infrastructure could expand capacity, accessibility, offerings, and revenue.

Review Notes: Moved the growth narrative out of the status column into Opportunities & Notes. Partners blank in original.

Worksheet record 10

Program Name: Camps

Purpose: Summer day camps connecting youth to agriculture, animal care, and the outdoors.

Main Activities: Livestock care and feeding, gardening, food production activities, nature investigations, farm-themed STEM challenges, crafts, and team-building.

Audience: Ages 3–5 (half-day); ages 6–13 (grouped by age); ages 14–17 (Volunteer Camp Stewards)

Season: Summer weekly sessions; additional camps during school breaks as demand and capacity allow

Delivery Lead: Camp counselors, seasonal recreation staff, agricultural educators, and farm operations staff

Partners: Oakland Schools (McKinney-Vento); Friends of Bowers Farm (camperships)

Current Status: Seasonal

Primary Facility: Outdoor Farm exploration

Annual Participants: 1364

Fee / Revenue: $160-$550

Staffing: Seasonal Camp Staff

Opportunities & Notes: Future plan to staff camp through MSU Extension.

Worksheet record 11

Program Name: Classroom-Based Agricultural & Environmental Education Programs Chick Hatching / Vermicomposting

Purpose: Brings embryonic development, life cycles, and animal care into the classroom. Teaches decomposition, soil health, and composting through classroom worm bins.

Main Activities: Classroom incubation, egg candling, temperature and humidity monitoring, hatching observation, introductory chick care, and science journaling. Worm bin setup, feeding and maintenance, observation of decomposition, and data recording.

Audience: Early childhood through elementary; adaptable for other grades

Season: Spring, coordinated with school calendars vermicomposting is year round.

Delivery Lead: Outdoor Learning Team (farm staff provide incubation guidance and animal care support)

Partners: Bloomfield Hills Schools and classroom teachers

Current Status: Confirm

Primary Facility: in classroom: Classroom-based chick incubation and hatching,

Annual Participants: 16 Participating Classrooms: 330–374 Student impact. 90 Eggs distributed

Fee / Revenue: 0

Staffing: School Staff supported by farm learning team.

Review Notes: Status was blank. Delivery Lead originally listed the schools; moved them to Partners.

Worksheet record 12

Program Name: Community Programs

Purpose: Public farm programs and seasonal events that broaden access to Discovery Oaks.

Main Activities: Animal encounters, agricultural demonstrations, wagon rides, gardening, harvest activities, equine activities, crafts, and workshops.

Audience: Individuals and families of all ages, and community organizations

Season: Year-round, with more offerings during peak visitation

Delivery Lead: Outdoor Learning Team

Current Status: Running

Primary Facility: Outdoor farm grounds, animal enclosures, greenhouse, and historic farmhouses.

Annual Participants: 1242

Fee / Revenue: Free - $45

Staffing: Early Learning Team

Review Notes: Original text referred to "Bowers School Farm"; updated to Discovery Oaks.

TRANSITION PERIOD WORK PLAN

Overview

Oakland County Parks and Recreation Commission (OCPRC) is undertaking a coordinated, multi-phase transition to fully integrate Bowers Farm (Discovery Oaks) and Johnson Nature Center (Bloomfield Oaks) into County operational, financial, and technology systems by September 30, 2026. This work represents a significant organizational lift requiring alignment across multiple Oakland County departments, Bloomfield Hills Schools (BHS) site staff, Friends groups, and community partners.

Both sites are active, year-round operations with no downtime available for transition activities. Discovery Oaks manages livestock, equine programming, concessions, and major seasonal events. Bloomfield Oaks operates a licensed preschool, wildlife care, maple sugaring infrastructure, and extensive nature-based programming. These operational characteristics shaped a transition plan centered on continuity, readiness, and rigorous coordination.

Transition Objectives

The transition was structured around five core objectives essential for achieving full operational readiness by October 1, 2026:

- Standardize operations under Oakland County IT, security, and compliance requirements.
- Maintain uninterrupted public-facing services, including registration, membership management, and event access.
- Consolidate all financial activity into County systems, including RecTrac and the County general ledger.
- Deliver modern, accessible digital platforms aligned with County standards.
- Ensure OCP staff are fully trained and prepared to assume site operations on Day 1.

Change Management Framework

The transition is organized under the Prosci ADKAR model, a people-centered, research-based change management framework. This approach recognizes that lasting organizational change requires individual readiness across all stakeholder groups.

- **Awareness** – All stakeholders understand the purpose, timeline, and drivers of the transition.
- **Desire** – Building the personal motivation and choice to support and engage with the change.
- **Knowledge** – Gaining the information, training, and education on how to change and what to do.

- **Ability** – Turning knowledge into action for use of systems, equipment, and processes by Day 1.
- **Reinforcement** – Sustaining the change through feedback, measures and recognizing staff contributions; and community confidence is visible.

Stakeholder Engagement

Stakeholder engagement was prioritized and sequenced to ensure clarity, confidence, and continuity.

• **OCP Executive Leadership** received scheduled briefings to ensure alignment, address emerging questions, and validate external communications.
• **OCP Transition Team** met bi-weekly and monthly across five workstreams. Site visits ensured staff familiarity with operations before the bridge period.
• **BHS Site Staff** remained the highest-priority audience. Formal communications were delivered jointly by OCP and/or BHS leadership before any public announcement. Individual meetings were offered, hiring timelines were communicated in advance, and updates were shared through official channels to prevent misinformation.

Transition Team Structure

OCP established a cross-functional Transition Team composed of Chiefs and mid-level leaders from OCP and BHS to oversee the timeline, research information, obtain assets, and provide integrated guidance. The Team synthesized recommendations from five specialized working groups—Educational Programs; Community and Recreational Programs; IT and Systems; Facilities and Grounds; and Communications and Marketing. This structure ensured alignment across operations, technology, staffing, and community-facing functions.

Change Communications Approach

A multi-channel communications framework supported consistent, timely messaging throughout the transition by employing email, newsletters, internal webpages, property signage, poster announcements, in-person meetings, and hybrid/virtual meetings. Interviews and focus groups with staff in specific roles were also means of obtaining feedback for decision-making and strategizing.

Success Criteria

Some of the success criteria identified for the transition include:

- All operations are active within M365 and RecTrac environments.
- Public-facing services remain uninterrupted throughout the transition period.

- OCP staff are fully trained and ready to operate both sites beginning October 1, 2026.
- Updated OCP webpages for Discovery Oaks and Bloomfield Oaks are live and aligned with County digital standards.
- All financial transactions are fully integrated into County systems and auditable.

Summary

This summary provides only a high-level overview of a transition effort that remains actively underway. The work ahead is substantial, and our teams across OCP, Bowers/Johnson staff, and community partner organizations continue to collaborate closely as details emerge and new needs are identified. We recognize and deeply appreciate the commitment, flexibility, and professionalism shown by everyone involved in this complex, fast-moving effort. As we move toward full operational readiness, OCPRC remains confident in the strength of our partnership, the dedication of our staff, and the shared optimism guiding this transition.

Farm and Nature Center Financials - 3 year plus current year budget summary.xlsx

Worksheet Sheet1 | Columns 1–5 | Printed cached source values

Original workbook is embedded in the PDF binder. Formula definitions, objects and source formatting remain available in that file. Blank cells are preserved within displayed rows. Entirely blank or zero-only rows are omitted from this print view; original row numbers are shown. For the shared master-plan workbook, this print view covers BSF and shared worksheets; JNC worksheets remain in the embedded original.

Source row	1	2	3	4	5
1	Farm and Nature Center - Financials				
3		Budget	Actual	Actual	Actual
4	General Fund	6.30.26	6.30.25	6.30.24	6.30.23
6	Revenue	15000	26631	55574	21390
8	Expenditures				
9	Salaries	370771	569757.47	598368.0499999999	799800.64
10	Benefits	275359	392114.07	465885.46	600044.0700000002
11	Purchased Services	119500	133512.09	178073.2	102887.04000000002
12	Repairs & Maintenance	99151	80761.95000000001	112625.21000000002	85503.18000000001
13	Supplies	140000	188925.93	180286.82	223069.19999999998
14	Capital Outlay	0	23254.22	21302.1	43629.38
15	Other	4500	8602.64	4596.42	5991.950000000001
16		1009281	1396928.3699999999	1561137.26	1860925.46
18	Net Revenue (Deficit)	-994281	-1370297.3699999999	-1505563.26	-1839535.46
21		Budget	Actual	Actual	Actual
22	Recreation Fund	6.30.26	6.30.25	6.30.24	6.30.23
24	Revenue	1173500	1370424	1118148	1194961
26	Expenditures				
27	Salaries	466478	563641.06	497688.37000000005	194156.90999999995
28	Benefits	301757	368523.61999999994	368824.4500000001	103139.67000000001
29	Purchased Services	213200	220525.37	192870.31999999998	473269.61000000004
30	Repairs & Maintenance	0	5378.25	7038.75	35395.68
31	Supplies	128116	170994.23000000004	188333.78	135671.44
32	Capital Outlay	0	0	0	0
33	Other	19700	17306.04	30239.260000000002	39437.72
34	Transfer Out	60000	0	0	25000
35		1189251	1346368.5699999998	1284994.9300000002	1006071.03
37	Net Revenue (Deficit)	-15751	24055.430000000168	-166846.93000000017	188889.96999999997

Source row	1	2	3	4	5
40		Budget	Actual	Actual	Actual
41	Capital Outlay	6.30.26	6.30.25	6.30.24	6.30.23
43	Sinking Fund				
44	Farm		35807	32703	95440
45	Nature Center		5300	1491	19682
46			41107	34194	115122
48	Bond				
49	Farm		0	0	0
50	Nature Center		10223	5000	24975
51			10223	5000	24975

BHS Capital Investment Priorities

Farm Learning Center / Academy Building

Discussion brief • October 8, 2026

Direct BHS's $1.5 million investment toward renewal of the existing Farm Learning Center / Academy Building, greenhouse repairs, and a defined exterior fence project. Prioritize improvements that protect the facilities and support continued school and public use while larger site projects are evaluated through the ongoing site assessment.

Proposed project punch list

- **Roof** Replace roof covering and flashing; include necessary decking repairs, gutters, and downspouts.
- **Windows** Replace all windows, including frames, seals, flashing, and repairs around openings.
- **Exterior siding** Replace siding throughout; include trim, soffits, fascia, and underlying repairs as needed.
- **Selected doors** Replace identified doors and frames; address hardware, thresholds, weather seals, and accessible operation.
- **Carpet and flooring** Replace worn carpet and flooring in agreed areas; select durable finishes appropriate for farm use.
- **Interior restoration** Repair and paint surfaces affected by the work; resolve moisture damage before installing finishes.
- **Greenhouse** Inspect and price repairs to glazing, seals, framing, and other worn components. Coordinate with the HVAC and ventilation work currently underway.
- **Exterior fence** Confirm remaining fence sections and gates, remove deteriorated fencing, and price a defined phase consistent with future entrances and circulation.

HVAC and ventilation work is currently underway. Coordinate the renewal project with that work and confirm its scope and funding to avoid duplicating costs.

Funding approach and price logic

Use the $1.5 million as one coordinated capital package: building and greenhouse renewal as the primary investment, exterior fencing as a separately priced phase, and an allowance for project delivery and unforeseen conditions. Set the final amounts after a joint walkthrough and current pricing rather than assigning fixed allowances to individual items today.

The master plan's historical $3.355 million Academy renovation and expansion allowance included a mezzanine and a broader scope. Its perimeter fence allowance was $152,000 per phase, or $608,000 across four phases. Using the full historical fence allowance would leave $892,000 for everything else, which supports pricing a focused fence phase alongside the building work. These figures are planning references, not current estimates.

Decisions for today

Confirm the punch list, fence limits, funding deadline, and delivery lead. Obtain coordinated pricing and retain contingency within the $1.5 million. Keep major expansion, restroom replacement, and site electrical upgrades in the broader capital planning process.

Planning references Master plan page 25 • Infrastructure evaluation 2024 • Fence RFP 1042 from 2022

I-06 | Building renewal estimating correspondence

Complete supplied text. Latest response received October 29, 2026; its sent date is absent from the supplied header. Preliminary guidance, not final scope acceptance.

Good afternoon Alan,

Apologies for the delay, was sidetracked dealing w/ some urgent issues on other projects the last couple days. Please see below:

• Asphalt Roofing – Performance Spec

o Architectural/Dimensional

o Ice & Water Shield – High Temp Rated, minimum 24” past exterior wall, full coverage on low slope roofs

o Profile – Provide manufacture standard profiles for owner selection

o Color – Provide manufacture standard colors for owner selection

o Gutter Guards – Provide at all locations adjacent trees are present

o Min. Warranty – 20 years

o Install per manufacturer requirements

• Metal Roofing (Climate Controlled Occupiable Spaces) – Performance Spec

o Standing Seam Concealed Fastener

o Min. 24-gauge

o Ice & Water Shield – High Temp Rated, full coverage

o Profile – Provide manufacture standard profiles for owner selection

o Color – Provide manufacture standard colors for owner selection

o Snowguards – Metal Rail Style, provide where eaves direct snow toward pedestrian areas

o Snowguards - Metal Cleat Style, provide where eaves direct snow toward back-of-house areas

o Gutter Guards – Provide at all locations adjacent tress are present

o Min. Warranty – 30 years

o Install per manufacturer requirements

• Metal Roofing (Exterior Covered Spaces (i.e. pavilions)) – Performance Spec

o Exposed Fastener

o Min. 24-guage

o Profile – Provide manufacture standard profiles for owner selection

o Color – Provide manufacture standard colors for owner selection

o Snowguards – Metal Rail Style, provide where eaves direct snow toward pedestrian areas

o Snowguards - Metal Cleat Style, provide where eaves direct snow toward back-of-house areas

o Gutter Guards – Provide at all locations adjacent tress are present

o Min. Warranty – 30 years

o Install per manufacturer requirements

• EPDM Roofing – Performance Spec

o Single-Ply Membrane over ½” Plywood Sheathing, over structural roof deck – non-insulated application

o Single-Ply Membrane over ½” Plywood sheathing, over rigid insulation (thickness as required), over vapor barrier, over structural roof deck – insulated application

o Installation Method – Fully Adhered

o Thickness - 45 mil minimum, 60 mil for buildings where occasional foot traffic is expected

o Color – White or Black (Depending on building location/design/purpose)

• Corrugated Metal Siding – Basis-of-Design Spec

o Manufacturer – Butler

o Style – Butlerib II Wall System

o 24/26-gauge depending on location/use

o Finish – Kynar 500

o Warranty – 25 years

o Install per manufacturer requirements

• Metal Windows – Basis-of-Design Spec

o Manufacturer – Tubelite

o Style – T14000 or T14650 Storefront Series (depends on wall thickness)

o Profile – 2” x 4 ½” or 2” x 6 ½”

o Operable windows (if req’d) to be compatible models from Tubelite

o Finish – Provide manufacture standard colors for owner selection

o Glazing – 1” Low-E on surface #2 or #3 depending on building use/orientation

o Install per manufacturer requirements

• Wood Windows – No Standard Spec Historically (Project Specific)

• Vinyl Windows – No Standard Spec Historically (Project Specific)

• Exterior Hollow Metal Doors – Performance Spec

o Grout Frames Solid if installed in exterior CMU wall

o Provide Insulated Core

o Provide Small Format Interchangeable Core (SFIC)

o Schlage Lockset – Function is location specific

o 16-gauge door frames

o 16/18-gauge doors depending on location/use

o Finish – Provide manufacture standard colors for owner selection or paint

o Hardware sets are always door location/use specific

o Install per manufacturer requirements

• Exterior Aluminum Framed Doors – Basis-of-Design Spec

o Manufacturer – Tubelite

o Model – Compatible w/ T14000 or T14650 Storefront Series

o Style – Standard Medium or Wide Stile (Project/Location Specific)

o Finish – Provide manufacture standard colors for owner selection

o Glazing – 1” Low-E on surface #2 or #3 depending on building use/orientation

o Install per manufacturer requirements

• Interior Doors – No Standard Spec Historically (Project Specific)

• Carpet Flooring (Field) – Basis-of-Design Spec

o Manufacturer – Mannington

o Style – Ramie

o Color – 33341 Juniper

o Install – Quarter Turn

o Adhesive – As required by manufacturer

o Install per manufacturer requirements

• Carpet Flooring (Walk off) – Basis-of-Design Spec

o Manufacturer – Mannington

o Style – Ruffian II

o Color – 8404 Tan Tetons

o Install – Monolithic

o Adhesive – As required by manufacturer

o Install per manufacturer requirements

• LVT/Vinyl Plank Flooring – No Standard Spec Historically (Project Specific)

The above are by no means exhaustive but a good starting point for any specific need. In the end, every project has its own specific spec book that may have adjustments to the above to address the specific needs of a project. For the items labeled “No standard Spec Historically (Project Specific)” we have never had any consistent requirements for and have no standardized installation across the whole park system. Some of these items may be consistent across an entire building or park but we don’t really have any park wide direction on these items.

Let me know if you need anything else at this time.

Best,

Darryn Horvath, AIA | LEED AP BD+C | NCARB

Architect / Project Manager

Parks Development & Engineering

horvathd@oakgov.com

248-877-6983 (mobile)

From: Jaros, Alan <jarosa@oaklandcountymi.gov>

Sent: Friday, October 23, 2026 11:11 AM

To: Crane, Zachary <cranez@oaklandcountymi.gov>; Horvath, Darryn Francis <horvathd@oaklandcountymi.gov>

Cc: Gibbs, Colin P <gibbsc@oaklandcountymi.gov>; Hughes, Thomas J <hughest@oaklandcountymi.gov>; Jackson, Esther <jacksonesl@oaklandcountymi.gov>

Subject: RE: Fw: Bowers Farm OCP $1.5

That would be great. Thank you for the update.

From: Crane, Zachary <cranez@oaklandcountymi.gov>

Sent: Friday, October 23, 2026 11:08 AM

To: Horvath, Darryn Francis <horvathd@oaklandcountymi.gov>

Cc: Gibbs, Colin P <gibbsc@oaklandcountymi.gov>; Hughes, Thomas J <hughest@oaklandcountymi.gov>; Jackson, Esther <jacksonesl@oaklandcountymi.gov>; Jaros, Alan <jarosa@oaklandcountymi.gov>

Subject: RE: Fw: Bowers Farm OCP $1.5

Alan – FYI

Darryn is working on this request and should have information over to you by EOB 10/27

Thank you

Zach Crane

cranez@oakgov.com

Mobile: 248.240.1079

From: Horvath, Darryn Francis <horvathd@oaklandcountymi.gov>

Sent: Thursday, October 22, 2026 10:21 AM

To: Crane, Zachary <cranez@oaklandcountymi.gov>

Cc: Gibbs, Colin P <gibbsc@oaklandcountymi.gov>; Hughes, Thomas J <hughest@oaklandcountymi.gov>

Subject: RE: Fw: Bowers Farm OCP $1.5

Thank you for clarifying. I will work to get these all together. I'll provide 2 specs for the doors if replacing all as we have hollow metal doors for back of house/utility doors and aluminum storefront door systems for public entry doors.

Darryn Horvath, AIA | LEED AP BD+C | NCARB

Architect / Project Manager

Parks Development & Engineering

horvathd@oakgov.com

248-877-6983 (mobile)

From: Crane, Zachary <cranez@oaklandcountymi.gov>

Sent: Thursday, October 22, 2026 9:50 AM

To: Horvath, Darryn Francis <horvathd@oaklandcountymi.gov>

Cc: Gibbs, Colin P <gibbsc@oaklandcountymi.gov>; Hughes, Thomas J <hughest@oaklandcountymi.gov>

Subject: RE: Fw: Bowers Farm OCP $1.5

Roof – Provide following specifications:

Asphalt full replacement

Metal (spec the thicker gauge)

Yes provide EPDM spec as if for full replacement

Siding – Detail to match existing aesthetic as full replacement.

Window – Provide spec if replacing all to our standard

Door – Yes provide spec for our standard door with SFIC

Flooring – YES provide spec for our standard

Zach Crane

cranez@oakgov.com

Mobile: 248.240.1079

From: Horvath, Darryn Francis <horvathd@oaklandcountymi.gov>

Sent: Wednesday, October 21, 2026 4:28 PM

To: Crane, Zachary <cranez@oaklandcountymi.gov>

Cc: Gibbs, Colin P <gibbsc@oaklandcountymi.gov>; Hughes, Thomas J <hughest@oaklandcountymi.gov>

Subject: RE: Fw: Bowers Farm OCP $1.5

Good afternoon team,

Looking thru the below email chain, I can definitely help provide this information but may need some direction/scope clarification on a few to make sure I'm providing the right information. A lot of my questions relate to whether or not we are replacing all of a item type or just replacing some and need to make sure new matches existing to remain. Please see below in red.

Darryn Horvath, AIA | LEED AP BD+C | NCARB

Architect / Project Manager

Parks Development & Engineering

horvathd@oakgov.com

248-877-6983 (mobile)

From: Crane, Zachary <cranez@oaklandcountymi.gov>

Sent: Wednesday, October 21, 2026 9:04 AM

To: Horvath, Darryn Francis <horvathd@oaklandcountymi.gov>

Cc: Gibbs, Colin P <gibbsc@oaklandcountymi.gov>; Hughes, Thomas J <hughest@oaklandcountymi.gov>

Subject: FW: Fw: Bowers Farm OCP $1.5

Darryn - Please provide specification/detail information as it relates to the Bowers Learning Center Building;

Roof –

Pull general roof spec information for asphalt replacement (EPDM spec) – are we replacing all the roofing? If only part, we would likely want to patch with material to match existing. If replacing all, do we want to explore different materials (i.e. metal) over asphalt shingles? The flat sections appear to be EPDM looking at aerials but I would have to confirm on site. If we are replacing the flat sections, we would use EPDM and our standard spec for those areas. If just patching existing EPDM, we would want to use the same manufacturer as the current system for warranty and integrity purposes.

Windows

Reference Spec from xx project (IND Wint) - same, are we replacing all? Only failed windows where we would want to match existing to remain? Or replacing on whole sections (i.e. the historic gabled barn area, etc.) where a certain aesthetic may be desired over what is used elsewhere on the building.

Exterior Siding

Preference (SAC Event Center) – existing building has multiple types and colors of siding. What is replacement scope? Are we trying to make the whole building the same? Newer addition siding is likely in good shape but has different look/feel than historic part. What is our goal?

Doors

Preferred Vendor reference – FRP with large format interchangeable core – parks uses small format interchangeable cores (SFIC), not large, we can definitely replace all cores to our standard with relative ease. Regarding replacing doors, same questions as above. Replacing all? Some and need to match existing? Etc?

Carpet and Flooring

Flooring options noted on building floor plan. – can provide our standard spec for office carpeting to match admin, is there any areas where we wouldn't be replacing all and need to match existing?

Interior Restoration

Confirm Scope

This information provided back to BH Schools will move toward on site meeting with Barton Malow/Bloomfield team to finalize potential scope.

Please provide breakdown by our next meeting on 10/27 for review w/Colin/Tom.

Thank you

Zach Crane

cranez@oakgov.com

Mobile: 248.240.1079

From: Jacob McDermott <jmcdermott@bloomfield.org>

Sent: Monday, October 12, 2026 9:19 AM

To: Jaros, Alan <jarosa@oaklandcountymi.gov>

Cc: Crane, Zachary <cranez@oaklandcountymi.gov>; Ward, Chris <wardcc@oaklandcountymi.gov>; Noyes, Jon J <noyesj@oaklandcountymi.gov>; Hughes, Thomas J <hughest@oaklandcountymi.gov>; Rick West <rwest@bloomfield.org>

Subject: Re: Fw: Bowers Farm OCP $1.5

CAUTION: This message is from a sender outside of the Oakland County organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Alan,

I am working on obtaining rough estimates from Barton Malow for the items included on the proposed project punch list. To help ensure the estimates reflect the intended scope of work, I need clarification on a few items from your list.

• Roof: Please clarify the type of roof covering to be installed so the estimate includes the appropriate materials and scope. The list already identifies the associated flashing, decking repairs, gutters, and downspouts.

• Windows: Are we planning to replace the existing windows with wood windows, or would OCP prefer fiberglass or another material?

• Exterior siding: What type of siding would OCP like installed? Please also identify any specific material or finish preferences, if applicable.

• Selected doors: I reviewed the previous emails but did not find specific doors identified for replacement. I will walk the building to identify the doors that may need attention and follow up with the locations.

• Carpet and flooring: Do you have a list, marked floor plan, or other documentation identifying the agreed-upon areas for replacement? This will help ensure the estimate covers the intended spaces.

• Interior restoration: I will include this item as outlined on the punch list, including repairs and painting associated with the work and addressing any moisture damage before new finishes are installed.

• Greenhouse: I will include the greenhouse repairs identified on the list, with consideration for the HVAC and ventilation work currently underway.

Once these details are clarified, I can provide Barton Malow with the information needed to develop the rough estimates.

Purchasing
(248) 858-0511 | purchasing@oakgov.com

Buyer: AJK **CONTRACT NUMBER: TBD** **Event # NPC**

DRAFT SERVICE AGREEMENT between the COUNTY OF OAKLAND and FRIENDS OF BOWERS FARM

Not To Exceed Amount: $250,000.00	**Effective Date: 10/1/2026**	**Expiration Date: 9/30/2031**
Contract Description:	Friends of Bowers Farm will provide services and support to Oakland County Parks at Bowers Farm, including partnership development, fundraising and marketing, volunteer coordination, sponsorships, specialty expertise, and other services as set forth in Exhibit II.	

Contractor Information:	**Contract Administrator:**
FRIENDS OF BOWERS FARM Vendor No: [Vendor Number] [Vendor Number]	
Compliance Office Purchasing Information:	**Contract Administrator Oakland County Using Department:**
Andy Krumwiede OAKLAND COUNTY PURCHASING 2100 Pontiac Lake Rd 41W Waterford, MI 48328-2762 248-858-0511 purchasing@oakgov.com	Chris Ward Director Parks and Recreation 2800 Watkins Lake Rd. 97W Waterford, MI 48328 wardcc@oakgov.com

DRAFT

The County and the Contractor may be referred to individually as a “Party” or collectively as the “Parties.” The Parties agree to the attached terms and conditions:

FOR THE CONTRACTOR:

SIGN:

FOR THE COUNTY:

SIGN:
Contract Administrator

SIGN:
Alycia Williams, Chief Procurement Officer

xxx

DRAFT

This Contract is organized and divided into the following Sections for the convenience of the Parties.

Section 1. Contract Definitions

Section 2. Contract Term and Renewal

Section 3. Contract Administration and Amendments

Section 4. Contract Termination

Section 5. Scope of Deliverables and Financial/Payment Obligations

Section 6. Contractor's Warranties and Assurances

Section 7. Liability

Section 8. Contractor Provided Insurance

Section 9. General Terms and Conditions

§1. CONTRACT DEFINITIONS

The following words when printed with the first letter capitalized shall be defined and interpreted as follows, whether used in the singular or plural, nominative or possessive case, and with or without quotation marks:

1.1. "**Amendment**" means any change, clarification, or modification to this Contract.

1.2. "**Business Day**" means Monday through Friday from 8:00 a.m. to 5:00 p.m., excluding County designated holidays.

1.3. "**Claims**" means any loss; complaint; demand for relief or damages; lawsuit; cause of action; proceeding; judgment; penalty; costs or other liability of any kind which is imposed on, incurred by, or asserted against the County or for which the County may become legally or contractually obligated to pay or defend against, whether commenced or threatened, including, but not limited to, reimbursement for reasonable attorney fees, mediation, facilitation, arbitration fees, witness fees, court costs, investigation expenses, litigation expenses, or amounts paid in settlement.

1.4. "**Contract**" means this document and any other documents expressly incorporated herein.

1.5. "**Contractor**" means the entity or person listed under "Contractor" on the first page of this Contract.

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1.6. "**Contractor Employee**" means any employee; officer; director; member; manager; trustee; volunteer; attorney; licensee; contractor; subcontractor; independent contractor; subsidiary; joint venturer; partner or agent of Contractor; and any persons acting by, through, under, or in concert with any of the above, whether acting in their personal, representative, or official capacities. Contractor Employee shall also include any person who was a Contractor Employee at any time during the term of this Contract but, for any reason, is no longer employed, appointed, or elected in that capacity.

1.7. "**Contract Documents**" mean the following documents, which this Contract includes and incorporates:

Exhibits (Applicable if Checked)

1.7.1. Exhibit I: Contractor Insurance Requirements

1.7.2. Exhibit II: Scope of Contractor Deliverables/Financial Obligations

1.8. "**County**" means the County of Oakland, a Municipal and Constitutional Corporation, its departments, divisions, authorities, boards, committees, and "County Agents" as defined below.

1.9. "**County Agent**" means any elected and appointed officials; directors; board members; council members; commissioners; employees; and volunteers of the County; whether acting in their personal, representative, or official capacities. "County Agent" shall also include any person who was a "County Agent" anytime during the term of this Contract but, for any reason, is no longer employed, appointed, or elected and in that capacity.

1.10. "**Day**" means any calendar day, which shall begin at 12:00:00 a.m. and end at 11:59:59 p.m.

1.11. "**Deliverables**" means goods and/or services provided under this Contract, whether tangible or intangible, and may be more specifically described in the Exhibits.

1.12. "**Effective Date**" means midnight on the date listed on the first page of this Contract.

1.13. "**Expiration Date**" means 11:59.59 p.m. on the date listed on the first page of this Contract.

1.14. "**Iran-Linked Business**" is defined in the Michigan Compiled Laws (MCL), specifically MCL 129.312, being Section 2 of Public Act 517 of 2012.

1.15. "**Not to Exceed Amount**" means the dollar amount listed on the first page of this Contract, unless amended. The "Not to Exceed Amount" is not the County's financial obligation under this Contract, but the maximum amount that can be paid to Contractor during the term of this Contract.

DRAFT

1.16. "**Purchase Order**" means the County's written request to Contractor for Deliverables pursuant to this Contract. The Purchase Order may include terms regarding delivery schedule, payment, and transportation.

1.17. "**Purchasing**" means the Purchasing Unit of the Oakland County Compliance Office.

§2. CONTRACT TERM AND RENEWAL

2.1. **Contract Term.** This Contract shall begin on the Effective Date and shall end on the Expiration Date.

2.2. **Contract Renewal.** Unless otherwise provided herein, the Parties are under no obligation to renew or extend this Contract after the Expiration Date. This Contract may only be extended by an Amendment.

2.3. **Legal Effect.** This Contract shall be effective and binding when all of the following occur: (a) this Contract is signed by a Contractor Employee, legally authorized to bind Contractor; (b) this Contract is signed by an authorized County Agent; (c) all Contractor certificates of insurance, required by this Contract, are submitted and accepted by Purchasing; and (d) any other conditions precedent to this Contract have been met.

§3. CONTRACT ADMINISTRATION AND AMENDMENTS

3.1. **Contract and Purchase Order Issuance.** Purchasing shall issue this Contract and any Purchase Orders that may be required. Purchasing is the sole point of contact in the County regarding all procurement and contractual matters relating to this Contract and any Purchase Orders. Purchasing is the only County office/department authorized to make any Amendments to this Contract or Purchase Orders.

3.2. **Purchase Orders**. Purchase Orders issued under this Contract are governed by the terms and conditions of this Contract and are included and incorporated herein.

3.3. **Project Managers.** Each Party may designate an employee or agent to act as a Project Manager. If Project Managers are selected, they shall be listed in Exhibit II and their duties shall be set forth in Exhibit II. Unless otherwise stated in Exhibit II, the County's Project Manager has no authority to amend this Contract.

3.4. **Contract Administrators.** The County shall designate an employee or agent to act as Contract Administrator(s). Contractor may designate its employee or agent to act as Contract Administrator(s). The Contract Administrators shall be listed on the first page of this Contract. The County's Contract Administrator(s) shall be responsible for monitoring and coordinating

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day-to-day activities under this Contract, reviewing Deliverables and invoices, and submitting requests for Amendments to Purchasing. The County's Contract Administrator(s) have no authority to amend this Contract.

3.5. **Contract Amendments.** All Amendments to this Contract must be in writing. This Contract shall not be amended by any packing slip, Purchase Order, invoice, click through license agreement, or Contractor policies or agreements published on Contractor's website or otherwise. Amendments to this Contract shall be issued only by Purchasing. The Amendment shall be effective when signed by an authorized Contractor Employee and an authorized County Agent.

3.6. **Unauthorized Changes.** Contract changes shall not be effective until an Amendment containing the change is executed according to the procedures described in this Contract. If the Contractor is directed to perform work that Contractor believes is a change in the Contract/Deliverables, then Contractor must notify Purchasing that it believes the requested work is a change to the Contract before performing the requested work. If Contractor fails to notify Purchasing before beginning the requested work, then Contractor waives any claims for additional compensation for performing the requested work. If Contractor begins work that is outside the scope of this Contract or begins work before an Amendment is executed and then stops performing that work, Contractor must, at the request of the County, undo any out-of-scope work that the County believes would adversely affect the County.

3.7. **Precedence of Contract Documents.** In the event of a conflict, the terms and conditions contained in Sections 1 through 9 of this Contract shall prevail and take precedence over any allegedly conflicting provisions in all Contract Documents, Exhibits, Purchase Orders, Amendments, and other documents expressly incorporated herein. Terms and conditions contained in Contractor invoices, packing slips, receipts, acknowledgments, click-through licenses, and similar documents shall not change the terms and conditions of this Contract.

§4. CONTRACT TERMINATION

4.1. **County Termination.** In addition to any other legal rights the County may have to terminate or cancel this Contract, the County may terminate the Contract as follows:

4.1.1. **Immediate Termination.** The County may terminate or cancel this Contract, in whole or in part, immediately, upon notice to Contractor, if any of the following occur: (a) Contractor, officer of Contractor, or an owner of a 25% or greater share of Contractor is convicted of a criminal offense; or (b) if any third-party funding for this Contract is reduced or terminated.

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4.1.2. **Termination for Convenience.** The County may terminate or cancel this Contract, in whole or part, at any time, upon ninety (90) Days' notice to Contractor, for any reason, including convenience without incurring obligation or penalty of any kind. The effective date for termination or cancellation shall be clearly stated in the notice.

4.1.3. **Contractor Termination.** The Contractor may terminate or cancel this Contract, in whole or part, at any time, upon ninety (180) Days' notice to Contractor, for any reason, including convenience without incurring obligation or penalty of any kind. The effective date for termination or cancellation shall be clearly stated in the notice.

4.2.

4.3. **County's Obligations Upon Termination.** The County's sole obligation in the event of termination or cancellation of this Contract is for payment of the actual Deliverables provided to the County before the effective date of termination, including reimbursement for materials, supplies, and other authorized expenses purchased or incurred in connection with the performance of this Contract prior to the effective date of termination. Under no circumstances shall the County be liable for any future loss of income, profits, any consequential damages, any loss of business opportunities, revenues, or any other economic benefit Contractor may have realized but for the termination or cancellation of this Contract. The County shall not be obligated to pay Contractor any cancellation or termination fee if this Contract is cancelled or terminated as provided herein. If the County chooses to terminate the Contract in part, then the charges payable under this Contract must be equitably adjusted to reflect those Deliverables that are terminated.

4.4. **Contractor's Obligations Upon Termination.** If the County terminates this Contract, for any reason, then Contractor must do the following: (a) cease providing all Deliverables as specified at the time stated in the notice of termination; (b) take any action necessary, or as the County may direct, to preserve and protect Deliverables or other property derived or resulting from the Contract that is in Contractor's possession; (c) return all materials, property, and County Data provided to Contractor by the County; (d) unless otherwise directed by the County, transfer title in and deliver to the County all Deliverables in the possession of Contractor or Contractor Employees (which Deliverables are transferred to the County "As-Is", except to the extent the amounts paid by the County for these Deliverables include warranties or warranty services and, in that situation, the Deliverables will be transferred with the warranty or warranty services and not "As-Is"); and (e) take any action to mitigate and limit any potential damages, including

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terminating or limiting, as applicable, those subcontracts and outstanding orders for materials and supplies connected with or related to this Contract.

4.5. **Assumption of Subcontracts.** If Contractor is in breach of this Contract and the County terminates this Contract, then the County may assume, at its option, any subcontracts and agreements for Deliverables provided under the Contract and may pursue completion of the Deliverables by replacement Contract or otherwise as the County, in its sole judgment, deems expedient.

§5. SCOPE OF DELIVERABLES AND FINANCIAL/PAYMENT OBLIGATIONS

5.1. **Performance of Deliverables.** Contractor shall provide all Deliverables identified in and as set forth in Exhibit II, any Purchase Orders, or any Amendments to this Contract.

5.2. **Financial Obligations.** Except as otherwise set forth in this Contract, the County's sole financial obligation under this Contract shall be set forth in Exhibit II. The amount and manner of payment of the financial obligation shall be set forth in Exhibit II or a Purchase Order.

5.3. **Payment Obligations.** Except as otherwise set forth in the Exhibits, Contractor shall submit an invoice to the County's Contract Administrator itemizing amounts due and owing under this Contract, as of the date of the invoice. Invoices shall contain the following information: (a) County Contract Number; (b) dates of Deliverables; (c) itemized list of Deliverables; (d) Contractor Tax ID Number (federal and State); (e) licenses; and (f) any other information requested by Purchasing. The County shall have no obligation to make a payment under this Contract until an invoice is submitted in the form set forth herein and shall have no obligation to pay for Deliverables, which have not been invoiced (as required herein) within one hundred and twenty (120) Days of Contractor's performance. Unless otherwise set forth in the Exhibits, the County shall only pay Contractro ro Devilerables under this Contract and not any subcontractors or assingees of Contractor.

5.4. **Not to Exceed Amount.** The amount due and owing to Contractor, under this Contract, shall not exceed the "Not to Exceed Amount." If Contractor can reasonably foresee that the total financial obligation for the Contract will exceed the "Not to Exceed Amount," then Contractor shall provide Purchasing with notice of this fact at least ten (10) Days before this event.

5.5. **No Obligation for Penalties/Costs/Fines.** The County shall not be responsible for any cost; fee; fine; penalty; or direct, indirect, special, incidental, or consequential damages incurred or suffered by Contractor in connection with or resulting from the performance of this Contract under any circumstances.

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5.6. **Set-Off of County Costs.** If the County incurs any costs associated with the duties or obligations of Contractor under this Contract, then the County has the right to set-off those costs from any amounts due and owing Contractor. This set-off includes withholding payment in an amount equal to the cost of any County-provided equipment, supplies, or badges that are not returned by Contractor upon completion, termination, or cancellation of this Contract.

5.7. **In-Kind Services.** Unless expressly provided herein, this Contract does not authorize any in-kind services by either Party. Friends of Bowers Farm shall provide in-kind services pre-approved by the County which may include, but not be limited to: donation of materials or equipment for Bowers Farm, volunteer labor, fundraising, marketing, sponsorship support, specialty expertise, and other services or resources approved by the County.

§6. CONTRACTOR'S WARRANTIES AND ASSURANCES

6.1. **Full Knowledge of Contract Expectations.** Contractor warrants that before submitting its Proposal and/or entering into this Contract, it had a full opportunity to review all County requirements and/or expectations for this Contract. Contractor is responsible for being adequately and properly prepared to execute this Contract. Contractor has satisfied itself in all material respects that it will be able to perform the Contract as specified herein.

6.2. **Complete and Accurate Representations.** Contractor certifies that all statements, assurances, records, and materials submitted to the County in connection with seeking and obtaining this Contract have been truthful, complete, and accurate.

6.3. **Contractor Incidental Expenses.** Except as otherwise expressly provided in this Contract, Contractor shall be solely responsible and liable for all costs and expenses associated or needed to perform this Contract, including, but not limited to, any professional dues, association fees, license fees, fines, taxes, and penalties.

6.4. **Equipment and Supplies.** Contractor is responsible for providing all equipment and supplies to perform this Contract, which are not expressly required to be provided by the County.

6.5. **Contractor Employees.**

6.5.1. **Number and Qualifications of Contractor Employees.** Contractor shall employ and assign qualified Contractor Employees as necessary and appropriate to perform this Contract. Contractor shall ensure all Contractor Employees have the knowledge, skill, and qualifications to perform this Contract and possess any necessary licenses, permits, certificates, and governmental authorizations as may be required by law.

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6.5.2. **Control and Supervision of Contractor Employees.** Contractor shall solely control, direct, and supervise all Contractor Employees with respect to all Contractor obligations under this Contract. Contractor will be solely responsible for and fully liable for the conduct and supervision of any Contractor Employees , unless otherwise specifically agreed to in writing by the Parties.

6.5.3. **Removal or Reassignment of Personnel at the County's Request.** Contractor shall remove a Contractor Employee performing work under this Contract at the County's request provided that the County's request is based on legitimate, good-faith reasons. Replacement personnel for the removed person must be fully qualified for the position.

6.5.4. **Contractor Employee Identification.** If requested by the County, Contractor Employees shall wear and display appropriate County-provided identification at all times while working on County premises. Contractor shall return all County-provided identification upon completion of Contractor's obligations under this Contract.

6.5.5. **Contractor Employee Expenses.** All Contractor Employees shall be employed at the Contractor's sole expense (including employment-related taxes and insurance). Contractor warrants that all Contractor Employees shall fully comply with and adhere to the terms of this Contract. Contractor shall be solely liable for all applicable Contractor Employees' federal, state, or local payment withholdings or contributions and/or all Contractor Employee related pension or welfare benefits plan contributions under federal or state law. Contractor shall indemnify and hold the County harmless for all Claims against the County by any Contractor Employee, arising out of any contract for hire or employer-employee relationship between Contractor and any Contractor Employee including, but not limited to, Worker's Compensation, disability pay, or other insurance of any kind.

6.6. **Acknowledgment of Independent Contractor Status.**

6.6.1. **Independent Contractor.** Nothing in this Contract is intended to establish an employer-employee relationship between the County and Contractor or any Contractor Employee. In no event, shall Contractor Employees be deemed employees, agents, volunteers, or subcontractors of the County. Contractor shall ensure that Contractor Employees are apprised of their status and limitations of independent contractors.

6.6.2. **Contractor/Contractor Employee Representations.** Contractor and/or Contractor Employees shall not represent themselves as County employees. Contractor shall ensure that Contractor Employees do not represent themselves as County employees.

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6.6.3. **County Benefits and Plans**. Contractor and Contractor Employees shall not be entitled to participate in any County employee benefit plans and programs, including but not limited to, retirement, deferred compensation, insurance (including without limitation, health, disability, dental, and life), and vacation pay. This limitation includes access to benefit plans and programs that are not described by a written plan. However, Contractor Employees who are retired County Employees may receive vested post-employment benefits such as retiree health care and pension benefits from Oakland County.

6.6.4. **County Reliance**. The County entered into this Contract in reliance of the representations made by Contractor regarding its understanding of the role of independent contractors, its stated relationship to Contractor Employees, and other representations Contractor has made regarding the management and performance oversight of Contractor Employees.

6.7. **Permits and Licenses.** Contractor shall be responsible for obtaining and maintaining, throughout the term of this Contract, all licenses, permits, certificates, governmental authorizations, and business/professional licenses necessary to perform this Contract. Upon request by the County, Contractor shall furnish copies of any permit, license, certificate, or governmental authorization necessary to perform this Contract.

6.8. **E-Verify.** In accordance with Miscellaneous Resolution No.09116 (BOC Minutes, July 30, 2009, pp 37-38), unless otherwise exempted, all service contractors who wish to contract with the County to provide services must first certify they have registered with, will participate in, and continue to utilize, once registered, the E-Verify Program (or any successor program implemented by the federal government or its departments or agencies) to verify the work authorization status of all newly hired employees employed by the Contractor. Breach of this term or condition is considered a material breach of this Contract. Contractor's execution of this Contract constitutes a certification that they are authorized to certify on behalf of Contractor and do hereby certify on behalf of Contractor that the Contractor has registered with, has and will participate in, and does and will continue to utilize once registered and throughout the term of this Contract and any permissible extension hereof, the E-Verify Program (or any successor program implemented by the federal government or its departments or agencies) to verify the work authorization status of all newly hired employees employed by the Contractor.

6.9. **Iran-Linked Business Certification.** Contractor certifies that it is not an Iran-Linked Business. Contractor further certifies that it was not an Iran-Linked Business at the time it submitted its Proposal for this Contract. Contractor must promptly notify the County, if Contractor becomes an Iran-Linked Business at any time during this Contract.

6.10. **Taxes.**

6.10.1. **Contractor Taxes.** Contractor shall collect and pay its local, state, and federal taxes, including but not limited to, all employment taxes, sales taxes, personal property taxes, and real property taxes. The County shall not be liable to or required to reimburse Contractor for any local, state, or federal tax of any kind.

6.10.2. **County Tax-Exempt.** The County is exempt from state and local sales tax, personal property tax, and real property tax. Prices under this Contract shall not include taxes, unless the County is not tax-exempt for a specific Deliverable. Exemption certificates for sales tax will be furnished upon request.

6.11. **Warranty for Services.** Contractor warrants that all Deliverables that are services shall be performed in compliance with all applicable laws, statutes, regulations, ordinances, and professional standards.

6.12. **Warranty for Goods.** All Deliverables that are goods shall be subject to the following warranties:

6.12.1. **Warranty of Merchantability.** Goods provided by Contractor pursuant to this Contract shall: (a) be merchantable, (b) be of good quality, (c) be fit for their ordinary purpose, (d) be adequately contained and packaged, and (e) conform to the specifications and descriptions contained in the Contract.

6.12.2. **Warranty of Fitness for a Particular Purpose.** If Contractor knows or has reason to know that the goods will be used for a particular purpose and the County is relying on Contractor's skill or judgment to select or furnish the goods, then there is a warranty that the goods are fit for a particular purpose.

6.12.3. **Warranty of Title.** All goods conveyed to the County shall be conveyed and transferred: (a) with good title, (b) free from any security interest, lien, or encumbrance that the County did not have knowledge of when the Contract was executed, and (c) free of any rightful claim of infringement or similar claim by a third-party.

6.13. **Response to Legal Request for County Data.** If County receives a Court Order, a Freedom of Information Act (FOIA) request, or other legal request to provide County Data held by Contractor, then Contractor shall provide County Data to the County, in a format directed by the County, within the time frame required by law.

§7. LIABILITY

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7.1. **Contractor Indemnification**. Contractor shall indemnify, defend, and hold the County harmless from all Claims, incurred by or asserted against the County by any person or entity, which are alleged to have been caused directly or indirectly from the acts or omissions of Contractor or Contractor's Employees. The County's right to indemnification is in excess and above any insurance rights/policies required by this Contract.

7.2. **No Indemnification from the County.** Contractor shall have no rights against the County for indemnification, contribution, subrogation, or any other right to be reimbursed by the County, except as expressly provided herein.

7.3. **Waivers.** Contractor shall ensure and require all its volunteers sign a waiver releasing the County and County Agents, as defined herein, from any Claims.

§8. CONTRACTOR PROVIDED INSURANCE

At all times during this Contract, Contractor shall obtain and maintain insurance according to the specifications listed in Exhibit I.

§9. GENERAL TERMS AND CONDITIONS

9.1. **Access to County Property or Facilities**. As set forth in this Contract, Contractor has access to and the right to use County property and facilities necessary to perform this Contract. ,

9.2. **Signs on County Property or Facilities.** Contractor shall not place any signs or advertisements on County property or facilities without the prior written permission of the Oakland County Parks and Recreation Commission, Executive Officer.

9.3. **Use of County Property or Facilities.** While performing this Contract, Contractor shall keep County property or facilities and anything stored thereon in a clean, safe, and healthful condition and shall keep the property and facilities in a manner that will not prevent or interfere with the County's performance of its functions.

9.4. **Removal of Contractor Personal Property.** At the expiration or termination of this Contract, Contractor shall leave County property or facilities in the same condition that Contractor found them and clean of all rubbish. Contractor shall remove all of its personal property within thirty (30) Days of expiration or termination of this Contract. If Contractor does not remove its personal property within the thirty (30) Day period, then the County shall dispose of it and bill Contractor for any costs associated with the removal and disposal.

9.5. **Damage to County Property or Facilities.** Contractor shall be responsible for any damage to any County property or a facility that is caused by Contractor or Contractor Employees.

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If damage occurs, the County shall make the necessary repairs and/or replacements or cause a third party to make the necessary repairs or replacements, provided, however, that Contractor shall reimburse the County for all costs associated with repairing and/or replacing the damaged property or facilities.

9.6. **Damage to Contractor's Property.** Contractor shall be solely liable and responsible for any property loss or damage resulting from fire, theft, or other means to Contractor's personal property located, kept, or stored on or at County property or facilities during performance of this Contract.

9.7. **County's Right to Suspend Contract Performance**. Upon written notice, the County may require Contractor to suspend performance of this Contract if Contractor has failed to comply with federal, state, or local laws or any requirements contained in this Contract. The right to suspend performance of this Contract is in addition to the County's right to terminate and/or cancel this Contract. The County shall incur no penalty, expense, or liability to Contractor if the County suspends performance of this Contract under this Section.

9.8. **Discrimination**. Contractor and Contractor Employees shall not discriminate against an employee or an applicant for employment in hiring, any terms and conditions of employment or matters related to employment regardless of race, color, religion, sex, sexual orientation, gender identity or expression, national origin, age, genetic information, height, weight, disability, veteran status, familial status, marital status or any other reason, that is unrelated to the person's ability to perform the duties of a particular job or position, in accordance with applicable federal and state laws.

9.9. **Conflict of Interest**. Pursuant to Public Act 317 and 318 of 1968, as amended (MCL 15.301, et seq. and MCL 15.321, et seq.), no contracts shall be entered into between the County and any County Agent. To avoid any real or perceived conflict of interest, Contractor shall identify any Contractor Employee or relative of Contractor's Employees who are presently employed by the County. Contractor shall give the County notice if there are any County Agents or relatives of County Agents who are presently employed by Contractor.

9.10. **Access and Records**. Contractor will maintain accurate books and records in connection with performance of this Contract for thirty-six (36) months after the end of this Contract and Contractor shall provide the County with reasonable access to such books and records, upon request.

9.11. **Assignments/Delegations/Subcontracts.**

9.11.1. **Prior Written Consent Required.** Except by operation of law, neither Party may assign, delegate, or subcontract any of its duties, obligations, or rights under this Contract without the prior written consent of the other Party.

9.12. **Non-Exclusive Contract.** This Contract is a non-exclusive agreement. No provision in this Contract limits or is intended to limit, in any way, Contractor's right to offer and provide its services to the general public, other business entities, municipalities, or governmental agencies during or after the term of this Contract. Similarly, the County may freely engage other persons to perform the same work that Contractor performs. Except as provided in this Contract, this Contract shall not be construed to guarantee Contractor or any Contractor Employee any fixed or certain number of Deliverables.

9.13. **No Third-Party Beneficiaries.** Except as provided for the benefit of the Parties, this Contract does not and is not intended to create any obligation, duty, promise, contractual right or benefit, right to be indemnified, right to be subrogated to the Parties' right in this Contract, or any other right in favor of any other person or entity.

9.13.1. **Survival of Terms and Conditions.** The following terms and conditions shall survive and continue in full force beyond the termination or cancellation of this Contract (or any part thereof) until the terms and conditions are fully satisfied or expire by their nature: **Section 1**. Contract Definitions, **Section 5.** Scope of Deliverables and Financial/Payment Obligations, **Section 6.** Contractor's Warranties and Assurances, **Section 7.** Liability, **Section 8.** Contractor Provided Insurance, and **Section 9.** General Terms and Conditions.

9.14. **Reservation of Rights.** This Contract does not, and is not intended to impair, divest, delegate, or contravene any constitutional, statutory, or other legal right, privilege, power, obligation, duty, or immunity of the County.

9.15. **Compliance with Laws.** Contractor shall comply with all federal, state, and local laws, statutes, ordinances, regulations, insurance policy requirements, and requirements applicable to its activities under this Contract.

9.16. **Force Majeure.** Notwithstanding any other term or condition of this Contract, neither Party shall be liable for failure to perform contractual duties or obligations caused by events beyond their reasonable control, including but not limited to: (a) acts of public enemies; (b) natural disasters; (c) terrorism; (d) war; (e) insurrection or riot; (f (g) strikes, lockouts, work stoppages, or other labor difficulties; or (h) compliance with law. Reasonable notice shall be given to the affected Party of such event.

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9.17. **Notices.**

9.17.1. **Written Notice.** All notices required under this Contract shall be in writing. Notices shall be effective: (a) the next Business Day, if personally delivered; (b) the third Business Day, if sent by U.S. mail, postage prepaid, return receipt requested; (c) the next Business Day, if sent by a nationally recognized overnight express courier with a reliable tracking system; or (d) the next Business Day with a receipt of confirmation, if sent by e-mail or fax.

9.17.2. **Notice to Contractor.** Unless otherwise specified, Notice to Contractor shall be addressed to the Contract Administrator listed on the first page of this Contract.

9.17.3. **Notice to County.** Unless otherwise specified herein, Notice to the County shall be addressed to Purchasing, the County Project Manager (if applicable), and the County Contract Administrator(s) listed on the first page of this Contract.

9.18. **Captions.** Section and subsection numbers, captions, and any index to sections or subsections contained in this Contract are intended for the convenience of the reader and are not intended to have any substantive meaning and shall not be interpreted to limit or modify any substantive provisions of this Contract. In this Contract, for any noun or pronoun, use of the singular or plural form, use of the nominative, possessive, or objective case, and any reference to gender (masculine, feminine, and neuter) shall mean the appropriate form, case, or gender as the context requires.

9.19. **Waiver.** Waiver of any term or condition under this Contract must be in writing and notice given pursuant to this Contract. No written waiver, in one or more instances, shall be deemed or construed as a continuing waiver of any term or condition of this Contract. No waiver by either Party shall subsequently affect its right to require strict performance of this Contract.

9.20. **Cumulative Remedies.** A Party's exercise of any remedy shall not preclude the exercise of any other remedies, all of which shall be cumulative. A Party shall have the right, in its sole discretion, to determine which remedies are to be exercised and in which order.

9.21. **Severability.** If a court of competent jurisdiction finds a term or condition of this Contract to be illegal or invalid, then the term or condition shall be deemed severed from this Contract. All other terms or conditions shall remain in full force and effect. Notwithstanding the above, if Contractor's promise to indemnify or hold the County harmless is found illegal or invalid, Contractor shall contribute the maximum it is permitted to pay by law toward the payment and satisfaction of any Claims against the County.

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9.22. **Dispute Resolution.** All disputes arising under or relating to the execution, interpretation, performance, or nonperformance of this Contract involving or affecting the Parties may first be submitted to the respective Project Manager (if applicable) and Contract Administrators for possible resolution.

9.23. **Governing Laws/Consent to Jurisdiction and Venue.** This Contract shall be governed, interpreted, and enforced by the laws of the State of Michigan. Except as otherwise required by law or court rule, any action brought to enforce, interpret, or decide any Claim arising under or related to this Contract shall be brought in the Sixth Judicial Circuit Court of the State of Michigan, the 50th District of the State of Michigan, or the United States District Court for the Eastern District of Michigan, Southern Division, as dictated by the applicable jurisdiction of the court. Except as otherwise required by law or court rule, venue is proper in the courts set forth above. The choice of forum set forth above shall not be deemed to preclude the enforcement of any judgment obtained in such forum or taking action under this Contract to enforce such judgment in any appropriate jurisdiction.

9.24. **Entire Contract.** This Contract represents the entire agreement and understanding between the Parties. This Contract supersedes all other prior oral or written understandings, communications, agreements, or contracts between the Parties. The language of this Contract shall be construed as a whole according to its fair meaning and not construed strictly for or against any Party.

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EXHIBIT I

CONTRACTOR INSURANCE REQUIREMENTS

During this Contract, the Contractor shall provide and maintain, at their own expense, all insurance as set forth and marked below, protecting the County against any Claims, as defined in this Contract.
The insurance shall be written for not less than any minimum coverage herein specified.

Primary Coverages

Commercial General Liability Occurrence Form including: (a) Premises and Operations; (b) Products and Completed Operations (including On and Off Premises Coverage); (c) Personal and Advertising Injury; (d) Broad Form Property Damage; (e) Independent Contractors; (f) Broad Form Contractual including coverage for obligations assumed in this Contract;

$1,000,000 – Each Occurrence Limit

$1,000,000 – Personal & Advertising Injury

$2,000,000 – Products & Completed Operations Aggregate Limit

$2,000,000 – General Aggregate Limit

$ 100,000 – Damage to Premises Rented to You (formally known as Fire Legal Liability)

Workers' Compensation Insurance with limits statutorily required by any applicable Federal or State Law and Employers Liability insurance with limits of no less than $500,000 each accident, $500,000 disease each employee, and $500,000 disease policy limit. If they are a non-profit with no actual employees (all volunteer run) is workers compensation required? I don't know if they would be an "except entity"?

1. ☒ Fully Insured or State approved self-insurer.
2. ☐ Sole Proprietors must submit a signed Sole Proprietor form.
3. ☐ Exempt entities, Partnerships, LLC, etc., must submit a State of Michigan form WC-337 Certificate of Exemption.

Commercial Automobile Liability Insurance covering bodily injury or property damage arising out of the use of any owned, hired, or non-owned automobile with a combined single limit of $1,000,000 each accident. This requirement is waived if there are no company owned, hired or non-owned automobiles utilized in the performance of this Contract.

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Commercial Umbrella/Excess Liability Insurance with minimum limits of $2,000,000 each occurrence. Umbrella or Excess Liability coverage shall be no less than following form of primary coverages or broader. This Umbrella/Excess requirement may be met by increasing the primary Commercial General Liability limits to meet the combined limit requirement.

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Supplemental Coverages (Required as Checked)

1. ☐ **Professional Liability/Errors & Omissions Insurance** (Consultants, Technology Vendors, Architects, Engineers, Real Estate Agents, Insurance Agents, Attorneys, etc.) with minimum limits of $1,000,000 per claim and $1,000,000 aggregate.

2. ☐ **Commercial Property Insurance**. The Contractor shall be responsible for obtaining and maintaining insurance covering their equipment and personal property against all physical damage.

3. ☒ **Liquor Legal Liability Insurance** with a limit of $1,000,000 each occurrence shall be required when liquor is served, sold, and/or present.

4. ☐ **Pollution Liability Insurance** with minimum limits of $1,000,000 per claim and $1,000,000 aggregate when cleanup & debris removal are part of the services utilized.

5. ☐ **Medical Malpractice** with minimum limits of $1,000,000 per claim and $1,000,000 aggregate.

6. ☐ **Garage Keepers Liability** with minimum limits of $1,000,000 per claim and $1,000,000 aggregate.

7. ☐ **Cyber Liability** with minimum limits of $1,000,000 per claim and $1,000,000 aggregate.

8. ☐ **Other Insurance Coverages** as may be dictated by the provided product/service and deemed appropriate by the County Risk Management Department.

General Insurance Conditions

The aforementioned insurance shall be endorsed, as applicable, and shall contain the following terms, conditions, and/or endorsements. All certificates of insurance shall provide evidence of compliance with all required terms, conditions and/or endorsements.

1. All policies of insurance shall be on a primary, non-contributory basis with any other insurance or self-insurance carried by the County;

2. The insurance company(s) issuing the policy(s) shall have no recourse against the County for subrogation (policy endorsed written waiver), premiums, deductibles, or assessments under any form. All policies shall be endorsed to provide a written waiver of subrogation in favor of the County;

3. Any and all deductibles or self-insured retentions shall be assumed by and be at the sole risk of the Contractor;

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4. Contractors shall be responsible for their own property insurance for all equipment and personal property used and/or stored on County property;

5. The Commercial General Liability and Commercial Automobile Liability policies along with any required supplemental coverages shall be endorsed to name the County of Oakland and it officers, directors, employees, appointees and commissioners as additional insured where permitted by law and policy form;

6. The Contractor shall require its contractors or sub-contractors, not protected under the Contractor's insurance policies, to procure and maintain insurance with coverages, limits, provisions, and/or clauses equal to those required in this Contract;

7. Certificates of insurance must be provided no less than ten (10) Business Days prior to the County's execution of the Contract and must bear evidence of all required terms, conditions and endorsements; and

8. All insurance carriers must be licensed and approved to do business in the State of Michigan and shall have and maintain a minimum A.M. Best's rating of A- unless otherwise approved by the County Risk Management Department.

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EXHIBIT II

SCOPE OF CONTRACTOR DELIVERABLES / FINANCIAL OBLIGATIONS

- Contractor shall provide services and support to Oakland County Parks and Recreation ("OCPR") in connection with Bowers Farm ("Farm") as described in this Exhibit. OCPR shall remain responsible for operating and maintaining the Farm as a public park pursuant to federal and state law, local ordinances, and County/OCPR policies and procedures. Upon written approval of the Director or their designee, Contractor may provide programs, events, projects and activities at the Farm, which shall be governed by the terms and conditions of this Contract. Such written approval shall address all aspects of a program, event, project or activity, including but not limited to costs, cost reimbursement to Contractor, and distribution of revenue associated therewith. Such programs, events, projects and activities and schedules shall be communicated to and approved by the Director or their designee as required by OCPR.
- Contractor may, in coordination with OCPR and, where appropriate, in cooperation with other nonprofit organizations, provide for and conduct the sale and service of alcoholic beverages at approved Farm programs, events, projects and activities, including but not limited to Farm After Five, Fall Fest, and Winter Park. As required by law, Contractor shall be responsible for coordinating the purchase, sale, staffing, and administration of such beverage service and for complying with all applicable licensing, permitting, insurance, and legal requirements. All revenues from such sales shall Contractor and/or participating nonprofit organization(s), as mutually agreed among such organizations and as required by law. Net proceeds from these activities shall be used to support Bowers Farm programs, activities, improvements, and other purposes that enhance the Farm and its public benefit. No payment, reimbursement, revenue sharing, commission, or other transfer of funds between Contractor and OCPR shall be required or made in connection with programs, evernts, projects and activities provided under this subsection.
- The Parties shall meet at least twice a calendar year to discuss: (1) the services and support provided under this Contract and (2) the schedule and content of any programs, events, projects and activities provided under this Contract.
- Upon written request of the OCPR Director or Deputy Director, Contractor may provide planning and fundraising support intended to enhance the Farm experience and

supplement OCPR operations. Such activities shall be coordinated with the Director or their designee and reduced to writing.

- Upon written request of the OCPR Director or Deputy Director, Contractor may provide marketing, communications, sponsorship and community outreach support for the Farm, subject to OCPR standards, policies and procedures and OCPR review or approval.
- Contractor may recruit, organize and coordinate volunteers for approved Farm programs, events, projects and activities. Volunteers provided by Contractor under this Contract, shall be deemed volunteers of Contractor and not volunteers of OCPR or the County.
- Location, ownership and disposition of any materials, equipment or improvements associated with approved Farm programs, events, projects and activities shall be determined and approved by the Director or their designee, in writing.
- In January 2027, the Parties shall meet to review and discuss this Exhibit to determine if changes are needed. If changes are needed, they will codified in an amendment to this Contract.

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DISCUSSION FRAMEWORK

Preservation Bloomfield + Oakland County Parks

Partnership Framework for Bowers Farm / Discovery Oaks

General Intent

Oakland County Parks and Preservation Bloomfield share an interest in protecting and interpreting the agricultural, cultural, and community history represented at Bowers Farm / Discovery Oaks.

As Oakland County Parks develops the long-term vision for the site, we see an opportunity to establish a partnership that both protects significant historic resources and creates meaningful opportunities for residents to experience, understand, and participate in the history they represent.

The intent is not simply to preserve historic structures, nor to assume that every historic resource should be used in the same way. The partnership should establish an informed approach that balances preservation, interpretation, education, public access, and appropriate activation.

What We Hope to Accomplish

- Protect significant historic structures, landscapes, artifacts, and stories.
- Expand public understanding of Bloomfield Township's agricultural and cultural history.
- Create authentic and engaging heritage experiences.
- Determine appropriate levels of preservation, access, and use for individual historic resources.
- Incorporate heritage interpretation into the broader Bowers Farm / Discovery Oaks experience.
- Develop meaningful volunteer and community involvement opportunities.
- Create a sustainable long-term relationship between the two organizations.

Preservation Guided by Expertise

Historic preservation will be an important part of the future of Bowers Farm / Discovery Oaks.

Oakland County Parks will work with professional expertise, including the **Oakland County Historical Architect** and the **Oakland County Parks Historian**, to inform decisions regarding historic significance, preservation priorities, interpretation, appropriate use, and treatment of individual resources.

This is important because historic resources are not all the same.

Some structures, collections, or spaces may warrant a high level of preservation and limited physical interaction. Others may appropriately support tours, demonstrations, educational programs, exhibits, adaptive use, or carefully managed hands-on experiences.

The goal is to make those decisions intentionally and resource by resource, using professional preservation guidance rather than applying a single standard across the entire site.

The Heritage Farm Experience

The long-term vision for Bowers Farm / Discovery Oaks includes a dynamic Heritage Farm experience that can interpret agriculture and community life across multiple periods, stories, and themes.

Historic structures will be important components of that experience, but the visitor experience should extend beyond simply viewing buildings or artifacts.

Potential experiences could include:

- guided interpretation and tours;
- agricultural and community-life demonstrations;
- exhibits and storytelling;
- historic skills and trades;
- food and agricultural traditions;
- workshops and educational programs;
- volunteer-led interpretation;
- seasonal programming; and

- special events.

The objective is to create a continuum of experiences. Some resources may appropriately be preserved primarily for viewing and interpretation, while others may allow more active public participation.

Preservation and public engagement should reinforce one another.

Roles of the Partners

The partnership should recognize the strengths of both organizations while maintaining clear responsibilities.

Oakland County Parks would be responsible for:

- Overall management and operation of Bowers Farm / Discovery Oaks.
- Public access, visitor safety, staffing, and site operations.
- Coordination of programming and Outdoor Learning experiences.
- Integration of heritage interpretation into the broader site vision.
- Coordination with historical, architectural, preservation, and operational professionals.
- Decisions related to the overall use and management of the park.

Preservation Bloomfield would provide important partnership support through:

- Historical knowledge and institutional memory.
- Input regarding historic significance and preservation priorities.
- Historical records, stories, collections, and interpretive knowledge.
- Participation in tours, interpretation, programs, and demonstrations.
- Volunteer involvement.
- Community connections.
- Potential philanthropic and preservation support.

The intent is for Preservation Bloomfield to remain meaningfully involved in protecting and sharing the history of the site while Oakland County Parks maintains responsibility for operation of the public park.

Initial Partnership Approach

1. Establish a Shared Vision

The first step is to agree on what we collectively want to accomplish.

Questions would include:

- What historic resources and stories are most important?
- What should residents understand or experience?
- What elements of the site should be preserved for future generations?
- Where could interpretation, education, or public engagement strengthen preservation?
- What role should Preservation Bloomfield play in the long-term heritage experience?

The emphasis during this stage should be on defining the **desired outcomes** before developing detailed operational requirements.

2. Assess the Historic Resources

Oakland County Parks, Preservation Bloomfield, the Oakland County Historical Architect, the Oakland County Parks Historian, and other appropriate professionals would review the historic resources associated with the site.

The assessment would consider:

- historical significance;
- physical condition;
- preservation needs;
- appropriate levels of public interaction;
- interpretive potential;
- potential educational or programmatic uses;
- accessibility;
- safety; and
- opportunities for responsible adaptive use where appropriate.

This work would establish a professionally informed foundation for future decisions.

Future Partnership Development

The initial work would be formalized through a basic **Memorandum of Understanding between Oakland County Parks and Preservation Bloomfield**.

The first MOU would focus primarily on:

- establishing the partnership;
- developing the shared vision;
- completing the historic-resource assessment;
- defining the initial roles of the organizations; and
- creating a process for determining future preservation, interpretation, and public-use strategies.

As that work progresses, the MOU could eventually be expanded or replaced with a more detailed agreement addressing matters such as:

- preservation standards;
- maintenance and care;
- use of individual structures;
- collections and artifacts;
- programming and interpretation;
- volunteer responsibilities;
- fundraising;
- communications; and
- public access.

The MOU would be **reviewed annually**, allowing both organizations to evaluate the partnership, incorporate new information, adjust priorities, and determine what additional agreements or responsibilities are appropriate.

Long-Term Direction

The long-term opportunity is to move from preservation of historic resources alone toward a broader model of **preservation through public understanding and engagement**.

Preservation Bloomfield's work has helped protect important pieces of Bloomfield's history. The next chapter can build upon that work by ensuring those resources remain protected while also becoming more visible, understood, and meaningful to the public.

Oakland County Parks believes Bowers Farm / Discovery Oaks can become a place where residents do more than observe history. They can encounter it, learn from it, participate in it, and understand why preserving it matters.

DRAFT FOR DISCUSSION

Draft Memorandum of Understanding

Between Oakland County Parks and Preservation Bloomfield
Bowers Farm / Discovery Oaks Heritage Partnership

This document is intended as an initial discussion draft. Final language is subject to review and approval through the appropriate Oakland County and Preservation Bloomfield processes.

1. Purpose

Oakland County Parks and Preservation Bloomfield share an interest in protecting and interpreting the agricultural, cultural, and community history represented at Bowers Farm / Discovery Oaks.

The purpose of this MOU is to establish a collaborative process to:

- develop a shared vision for the heritage experience at Bowers Farm / Discovery Oaks;
- identify and better understand the historic significance of structures, landscapes, collections, and other resources;
- establish appropriate preservation and public-use considerations for those resources;
- clarify the initial roles of Oakland County Parks and Preservation Bloomfield; and
- provide a foundation for a future, more detailed partnership agreement.

The parties recognize that preservation, interpretation, education, and appropriate public engagement can reinforce one another when decisions are informed by professional expertise and the significance and condition of individual resources.

2. Shared Principles

The parties agree to work from the following principles:

- Significant historic resources should be protected and preserved for future generations.
- Decisions regarding historic resources should be informed by professional preservation and historical expertise.
- Individual resources may require different levels of preservation, interpretation, public access, and use based on their significance, condition, safety, and suitability.
- Public education, interpretation, and appropriate access are important components of the long-term heritage experience.
- Preservation Bloomfield's historical knowledge and contributions should inform development of the heritage experience.
- Oakland County Parks retains responsibility for management and operation of Bowers Farm / Discovery Oaks.

3. Shared Vision Development

Oakland County Parks and Preservation Bloomfield will work together to define desired outcomes for the heritage experience at Bowers Farm / Discovery Oaks.

This process will consider questions including:

- What historic resources, stories, and themes are most important to preserve and interpret?
- What should residents and visitors experience, understand, or learn?

- How can historic preservation, interpretation, education, and appropriate public access work together?
- What role can Preservation Bloomfield play in supporting preservation, interpretation, volunteers, programming, and community engagement?
- How should heritage experiences complement the broader mission and operation of Bowers Farm / Discovery Oaks?

The intent is to establish agreement regarding **what the partnership is seeking to accomplish** before developing detailed operational requirements regarding how those outcomes will be delivered.

4. Historic Resource Assessment

The parties will participate in a review of historic resources associated with Bowers Farm / Discovery Oaks.

Oakland County Parks will coordinate this work with appropriate professional expertise, including the **Oakland County Historical Architect** and the **Oakland County Parks Historian**.

The assessment may consider:

- historic significance;
- physical condition;
- preservation needs;
- relationship to the overall heritage experience;
- appropriate level of public interaction;
- interpretive opportunities;
- potential educational or programmatic uses;
- accessibility;
- visitor and staff safety; and
- opportunities for responsible adaptive use where appropriate.

The assessment is intended to establish a thoughtful, resource-specific approach rather than applying the same preservation or use standard to every structure, collection, or historic resource.

5. Oakland County Parks Responsibilities

During the initial term of this MOU, Oakland County Parks will:

- retain responsibility for overall management and operation of Bowers Farm / Discovery Oaks;
- coordinate the shared visioning and historic-resource assessment process;
- engage appropriate historical, architectural, preservation, operational, and program expertise;
- consider how historic resources fit within the broader Bowers Farm / Discovery Oaks and Outdoor Learning vision; and
- facilitate development of recommendations for future preservation, interpretation, access, and programming.

6. Preservation Bloomfield Responsibilities

During the initial term of this MOU, Preservation Bloomfield will:

- provide historical knowledge, records, and institutional context where available;
- identify preservation priorities and areas of concern;
- participate in discussions regarding historic significance and interpretation;
- assist in identifying stories, collections, structures, and landscapes important to the history of the site; and
- participate in development of potential future volunteer, interpretive, educational, preservation, and community-engagement opportunities.

7. Operational Authority

Nothing in this MOU transfers responsibility for management or operation of Bowers Farm / Discovery Oaks to Preservation Bloomfield.

Oakland County Parks retains responsibility for park operations, including decisions related to public access, staffing, programming, visitor safety, facility operations, and overall site management.

Preservation Bloomfield will serve as a collaborative partner and historical and preservation resource within the framework established by this MOU.

8. Future Partnership Framework

The work completed under this MOU is intended to inform development of a more detailed long-term partnership framework.

Following development of the shared vision and completion of the historic-resource assessment, the parties may consider additional written provisions addressing:

- preservation standards;
- maintenance and care of historic resources;
- use of individual structures;
- public access;
- interpretation and exhibits;
- educational programming;
- volunteer involvement;
- collections and artifacts;
- events and demonstrations;
- communications;
- fundraising and donations; and
- responsibilities associated with resources owned by Preservation Bloomfield.

Any expanded responsibilities or commitments would be documented through a future written agreement approved by both parties.

9. Annual Review

This MOU will be reviewed by Oakland County Parks and Preservation Bloomfield at least annually.

The annual review will provide an opportunity to evaluate:

- progress toward the shared vision;
- findings from historic-resource assessments;
- preservation priorities;
- interpretive and public-use opportunities;
- the effectiveness of the partnership;
- proposed changes in responsibilities; and
- whether revisions or a more detailed agreement are appropriate.

10. Term

This MOU will remain in effect for an initial period of one year from the date of execution unless amended or terminated in accordance with any requirements established in the final approved agreement.

The parties may renew, amend, or replace this MOU based on the findings and recommendations developed during the initial partnership period.

11. Financial Commitments

This initial MOU does not establish a financial obligation for either party unless separately authorized in writing through the appropriate approval processes of each organization.

Any future financial commitments, fundraising arrangements, capital improvements, maintenance responsibilities, or other expenditures will be separately defined and approved.

12. Nature of the Agreement

This MOU establishes the intended framework for collaboration between Oakland County Parks and Preservation Bloomfield. Final language regarding legal obligations, amendment, termination, liability, ownership, insurance, and other legal requirements will be subject to review and approval through the appropriate Oakland County and Preservation Bloomfield processes.

Oakland County Parks and Recreation Commission	Preservation Bloomfield
Name: _____	Name: _____
Title: _____	Title: _____
Signature: _____	Signature: _____
Date: _____	Date: _____

RETURN TO AGENDA

Memo

To: Parks and Recreation Commission
From: Chris Ward
Date: October 30, 2026
Re: Director's Report

PARK IMPROVEMENTS AND COMMUNITY ACCESS

October brought two significant improvements to places Oakland County residents use for everyday recreation. At Catalpa Oaks County Park in Southfield, portions of the 24-acre park reopened following approximately 15 months of construction. Improvements include an expanded universally accessible playground, accessible pathways, shaded gathering areas, a second picnic pavilion, new outdoor fitness equipment and green stormwater infrastructure. Recreation fields will remain closed while the turf becomes established and are expected to open in spring 2027.

In Madison Heights, the transformation of Red Oaks Park, formerly Ambassador Park, brings new opportunities for play and gathering to a city-owned park managed by Oakland County Parks through a partnership agreement. The multigenerational McGillivray Play Garden honors former Parks Commission Chair Gary R. McGillivray and is a centerpiece of the redesigned park, alongside new shade and gathering amenities, restrooms, improvements to the sledding hill and stormwater-management upgrades.

REGIONAL TRAILS AND PARTNERSHIPS

Repairs to two major washouts on the Clinton River Trail in Rochester were completed in October, restoring an important connection for walkers, runners and bicyclists. The City of Rochester led the restoration with support from philanthropic and public partners, including a $700,000 Oakland County Parks grant. The project illustrates how OCP can help sustain regional recreation infrastructure beyond county-owned parks.

OUTDOOR LEARNING AND RECREATION

Since September, Discovery and Bloomfield Oaks have served 2,010 students through school field trips. Pony School for younger children began at Discovery Oaks at full capacity, while riding lessons for older students serve 18 riders weekly. New early childhood and homeschool nature programs are underway at Red Oaks and Wint Nature Centers, with Wint's adapted Field Science Lab serving as a home base. November offerings include fifth-grade Harvest & Heritage at the farm, Turkey Visits at local schools and Log Cabin Living at Johnson Nature Center for kindergarten students.

The October 10–11 Rotary/We Love Lit Campout at Groveland Oaks brought 12 families together, concluding a year of Nature READS programming for approximately 60 participants. Pontiac and Bloomfield Rotary Club volunteers and OCP staff provided outdoor experiences and shared meals. Supported by the MiFamily Network Grant, the partnership combines literacy, nature learning and family recreation. OCP intends to seek a $5,000 grant in December to support three seasonal programs and the next campout.

Lakeside Lights: Hike the Night at Independence Oaks on October 17 also drew encouraging public feedback, according to staff, and offers a promising model for future seasonal recreation experiences.

ENVIRONMENTAL STEWARDSHIP AND RECOGNITION

On October 22, the Michigan Association of Conservation Districts named Oakland County Parks and the Oakland County Cooperative Invasive Species Management Area its 2026 Conservation Partner. Natural Resources Education & Outreach Specialist Patrick Caniff accepted the award in Lansing. This recognition highlights OCP's role in bringing community organizations, public agencies and residents together for environmental education and stewardship.

Staff also hosted a seed-collection stewardship learning day at the Waterford Oaks administration grounds. Participants learned about and collected seeds, including wild petunia and blazing star, from pollinator gardens for use in future park projects.

LOOKING AHEAD: REGIONAL RECREATION AND WELLNESS

Initial planning is underway for a conversation with communities in southeast Oakland County about shared recreation and wellness needs. Discussions have included the possibility of Oakland University facilitating the exploration. The first step would be to listen to the communities about what they hope to accomplish, before determining whether a more formal regional collaboration would add value for residents. Discussion around a similar effort in northwest Oakland County are also underway.

GRANT AMENDMENT FOR THE FY 2024 DNR MICHIGAN INVASIVE SPECIES GRANT PROGRAM

In March 2024, Oakland County Parks (OCP) was awarded a $69,300 Michigan Invasive Species Grant through the Michigan Department of Natural Resources (DNR) to support invasive species monitoring and treatment. OCP is now requesting a one-year extension of the grant agreement, moving the end date from July 30, 2026, to July 30, 2027, to allow additional time to complete the project. The extension will be presented as a communications item at the November 5 meeting of the Board of Commissioners' Legislative Affairs & Government Operations (LAGO) Committee.

ANNUAL SIX RIVERS LAND CONSERVANCY LUNCHEON

Oakland County Parks was proud to support the annual Six Rivers Land Conservancy Luncheon on October 28 at the Detroit Athletic Club as a River-level sponsor, helping advance the important conservation work Six Rivers Land Conservancy is doing throughout Oakland County. Attendees included Parks Commission Chair Ebony Bagley, Vice Chair Yolanda Smith Charles, Commissioners Kate Baker and Shanell

Weatherspoon, Parks Director Chris Ward, Deputy Director Alan Jaros, and Parks Chiefs Ashlie Smith, Erin Watson, and Simon Rivers.

Oakland County Parks and Recreation
Upcoming Events – November 2026

Active Adults

November 19	Fireside Chat – Virtual

Adaptive

November 3	Young Athletes
November 10	Young Athletes

Mobile Recreation

November 12	Bus - OCPRC – Recreation, Programs & Services
November 14	Go Games - West Bloomfield Twp Parks & Rec Mother & Son Carnival Night
November 18	Light Tower, Light Tower, Info Booth - OCPRC - Waterford Market
November 20	Stage - Grosse Pointe Tree Lighting the Village
November 21	Bleachers - Macomb Foster Closet - Mt Clemens Santa Parade
November 23	Stage - Rochester DDA Lagniappe Downtown Rochester

MSU Extension

November 3	School's Out Farm Camp
November 4	Nutrition Education at Honor Community Health
November 5	STEM – Lessenger Elementary
November 5	Nutrition Education
November 5	Tabling and Pressure Canner Dial Gauge Checks - Oak Park Farmers Market
November 5	Hispanic Outreach Healthy Foods Health Families
November 5	STEM – Walt Whitman Elementary
November 7	Garden Volunteer Appreciation Dinner
November 7	Oakland County 4-H Award Ceremony
November 7	Oakland County 4-H Award Ceremony
November 9	Sheep to Sweater
November 9	4-H Bound Together
November 9	STEM – Lessenger Elementary
November 10	Sheep to Sweater
November 12-14	Farm Sprouts — twice daily
November 12	Nutrition Education
November 19	Tabling and Pressure Canner Dial Gauge Checks - Oak Park Farmers Market
November 19	STEM – Lessenger Elementary
November 19	Nutrition Education
November 20	Night Hikes on the Farm: Owl Prowl
November 23	Fall on the Farm
November 30	STEM – Lessenger Elementary

Oakland County Farmers Market

November 12	Craft, Create & Consume
November 18	Holiday Market
November 19	Craft, Create & Consume

Oakland County Parks and Recreation
Upcoming Events – November 2026

Outdoor Learning & Environmental Stewardship

Field Trips & Birthday Parties

November 1	Scouts – Badge-a-Palooza Program – Johnson Nature Center
November 2	Field Trip – Developing Kindergarten BHS – Johnson Nature Center
November 3-6	Field Trips – Harvest and Heritage – Bowers Farm
November 7	Portable Planetarium Program – Red Oaks Nature Center
November 7	Birthday Party - Jacob turns 7 – Red Oaks Nature Center
November 9-13	Field Trips – Log Cabin Living – Johnson Nature Center
November 10	Field Trip – Harvest and Heritage – Bowers Farm
November 10	Field Trip – Resilire Neuro – Red Oaks Nature Center
November 13	Field Trip – Sunny Day Preschool – Wint Nature Center
November 14	Birthday Party – Fox Family – Red Oaks Nature Center

Homeschool Series

November 4	Nature Homeschool Series – Wint Nature Center
November 5	Nature Homeschool Series – Red Oaks Nature Center
November 11	Nature Homeschool Series – Wint Nature Center
November 12	Nature Homeschool Series – Red Oaks Nature Center
November 18	Nature Homeschool Series – Wint Nature Center
November 19	Nature Homeschool Series – Red Oaks Nature Center

Early Childhood Series

November	TreeSchool (M-F, AM & PM Class) – Johnson Nature Center
November 2	You, Me and the Barns – Bowers Farm
November 4	Pasture Pals - Bowers Farm
November 6	Tiny Twigs – Red Oaks Nature Center
November 6	Tiny Twigs – Wint Nature Center
November 6	You, Me and the Trees – Johnson Nature Center
November 9	You, Me and the Barns – Bowers Farm
November 11	Pasture Pals - Bowers Farm
November 13	Tiny Twigs – Red Oaks Nature Center
November 13	Tiny Twigs – Wint Nature Center
November 13	You, Me and the Trees – Johnson Nature Center
November 16	You, Me and the Barns – Bowers Farm
November 18	Pasture Pals - Bowers Farm
November 20	Tiny Twigs – Red Oaks Nature Center
November 20	Tiny Twigs – Wint Nature Center
November 20	You, Me and the Trees – Johnson Nature Center
November 23	You, Me and the Barns – Bowers Farm
November 25	Pasture Pals - Bowers Farm

Drop-in Programs

November 4	Snack and Stroll – Red Oaks Nature Center
November 5	Early Childhood Hour Out – Wint Nature Center
November 11	Snack and Stroll – Red Oaks Nature Center
November 12	Early Childhood Hour Out – Wint Nature Center
November 18	Snack and Stroll – Red Oaks Nature Center
November 19	Early Childhood Hour Out – Wint Nature Center

Oakland County Parks and Recreation
Upcoming Events – November 2026

November 21	Log Cabin Open House – Johnson Nature Center
November 25	Snack and Stroll – Red Oaks Nature Center

Public Programs

November 1	Vulture Culture: DIY Bug Pinning – Wint Nature Center
November 2	Riding Lessons – Bowers Farm
November 7	Nature Photography for Wellness – Wint Nature Center
November 14	Spectacular Science Play Day – Red Oaks Nature Center
November 14	Nature Creations – Johnson Nature Center
November 20	One Moon, Two Castors: Full Moon Hike & Planetarium Show – RONC
November 21	One Moon, Two Castors: Full Moon Hike & Planetarium Show – RONC
November 21	Prairie Seed Collection Hike – Johnson Nature Center
November 22	Seed Collection Processing Day (Stewardship Day) – Waterford Oaks

Outreach Programs

November	Month-long Ferndale Public Library Display
November	Turkey Visits (in the Classroom) w/Bowers Farm
November 8	Nature Table – OAC STEAM Day
November 11	Nature Presentation – Reading with Reptiles - Madison Heights Public Library
November 18	Nature Presentation – Independence Village of Madison Heights