AMENDED AGENDA
Huron-Clinton Metropolitan Authority
Board of Commission Meeting
October 10, 2019 – 10:30am
Administrative Office

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1. Call to Order

2. Chairman's Statement

3. Public Participation

4. Approval – September 27, 2019 Special Meeting Minutes

5. Approval – October 10, 2019 Full Agenda

Consent Agenda

6. Approval – October 10, 2019 Consent Agenda
- a. Approval – September Financial Statements
- b. Approval – September 2019 Appropriation Adjustments **pg. 1**
- c. Bids – Multiple Roadway Overbanding **pg. 4**
- d. Approval – Employee Recognition Dinner Subsidy **pg. 5**
- e. Report – Purchases over $10,000 **pg. 6**
- f. Purchases
  1. Fireworks Contract Extension **pg. 7**

Regular Agenda

9. Reports

A. *Administrative Department*
1. Report – September General Fund Financial Statement Review **pg. 9**
2. Report – Monthly Capital Project Fund Update **pg. 11**
3. Approval – Brand Development Contract Extension, Factory Detroit **pg. 13**
4. Report – Marketing Update **pg. 14**
5. ~~Report – Diversity, Equity and Inclusion Plan **pg. 19**~~

B. *Planning Department*
1. Report – Permit Scanning Data Analysis **pg. 20**
2. Approval – Maple Beach Playground Design, Kensington Metropark **pg. 51**
3. Approval – Nonpoint Source Grant Application, Lake St. Clair Metropark **pg. 70**
4. Report – Draft American with Disabilities Act (ADA) Transition Plan **pg. 75**
5. Report – North Branch Greenway Partnership Overview **pg. 76**
6. Approval – Draft Storm Water Management Plan **pg. 78**

C. Engineering Department
1. Approval – Park Office Design Concept, Willow Metropark **pg. 105**
2. Bids – Culvert Replacement, Willow Metropark Golf Course **pg. 107**
3. Bids – Maintenance Yard Storm Water Improvements, Willow Metropark **pg. 109**
4. Bids – Farm Center Pasture Fence Replacement, Wolcott Mill Metropark **pg. 110**
5. Bids – Sewer Rehabilitation, Stony Creek Metropark **pg. 111**
6. Approval – Ray Township Property Exchange Agreement, Wolcott Mill Metropark **pg. 112**

10. **Closed Session** – For the purpose of consulting with attorney(s) regarding specific pending litigation, which is exempt from discussion or disclosure under the Freedom of Information Act, this is a permissible purpose for a closed session pursuant to Sections 8(e) of the Open Meetings Act.

11. Other Business

12. Staff Leadership Update

12. Commissioner Comments

13. Motion to Adjourn

The next regular Metroparks Board meeting will take place
Thursday, Nov. 14, 2019 – 10:30 a.m.
Administrative Office

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Rebecca Franchock, Chief of Finance
Subject: Approval – September Appropriation Adjustments
Date: October 4, 2019

Action Requested: Motion to Approve

That the Board of Commissioners' approve the September 2019 Appropriation Amendments as recommended by Chief of Finance Rebecca Franchock and staff.

Background: The Metroparks ERP system provides a work-flow process to facilitate departmental budget management. Requested transfers are initiated by department staff and routed to the appropriate department head/district park superintendent for review and approval. Finance provides a final review of the approved requests to verify that they do not negatively impact Fund Balance.

For the month of September, $1,539,505 were transferred within and between the departments to cover over budget accounts or to move funds to the correct account. In addition, revenue accounts increased by $17,225 and expense accounts increased by $16,920 as a result of Foundation support. Finally, there were various adjustments to taxes receivable resulting in a $9,786 net increase. in addition, $350,000 was used from Fund Balance for an unbudgeted administrative expense. The net impact on Fund Balance is a reduction of $339,909.

The result of these changes can be seen by Accounting Function and Location in the attached chart.

Attachment: September Appropriation Adjustments

Huron-Clinton Metropolitan Authority
September 2019 Appropriation Transfer Summary

Expense Accounts

	Location	Expense Increase	Expense Decrease	Difference
Capital	Administrative Engineering Staff	$ -	$ 34,077	$ (34,077)
	Lake St. Clair	9,319		9,319
	Kensington	3,049		3,049
	Lower Huron/Willow/Oakwoods	3,738		3,738
	Stony Creek	2,455		2,455
	Lake Erie	10,226		10,226
	Huron Meadows	1,758		1,758
		3,532		3,532
	Total	**$ 34,077**	**$ 34,077**	**$ -**
Major Maintenance	Lake St. Clair	$ 6,998	$ 116,951	$ (109,953)
	Kensington	10,565	-	10,565
	Lower Huron/Willow/Oakwoods	34,730	-	34,730
	Stony Creek	24,367	-	24,367
	Lake Erie	4,512	-	4,512
	Wolcott Mill	6,497	-	6,497
	Indian Springs	26,675	-	26,675
	Administrative Engineering Staff	2,607	-	2,607
	Total	**$ 116,951**	**$ 116,951**	**$ -**
Operations	Lake St. Clair	$ 132,281	$ 161,781	$ (29,500)
	Kensington	246,148	190,301	55,847
	Lower Huron/Willow/Oakwoods	78,929	158,803	(79,874)
	Hudson Mills	50,550	50,800	(250)
	Stony Creek	218,979	222,349	(3,370)
	Lake Erie	135,295	136,195	(900)
	Wolcott Mill	71,297	78,101	(6,804)
	Indian Springs	66,100	101,142	(35,042)
	Huron Meadows	36,304	37,150	(846)
	Total	**$ 1,035,883**	**$ 1,136,622**	**$ (100,739)**
Administration	**Total**	**$ 702,594**	**$ 251,855**	**$ 450,739**
	Total Expense	**$ 1,889,505**	**$ 1,539,505**	**$ 350,000**

Huron-Clinton Metropolitan Authority
September 2019 Appropriation Transfer Summary

Foundation/Insurance Support		Expense Increase	Revenue Increase	Net
Operations	Kensington	$ 3,998	$ 3,998	$ -
	Hudson Mills	1,072	1,072	-
	Stony Creek	8,630	8,935	(305)
	Wolcott Mill	2,500	2,500	-
	Huron Meadows	720	720	-
	Total	**$ 16,920**	**$ 17,225**	**$ (305)**
Total Foundation/Donation/Grant Support		**$ 16,920**	**$ 17,225**	**$ (305)**

Tax Adjustment		Revenue Decrease	Revenue Increase	Net
	Current	$ 1,497		$ 1,497
	Prior		11,283	(11,283)
	Total	**$ 1,497**	**$ 11,283**	**$ (9,786)**

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Mike Henkel, Chief of Engineering Services
Project No: 900-19-022
Project Title: Bids – Roadway Overbanding
Project Type: Major Maintenance
Location: Kensington, Lower Huron, Willow and Lake Erie Metroparks
Date: October 4, 2019

Bids Opened: September 24, 2019 at 2:00 p.m.

Action Requested: Motion to Approve

That the Board of Commissioners award Contract No. 900-19-022 to the low responsive, responsible bidder, K&B Asphalt Sealcoating Inc., in the amount of $28,912.75 as recommended by Chief of Engineering Services Mike Henkel and staff.

Fiscal Impact: The project is under budget. In 2019 $56,000 was budgeted for roadway/lot overbanding.

Scope of Work: Work includes the overband crack sealing of the park roadways along multiple routes throughout the parks. The project was bid on a per mile basis.

Background: The project is part of the annual preventative maintenance program to extend the life of the existing pavement surfaces. Crack sealing extends the life of the surface by mitigating water intrusion. This is particularly important during the freeze thaw of the winter months due to the cold weather and the salting of roads.

Contractor	City	Amount
K&B Asphalt Sealcoating	Adrian	$28,912.75
Highway Maintenance & Construction	Romulus	$35,643.00
Scodeller Construction, Inc.	Wixom	$37,610.00
Al's Asphalt Paving Company	Taylor	$38,410.00
Causie Contracting, Inc.	Mason	$48,875.00

Budget Amount for Contract Services

- Roadway/Lot Crack Filling $ 56,000.00
- Work Order Amount
  - Contract Amount K&B Sealcoating, Inc. $28,912.75
  - Contract Administration $ 3,000.00
    - Total Proposed Work Order Amount $ 31,912.75

This project was reported and publicly advertised in the following construction reporting outlets: MITN, Construction Association of Michigan, Reed Construction Data, Construction News Corporation, Construction News Service, HCMA Website, Builders Exchange of Michigan, McGraw Hill Dodge, Builders Exchange of Lansing and Central Michigan.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Amy McMillan, Director
Subject: Approval – 202- Metroparks Employee Recognition Dinner Subsidy
Date: October 4, 2019

Action Requested: Motion to Approve

That the Board of Commissioners' approve a subsidy not to exceed $8,000 for the 2020 Employee Recognition Dinner as recommended by Director Amy McMillan and staff.

Fiscal Impact: The $8,000 cost subsidy will be incorporated into the recommended 2020 annual budget.

Background: In accordance with Employee Association contracts, an annual Award and Recognition dinner is held each year to honor new employees, retirees and current employees for their performance and dedication with the Metroparks contributing up to a maximum of $8,000 toward the cost of the event.

The 2020 Recognition dinner will be held in March 2020 at a location to be determined at a later date.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Amy McMillan, Director
Project Title: Report – Purchases over $10,000
Date: October 4, 2019

Action Requested: Motion to Approve

That the Board of Commissioners receive and file the update for purchases over $10,000, up to, and including $25,000 as submitted by Director Amy McMillan and staff.

Background: On May 9, 2013, the Board approved the updated financial policy requiring the Director to notify the Board of purchases exceeding $10,000, up to, and including $25,000.

The following list contains purchases exceeding the $10,000 threshold:

Vendor	Description	Price
1. Faro Contracting	Water gate valve replacement Kensington Metropark Golf Course	$10,485.00
2. Greenwood Farms and Lodge	Clydesdale appearances Various events	$12,950.00
3. Faro Contracting	Exploratory excavation to locate leak in water irrigation main Kensington Metropark Golf Course	$16,362.00
4. Ruthann Equipment Distributors	Furnish and install vehicle hoist Lake St. Clair Metropark	$17,589.55
5. Munn Tractor Sales, Inc	Towmaster T-40 Deck Over Trailer Stony Creek Metropark	$20,500.00

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Heidi Dziak, Senior Buyer
Project No: RFP 2016-007
Project Title: Approval – Contract Extension for Fireworks Displays
Location: Hudson Mills, Lake Erie, Stony Creek and Willow Metroparks
Date: October 4, 2019

Action Requested: Motion to Approve

That the Board of Commissioners approve a one-year contract extension with Wolverine Fireworks for fireworks displays for a total amount of $42,000 at four Metroparks in 2020 as recommended by Senior Buyer Heidi Dziak and staff.

Fiscal Impact: Funds for the fireworks displays will be included in the 2020 Budget.

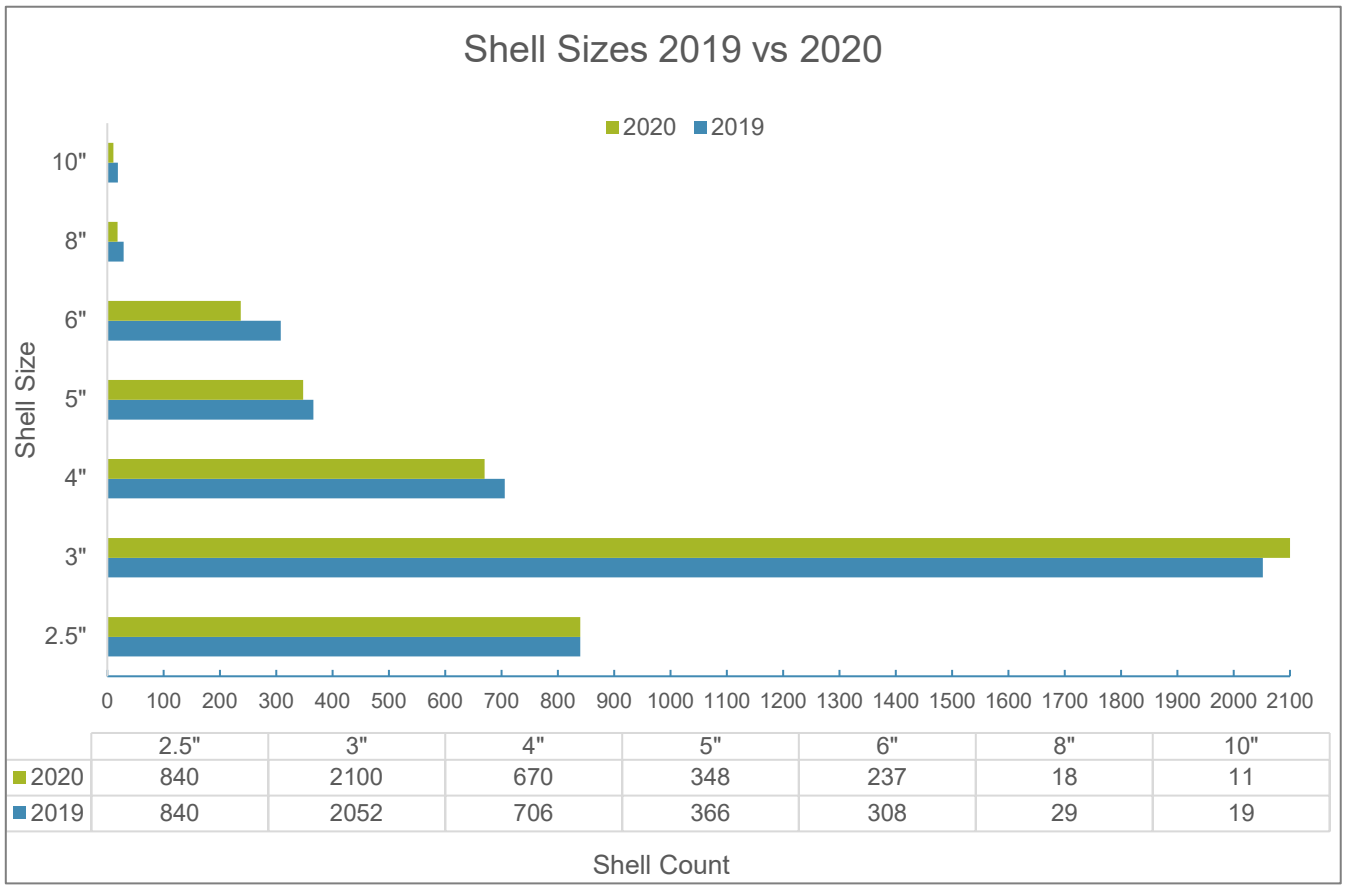
Scope of Work: Provide four fireworks displays for HCMA on the following days for 2020.

Date	Park	Shell Count	Price
June 30	Stony Creek Metropark	98	$12,000
July 1	Willow Metropark	1180	$10,000
July 2	Hudson Mills Metropark	879	$10,000
July 3	Lake Erie Metropark	1180	$10,000

Background: Wolverine Fireworks was awarded a four-year contract in 2016 as a result of a competitive Request for Proposal (RFP) 16-007. Staff has negotiated with the vendor on shell counts and sizes for the 2020 displays to keep the cost the same as 2019. To maintain the cost, the overall shell counts are decreased by 2.22 percent. The information below shows the difference in the total shell counts between 2019 and the proposed 2020 programs.

		Willow	SC	LE	H Mills
2019	Shell Totals	1203	1018	1203	896
2020	Proposed Shell Totals	1180	985	1180	879
	Shell Count Difference	-2%	-3%	-2%	-2%

The proposed 2020 programs provide fewer large (4-inch plus) shells and increases the number of smaller shells as shown in the following graph.



	2.5"	3"	4"	5"	6"	8"	10"
2020	840	2100	670	348	237	18	11
2019	840	2052	706	366	308	29	19

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Rebecca Franchock, Chief of Finance
Subject: Report – September General Fund Financial Statement Review
Date: October 4, 2019

Action Requested: Motion to Receive and File

That the Board of Commissioners receive and file the September 2019 General Fund Financial Statement Review as recommended by Chief of Finance Rebecca Franchock and staff.

Balance Sheet: The July 31 balance sheet reflects cash assets on hand of $637,000. Investments, consisting primarily of CD's, U.S. Treasury/Agency funds and municipal pooled funds totals $45.9 million. The average rate of return on investments declined this month to 2.1 percent. Net Taxes Receivable is $73,000; other assets total $1.4 million. Anticipated grant funding related primarily to the SAW grants is reflected here as are the MMRMA self-insured retention funds. Funds are transferred from the Capital Project Fund at the beginning of each month for the payments that have been processed from the General Fund. At the end of September, the amount due to the General Fund from the Capital Project Fund is $371,000. Liabilities and Fund Equity Categories reflect the balances approved at year end 2018.

Park Operating Revenue: 2019 September operating revenue, which totaled $1.5 million was slightly behind 2018; down $30,000 or 2 percent. This was still strong enough to maintain nearly a $400,000 increase over 2018 on a year-to-date basis. If we maintain operating revenue with a similar strength through the end of the year staff still anticipates meeting the operating revenue budget. Again, this is partly from improved results and partly from more realistic budget projections.

Three activities generate more than 83 percent of park operating revenue – tolling, golf and aquatics facilities with tolling producing the vast majority. Overall year-to-date toll revenue is up $133,000 (2 percent). This is a decrease from the results at the end of August when tolling overall was up by $182,000. Drilling into greater detail by park, Stony Creek and Wolcott Mill produced the greatest increases by location, up $59,000 and $39,000. Lake St. Clair, Lower Huron/Willow/Oakwoods and Hudson Mills parks are all down year-to-date.

Turning to golf revenue, overall, year-to-date, revenue is up 4.1%. As with tolling, the results by location are mixed. While Kensington has produced the most revenue year-to-date ($956,000), Willow has produced slightly more growth year-over-year. $77,000 – up 12.3%. Unfortunately, Stony Creek and Lake Erie are both producing less revenue than they did at this point in 2018.

As reviewed last month, looking at aquatic facilities only Kensington Splash-n-Blast was able to meet its revenue budget. This facility was also the only aquatic facility to increase revenue produced year-over-year. Over all, aquatic facilities reflect a $28,000 decrease in revenue on a year-over-year basis falling short of budgeted revenue by $110,000.

Most revenue facilities showed growth compared to 2018. With the exception of the aquatic facilities just mentioned drags on revenue were caused by cross country skiing, activity center rental, mobile stage, trackless train, interpretive and general revenue.

Other Revenue: There were no significant changes in these categories in September. Tax revenue is up $3.0 million over prior year. 2019 currently collected totals $33.6 million compared to $30.6 million collected in 2018. Grant revenue reflects a significant decrease, down $802,000, which is offset by an increase of $493,000 in self operated revenue and an increase in $229,000 in interest revenue. The self-operated revenue increase is primarily the result of receipt of the Blue Cross-Blue Shield Rate Premium Subsidy.

Administrative Expenditures: Administrative Office expenditures total $6.5 million at the end of September 2019. This is virtually exactly the same as one year ago. This is somewhat deceptive as nearly $400,000 of Natural Resources work has been shifted to park operations where the work is performed. As noted in previous months, Professional and Outside Services account for the largest increase (up $520,000 year-to-date). Most other accounts reflect a year over year decline.

Park Operating Expenditures: Total year-to-date park operating expenditures are $25.4 million compared to $25.1 million spent at this point in 2018; a $302,000 increase. The shift charging Natural Resources work to park operations accounts for a $456,000 increase. Golf, Police and General cost centers are also up significantly. Offsetting these increases are decreases in administrative, aquatic facilities and disc/adventure golf.

In reviewing accounts across the parks, operating supplies, minor equipment and fuel are all down significantly over the expense total as of September 30 of last year. Full and part-time wages have increased. A large portion of the full-time wage increase is related to the Natural Resource cost shift. Part-time wage increases were greatest at Lower Huron/Willow/ Oakwoods and Stony Creek. Kensington is currently reflecting a significant decrease in part time wages when compared to 2018.

Staff uses the September 30 financial information as a basis for the December projections used in development of the 2020 budget. To ensure the accuracy of the amended budgets as of Sept. 30, 2019, this month there were budget transfers between operation accounts that totaled just over $1 million with more than 900 accounts adjusted.

As noted in previous reviews, one of the budgeting changes implemented in 2019 removed contingency funding in major maintenance that was used to cover various unexpected repairs that occurred throughout the year. In analyzing historical trends, staff felt that there were already sufficient funds within park operations to accommodate these occurrences. For example, 2018 park operations results were $1.8 million or 5 percent under budget at year end. So far it appears that the decision to change has not caused a problem.

Major Maintenance Expenditures: The nature of Major Maintenance expenditures makes it difficult to make year to year comparisons. More than 40 separate projects are included in the 2019 budget ranging from $10,000 to $500,000, totaling $3.3 million. Currently, projects have been written totaling $1.3 million. Work paid for as of Sept. 30, 2019 totals $614,000; these projects are planned to be completed in 2019. It is expected that several additional projects for accessibility, boardwalk and aquatic repairs will be started and be substantially completed by year end.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Rebecca Franchock, Chief of Finance
Subject: Report – Monthly Capital Project Fund
Date**:** October 4, 2019

Action Requested: Motion to Receive and File

That the Board of Commissioners' receive and file the Capital Project Fund report as submitted by Rebecca Franchock and staff.

Background: In 2018, the Board of Commissioners approved the creation of a capital project fund. In order to improve the information provided on specific capital improvement projects Finance is working on developing a monthly performance report.

The following columns of data are provided by project:

- Life-To-Date Total Project Budget
- Year-To-Date Total Project Expenditures
- Life-To-Date Total Project Expenditures
- Current Project Encumbrances (Funds committed through the purchase order process)
- Balance (Life-To-Date Budget less Life-To-Date Expenditures and Current Encumbrances)

Project updates include:

- The Huron Meadows Golf Course Lightning Detection System installation was substantially completed during the month.
- Lake Erie Golf Course Storm Siren was also substantially completed.
- Stony Creek 26 Mile Road Bridge and Deck Rehabilitation work continues with another $187,000 paid this month.

Staff anticipates that the format of the report may change but that this information will continue to be provided to the Board on a monthly basis.

Attachment: September Capital Project Fund Update

Capital Project Fund Report
Period Ending 9/30/2019

Project Code	Project Description	Location	Category	Life to DateBudget	Year to Date Expenditures	Life to Date Expenditures	Life to Date Encumbrance	Balance	Project Status
50217.677	Black Creek Shore Fishing Access	Lake St Clair	Other Improvements	139,046.56	132,709.07	138,942.90	0.00	103.66	
50217.679	Nature Center Improvements-DNR Passport Grant Funded	Lake St Clair	Building	60,000.00	0.00	0.00	9,087.76	50,912.24	
50217.683	Pump Station No. 1 Replacement-SAW Grant	Lake St Clair	Other Improvements	382,074.26	309,366.16	337,429.16	45,087.90	(442.80)	
50217.684	Park Maintenance Area Stormwater Improvements-SAW Grant	Lake St Clair	Infrastructure	187,978.21	102,916.00	116,074.24	71,903.97	0.00	
50218.687	Truck Hoist	Lake St Clair	Building	42,410.00	0.00	0.00	0.00	42,410.00	
50416.1098	Shoreline Protection	Kensington	Land Improvements	18,721.35	0.00	17,684.05	0.00	1,037.30	
50417.1107	Maple Beach Site Improvements	Kensington	Other Improvements	903,860.06	31,170.20	100,659.75	0.00	803,200.31	
50417.1111	Sanitary Sewer Connections, Park Area & Farm - SAW Grant	Kensington	Infrastructure	1,531.71	0.00	0.00	0.00	1,531.71	
50418.1113	Nature Center Exhibits	Kensington	Other Improvements	16,116.68	27,069.20	30,897.88	0.00	(14,781.20)	
50419.1116	Secondary Containment of Fuel Storage	Kensington	Other Improvements	50,000.00	0.00	0.00	0.00	50,000.00	
50419.1117	Installation of Fiber at Tollbooth near Golf Course	Kensington	Infrastructure	31,227.69	27,020.45	27,090.52	0.00	4,137.17	Completed
50618.489	Turtle Cove Screen Wall	Lower Huron	Building	12,580.00	12,580.00	12,580.00	0.00	0.00	
50519.126	Iron Belle Trailhead	Dexter-Delhi	Land Improvements	48,109.26	3,959.14	3,959.14	0.00	44,150.12	
50817.213	Golf Course Maintenance Area Stormwater Improvements-SAW Grant	Hudson Mills	Infrastructure	214,514.78	6,202.94	14,492.59	0.00	200,022.19	
50818.215	Island Bridge Replacement	Hudson Mills	Other Improvements	214,986.30	47,744.97	51,224.58	163,715.00	46.72	
50916.532	Boat Launch Site Revelopment	Stony Creek	Other Improvements	5,349,624.23	(49,327.82)	1,067,037.51	4,228,539.83	54,046.89	
50917.542	Baypoint Beach Site Improvements	Stony Creek	Other Improvements	895,012.86	25,030.99	92,154.63	0.00	802,858.23	
50917.547	Sanitary Force Main Replacement-SAW Grant	Stony Creek	Infrastructure	435,438.83	389,335.32	431,430.65	20.00	3,988.18	Completed
50918.548	Shelden Trails Redevelopment	Stony Creek	Infrastructure	211,769.00	24,660.00	48,870.00	0.00	162,899.00	
50918.549	Baypoint Sanitary Pump Replacement	Stony Creek	Infrastructure	43,524.69	684.18	43,926.77	0.00	(402.08)	
50918.550	26 Mile Road Bridge and Desk Rehabilitation-Design/Study	Stony Creek	Infrastructure	913,214.69	696,589.72	773,978.04	163,952.89	(24,716.24)	
50919.552	Sanitary Sewer Rehabilitation	Stony Creek	Infrastructure	332,231.00	0.00	0.00	0.00	332,231.00	
51017.311	Park Office Replacement	Willow	Building	2,138,371.03	35,043.83	66,473.75	45,050.00	2,026,847.28	
51017.313	Service Yard Stormwater Improvements-SAW Grant	Willow	Infrastructure	13,827.03	4,115.43	13,827.03	0.00	0.00	
51118.110	Oakwoods Nature Center Exhibit Design	Oakwoods	Other Improvements	600,000.00	69,945.75	69,945.75	530,054.25	0.00	
51119.111	Flat Rock Dam Boom Installation	Oakwoods	Other Improvements	25,968.03	957.08	957.08	0.00	25,010.95	
51215.228	Pool Backwash Connection	Lake Erie	Other Improvements	178,861.59	176,796.71	186,629.91	0.00	(7,768.32)	Completed
51218.238	Course Storm Siren	Lake Erie	Building	27,346.00	27,381.00	27,381.00	0.00	(35.00)	
51218.239	Shoreline and Fish Habitat Restoration	Lake Erie	Other Improvements	1,604,200.04	13,539.94	13,703.96	167,999.56	1,422,496.52	
51319.139	Mill Building Stabilization and Repairs	Wolcott	Building	100,000.00	0.00	0.00	0.00	100,000.00	
51319.140	Generator Hookup at Farm	Wolcott	Infrastructure	30,000.00	0.00	0.00	0.00	30,000.00	
51319.141	Farm Fence Installation along 28 Mile Rd	Wolcott	Other Improvements	27,645.95	8,116.02	8,116.02	0.00	19,529.93	
51618.091	Demolition of four Quonset Huts in Service Yard Area	Huron Meadows	Building	211,371.52	103,093.19	111,980.23	48,919.27	50,472.02	
51619.092	Lightning Detection System Installation	Huron Meadows	Building	27,246.00	27,281.00	27,281.00	0.00	(35.00)	
Grants	50217.679 - Nature Center Building Improvement	Lake St Clair		(45,000.00)	0.00	0.00	0.00	(45,000.00)	
Grants	50217.683 - Pump Station No. 1 SAW Grant	Lake St Clair		(150,000.00)	0.00	0.00	0.00	(150,000.00)	
Grants	50918.548 - Shelden Trail	Stony Creek		(60,000.00)	0.00	0.00	0.00	(60,000.00)	
Grants	51118.110 - Nature Center New Exhibits	Oakwoods		(150,000.00)	0.00	0.00	0.00	(150,000.00)	
Grants	51218.239 - Coastal Marsh Habitat & Trail Development	Lake Erie		(1,500,000.00)	0.00	0.00	0.00	(1,500,000.00)	
				$ 13,583,809.35	**$ 2,253,980.47**	**$ 3,834,728.14**	**$ 5,474,330.43**	**$ 4,274,750.78**	

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Heidi Dziak, Senior Buyer
Project No: RFP 2018-045
Project Title: Approval – Brand Development Contract Extension, Factory Detroit
Location: All Locations
Date: October 4, 2019

Action Requested: Motion to Approve

That the Board of Commissioners approve a one-year contract extension with Factory Detroit, Inc. for brand development services in the amount of $120,000 as recommended by Senior Buyer Heidi Dziak and staff.

Fiscal Impact: Funds will be included in the 2020 Marketing department budget.

Scope of Work: Build upon work completed under the current contract, specifically: grow the Metroparks new brand identity and market position; further develop the communication strategy to help create and increase awareness of, attendance in, and participation with the Metroparks. These objectives support endeavors to increase revenue and funding for the Metroparks.

Background: In 2018, Factory Detroit was awarded a one-year contract in the amount of $120,000 as a result of a competitive request for proposal process. The contract expires in November 2019 and a one-year extension would continue building on the work Factory Detroit has already completed. Staff is requesting approval for a one-year extension in the amount of $120,000, to be paid in monthly installments of $10,000. A monthly installment contract offers economy of scale over separately bidding the projects.

It is important that this work is completed by the same firm to maintain brand consistency and save time; Factory Detroit has proven their qualifications through work completed this year. The production projects that were added to their standing contract have been under budget, and staff has received positive feedback and results from the firm's work. Trying to continue this type of work with another agency would require additional time and coaching and could result in inconsistencies or a lesser level of quality than Factory Detroit has already demonstrated.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Danielle Mauter, Chief of Marketing and Communications
Subject: Report – September Marketing Report
Date: October 4, 2019

Action Requested: Motion to Receive and File

That the Board of Commissioners' receive and file the Marketing report as recommended by Chief of Marketing and Communications Danielle Mauter and staff.

Attachment: September Marketing Report

Highlights from the Past Month

- Created branded report templates and assisted Planning Department with formatting of the ADA transition Plan document.
- Booked Fall/Halloween print ads in diverse publications to grow audience and push fall events and programs through October.
- Fall ads focused on Michigan Chronical, Chaldean News, Spinal column, LePresna, Macomb Daily and Spinal Column.
- Coordinated with Truscott Rossman on initial stages of setting up Media meet and greets and a larger push for speakers bureau presentations.
- Coordinated with Factory Detroit on Fall Out of Home, Radio and TV productions. Fall TV/video shoots coming up in mid-October when fall color is at peak.
- Began collecting events and programming information for 2020 to start production of first set of 2020 rack cards to be in parks by Dec. 1. Also coordinated with staff and park managers on discussion of outside events in the parks and our process for promoting select events.
- Continued evaluating social media and email metrics and tweaking plans for 2020 marketing plan. More information to come in November/December.

Update on 2019 Marketing Goals

1. ***Increase awareness and understanding of the Metroparks brand and identity***
   Initial Polling results were reviewed from EPIC MRA. They positively show some initial familiarity with the Metroparks brand but it is evident that there is still more work to be done.

2. ***Increase overall attendance by 30,000 vehicles in 2019***

3. ***Track events we promote and their respective attendance***
   Staff is paying close attention to Facebook event pages, the ads we're running around specific events and then actual event attendance. As we move forward, staff is sharing the information with interpretive and park staff and noting any trends or inconsistencies. This information is used to tweak future event information and ads.

   - For example: Tons of Trucks at Kensington Metropark had a Facebook event page that staff posted to organically and ran paid ads. The event page reached 61.1k people and had 2.6k responses and a couple local radio and print publications mentioned it. This year and last year's events had great weather days, this year was just a bit cooler. Traffic counts for that day were 4,608 compared to 4,777 last year. Overall, it was a well-attended day at the park and a successful event. Staff paying attention to see if other events with similar Facebook engagement also trend this way, and if not why.

4. ***Track total interpretive attendance overall and per location***
   Will be reported on in more depth in November.

5. ***Increase Family reunions/picnics/events booked in the parks by 3-5 percent***
   Will be reported on in more depth in November. Currently looking to start some additional ads through fall to encourage bookings for 2020 and looking into Chamber and CVB events that could help these efforts.

6. ***Support the organizational goal of increasing golf revenues systemwide to $5,230,294***
   Currently running a campaign with Entercom Communications to do a series of digital and social ads specific to golf as well as radio ads on Radio.com and a social influencer campaign with one of their radio show hosts. This started mid-August.

7. ***Increase Instagram followers to 2,000***
   Currently at 1,533. See social media chart attached for more details.

8. ***Increase Facebook followers by 20 percent (Reach 14,000 by end of 2019)***
   Currently at 13,429. See social media chart attached for more details.

9. ***Increase average Facebook engagement by 20 percent***
   See social media chart attached.

10. ***Increase average Instagram engagement by 20 percent***

11. ***Grow email subscriber list by 10 percent (80,300 total subscribers by the end of 2019)***
    Currently list is at 86,145 subscribers – still needs to be scrubbed and cleaned before measuring true growth.

12. ***Maintain email open rate at industry benchmark. Benchmark = 26 - 27.5 percent***
    We are currently at an average open rate of 28.28 percent with the more segmented emails still delivering the higher open rates.

13. ***Increase earned media***
    The Metroparks were mentioned and featured in several articles and media rankings over the last month. The Metroparks were mentioned 239 times for a total audience of 12,294,281 according to our media tracking software, Critical Mention.

    Highlights include:
    - Stories about the Metro Boat Show, an open air painters group http://ct.moreover.com/?a=40176641027&p=2xa&v=1&x=EkHvukSiKDKBbPZF36ewKA,
    - an article about the Lake Erie shoreline Project https://www.monroenews.com/news/20190907/lake-erie-metropark-shoreline-project-to-enhance-park?rssfeed=true,
    - a couple articles about trail developments https://www.monroenews.com/news/20190906/task-force-to-work-on-developing-more-bike-trails?rssfeed=true,
    - an osprey article https://www.livingstondaily.com/story/news/local/community/livingston-county/2019/09/06/osprey-moved-kensington-metropark-chick-turns-20/2198395001/,
    - several event calendar mentions and articles about high school cross country meets at various locations.

14. ***Build a library*** of ***diverse owned images and videos and eliminate use of stock imagery after one full year.***
    Marketing staff have been out in the parks at programs and general facilities 8 days over the past month collecting photos and video.

15. ***Make visitor surveys available at all park events, interpretive programs and on our website***
    Conversations were also started with Planning, DEI, Interpretive, and Rec Programming Departments to work towards have a consistent evaluation that is used at all programs and events as well as available for passive park use and something for youth feedback. The target is to have something developed by January 2020, and that process would include input from all levels of the organization.

16. Survey response rate of 10 percent

See above, but at Movies and MI Philharmonic, staff received above a 10 percent response rate – likely because we were offering a raffle incentive to complete the survey card.

17. Outreach events and relationship building

Attended a Destination Downriver meeting to discuss the efforts the Downriver area are making to market and brand themselves as a collective region. The Clydesdale group attended the Michigan State Fair this year and representing us while there.

18. One Speaker presentation through Speakers bureau every week

Nina Kelly, chief of planning and development presented information at the first Speakers Bureau event to Allen Park Rotary in September. It was well received.

Website Analytics

Are website traffic shows slightly lower total year to date pageviews vs 2018, however a higher number of pageviews this month vs this month in 2018. We also see higher unique visitors vs 2018 and a decreased bounce rate. This shows some positive website trends.

	June	July	August	Sept
Total pageviews (monthly)	396,622	643,207	459,654	268,473
Total pageviews (monthly 2018)	491,126	627,302	402,810	254,475
Total pageviews (YTD)	1,100,436	1,598,376	2,030,258	2,278,195
Total pageviews (YTD 2018)	1,228,912	1,691,968	2,064,676	2,291,355
Total unique visitors (monthly)	101,884	169,618	136,706	83,039
Total unique visitors (YTD)	281,483	413,453	534,767	600,162

Each month is measured from the 16th of the previous month to 15th of current month

	June		July		August		September	
	Sessions	%	Sessions	%	Sessions	%	Sessions	%
Organic Search	122,765	77.94%	141,472	76.27%	146,965	74.45%	85,174	73.90%
Direct (typed in the address)	26,763	16.99%	31,478	16.97%	36,211	18.34%	20,910	18.14%
Social Media	3,557	2.26%	5,960	3.21%	4,934	2.50%	2,951	2.26%
Email	14	0.01%	22	0.01%	4	0.00%	0	0.00%
Referral from another website	4,311	2.74%	6,480	3.49%	5,990	3.03%	3,232	2.80%
Other	107	0.07%	70	0.04%	3,307	1.68%	2,987	2.59%

Referral source (how people are getting to the site. Where they are clicking over from)

	June		July		August		September	
	Users	%	Users	%	Users	%	Users	%
Mobile	177,657	62.00%	276,565	66.50%	99,358	72.06%	56,819	68.16%
Desktop	93,452	32.61%	118,340	28.46%	31,103	22.56%	21,583	25.89%
Tablet	1,549	5.39%	20,954	5.04%	7,413	5.38%	4,959	5.95%

Device usage (people viewing site on devices)

Social Media Stats

	January 1-January 25	January 1-February 25	January 1-March 25	January 1-April 25	January 1-May 25	January 1-June 25	January 1-July 16	January 1-August 16	January 1-Sept. 16
Followers YTD Facbook	11,369	11,460	11,733	12,020	12,530	12,840	13,058	13,255	13,429
Followers YTD Instagram	1,095	1,131	1,173	1,219	1,261	1,331	1,362	1,442	1,533
Followers YTD Twitter	2,116	2,135	2,146	2,173	2,188	2,216	2,228	2,250	2,268
Engagement YTD Facebook	1,483	2,924	5,940	8,217	23,180	26,071	28,614	32,656	35,511
Engagement YTD Instagram	252	455	785	1,076	1,597	2,266	2,664	3,219	3,813
Engagement YTD Twitter	54	98	171	201	225	239	260	294	363
	Jan (Dec 26 2018-Jan 25)	**February (Jan 26-Feb 25)**	**March (Feb 26-Mar 25)**	**April (Mar 26-Apr 25)**	**May (Apr 26-May 25)**	**June (May 26-June 25)**	**July (June 15-July 16)**	**August (July 15-Aug 16)**	**Sept. (Aug 15-Sept 16)**
Followers: Facebook	11,369	11,460	11,773	12,020	12,530	12,840	13,058	13,255	13,429
Followers: Instagram	1,095	1,131	1,173	1,219	1,261	1,331	1,362	1,442	1,533
Followers: Twitter	2,116	2,135	2,146	2,173	2,188	2,216	2,228	2,250	2,268
Engagement: Facebook	2,014	1,475	3,125	2,448	15,013	3,095	4,203	4,371	3,029
Engagement: Instagram	259	203	384	291	521	701	627	636	626
Engagement: Twitter	58	44	91	30	24	14	25	39	76

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Artina Sadler, Chief of Diversity, Equity and Inclusion
Subject: Report – Diversity, Equity and Inclusion Plan
Date: October 4, 2019

Background: The Diversity, Equity and Inclusion Plan will be provided prior to the Oct. 10 meeting.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Nina Kelly, Chief of Planning and Development
Subject: Report – Tollbooth Scanning Data Analysis Report
Date: October 4, 2019

Action Requested: Motion to Receive and File

That the Board of Commissioners' receive and file the most recent report on tollbooth scanning data analysis as recommended by Chief of Planning and Development Nina Kelly and staff.

Fiscal Impact: There is no direct fiscal impact associated with this report.

Background: Metroparks staff began scanning annual and daily passes at tollbooths earlier this year. Presented herein is the third report analyzing the data gathered through that effort.

Attachment: Scanning Report 3 – Summer 2019 (May 16 – September 15)

SCANNING REPORT #3 SUMMER 2019

May 16 – September 15

Abstract: This report was compiled using data downloaded from the Metroparks server recorded through barcode scanning of vehicle passes upon entry into the Metroparks. In some instances, revenue data, vehicle count data and U.S. Census data have been incorporated as well.

HURON-CLINTON metroparks

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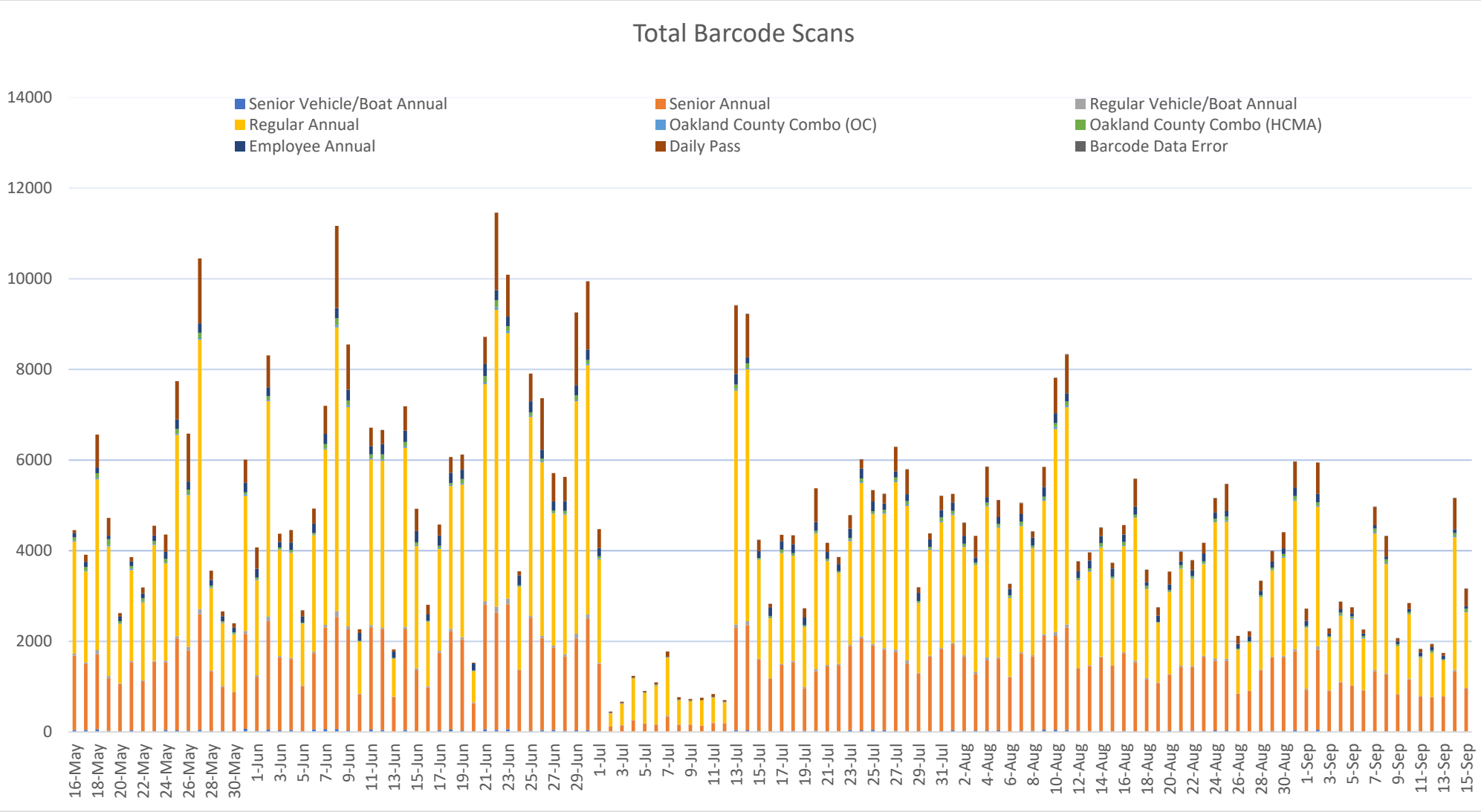
Barcode Scanning Report

SYSTEM WIDE

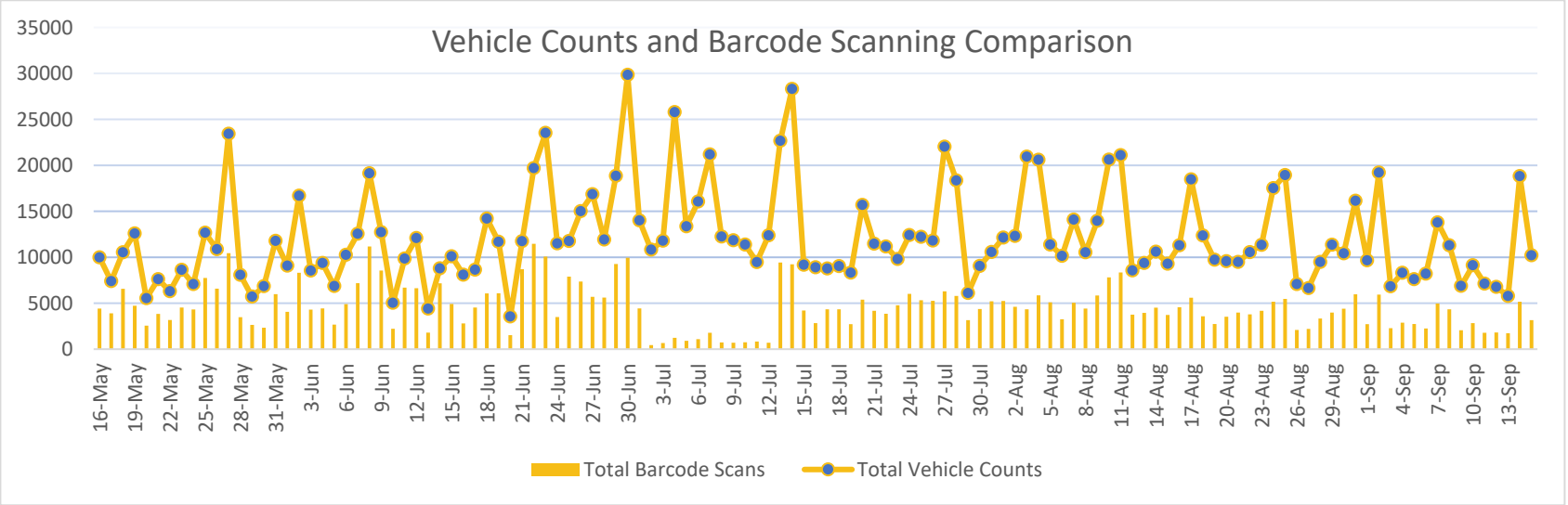
Barcode Scanning Report | Reporting Timeframe May 16 – September 15



There were 562,560 total scans during the reporting period; an average of 140,640 per month through the Summer season. Of the total scans, 516,087 or 92% were annual passes and 46,064 or 8% of scans represent daily passes. 120,021 unique annual passes were scanned through this period, meaning annual passes that were scanned during the reporting period, were scanned on average 4.2 times. During brief tollbooth shadowing in the parks, planning staff observed that daily passes were not being scanned when there was a steady flow of cars entering the park.

SYSTEM WIDE

Barcode Scanning Report | Reporting Timeframe May 16 - September 15



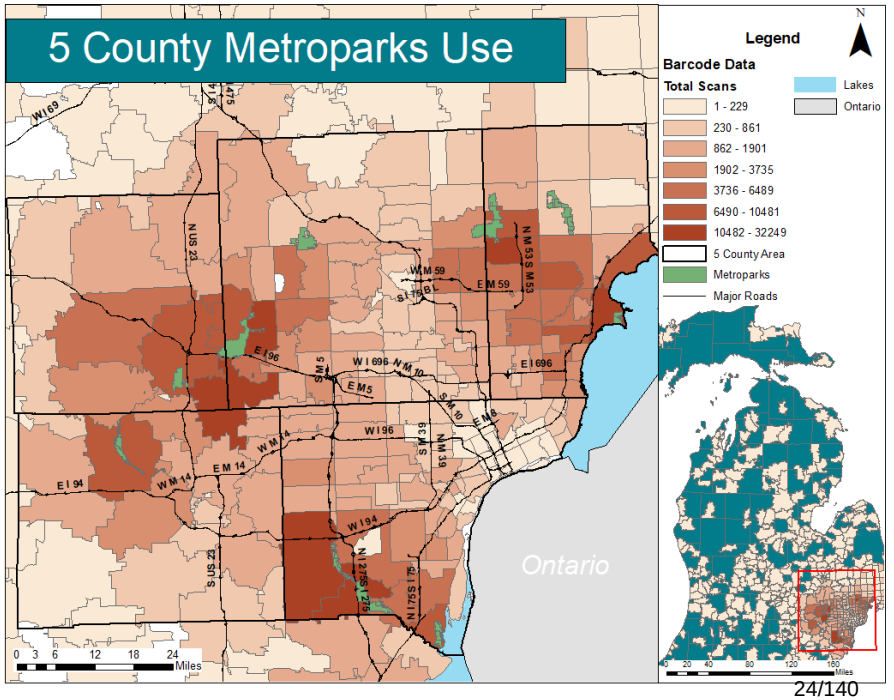
Vehicle count information was not received from Wolcott Mill.

Vehicle counts showed June 30 as the day of highest total system-wide attendance (29,844), while barcode scanning showed June 22 as the single day with the highest system-wide attendance (11,460).

Events:
Sunday, June 30
Indian Springs:
Lake Erie: Museum Miscellaneous
Stony Creek: Fireworks
Wolcott Mill: Grist Mill Tour – Historic Center, Harness & Hitch – Farm Center
Lake St. Clair: Sunday Night Concert

Saturday, June 22
Oakwoods: Summer Kick-off Walk, Drop-in Owl Pellet Dissecting Day
Kensington: Daring Day for Kids Camp
Indian Springs: Solar Science
Lake Erie: Nature Journaling 101
Lake St. Clair: Raising Monarchs 101
Wolcott Mill: Dairy Day – Farm Center

81% (457,306) of barcode scans from the reporting period had valid U.S. zip codes



SYSTEM WIDE

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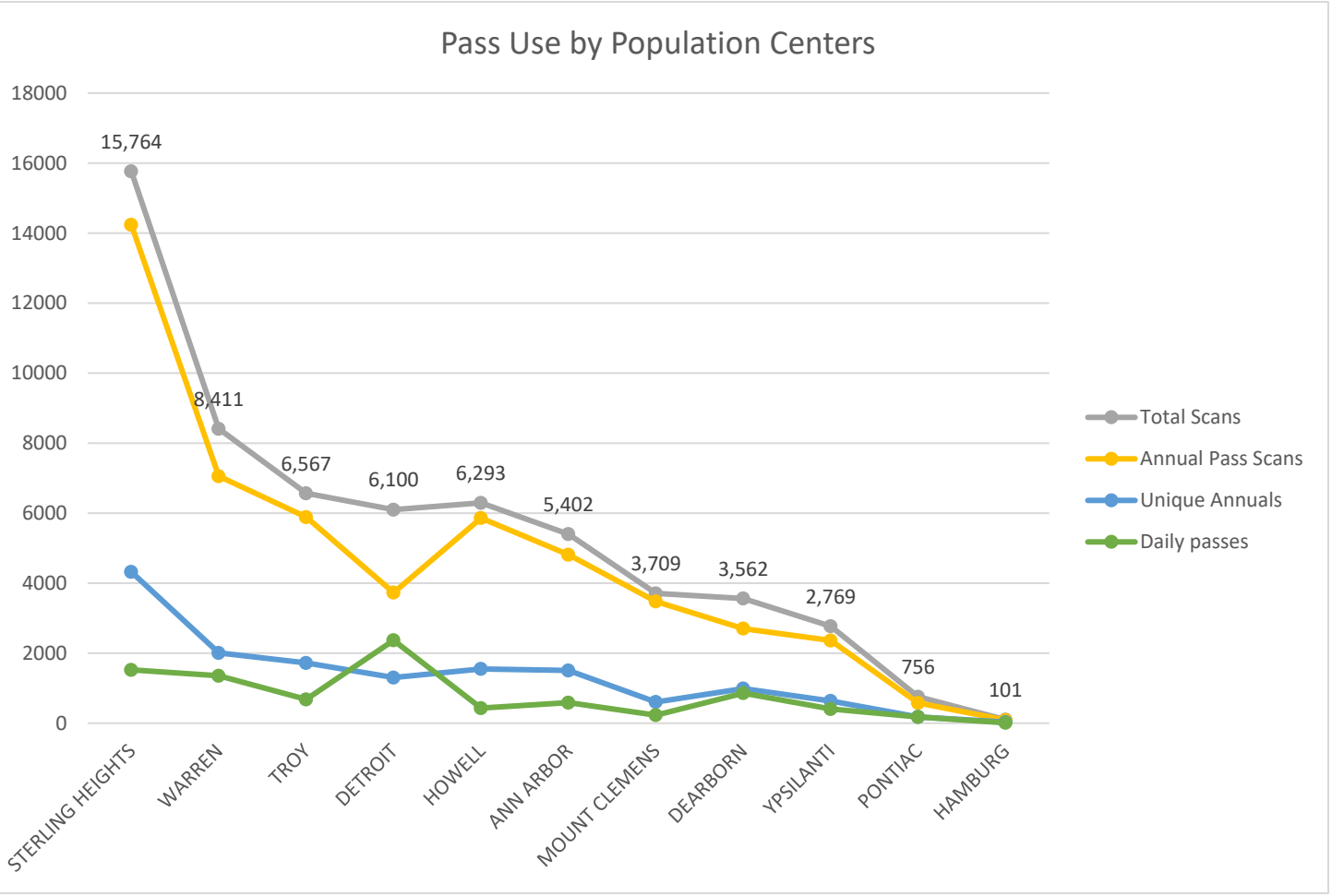


COUNTY SEAT AND MAJOR CITY SCANS	59,434
TOTAL SCANS	457,306

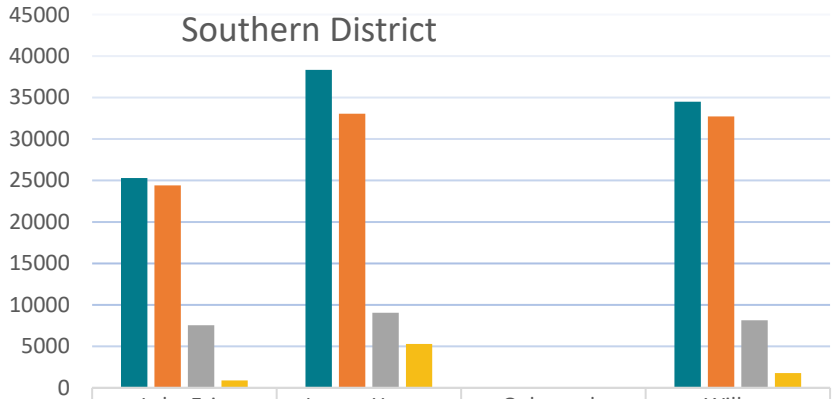
13% of pass visits scanned with a valid zip code came from people living within major population centers and county seats in the 5 county Metroparks jurisdiction.

COUNTY SEAT AND MAJOR CITY POPULATION	135,0008
TOTAL POPULATION	4,450,040

30% of the 5-county population resides in one of these county seats or population centers.

BY DISTRICT

Barcode Scanning Report | Reporting Timeframe May 16 - September 15



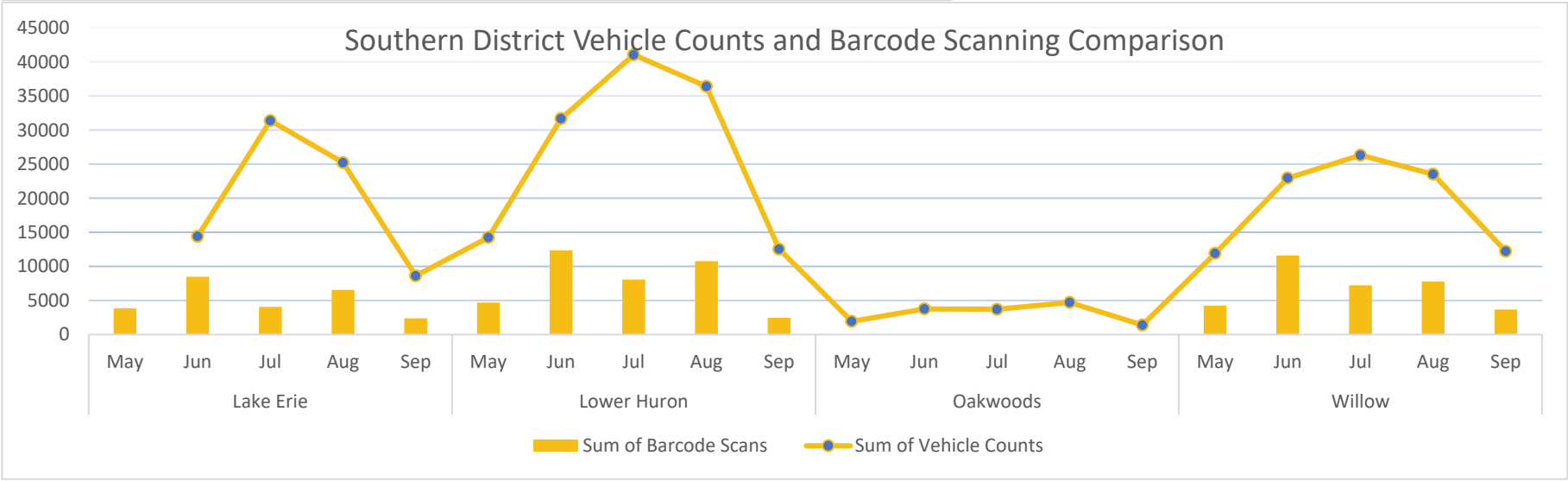
	Lake Erie	Lower Huron	Oakwoods	Willow
Total Scans	25303	38337	41	34501
Annual Pass Scans	24407	33042	27	32729
Unique Annual Pass Scans	7542	9062	27	8145
Daily Passes	896	5295	14	1772

Lake Erie did not have any scanning suspensions during the reporting period. This park has only one scanner and does not have a scanner at tollbooth #2.

Lower Huron did not have any scanning suspensions during the reporting period.

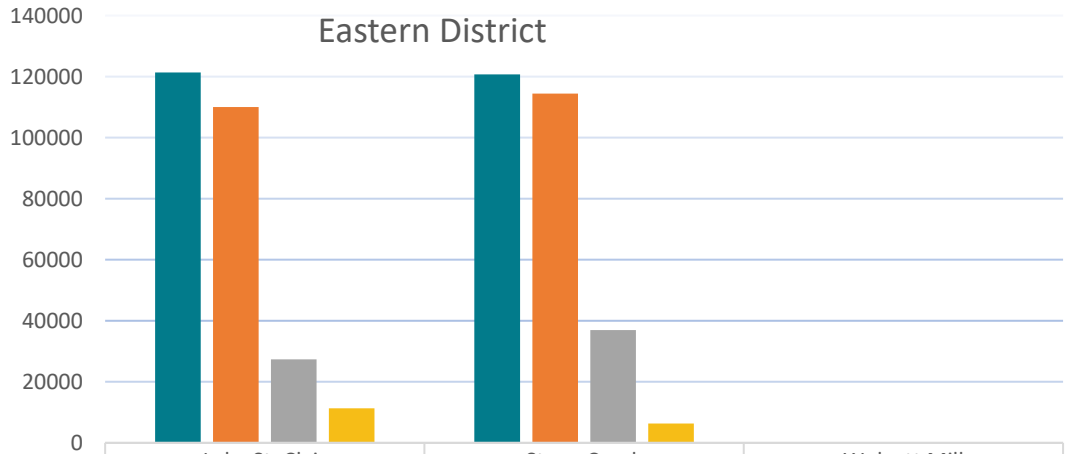
Oakwoods does not have a scanner in the tollbooth.

Willow did not report any instances of scanning suspensions during this reporting period.



BY DISTRICT

Barcode Scanning Report | Reporting Timeframe May 16 – September 15

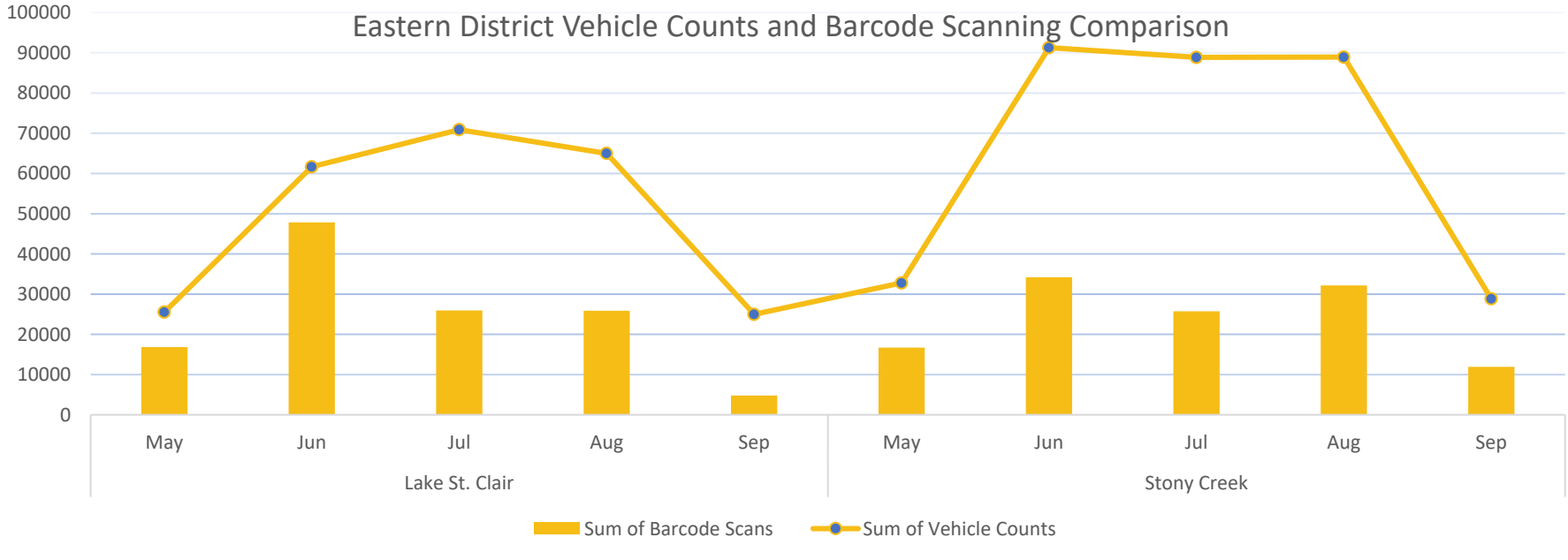


	Lake St. Clair	Stony Creek	Wolcott Mill
Total Scans	121352	120751	137
Annual Pass Scans	110017	114423	131
Unique Annual Pass Scans	27376	36972	117
Daily Passes	11335	6328	6

Lake St. Clair reported they had one scanner that stopped working (tollbooth #2) on Aug. 13 and did not become operational again until Aug. 23. Tollbooth #2 also stopped working at various times on Aug. 17, Sept. 3, 5-6, 11-12, and Sept. 14.

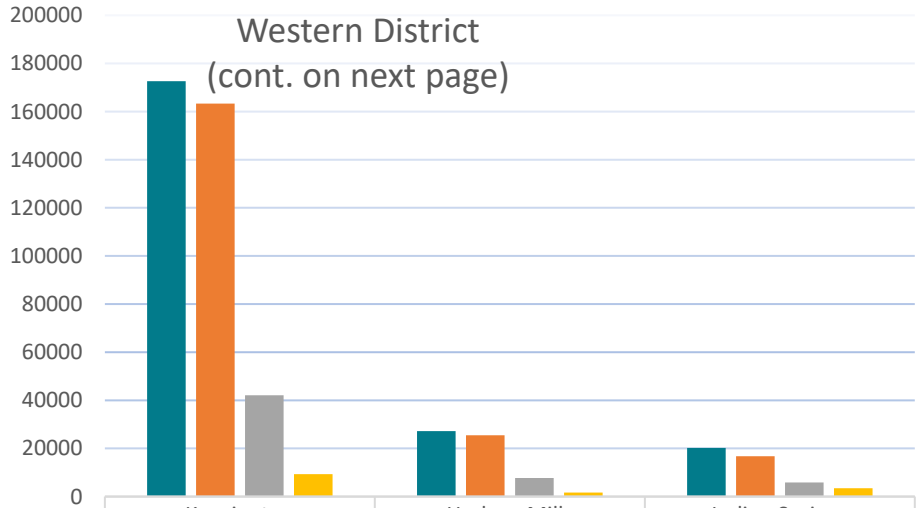
Stony Creek reported intermittent suspensions at all booth on Sept. 1-2 due to high traffic. Intermittent suspensions at tollbooth #2 were reported for various times on Sept. 3-15 due to a combination of high traffic at times and software slowdowns at other times.

Wolcott Mill does not have a scanner in the tollbooth.



BY DISTRICT

Barcode Scanning Report | Reporting Timeframe May 16 - September 15



	Kensington	Hudson Mills	Indian Springs
Total Scans	172648	27208	20238
Annual Pass Scans	163311	25508	16787
Unique Annual Pass Scans	42113	7744	5862
Daily Passes	9337	1700	3451

Delhi (and Skip's canoe rental) does not have a scanner.

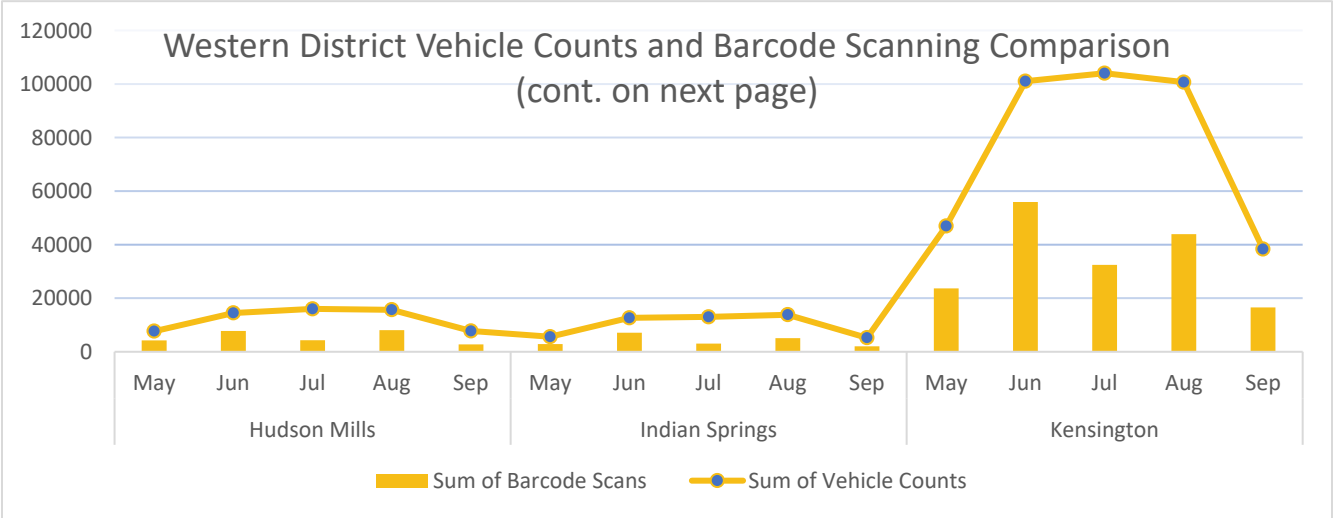
Dexter-Huron does not have a scanner.

Hudson Mills reported they suspended scanning on Sept. 10 during a large cross country meet due to traffic back-ups as well as on Sept. 12 due to a power outage in the park. On Sept. 15, in the morning, the park used a temporary toll location (with no power) for a large special event.

Huron Meadows does not have a scanner.

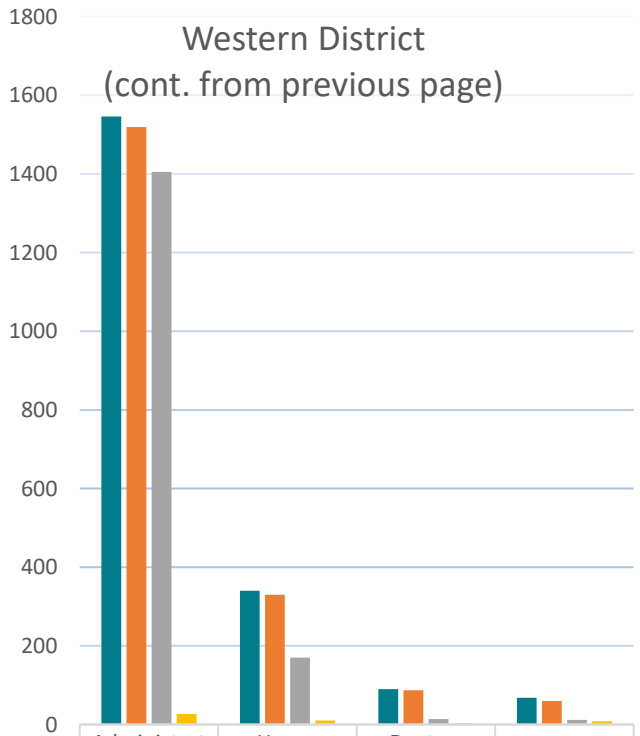
Indian Springs did not suspend scanning at all during this reporting period.

Kensington reported that they did not have any scanning suspensions due to lines, but at least once per weekend the computers shut down and have to restart. They also stated they have issues getting the scanners to work during rain.

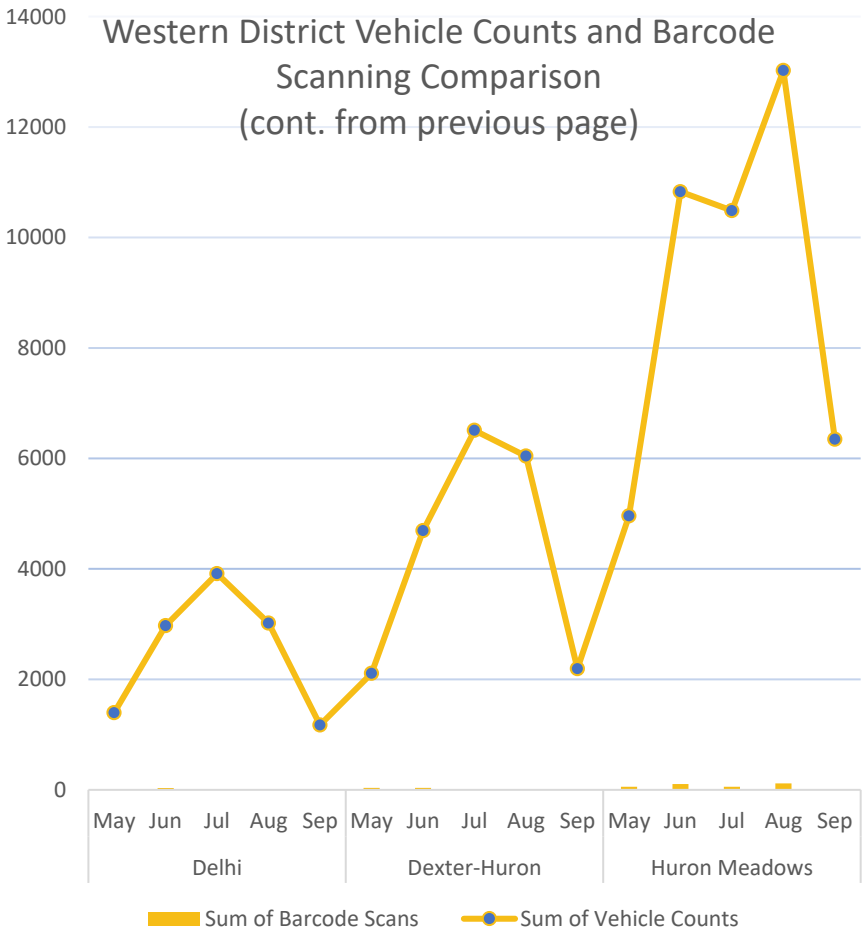


BY DISTRICT

Barcode Scanning Report | Reporting Timeframe May 16 – September 15



	Administrative Office	Huron Meadows	Dexter-Huron	Delhi
Total Scans	1546	340	90	68
Annual Pass Scans	1519	330	87	60
Unique Annual Pass Scans	1405	170	14	12
Daily Passes	27	10	3	8



COUNTY LEVEL

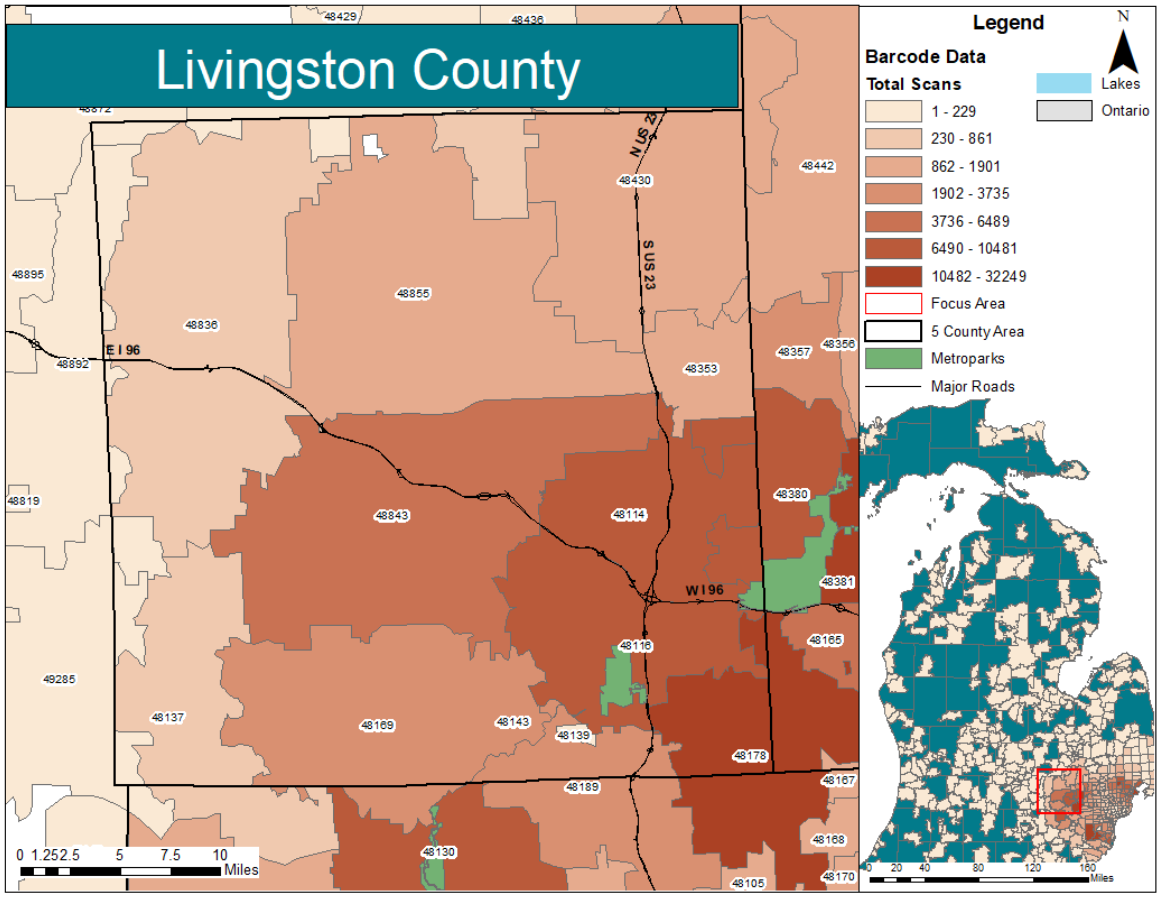
Barcode Scanning Report | Reporting Timeframe May 16 - September 15

Highest and Lowest Scanning Cities by County

County	Place	Scans	% of County Scans
Macomb County 160,526 total scans	HARRISON TOWNSHIP	32249	20%
	UTICA	28118	18%
	CLINTON TOWNSHIP	16319	10%
	CENTER LINE	482	0.3%
	RICHMOND	427	0.3%
	ARMADA	413	0.3%
Oakland County 123,032 total scans	MILFORD	22814	19%
	SOUTH LYON	14727	12%
	ROCHESTER	13232	11%
	ORTONVILLE	180	0.15%
	KEEGO HARBOR	175	0.14%
	PLEASANT RIDGE	138	0.11%
Wayne County 97,630 total scans	BELLEVILLE	14937	15%
	NEW BOSTON	13376	14%
	ROCKWOOD	6703	7%
	ECORSE	256	0.26%
	HIGHLAND PARK	137	0.14%
	RIVER ROUGE	110	0.11%
Livingston County 29,120 total scans	BRIGHTON	16680	57%
	HOWELL	6293	22%
	PINCKNEY	3286	11%
	FOWLERVILLE	591	2%
	LAKELAND	185	0.64%
	HAMBURG	101	0.35%
Washtenaw County 23,412 total scans	DEXTER	10481	45%
	ANN ARBOR	5402	23%
	YPSILANTI	2769	12%
	WILLIS	280	1%
	MANCHESTER	132	1%
	WHITTAKER	82	0.35%

COUNTY LEVEL

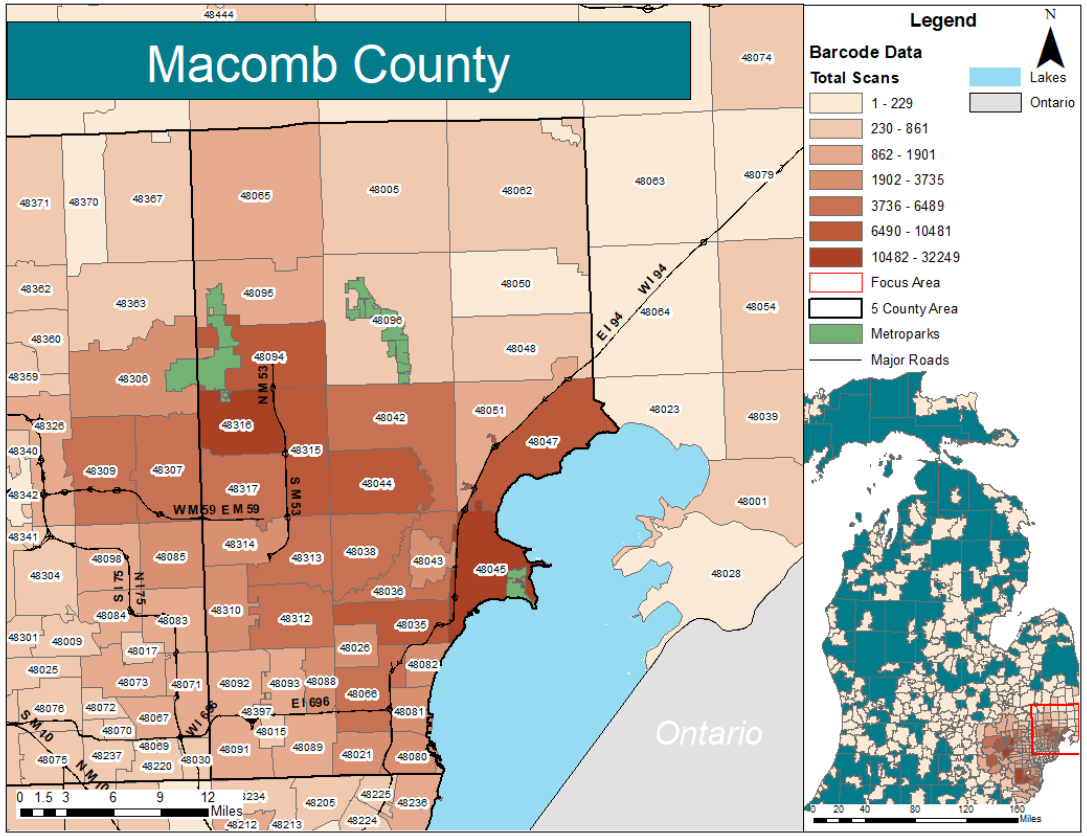
Barcode Scanning Report | Reporting Timeframe May 16 - September 15



City	Total Scans	Annual Pass Scans	Unique Annual Passes	Daily Passes
BRIGHTON	16680	16172	3323	508
FOWLERVILLE	591	531	123	60
GREGORY	615	556	132	59
HAMBURG	101	90	33	11
HARTLAND	1369	1321	278	48
HOWELL	6293	5862	1550	431
LAKELAND	185	177	33	8
PINCKNEY	3286	3043	733	243
Total	29120	27752	6205	1368

COUNTY LEVEL

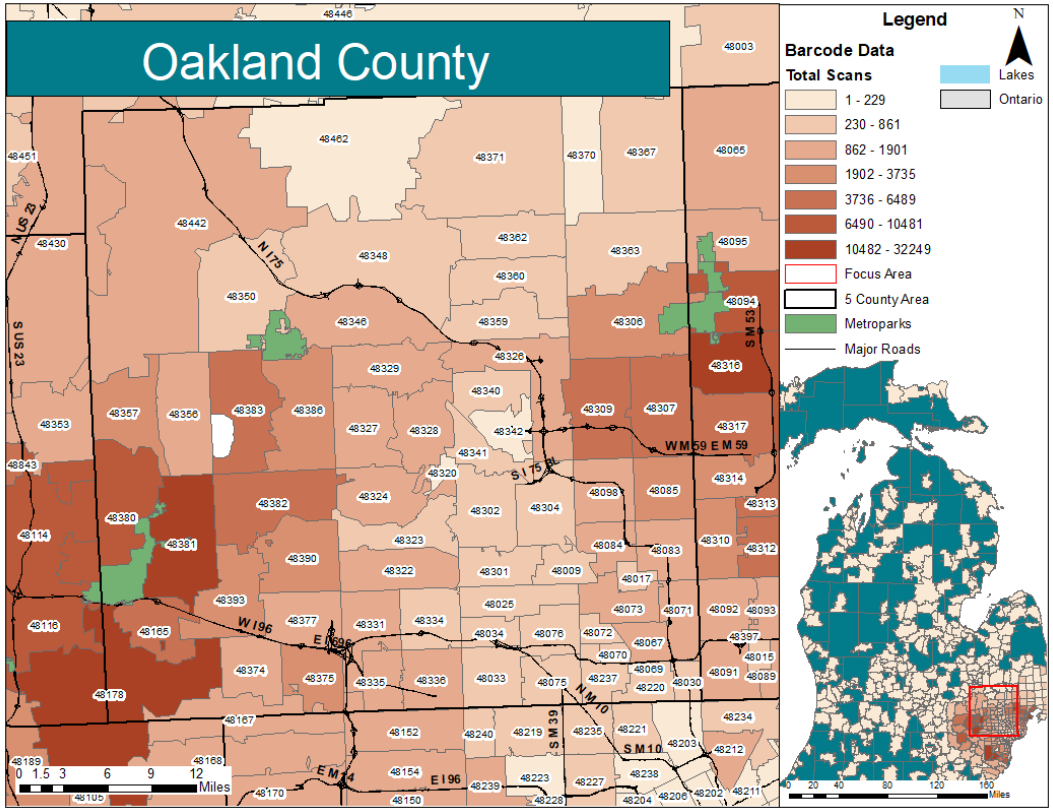
Barcode Scanning Report | Reporting Timeframe May 16 - September 15



City	Total Scans	Annual Pass Scans	Unique Annual Passes	Daily Passes
ARMADA	413	391	126	22
CENTER LINE	482	409	133	73
CLINTON TOWNSHIP	16319	15064	3218	1255
EASTPOINTE	2365	2024	450	341
FRASER	2292	2104	463	188
HARRISON TOWNSHIP	32249	31595	5220	654
MACOMB	13258	12298	3476	960
MOUNT CLEMENS	3709	3479	606	230
NEW BALTIMORE	8906	8333	2813	573
NEW HAVEN	804	695	208	109
RAY	608	578	181	30
RICHMOND	427	356	119	71
ROMEO	1702	1620	467	82
ROSEVILLE	5472	4852	1068	620
SAINT CLAIR SHORES	8143	7482	1556	661
STERLING HEIGHTS	15764	14240	4323	1524
UTICA	28118	27327	6587	791
WARREN	8411	7056	2008	1355
WASHINGTON	11084	10883	2483	201
Total	160526	150786	35505	9740

COUNTY LEVEL

Barcode Scanning Report | Reporting Timeframe May 16 - September 15

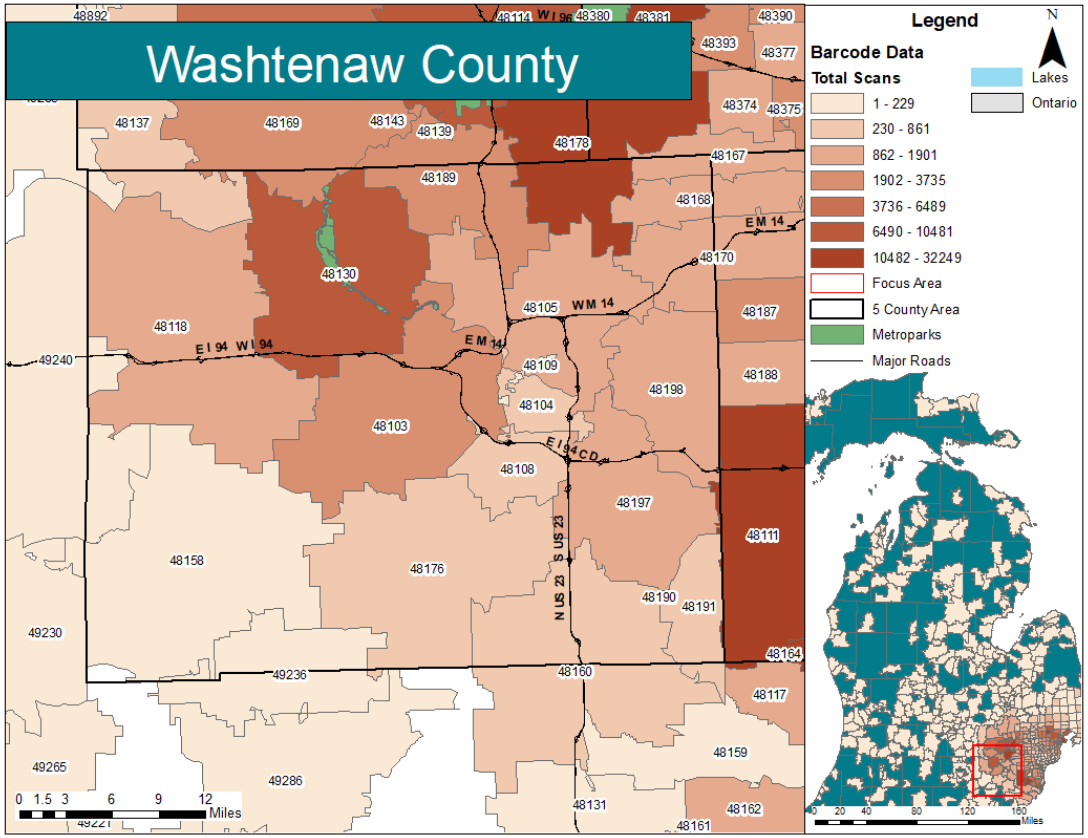


City	Total Scans	Annual Pass Scans	Unique Annual Passes	Daily Passes
AUBURN HILLS	1375	1217	418	158
BERKLEY	685	582	228	103
BIRMINGHAM	718	638	186	80
BLOOMFIELD HILLS	1363	1171	405	192
CLARKSTON	2090	1690	495	400
CLAWSON	426	356	145	70
COMMERCE TOWNSHIP	4744	4374	999	370
DAVISBURG	651	538	161	113
FARMINGTON	5010	4388	1329	622

City	Total Scans	Annual Pass Scans	Unique Annual Passes	Daily Passes
FERNDALE	787	642	235	145
FRANKLIN	627	551	171	76
HAZEL PARK	565	448	159	117
HIGHLAND	4401	4095	950	306
HOLLY	938	758	254	180
HUNTINGTON WOODS	253	220	97	33
KEEGO HARBOR	175	151	54	24
LAKE ORION	1170	1013	304	157
LEONARD	245	224	71	21
MADISON HEIGHTS	1248	1031	345	217
MILFORD	22814	22456	3200	358
NEW HUDSON	5694	5597	869	97
NOVI	5657	5264	1392	393
OAK PARK	576	456	163	120
OAKLAND	412	383	134	29
ORTONVILLE	180	142	46	38
OXFORD	490	397	147	93
PLEASANT RIDGE	138	130	40	8
PONTIAC	756	579	179	177
ROCHESTER	13232	12541	3471	691
ROYAL OAK	2584	2196	826	388
SOUTH LYON	14727	14293	2836	434
SOUTHFIELD	1696	1256	452	440
TROY	6567	5888	1721	679
WALLED LAKE	2182	1936	593	246
WATERFORD	4411	3745	946	666
WEST BLOOMFIELD	2675	2260	685	415
WHITE LAKE	8563	7714	1977	849
WIXOM	2207	2033	563	174
Total	123032	113353	27246	9679

COUNTY LEVEL

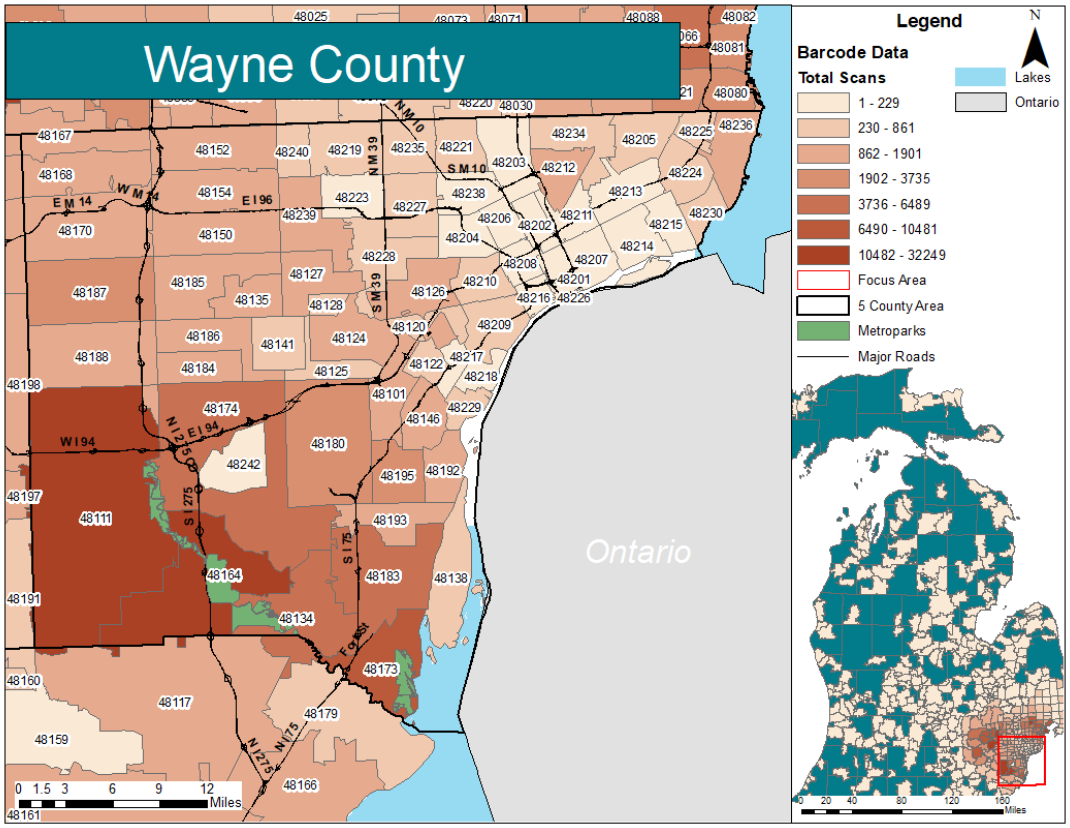
Barcode Scanning Report | Reporting Timeframe June 16 - August 15



City	Total Scans	Annual Pass Scans	Unique Annual Passes	Daily Passes
ANN ARBOR	5402	4814	1506	588
CHELSEA	1196	1112	270	84
DEXTER	10481	10135	2392	346
MANCHESTER	132	108	38	24
MILAN	368	326	115	42
SALINE	662	579	177	83
WHITMORE LAKE	2040	1925	411	115
WHITTAKER	82	67	22	15
WILLIS	280	267	34	13
YPSILANTI	2769	2363	636	406
Total	23412	21696	5601	1716

COUNTY LEVEL

Barcode Scanning Report | Reporting Timeframe May 16 - September 15



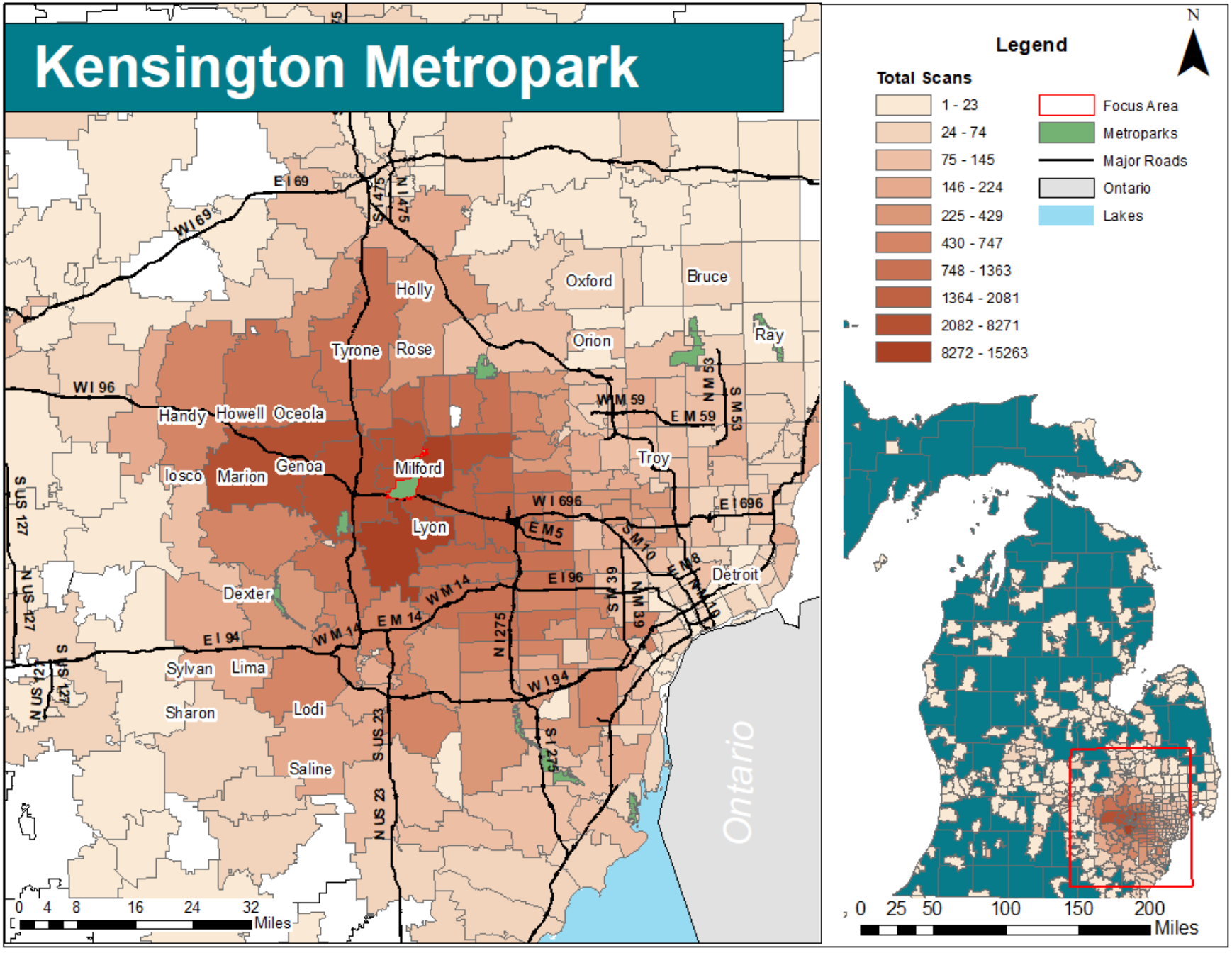
City	Total Scans	Annual Pass Scans	Unique Annual Passes	Daily Passes
ALLEN PARK	1488	1238	399	250
BELLEVILLE	14937	14218	2285	719
CANTON	3926	3364	987	562
DEARBORN	3562	2702	990	860
DEARBORN HEIGHTS	2071	1591	541	480
DETROIT	6100	3732	1303	2368
ECORSE	256	189	46	67

City	Total Scans	Annual Pass Scans	Unique Annual Passes	Daily Passes
FLAT ROCK	4857	4655	801	202
GARDEN CITY	1112	894	264	218
GROSSE ILE	657	589	183	68
GROSSE POINTE	1534	1254	438	280
HAMTRAMCK	1061	759	258	302
HARPER WOODS	596	484	128	112
HIGHLAND PARK	137	80	32	57
INKSTER	473	325	106	148
LINCOLN PARK	1558	1310	375	248
LIVONIA	3701	3136	1072	565
MELVINDALE	403	300	87	103
NEW BOSTON	13376	13194	1631	182
NORTHVILLE	3216	2907	814	309
PLYMOUTH	1778	1543	481	235
REDFORD	1417	1168	342	249
RIVER ROUGE	110	66	25	44
RIVERVIEW	1219	1124	266	95
ROCKWOOD	6703	6584	1357	119
ROMULUS	4663	4367	823	296
SOUTHGATE	2082	1877	478	205
TAYLOR	3605	3058	821	547
TRENTON	5545	5279	1165	266
WAYNE	963	826	198	137
WESTLAND	2935	2407	696	528
WYANDOTTE	1589	1458	400	131
Total	97630	86678	19792	10952

The following pages show park specific maps of the number of scans from each Zip code attributed to each individual park.

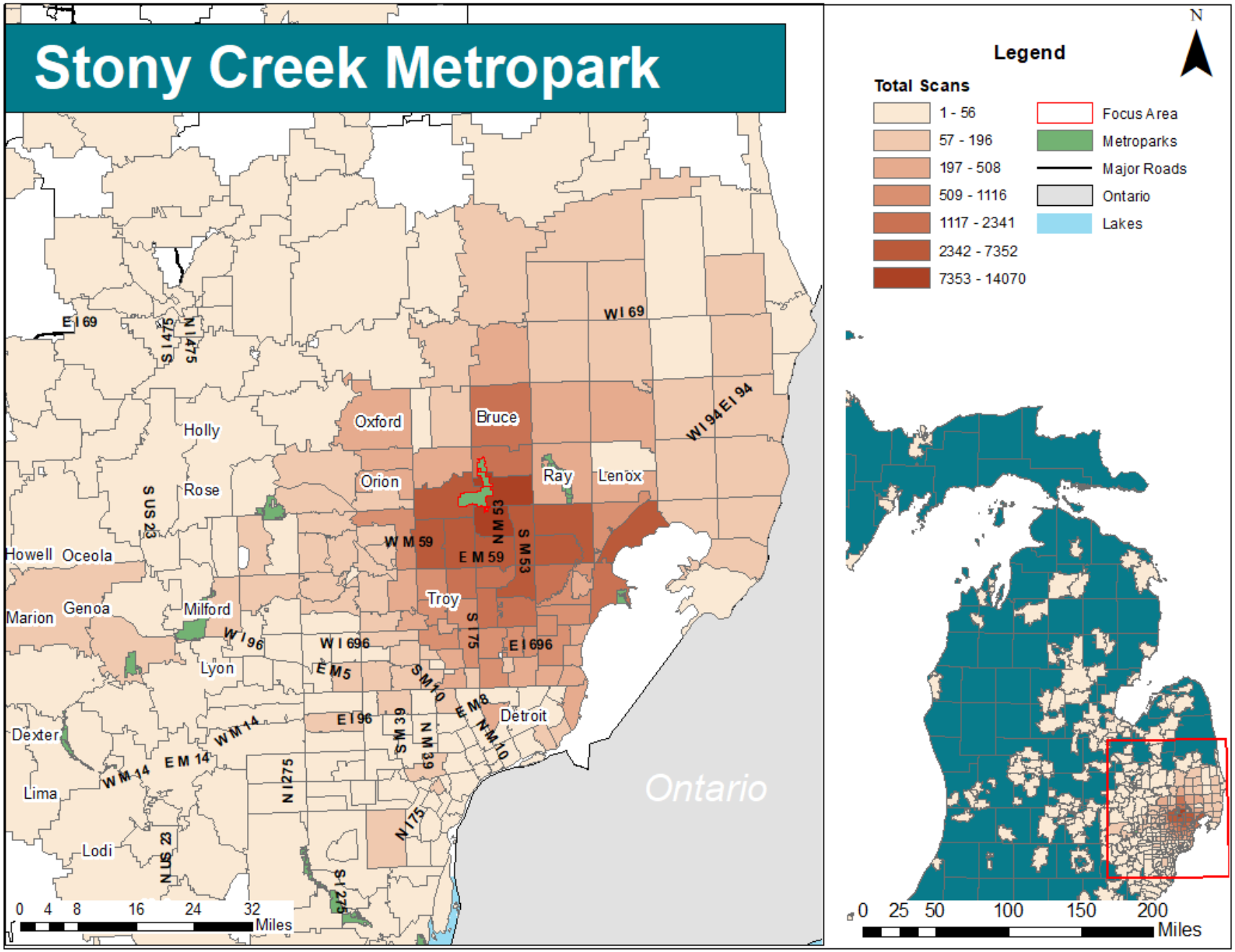
PARK SPECIFIC

Barcode Scanning Report | Reporting Timeframe May 16 - September 15



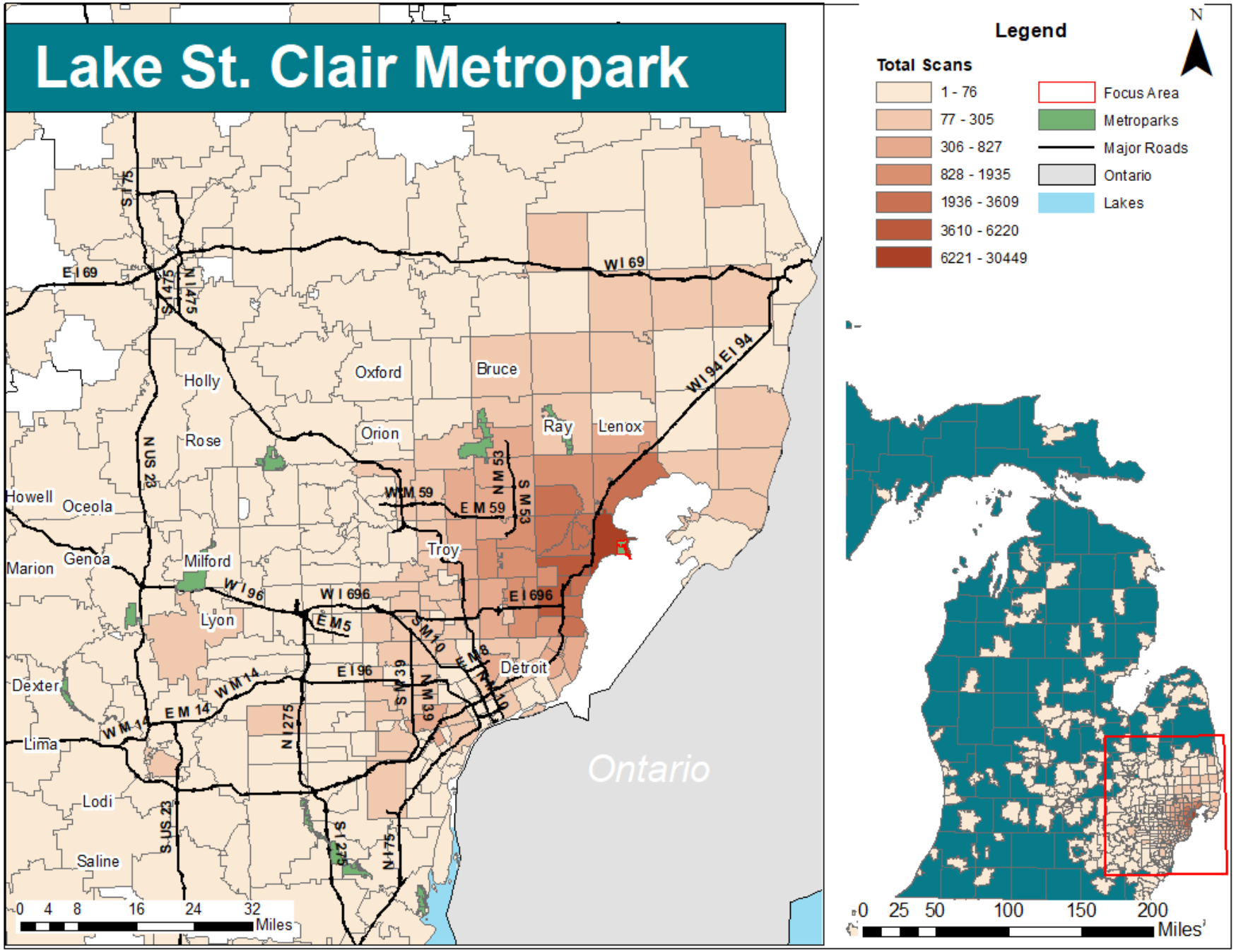
PARK SPECIFIC

Barcode Scanning Report | Reporting Timeframe May 16 – September 15



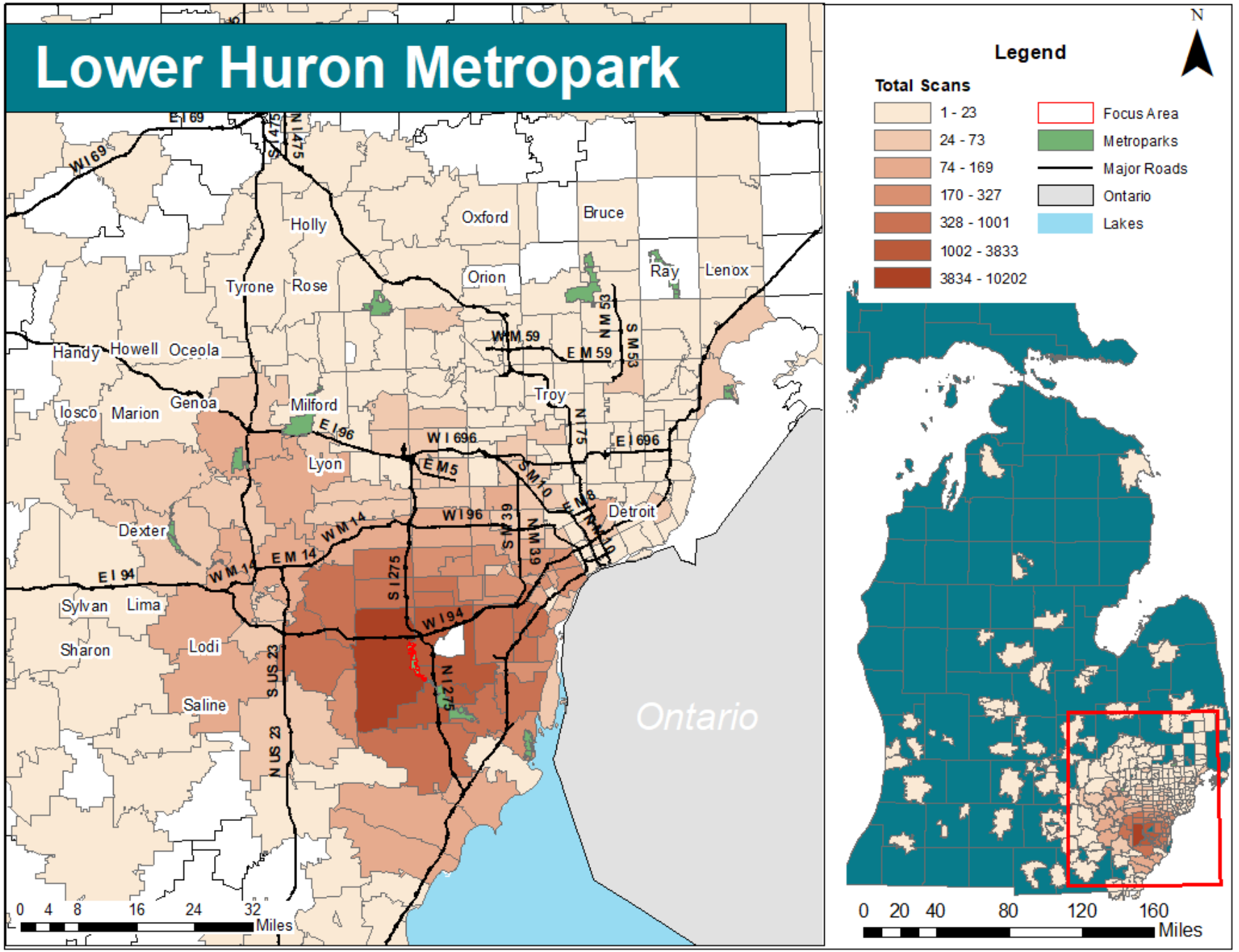
PARK SPECIFIC

Barcode Scanning Report | Reporting Timeframe May 16 - September 15



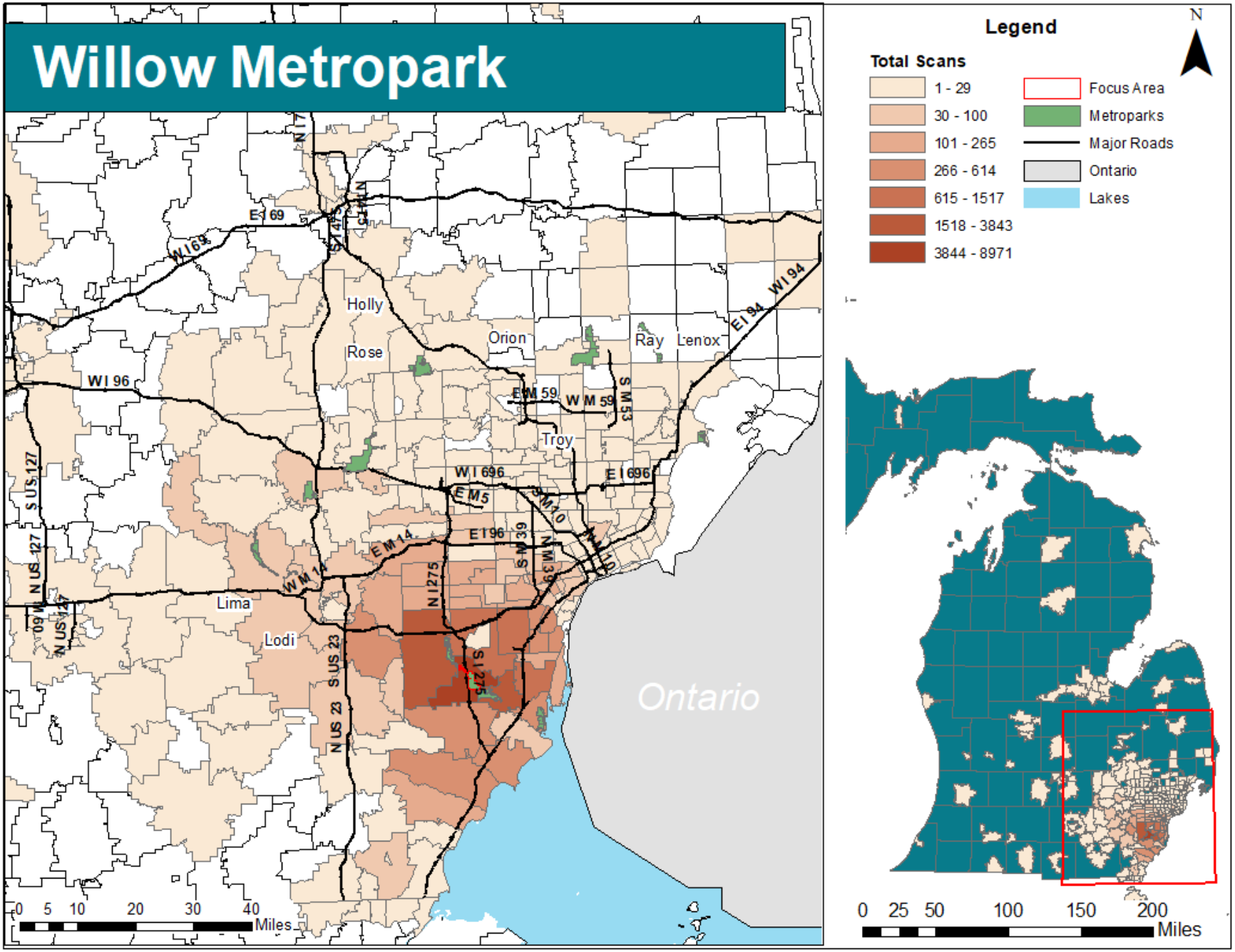
PARK SPECIFIC

Barcode Scanning Report | Reporting Timeframe May 16 - September 15



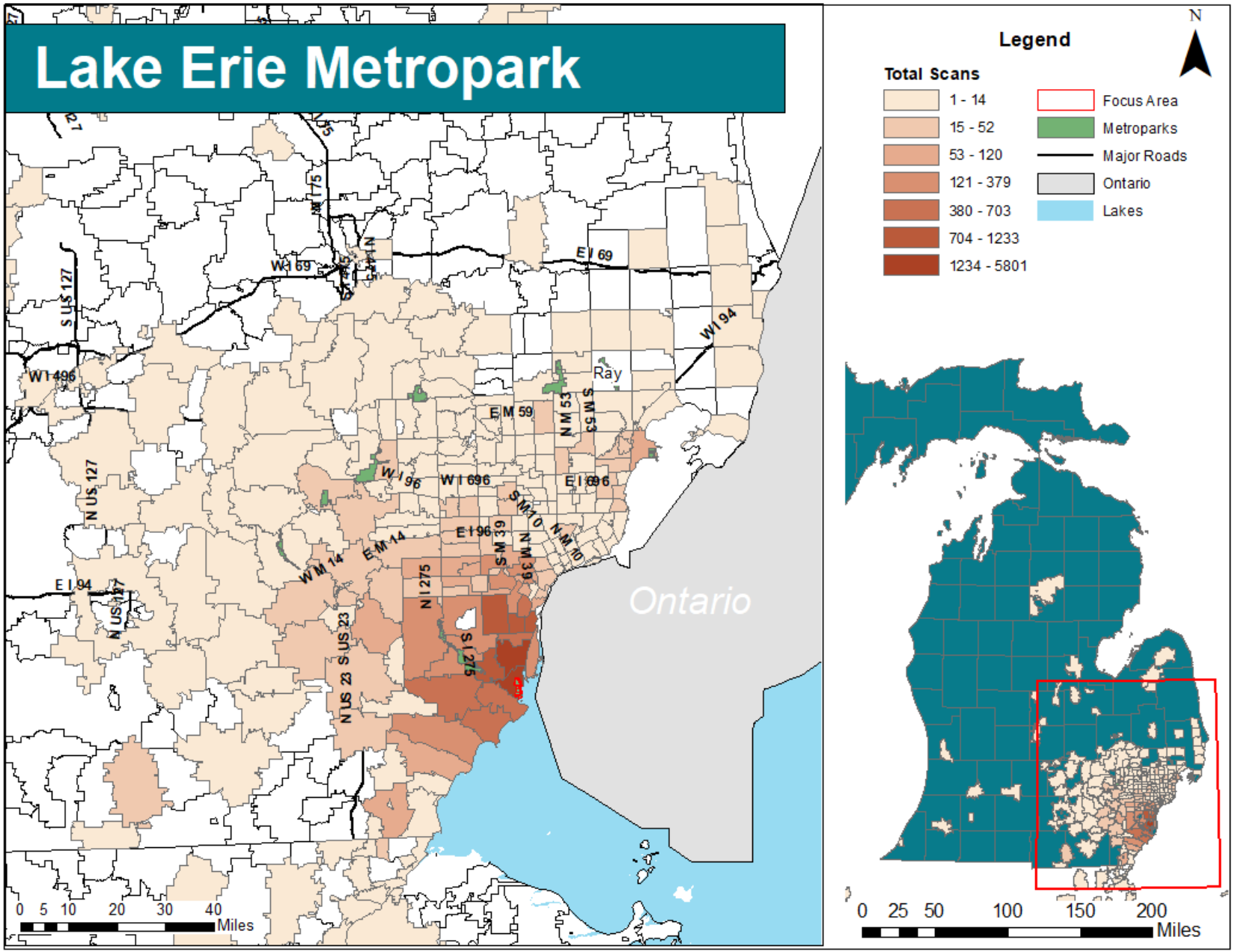
PARK SPECIFIC

Barcode Scanning Report | Reporting Timeframe May 16 - September 15



PARK SPECIFIC

Barcode Scanning Report | Reporting Timeframe May 16 - September 15



PARK SPECIFIC

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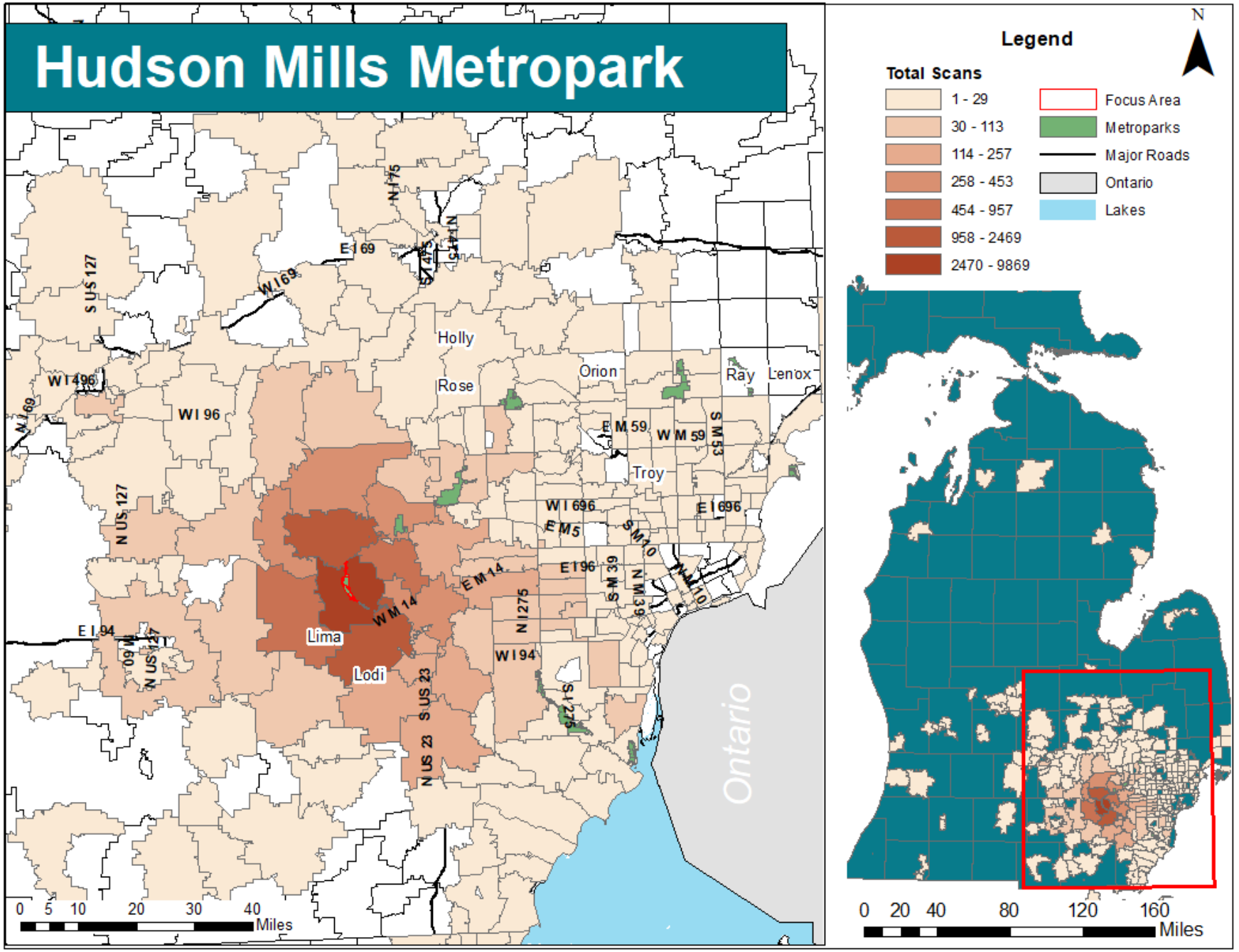

PARK SPECIFIC

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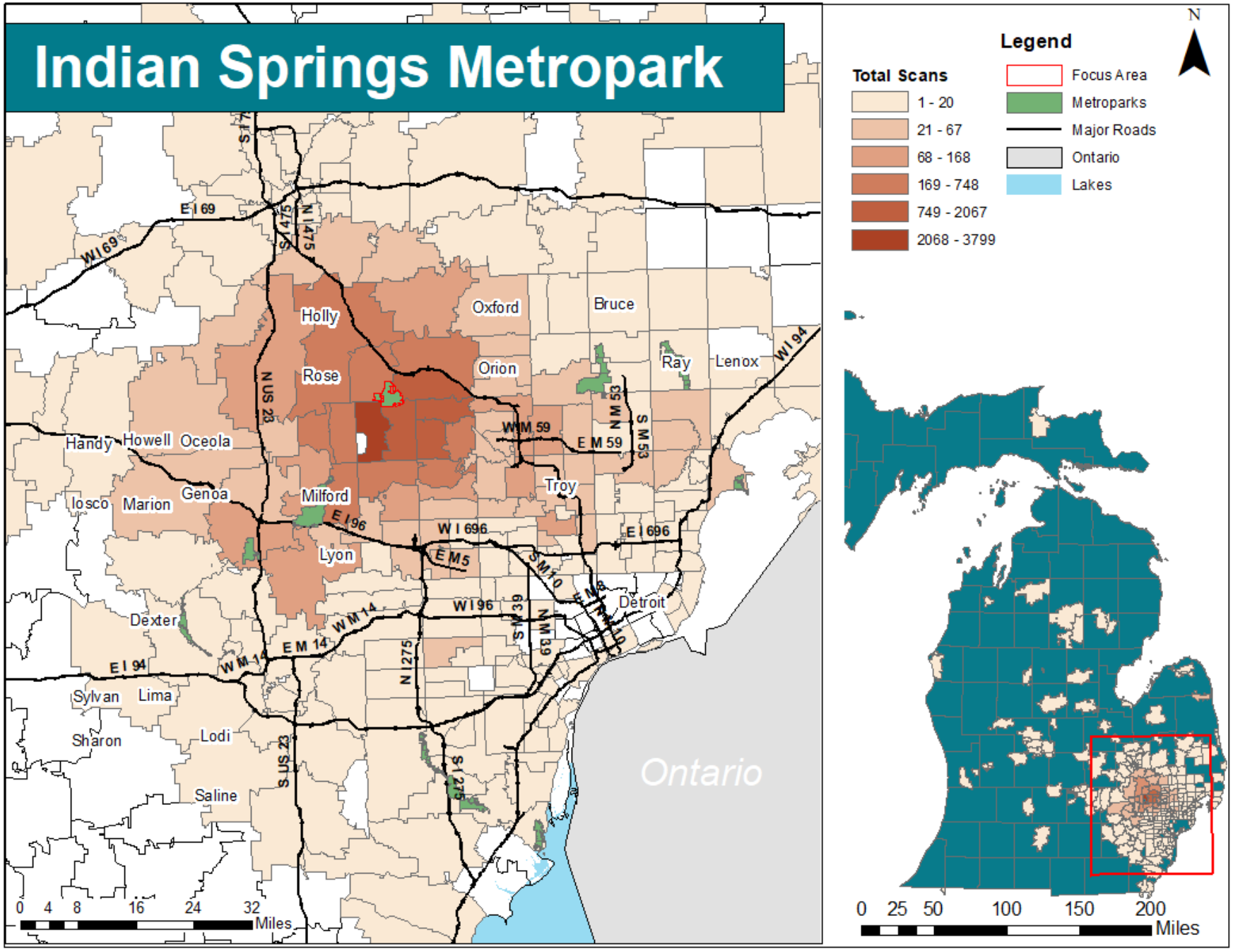
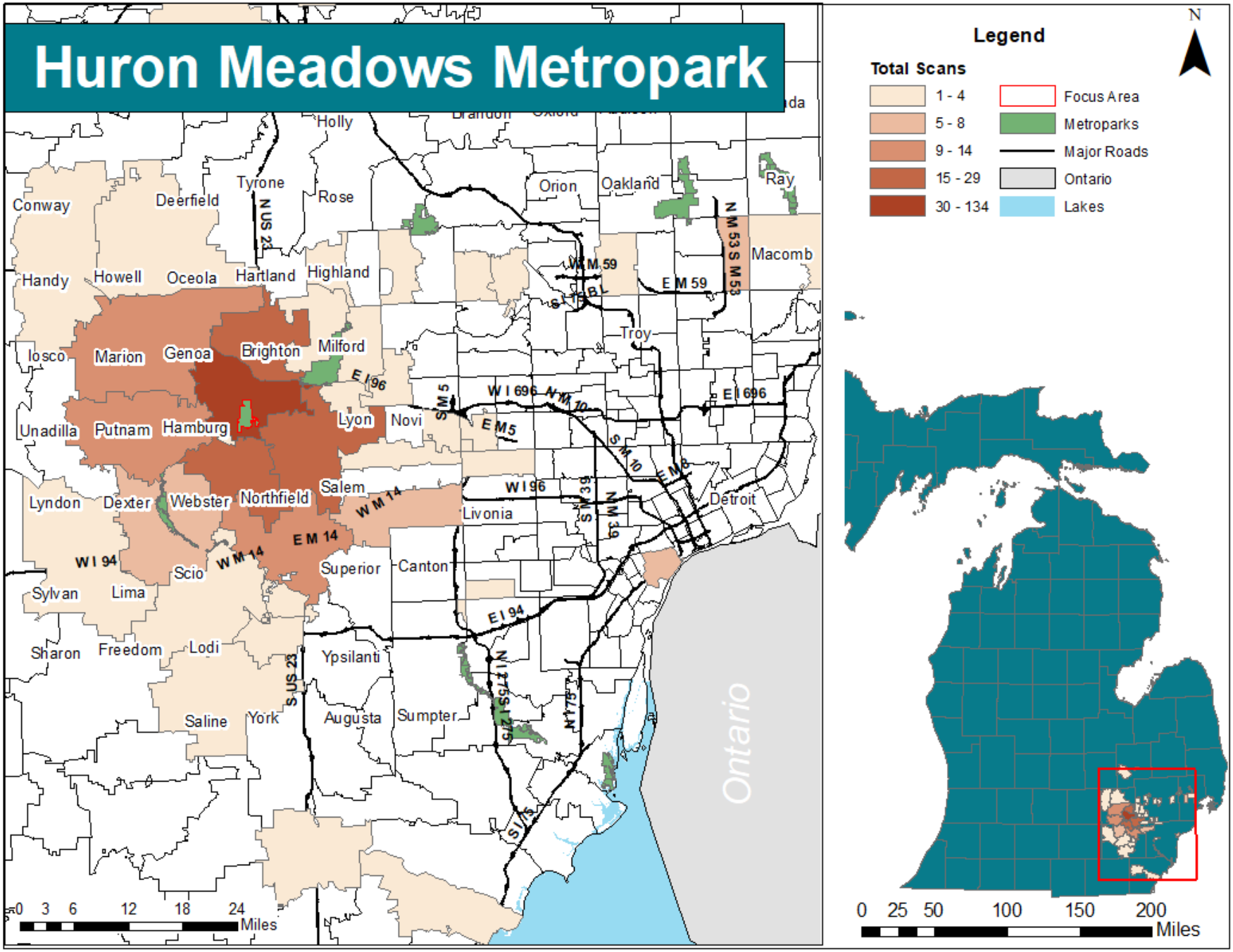


PARK SPECIFIC

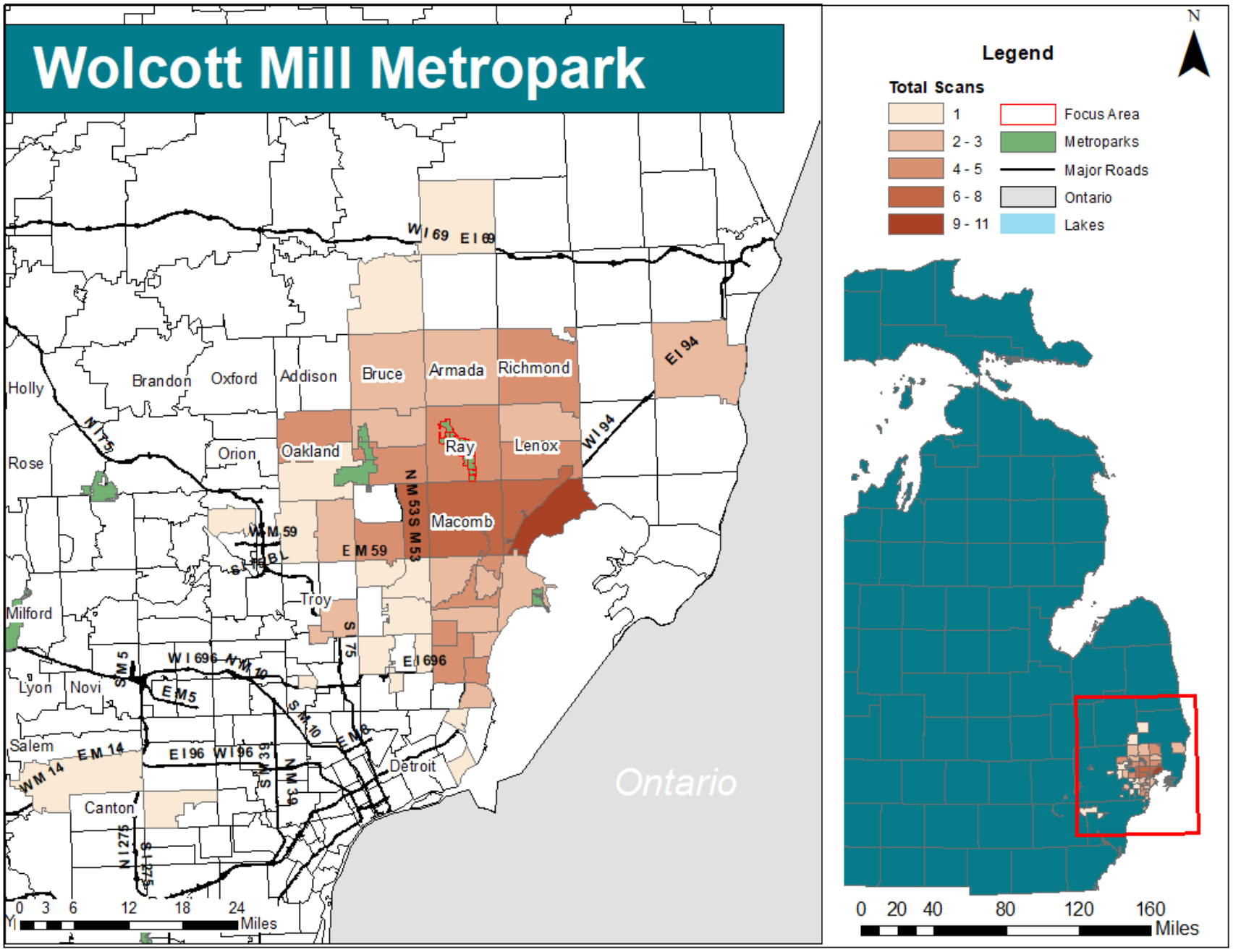
Barcode Scanning Report | Reporting Timeframe May 16 - September 15

Huron Meadows Metropark



PARK SPECIFIC

Barcode Scanning Report | Reporting Timeframe May 16 - September 15



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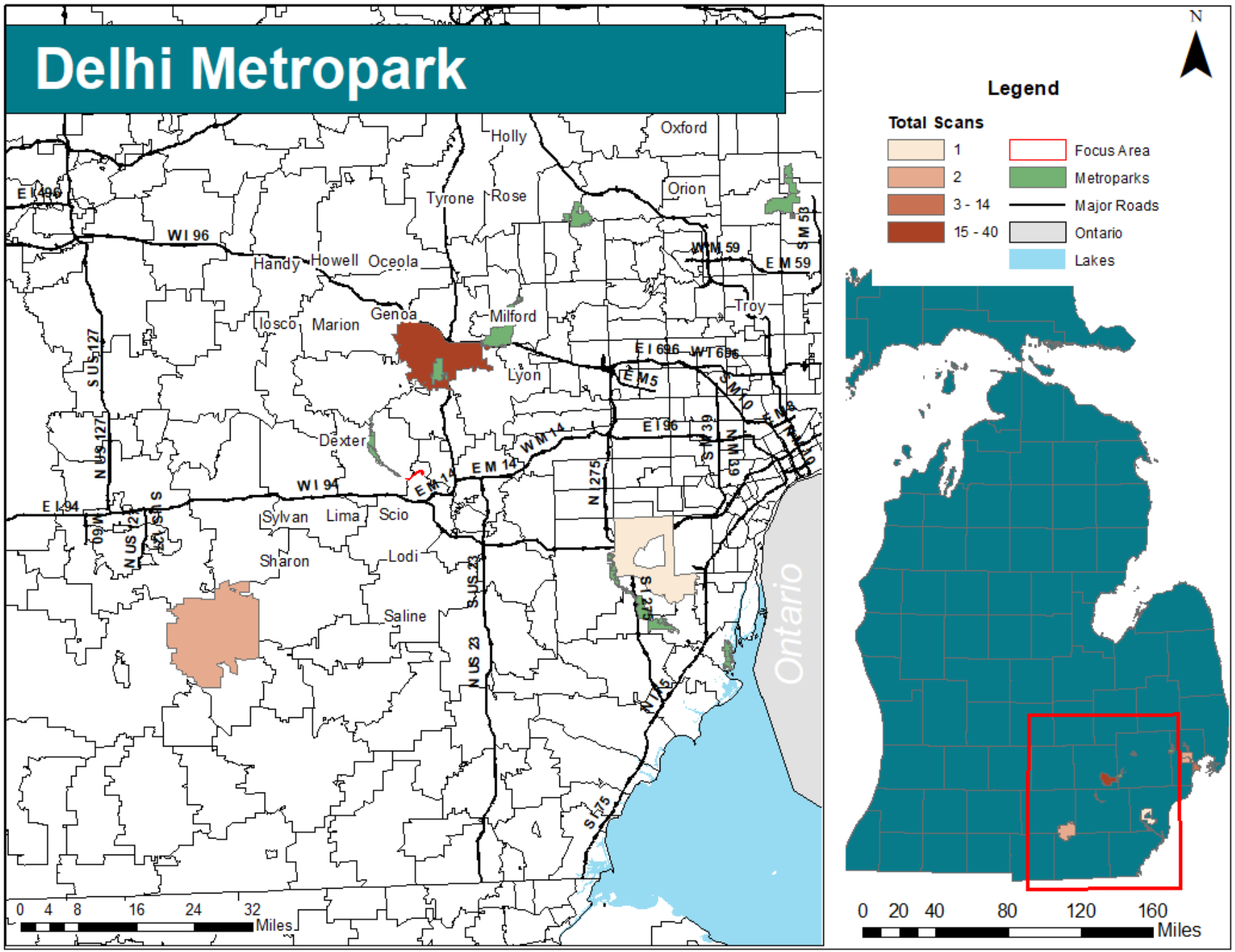

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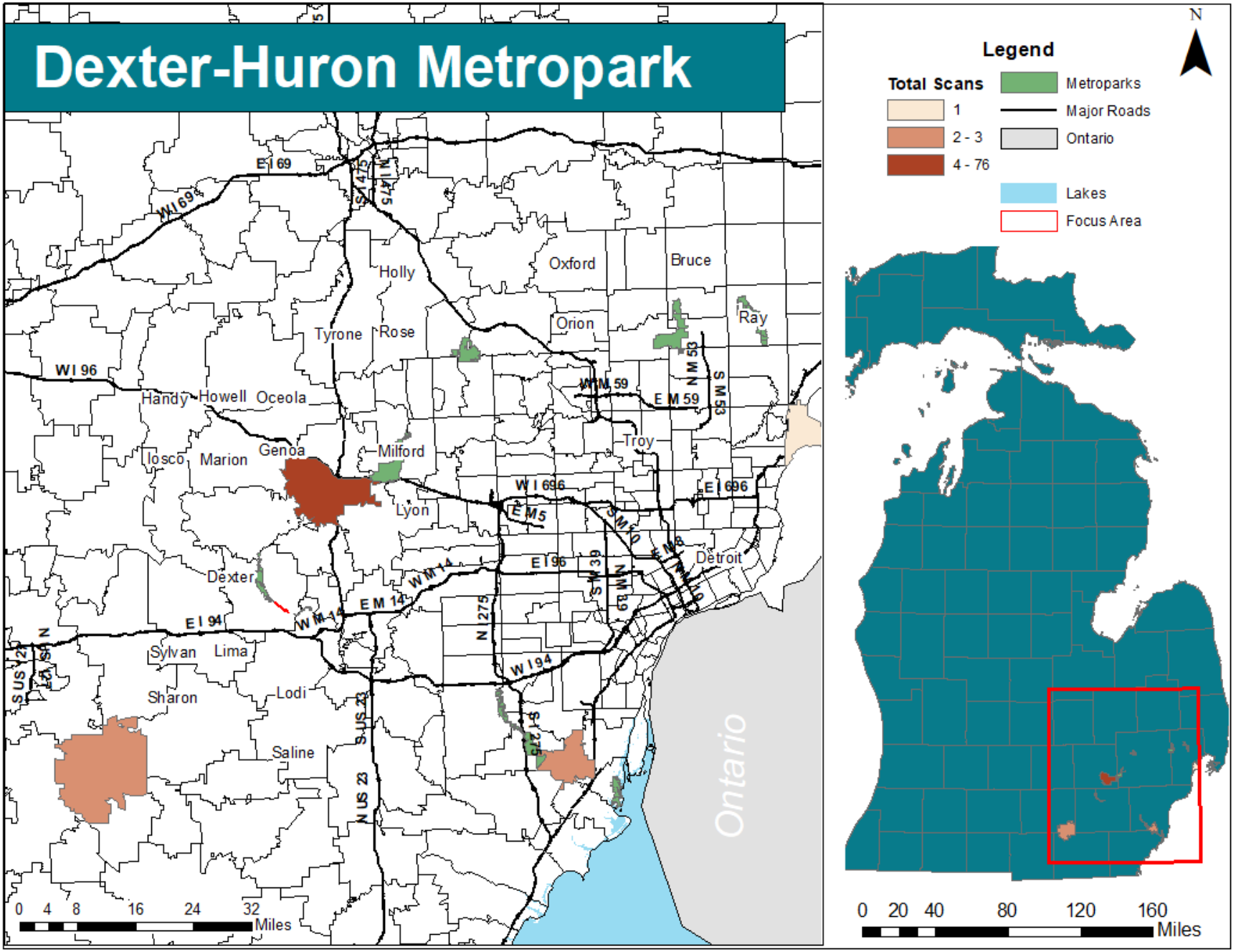
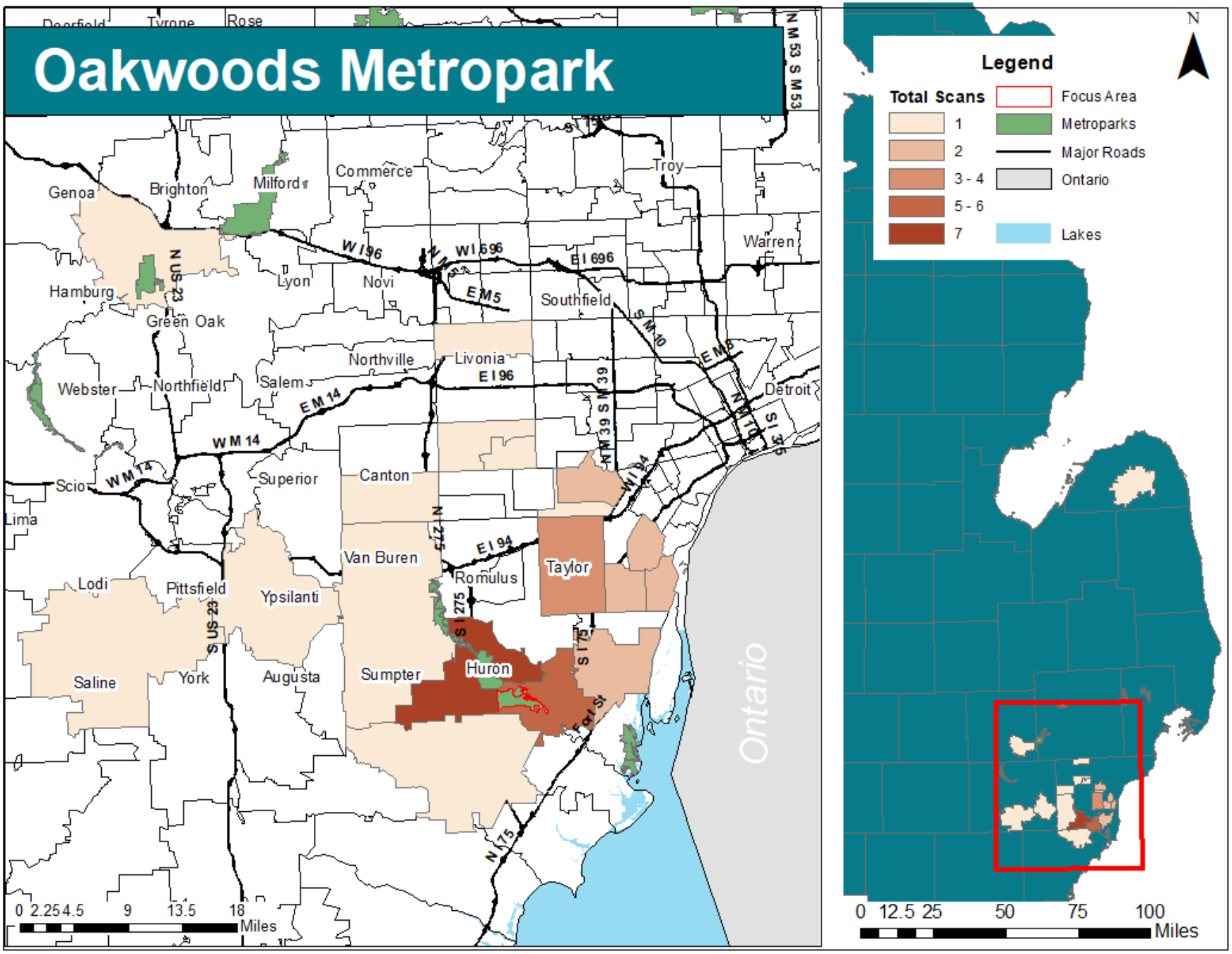


PARK SPECIFIC

Barcode Scanning Report | Reporting Timeframe May 16 - September 15



HURON-CLINTON metroparks

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Nina Kelly, Chief of Planning and Development
Subject: Approval – Maple Beach Playground Project Design Concept
Location: Kensington Metropark
Date: October 4, 2019

Action Requested: Motion to Approve

That the Board of Commissioners' approve the design concept for the Maple Beach Playground Project as recommended by Chief of Planning and Development Nina Kelly and staff.

Background: The first phase of the Maple Beach Redevelopment Project will include a new restroom building, an open turf area for setting up special event tents, an accessible path from the parking lot to the new building, existing trail and beach area.

The play structure currently on site (the "pirate ship") was initially anticipated for replacement as a subsequent project. In the spring 2019, Planning and Development staff began work on a creative funding and engagement strategy for completing the playground sooner. As of September 2019, the playground project is proposed for inclusion in the 2020 Capital Project Fund list at a $524,990 estimated cost.

The goal of this project is to create an accessible playground to be enjoyed by all park patrons inclusive of those with cognitive, emotional, physical and intellectual disabilities. To help guide design, development and fundraising, staff have worked with community advocates to form the FAIR (Fun, Accessible, Inclusive Recreation) Play Coalition. A Memoranda of Understanding with several FAIR Play organizations was approved by the Board at the May 2019 meeting for this purpose.

The proposed design concept herein evolved through a competition via the issuance of a request for proposals (RFP) from manufacturers for the equipment selection and layout. Presentations of the proposals received were made to the FAIR Play Coalition and input from these partners helped to guide the equipment selection with the recommended firms: Penchura for one specific piece (the We-Go-Round), and Midstates Recreation for the rest of the playground equipment.

If the design concept is approved and the Capital Project Fund budget is adopted to include the Maple Beach Playground Project, staff will bring a contract with both Penchura and Midstates to the Board for approval in early 2020.

Attachment: Maple Beach Playground Design Information

MAPLE BEACH ACCESSIBLE PLAYGROUND

HURON-CLINTON metroparks

7 PRINCIPLES OF UNIVERSAL DESIGN

	MAPLE BEACH PLAYGROUND DESIGN
Principle 1: Equitable Use The design is useful and marketable to people with diverse abilities.	✓
Principle 2: Flexibility in Use The design accommodates a wide range of individual preferences and abilities.	✓
Principle 3: Simple and Intuitive Use Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.	✓
Principle 4: Perceptible Information The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.	✓
Principle 5: Tolerance for Error The design minimizes hazards and the adverse consequences of accidental or unintended actions.	✓
Principle 6: Low Physical Effort The design can be used efficiently and comfortably and with a minimum of fatigue.	✓
Principle 7: Size and Space for Approach and Use Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.	✓

HURON-CLINTON metroparks

MAPLE BEACH PLAYGROUND: UNIVERSAL DESIGN ELEMENT HIGHLIGHTS

- Rubber surfacing for easy access, no mulch
- Ramped access to 3-foot and 4-foot deck heights
- Transfer stations at ground level and at upper deck levels to all 4 slides
- Dignity slide landings at the bottom of 2 slides
- Steel slide reduces static electricity build-up for those with Cochlear implants
- Multiple play features, including the swings, can be accessed at a transfer height
- Three isolated areas / cozy features for quieter play opportunities
- Multiple social play elements to encourage group play
- Color contrast to separate age groups and use areas
- We-Go-Round allows independent wheelchair access and use of the spinner
- Fabric canopies over the main structure reduce heat and provide shade
- Shade trees and benches for additional comfort

HURON-CLINTON metroparks

MAPLE BEACH PLAYGROUND: EQUIPMENT











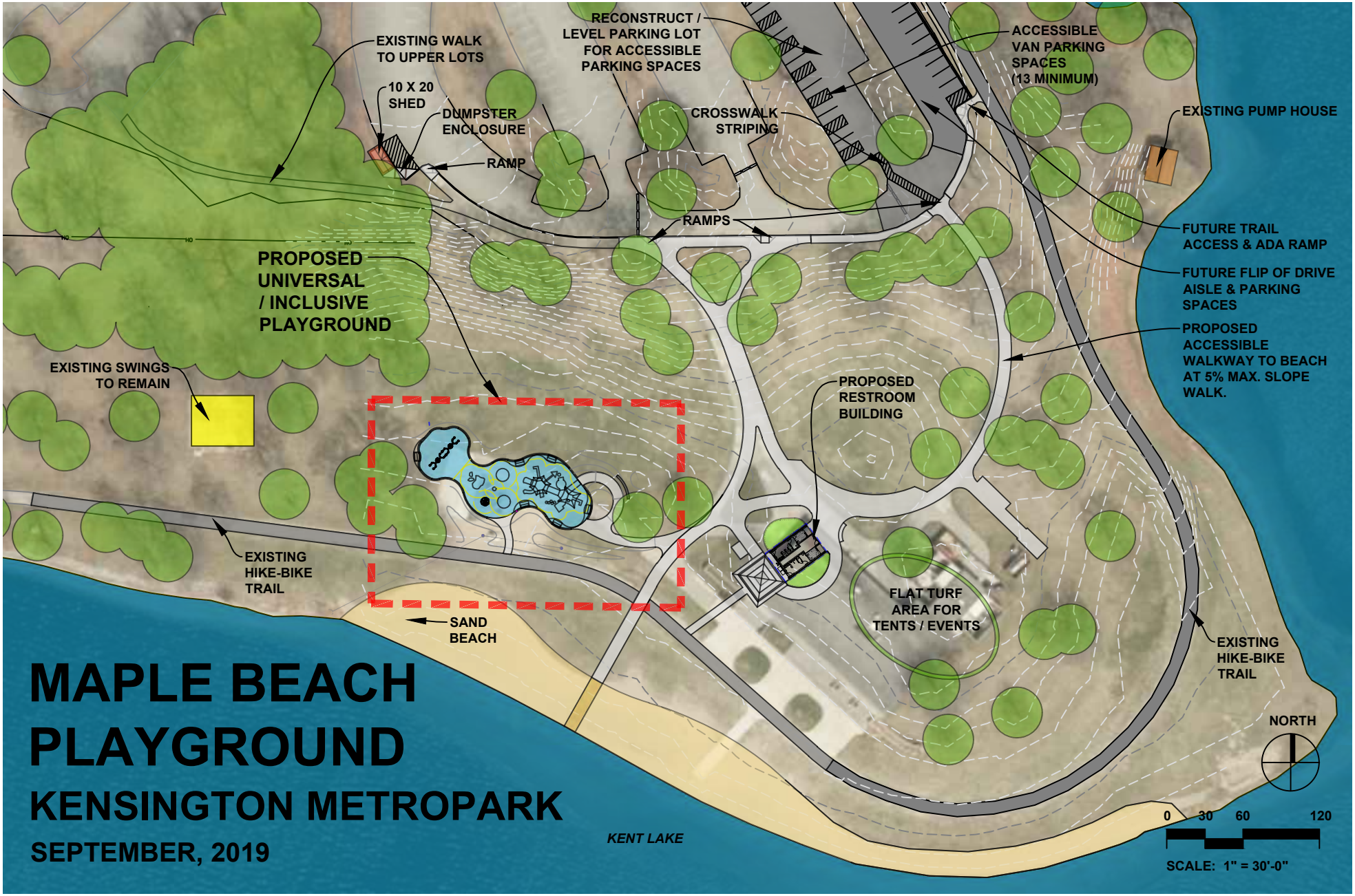

	Cozy Cocoon	We-go Round	Moon Rock Climber	Unity Rocker	Unity Hoopa Swings	Drop Zone Tower	Slide w/Dignity Landing	Slither Slide	Duo Rumble Seat Slide	Rope Climber	Round-About Climber	Babble on- talk tubes
Type of Play												
Swinging					x							
Climbing			x			x	x	x	x	x		
Spinning	x	x										
Rocking				x								
Sliding							x	x	x			
Balance										x		
Play Element/Attribute												
Upper body strength	x	x	x		x						x	
Balance		x	x	x	x	x	x		x	x	x	
Coordination										x	x	
Tactile experience/multi-sensory	x		x					x	x			
Imaginative play	x	x	x	x	x	x	x	x	x	x	x	x
Secure/quiet space	x	x	x									
Multi-generation use	x	x	x	x	x	x						
Social skills/collaboration		x	x	x	x				x			x
Inclusivity features (wheelchair access, body support, transfer height, etc.)	x	x	x	x	x		x	x	x			x

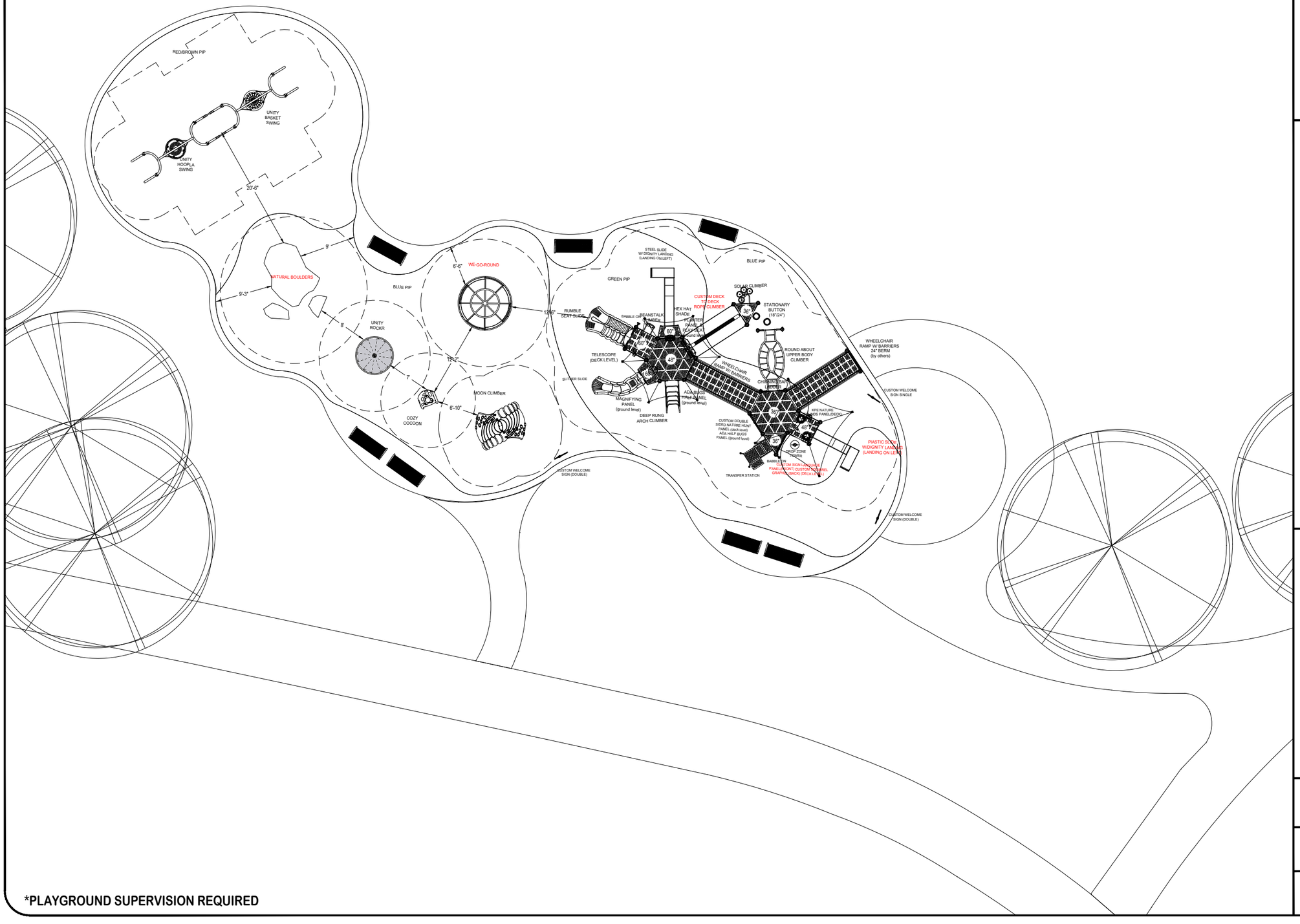
Note: Other features include access ramps, shade structures, tree plantings, benches, rubber surfacing, boulders, anywhere seats, bean stalk climber, telescope. Steel slide selected for less static for those with coclear implants






Panels	Window planter box (as a storefront)	Nature Hunt	sign language (similar type panel)	Magnifying panel	Nature sounds	Bug panel
Learning/Skill development		x	x	x	x	x
Imagination	x	x		x	x	x
Socialization/Group play	x	x	x	x		
Motor Skills			x	x	x	x
Interactive		x	x	x	x	x
Sensory/tactile	x			x	x	x
Auditory					x	


EXISTING WALK TO UPPER LOTS
10 X 20 SHED
DUMPSTER ENCLOSURE
RAMP
RECONSTRUCT / LEVEL PARKING LOT FOR ACCESSIBLE PARKING SPACES
CROSSWALK STRIPING
ACCESSIBLE VAN PARKING SPACES (13 MINIMUM)
EXISTING PUMP HOUSE
RAMPS
FUTURE TRAIL ACCESS & ADA RAMP
FUTURE FLIP OF DRIVE AISLE & PARKING SPACES
PROPOSED UNIVERSAL / INCLUSIVE PLAYGROUND
PROPOSED ACCESSIBLE WALKWAY TO BEACH AT 5% MAX. SLOPE WALK.
EXISTING SWINGS TO REMAIN
PROPOSED RESTROOM BUILDING
EXISTING HIKE-BIKE TRAIL
SAND BEACH
FLAT TURF AREA FOR TENTS / EVENTS
EXISTING HIKE-BIKE TRAIL
MAPLE BEACH PLAYGROUND
KENSINGTON METROPARK
SEPTEMBER, 2019
KENT LAKE
NORTH
0 30 60 120
SCALE: 1" = 30'-0"



*PLAYGROUND SUPERVISION REQUIRED

PLAYWORLD

Playworld
1000 Buffalo Road
Lewisburg, PA
17837-9795 USA

EQUIPMENT SIZE:
42'4" X 25'11" X 17'8"
5-12

USE ZONE:
91'8" X 59'6"

AREA:
5162 Sq. Ft.

PERIMETER:
385 FT

FALL HEIGHT:
8 Ft.

USER CAPACITY:
64

AGE GROUP:
2-5 + 5-12

ADA SCHEDULE	Total Elevated Play Activities: 9		
	Total Ground-Level Play Activities: 7		
	Accessible Elevated Activities	Accessible Ground-Level Activities	Accessible Ground-Level Play Types
Required	5	3	3
Provided	7	7	3

✓ ASTM F1487-17
✓ CPSC #325

PROJECT NO:
19-2127F

SCALE:
1/16"=1'0"

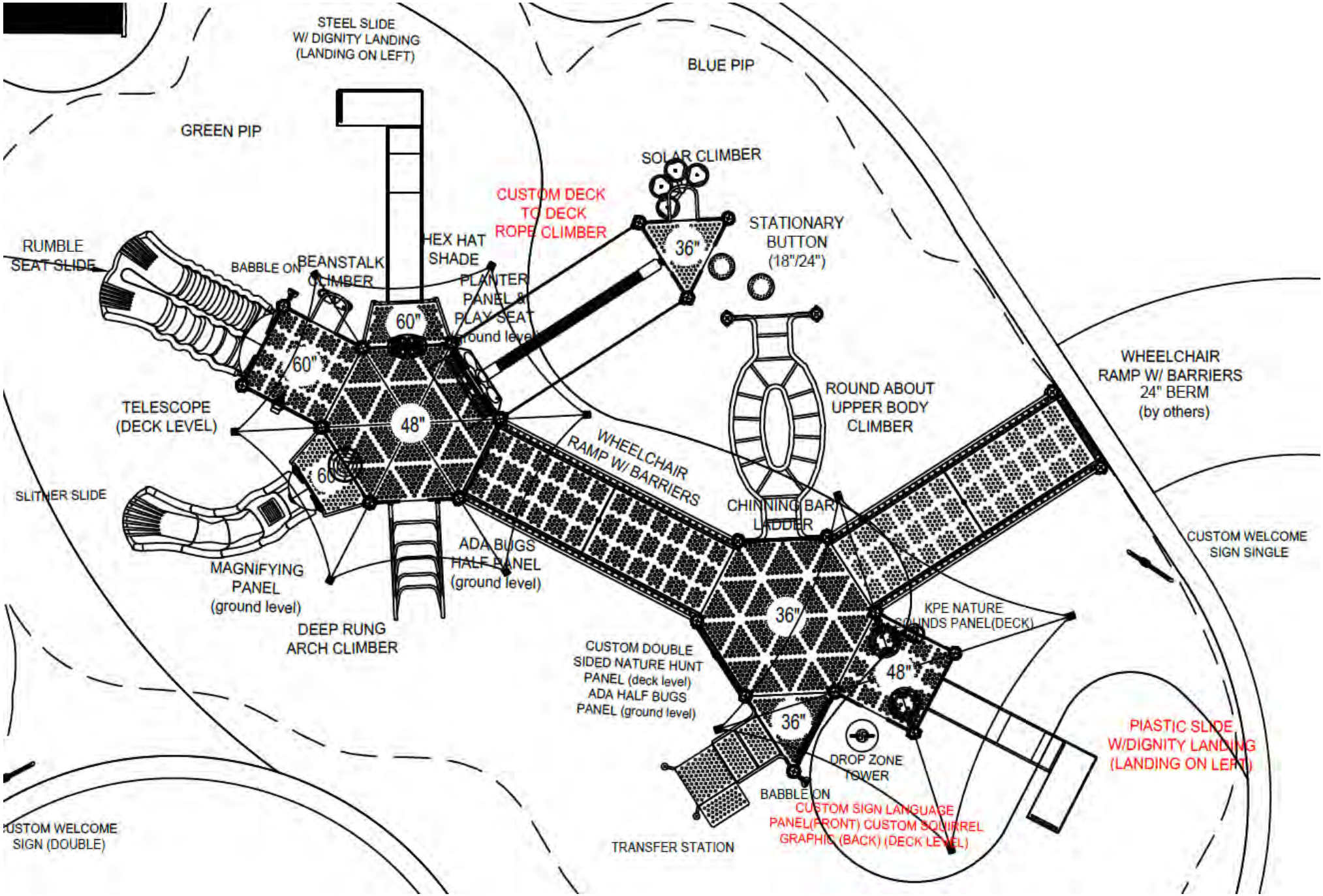
DRAWN BY:
DME

Paper Size
B

DATE:
9-20-2019

Maple Beach Playground - Kensington Metropark

Brighton, MI


STEEL SLIDE
W/ DIGNITY LANDING
(LANDING ON LEFT)
BLUE PIP
GREEN PIP
SOLAR CLIMBER
CUSTOM DECK
TO DECK
ROPE CLIMBER
STATIONARY
BUTTON
(18"/24")
RUMBLE
SEAT SLIDE
BABBLE ON
BEANSTALK
CLIMBER
HEX HAT
SHADE
PLANTER
PANEL &
PLAY SEAT
(ground level)
60"
60"
60"
48"
36"
TELESCOPE
(DECK LEVEL)
WHEELCHAIR
RAMP W/ BARRIERS
ROUND ABOUT
UPPER BODY
CLIMBER
WHEELCHAIR
RAMP W/ BARRIERS
24" BERM
(by others)
SLITHER SLIDE
CHINNING BAR/
LADDER
CUSTOM WELCOME
SIGN SINGLE
MAGNIFYING
PANEL
(ground level)
ADA BUGS
HALF PANEL
(ground level)
DEEP RUNG
ARCH CLIMBER
KPE NATURE
SOUNDS PANEL(DECK)
CUSTOM DOUBLE
SIDED NATURE HUNT
PANEL (deck level)
ADA HALF BUGS
PANEL (ground level)
36"
48"
36"
PIASTIC SLIDE
W/DIGNITY LANDING
(LANDING ON LEFT)
DROP ZONE
TOWER
BABBLE ON
CUSTOM SIGN LANGUAGE
PANEL(FRONT) CUSTOM SQUIRREL
GRAPHIC (BACK) (DECK LEVEL)
TRANSFER STATION
USTOM WELCOME
SIGN (DOUBLE)

COLORS USED

- CHARTREUSE
- SKY BLUE
- GREEN
- BEIGE
- AZURE

Maple Beach Playground
Kensington Metropark

Brighton, MI

19-2127F

Brion Kilpela

MIDSTATES RECREATION

COLORS USED

- CHARTREUSE
- SKY BLUE
- GREEN
- BEIGE
- AZURE

Maple Beach Playground
Kensington Metropark

Brighton, MI

19-2127F

Brion Kilpela

MIDSTATES RECREATION

COLORS USED

- CHARTREUSE
- SKY BLUE
- GREEN
- BEIGE
- AZURE

Maple Beach Playground
Kensington Metropark

Brighton, MI

19-2127F

Brion Kilpela

MIDSTATES RECREATION

COLORS USED

- CHARTREUSE
- SKY BLUE
- GREEN
- BEIGE
- AZURE

Maple Beach Playground
Kensington Metropark

Brighton, MI

19-2127F

Brion Kilpela

MIDSTATES RECREATION

COLORS USED

- CHARTREUSE
- SKY BLUE
- GREEN
- BEIGE
- AZURE

Maple Beach Playground
Kensington Metropark

Brighton, MI

19-2127F

Brion Kilpela

MIDSTATES RECREATION


COLORS USED
CHARTREUSE
SKY BLUE
GREEN
BEIGE
AZURE
Maple Beach Playground
Kensington Metropark
Brighton, MI
19-2127F
Brion Kilpela
MIDSTATES
RECREATION

COLORS USED

- CHARTREUSE
- SKY BLUE
- GREEN
- BEIGE
- AZURE

Maple Beach Playground
Kensington Metropark

Brighton, MI

19-2127F

Brion Kilpela

MIDSTATES RECREATION

COLORS USED

- CHARTREUSE
- SKY BLUE
- GREEN
- BEIGE
- AZURE

Maple Beach Playground
Kensington Metropark

Brighton, MI

19-2127F

Brion Kilpela

MIDSTATES RECREATION

COLORS USED

- CHARTREUSE
- SKY BLUE
- GREEN
- BEIGE
- AZURE

Maple Beach Playground
Kensington Metropark

Brighton, MI

19-2127F

Brion Kilpela

MIDSTATES RECREATION


COLORS USED
CHARTREUSE
SKY BLUE
GREEN
BEIGE
AZURE
Maple Beach Playground
Kensington Metropark
Brighton, MI
19-2127F
Brion Kilpela
MIDSTATES
RECREATION

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Nina Kelly, Chief of Planning and Development
Subject: Approval - EGLE Non-Point Source Pollution Grant Application
Location: Lake St. Clair Metropark
Date: October 4, 2019

Action Requested: Motion to Approve

That the Board of Commissioners approve the Michigan Department of Environment, Great Lakes, and Energy (EGLE) non-point source pollution (NPS) grant application and associated match required for the Beach Restoration Project at Lake St. Clair Metropark as recommended by Chief of Planning and Development Nina Kelly and staff.

Fiscal Impact: The total cost of the proposed project is estimated at $300,000, with $200,000 requested in grant funding and $100,000 in matching funds from the Metroparks, which may include cash and in-kind services.

Background: In 2018, Macomb County hired Environmental Consulting and Technology, Inc. (ECT) to develop a beach restoration concept in coordination with staff from the Metroparks, several Macomb County departments (Planning and Economic Development, Public Works, Health Department), the Clinton River Watershed Council, and other partners.

The proposed grant project will implement the conceptual design, which was approved by the Board in November 2018. It will feature plantings such as tall grasses and trees, sand screens, and acoustic bird deterrents. Interpretive signs will be installed to share project benefits.

Planning and Development staff submitted a letter of intent to the EGLE NPS Program in August and received an invitation to submit a full proposal by Oct. 11, 2019. The announcement of grant awards is anticipated for early summer 2020.

Attachment: Beach Concept Renderings

Lake St. Clair Metropark Beach Restoration Concept
View 1

ECT Environmental Consulting & Technology, Inc.

Lake St. Clair Metropark Beach Restoration Concept
View 2

ECT Environmental Consulting & Technology, Inc.

Lake St. Clair Metropark Beach Restoration Concept
View 3

Environmental Consulting & Technology, Inc.

OCTOBER 2018

LAKE ST. CLAIR METROPARK BEACH RESTORATION CONCEPT

ECT Environmental Consulting & Technology, Inc.

SCALE: 1" = 50' @ 24x36

0 50' 100'

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Nina Kelly, Chief of Planning and Development
Subject: Report - Draft ADA Transition Plan Update Presentation
Date: October 4, 2019

Action Requested: Motion to Receive and File

That the Board of Commissioners receive and file the presentation of the draft ADA Transition Plan update as presented by Chief of Planning and Development Nina Kelly and staff.

Background: The draft plan will be posted online for public review and comment through Oct. 9, 2019 at www.metroparks.com/about-us/planning-department-2/.

The draft plan was share via social media and directly via email with the FAIR Play Coalition, a committee of individuals and organization representatives from across the five-county region helping to guide accessibility-related projects throughout the Metroparks.

Revisions will be made following the presentation, and a request for approval of the final plan will be made at the Board of Commissioners' meeting at the Nov. 14, 2019.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Nina Kelly, Chief of Planning and Development
Subject: Report – North Branch Greenway Partnership Project
Date: October 3, 2019

Action Requested: Motion to Receive and File

That the Board of Commissioners' receive and file the North Branch Greenway Partnership Project report as recommended by Chief of Planning and Development Nina Kelly and staff.

Fiscal Impact: The Metroparks has committed to a $1,000 cash match for a $32,740 planning grant received by Macomb County Planning and Economic Development through the Southeast Michigan Council of Governments (SEMCOG). The $1,000 match has been allocated from the Planning and Development Department Professional Services account.

Background: The grant funding will be used to hire a consultant to facilitate development of planning and outreach activities regarding a greenway along the North Branch of the Clinton River throughout Macomb County.

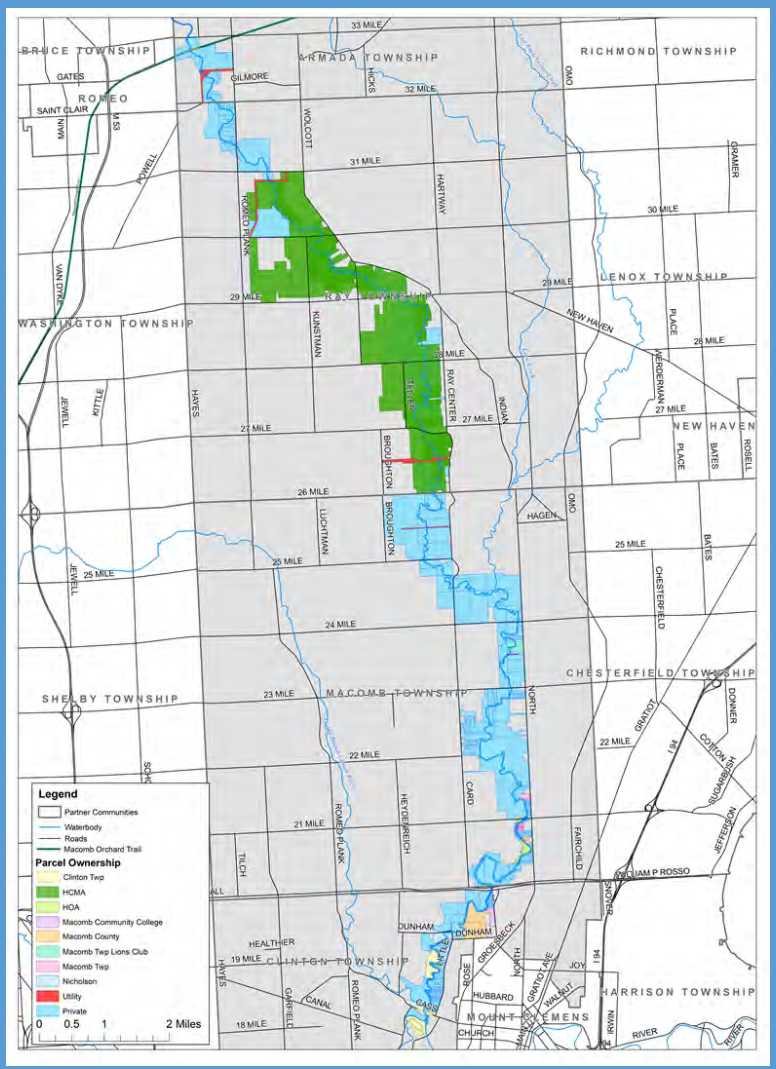
The total project cost is $40,000; additional matching funds were committed from Macomb County, the Clinton River Watershed Council, and Six Rivers Land Conservancy. Per the grant requirements, the project is to be completed by June 2020.

Attachment: North Branch Greenway Partnership Information Sheet

North Branch Greenway Partnership

Floodplain, Greenway and Trails Planning

Project Study Area



Project Goals:

The main goal of the project is to reduce potential flooding within the North Branch of the Clinton River and its tributaries. Another primary goal is to develop a strategic partnership with communities to protect the riparian areas along the North Branch of the Clinton River and provide connectivity throughout Macomb County as a greenway and recreational parkland.

Objectives:

- Establish a partnership of local governments and regional agencies to guide and implement strategies for greenway that include floodplain conservation and recreational opportunities
- Construct a flood model of future development in the North Branch
- Develop a guide for local governments to assist in policy development, master planning documents, ordinance development, land acquisition, parkland development
- Create graphics to be used in adopted programming for all agencies and communities involved
- Give a formal presentation to each of the local communities, funding agencies and other regional partners to formalize the process and move forward on action steps

Project Timeline:

Community Outreach and Brainstorming

Floodplain Model

Partnership Workshops (Location, prioritization and recreational opportunities)

Guide for land use/ land acquisition strategies

Graphics for local Governments

Implementation "Road Map"

August 2019

June 2020

Planning & Economic Development

Six Rivers Land Conservancy

CRWC Clinton River Watershed Council

HURON-CLINTON metroparks

Ray Township Michigan

Green MACOMB

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Nina Kelly, Chief of Planning and Development
Subject: Approval – Huron-Clinton Metroparks Storm Water Management Plan
Date: October 4, 2019

Action Requested: Motion to Approve

That the Board of Commissioners approve the systemwide Storm Water Management Plan (SWMP) prepared by OHM Advisors, as recommended by Chief of Planning and Development Nina Kelly and staff.

Fiscal Impact: This plan was funded primarily through a Storm Water, Asset Management, and Wastewater (SAW) grant awarded to the Metroparks in late 2016. In July 2018, the Board awarded the storm water management plan contract to OHM Advisors in the amount of $456,000 through the Engineering Department Professional Services account. In April 2019, an additional scope of services for data compilation and organization was approved for a not-to-exceed amount of $24,800, bringing the project total to $480,800. Of this total, approximately $432,720 will be reimbursed by the SAW grant. The total SAW grant awarded was more than $1.9 million. Because the SWMP has been completed within the first $1 million of the total project, 90 percent of the cost of this plan is reimbursable.

Background: The purpose of the SWMP is to provide a comprehensive review and analysis of the existing storm water system at each Metropark in addition to a prioritized list of projects recommended for maintenance and improvements. All work on the SWMP must be completed by Oct. 31, 2019 to be eligible for reimbursement through the SAW Grant.

Representatives from OHM Advisors will present a summary of the plan and process.

Attachment: Storm Water Executive Summary

HURON-CLINTON metroparks

Huron-Clinton Metropark Authority
Stormwater Management Plan

September 2019

Prepared by: OHM

Huron-Clinton Metropark Authority

Stormwater Management Plan Executive Summary

Introduction

The Huron-Clinton Metropark Authority (HCMA) received a grant from the State of Michigan Stormwater, Asset Management, and Wastewater (SAW) funding program in 2016 and subsequently retained OHM Advisors to perform a comprehensive review and analysis of the existing stormwater conveyance system and develop a stormwater management plan (SWMP) for improvement and maintenance projects that prioritize reduction of impacts on water quality. This SWMP includes concepts and preliminary details for the design, construction, and operation and maintenance of the HCMA stormwater system, which allows for safe conveyance of runoff during wet weather events. Streambank and shoreline assessments, as well as stormwater conveyance structures such as outfalls, culverts, and oil and grit separators were also investigated during reconnaissance-level evaluations for this SWMP.

This SWMP contains a review of the existing stormwater conveyance system of each park under the Huron-Clinton Metropark Authority as well as identification of areas of concern, recommendations for physical improvements intended to increase water quality, and relative preliminary cost opinions.

Project Overview

The first step in the planning process was to conduct a field study. Baseline data was collected, including identification of community comments and concerns, evaluation of stream channel and shorelines within park boundaries, inspection of culverts under 50 feet in length, outfalls, and oil and grit separators. More information regarding the field study and baseline condition assessment can be found in the individual park reports. Overall, the system was found to be in fair condition, with areas of high erosion on streams and shorelines, blocked or damaged culverts and outfalls, and invasive species.

After completion of field conditions assessments, park specific capital improvement recommendations were made regarding stormwater conveyance structure maintenance and replacement, streambank restoration, shoreline protection, and green infrastructure projects that are intended to enhance water quality and stormwater conveyance. The general recommendations to HCMA are to take advantage of the funding opportunities available to a large park system for green infrastructure improvements and streambank and shoreline restoration to produce the greatest improvement in water quality. Routine maintenance of stormwater conveyance structures such as outfalls, culverts, and oil and grit separators will ensure water continues to flow unobstructed to these improvements and away from park infrastructure such as trails and parking lots. Capital improvement projects outlined in this report can also be used to engage stakeholders and promote

environmental stewardship, creating opportunities for education that will create a healthier watershed even outside of the park system.

Background, Methodology, and Summary

The Huron-Clinton Metropolitan Authority is a regional park system established in 1940 in Southeast Michigan that is designed to provide excellent recreational and educational opportunities in addition to serving as steward for the natural resources within the system. HCMA is a regional special park district encompassing Livingston, Macomb, Oakland, Washtenaw, and Wayne counties. Currently, the 13 Metroparks cover almost 25,000 acres in the Huron and Clinton River watersheds. For this project approximately 94 miles of streambank, 65 miles of shoreline, 191 outfalls, and 600 culverts were assessed using the methodologies outlined in the sections below. The goal of this document is to provide guidance to improve water quality within the park system by prioritizing capital improvement projects for future implementation. Each individual park report includes detailed findings and capital improvement recommendations. All data can also be referenced in the GIS package delivered to HCMA as part of this report.

Outfall and Culvert Inspection Summary

As part of field inspection, 191 outfalls and 600 culverts were inspected for structural soundness and conveyance functionality and were GPS located. Each structure was given a unique identifier according to the following format: Structure Abbreviation-Park Abbreviation-Number. The abbreviations SDC or Stormwater Discharge Culvert is used for outfalls and the abbreviation CUL or culvert is used for culverts. A table of park abbreviations can be found at the end of this document (Table 14). Each structure was rated for overall condition, where *new* is the highest rating and *failing* is the lowest rating. Structures rated *failing* are in need of immediate replacement or repair. Structures that are 75% blocked or more are in need of immediate clean out. Structures that have developing blockages (49-74%) will likely need to be cleaned out in the near future, but currently still function at an acceptable level for the purpose of this project. Information was collected to determine the type of surface located above the culvert, culvert diameter and material, and the type of bank stabilization present around the culvert. Data was also recorded to determine outfall diameter, material, and the note any water quality issues present. While individual park reports contain much of this information, the full suite of data can be found in the GIS data package. While every effort was made to locate all outfalls and culverts within the Metroparks system, it may be necessary to add to this database as additional culverts or outfalls are discovered or constructed. Repair costs in Tables 1 (culverts) and 2 (outfalls) are estimated based on structure condition, diameter, and length (outfall assumption is that 50 feet of pipe will need to be replaced). Specific replacement costs, locations, and information can be found in each park report and the included maps.

Table 1. Summary of Culvert Condition and Maintenance Needs.

Culvert Rating	Number of Culverts	Culverts Needing Immediate Cleanout	Culverts Needing Future Cleanout	Culverts Needing Replacement or Repair
New	17	0	0	0
Fair	257	6	34	0
Moderate	182	22	53	0
Poor	81	35*	19*	81
Failing	55	27*	5*	55
Total:	592	89*	115*	138
Repair Cost:		**$4,906**	**$17,822**	**$739,908**

* Will likely be replaced instead of cleaned out.

Table 2. Summary of Outfall Condition and Maintenance Needs.

Outfall Rating	Number of Outfalls	Outfalls Needing Immediate Cleanout	Outfalls Needing Future Cleanout	Outfalls Needing Replacement or Repair
New	16	0	0	0
Fair	96	0	7	0
Good	45	1	12	0
Poor	24	9*	3	23
Failing	10	1*	3	10
Total:	191	11*	25*	33
Repair Cost:		**$175**	**$3,975**	**$216,250**

* Will likely be replaced instead of cleaned out.

Shoreline Summary

As part of field inspection, 65 miles of shoreline were inspected to determine shoreline type and assess erosion severity. Overall shoreline condition was rated according to the severity of slumping present. A rating of *major* indicates that there is severe erosion which is removing soil from the bank, likely causing undercutting and a bank angle at or above 90 degrees. Areas rated *major* have been given unique site identifiers and are in need of immediate restoration attention to prevent further damage and deterioration of the shoreline. Site identifiers are structured as follows: SLR-Park Name-Number where SLR stands for ShoreLine Rehabilitation and park abbreviations can be found in Table 14 at the end of this document. If funds permit, areas rated *minor* should be considered for restoration in the future to prevent further degradation of bank stability. Some areas with excessive invasive species were also recommended for rehabilitation based on plant density and species present. See Table 3 below for a preliminary restoration cost opinion summary and Table 4 for descriptions of each shoreline type recorded. Refer to the GIS package for more information on where each type of shoreline is found in the system. Restoration costs are estimated based on slumping severity, length of shoreline needing restoration, and the restoration method recommended for the area. See the pages 5-6 for more detail on cost opinions.

Table 3. Summary of Park-wide Shoreline Erosion Condition and Restoration Costs

Erosion Condition	Length of Shoreline (ft)
Major	16,119
Minor	167,510
None	153,283
Total:	**336,912**
Park-wide Restoration Cost Details A-D:	**$234,079**
Park-wide Restoration Cost Detail E (Invasive Species Removal):	**$56,380**

Table 4. Shoreline Type Descriptions based on NOAA Shoreline Assessment Manual, 4th Edition.

Shoreline Type	Description
Vegetated Low Banks	Low banks with grasses or trees and tree roots exposed to water that are occasionally flooded by high water. These are usually formed by typical turf grass.
Freshwater Marsh	Grassy wetlands composed of emergent vegetation where resident flora and fauna are abundant. These usually contain taller native grasses in combination with wetland emergent plants like rushes and sedges.
Scrub Shrub Wetland	Composed mainly of small trees and shrubs whose lower leaves are typically flooded during high water. Generally highly productive, serving as nursery habitat and supporting a great diversity of plant and animal species.
Sand Beach	Flat to moderately sloping beach with fine to medium grain sand that is relatively hard packed.
Riprap	Shorelines composed of cobble to boulder sized blocks of rock or concrete used for shoreline protection or breakwaters.
Eroding scarps in Unconsolidated Sediments	A very steep bank or slope made of and surrounded by loose particulate material such as sand, clay, gravel, etc.
Sheltered Solid Man-made Structures	Solid, man-made structures like sea walls or piers that are constructed of concrete, wood, or metal and are built to protect the shoreline, often of single lots or areas that are less exposed to boat wakes and other rapid removal processes. Often there can be dense attachments of animal or plant life present due to the decrease in removal stressors.
Exposed Solid Man-made Structures	Solid, man-made structures like sea walls or piers that are constructed of concrete, wood, or metal and are built to protect the shoreline from erosion by waves, boat wakes, and currents. They are exposed to rapid natural removal processes because of this, and often there are few attached animals or plants present.

OPINION OF PROBABLE CONSTRUCTION COST

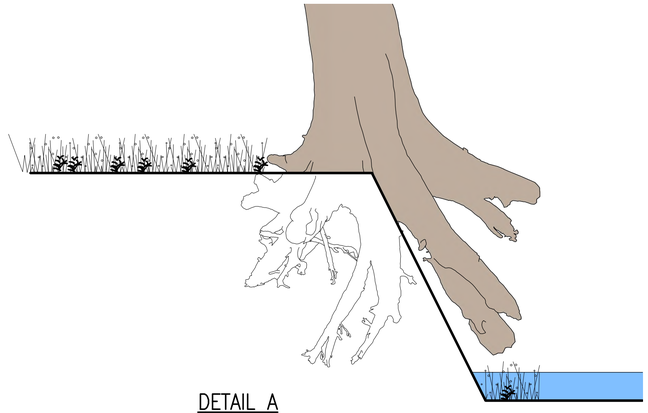
ORCHARD, HILTZ & McCLIMENT, INC.
34000 Plymouth Road, Livonia, Michigan, 48150
Telephone: (734) 522-6711 FAX: (734) 522-6427

PROJECT: Lakeshore Stabilization
LOCATION: Huron Clinton Metroparks
WORK: Lakeshore Stabilization

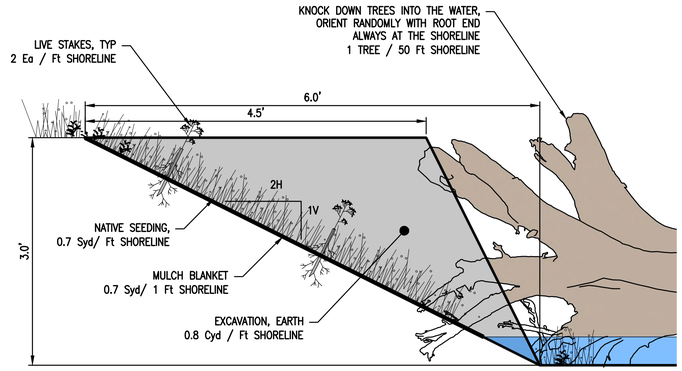
DATE: June 27, 2019
PROJECT #: 0659-18-0010
ESTIMATOR: MPB
CHECKED BY:
CURRENT ENR:

ITEM CODE	DESCRIPTION	UNIT	TOTAL	UNIT PRICE	COST
	DETAIL A - Cost/Ft				
2020004	Tree, Rem, 6 inch to 18 inch	Ea	0.02	$ 100.00	$ 2.00
2050016	Excavation, Earth	Cyd	0.8	$ 10.00	$ 8.00
8160027	Mulch Blanket	Syd	0.7	$ 1.00	$ 0.70
8167011	Native Seeding	Syd	0.7	$ 5.00	$ 3.50
8507050	Live Stakes	Ea	2	$ 0.10	$ 0.20
8507051	Contingency, 30%, Detail A	LSUM	1	$ 4.32	$ 4.32
	DETAIL B - Cost/Ft				
2050016	Excavation, Earth	Cyd	3	$ 10.00	$ 30.00
8160027	Mulch Blanket	Syd	1.5	$ 1.00	$ 1.50
8167011	Native Seeding	Syd	1.5	$ 5.00	$ 7.50
8507050	Live Stakes	Ea	5	$ 0.10	$ 0.50
8507051	Contingency, 30%, Detail B	LSUM	1	$ 12.00	$ 12.00
	DETAIL C - Cost/Ft				
3080005	Geotextile, Separator	Syd	0.7	$ 1.25	$ 0.88
8130007	Riprap, Heavy, LM	Cyd	0.2	$ 100.00	$ 20.00
8507051	Contingency, 30%, Detail C	LSUM	1	$ 6.30	$ 6.30
	DETAIL D - Cost/Ft				
2050016	Excavation, Earth	Cyd	0.1	$ 10.00	$ 1.00
3080005	Geotextile, Separator	Syd	0.7	$ 1.25	$ 0.88
8160027	Mulch Blanket	Syd	0.6	$ 1.00	$ 0.60
8160064	Topsoil Surface, Furn, 6 inch	Syd	0.1	$ 4.00	$ 0.40
8167011	Native Seeding	Syd	0.6	$ 5.00	$ 3.00
8507051	Contingency, 30%, Detail D	LSUM	1	$ 1.80	$ 1.80
	DETAIL E - Cost/Ft				
8507012	Invasive Species Removal	Acre	0.0005	$ 3,000.00	$ 1.38
8507051	Contingency, 30%, Detail E	LSUM	1	$ 0.41	$ 0.41

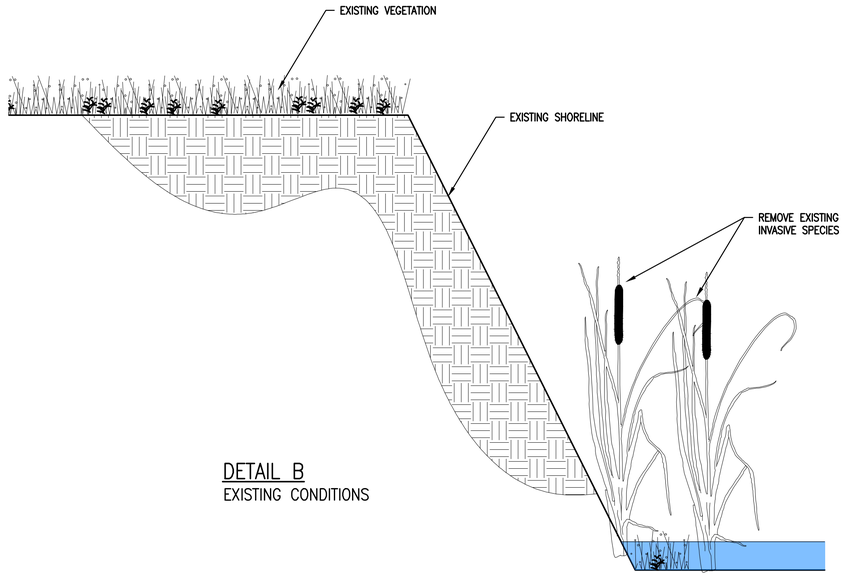
UNIT PRICE - DETAIL A	$ 19.00
UNIT PRICE - DETAIL B	$ 52.00
UNIT PRICE - DETAIL C	$ 27.00
UNIT PRICE - DETAIL D	$ 8.00
UNIT PRICE - DETAIL E	$ 2.00



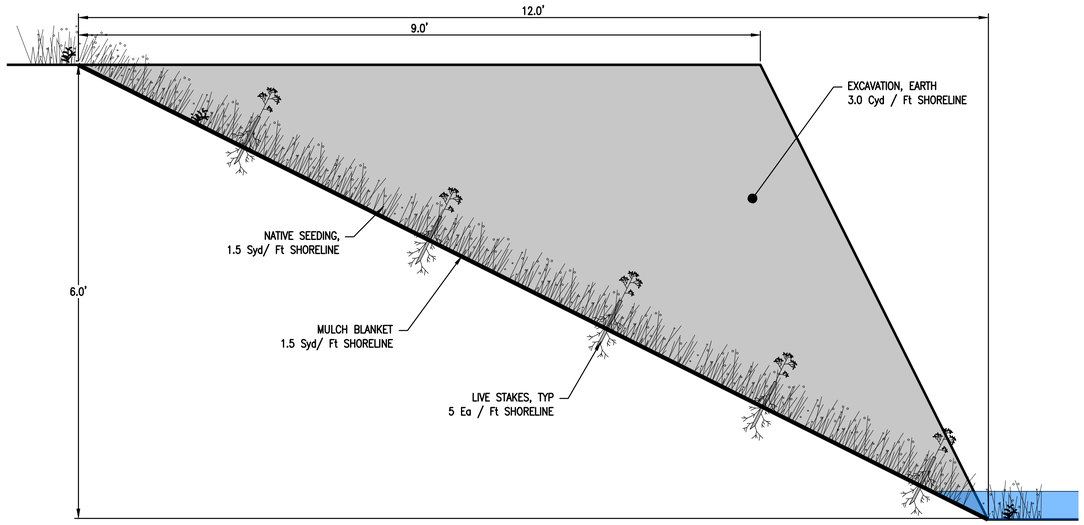
DETAIL A
EXISTING CONDITIONS



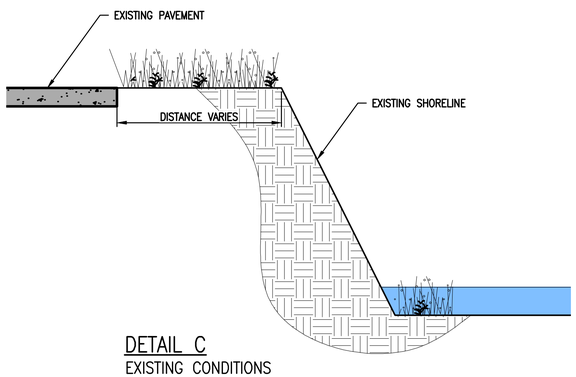
DETAIL A
PROPOSED CROSS SECTION



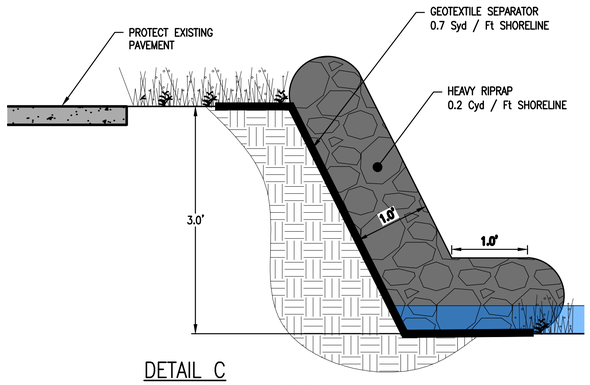
DETAIL B
EXISTING CONDITIONS



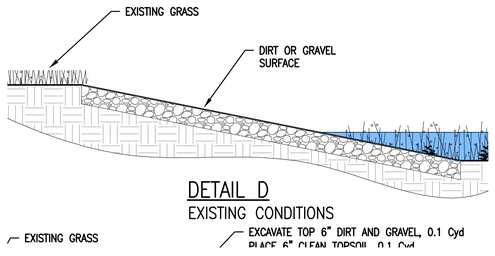
DETAIL B
PROPOSED CROSS SECTION



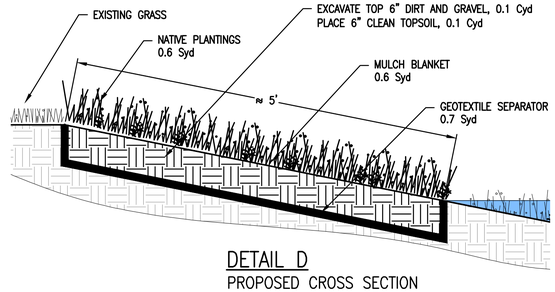
DETAIL C
EXISTING CONDITIONS



DETAIL C
PROPOSED CROSS SECTION



DETAIL D
EXISTING CONDITIONS



DETAIL D
PROPOSED CROSS SECTION

OHM
ARCHITECTS ENGINEERS PLANNERS
OHM-ADVISORS.COM

REVISIONS:
###

DATE ### | PROJ NUMBER ########## | ENG ### | PROJ MGR ## | CADD ##### | COUNTY ###### | CITY/VILLAGE/TOWNSHIP ### | SCALE H: 1"=40' V: 1"=4' | HORIZ DATUM ####### | VERT DATUM #######

HURON CLINTON METRO AUTHORITY
SHORELINE STABILIZATION
REMOVAL AND ACCESS PLAN
SHORELINE STABILIZATION DETAILS

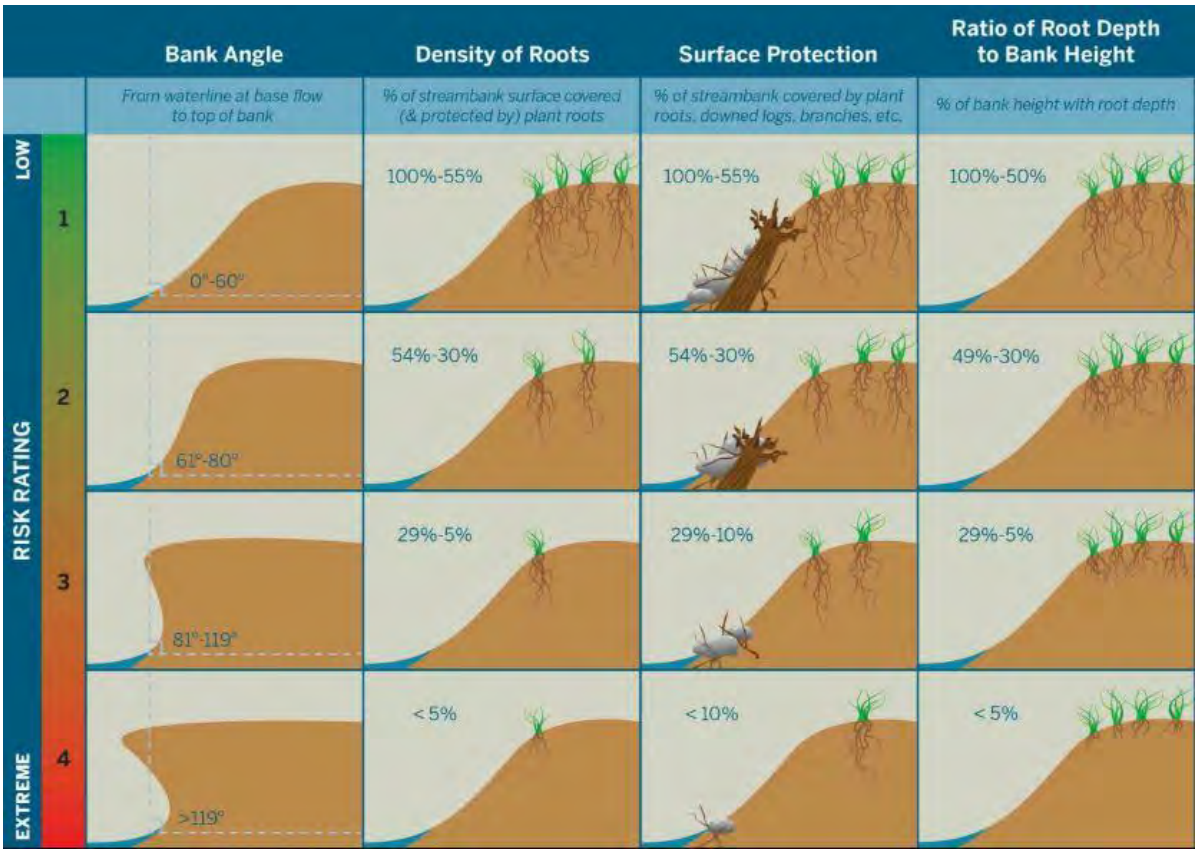
SHEET 1 OF 1

DRAWING PATH: \\ohmdfs\Corporate\Projects\6601_099900659180010_HCMA_SAW_Grant_2018\Drawings\Civil\Details\180010-DET.dwg Jun 24, 2019 - 2:01pm

Streambank Summary

As part of field inspection, 94 miles of streambank were inspected using the Rosgen Modified Bank Erosion Hazard Index (BEHI) to assess erosion severity. Bank condition was rated according to the modified BEHI protocol found in Figure 1, where *low* areas are in the best condition and *very high* (*extreme*) areas are in the worst condition.

Figure 1. Illustration of Modified BEHI parameters used to assess streambank erosion severity courtesy of The Freshwater Trust Riparian Condition Survey & Quantification Protocol.



Bank angle is a measured in degrees from the water line to the top of the bank. The closer to zero the bank angle is, the lower the erosion score. Root density is the percentage of the streambank surface that is protected by plant roots. The closer root density is to 100%, the lower the erosion potential and associated BEHI score. Surface protection is the percentage of streambank that is protected or covered in some way. This may include plant roots, downed logs, branches, or other natural features. The closer the surface protection is to 100%, the lower the erosion score. Ratio of root depth to bank height is the percentage of the bank height that is held in place by plant roots. This measure assesses the depth of the roots into the bank rather than the spread of the roots along the surface. The closer this number is to 100%, the lower the erosion score. A rating of *very high* indicates that immediate restoration attention is needed to prevent damage to infrastructure present near the stream. Areas rated *high* and *very high* were given unique identifiers and should be considered for restoration in the immediate future to avoid further degradation of water quality and

bank stability. Identifiers are structured as follows: SSS-Park Abbreviation-Number where SSS means Streambank Stabilization Site. Park abbreviations can be found in Table 14.

The length of streambank that falls within each BEHI erosion condition is shown in each park report, along with the estimated restoration costs for lengths of stream recommended for restoration. The type of bank stabilization present, any obstructions restricting greater than 50% of stream flow, and any points of interest along park system streams were also recorded and this information, along with scores for each BEHI method category can be found in the GIS database. Restoration costs in Table 5 are estimated based on the BEHI score, stream segment length, and best recommended practice type for the erosion severity present. More detail on these cost opinions can be found on pages 9-10. For restoration costs broken down by individual stream segment, please see the maps included in each park report.

Table 5. Summary of Park-wide Streambank Erosion Condition and Restoration Costs

Erosion Condition	Length of Streambank (ft)
Very High	5,309
High	78,514
Moderate	219,130
Low	177,134
Very Low	17,812
Total:	**497,899**
Restoration Cost:	**$54,095,529**

Figure 2. Photo of major slumping at Kensington Metropark.

OPINION OF PROBABLE CONSTRUCTION COST

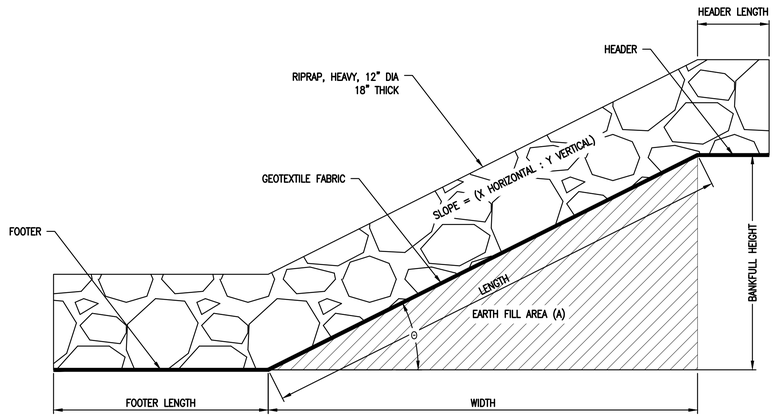
ORCHARD, HILTZ & McCLIMENT, INC.
34000 Plymouth Road, Livonia, Michigan, 48150 Telephone: (734) 522-6711 FAX: (734) 522-6427

PROJECT: Streambank Stabilization
LOCATION: Huron-Clinton Metroparks
WORK: Streambank Stabilization

DATE: June 27, 2019
PROJECT #: 0659-18-0010
ESTIMATOR: MPB
CHECKED BY:
CURRENT ENR:

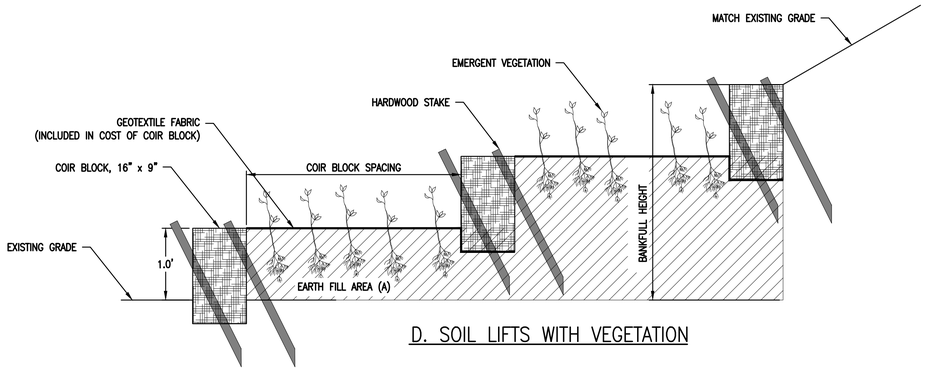
ITEM CODE	DESCRIPTION	UNIT	TOTAL	UNIT PRICE	COST
	VERY LOW BEHI - Coir Block with Live Stakes (Cost/Ft) - 4 Ft Bank Height				
2050016	Excavation, Earth	Cyd	1	$ 10.00	$ 10.00
8160027	Mulch Blanket	Syd	2	$ 1.00	$ 2.00
8507001	Coir Block	Ft	2	$ 60.00	$ 120.00
8507012	Live Stakes	Acre	5E-05	$ 1,400.00	$ 0.07
8507051	Contingency, 30%, Very Low	LSUM	1	$ 39.60	$ 39.60
	LOW BEHI - Coir Block with Live Stakes (Cost/Ft) - 5 Ft Bank Height				
2050016	Excavation, Earth	Cyd	2	$ 10.00	$ 20.00
8160027	Mulch Blanket	Syd	3	$ 1.00	$ 3.00
8507001	Coir Block	Ft	2	$ 60.00	$ 120.00
8507012	Live Stakes	Acre	5E-05	$ 1,400.00	$ 0.07
8507051	Contingency, 30%, Low	LSUM	1	$ 42.90	$ 42.90
	MODERATE BEHI - Soil Lifts with Vegetation (Cost/Ft) - 6 Ft Bank Height				
2050016	Excavation, Earth	Cyd	5	$ 10.00	$ 50.00
8507001	Coir Block	Ft	6	$ 60.00	$ 360.00
8507050	Plantings, Plugs	Ea	15	$ 1.00	$ 15.00
8507051	Contingency, 30%, Moderate	LSUM	1	$ 127.50	$ 127.50
	HIGH BEHI - Soil Lifts with Live Stakes (Cost/Ft) - 8 Ft Bank Height				
2050016	Excavation, Earth	Cyd	4	$ 10.00	$ 40.00
8507001	Coir Block	Ft	8	$ 60.00	$ 480.00
8507012	Live Stakes	Acre	0.001	$ 1,400.00	$ 1.40
8507051	Contingency, 30%, High	LSUM	1	$ 156.30	$ 156.30
	VERY HIGH BEHI - Soil Lifts with Live Stakes (Cost/Ft) - 10 Ft Bank Height				
2050016	Excavation, Earth	Cyd	6	$ 10.00	$ 60.00
8507001	Coir Block	Ft	10	$ 60.00	$ 600.00
8507012	Live Stakes	Acre	0.001	$ 1,400.00	$ 1.40
8507051	Contingency, 30%, Very High	LSUM	1	$ 198.30	$ 198.30
	EXTREME BEHI - Soil Lifts with Live Stakes (Cost/Ft) - 12 Ft Bank Height				
2050016	Excavation, Earth	Cyd	9	$ 10.00	$ 90.00
8507001	Coir Block	Ft	12	$ 60.00	$ 720.00
8507012	Live Stakes	Acre	0.001	$ 1,400.00	$ 1.40
8507051	Contingency, 30%, Extreme	LSUM	1	$ 243.30	$ 243.30

UNIT PRICE FOR VERY LOW BEHI - Coir Block with Live Stakes (Cost/Ft)	$ 172.00
UNIT PRICE FOR LOW BEHI - Coir Block with Live Stakes (Cost/Ft)	$ 186.00
UNIT PRICE FOR MODERATE BEHI - Soil Lifts with Vegetation (Cost/Ft)	$ 553.00
UNIT PRICE FOR HIGH BEHI - Soil Lifts with Live Stakes (Cost/Ft)	$ 678.00
UNIT PRICE FOR VERY HIGH BEHI - Soil Lifts with Live Stakes (Cost/Ft)	$ 860.00
UNIT PRICE FOR EXTREME BEHI - Soil Lifts with Live Stakes (Cost/Ft)	$ 1,055.00



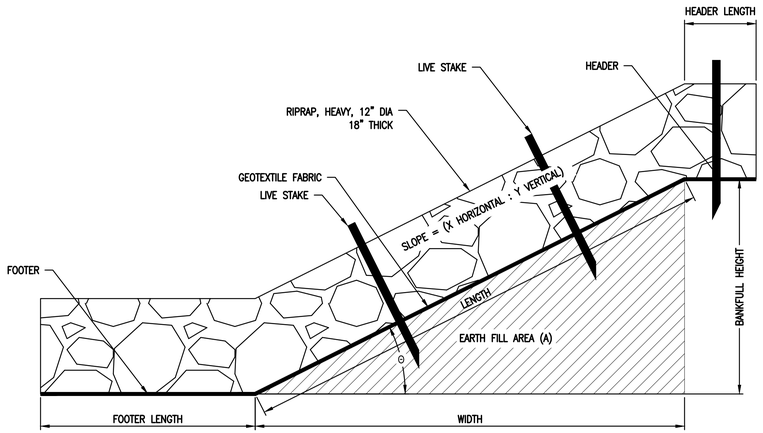
A. RIPRAP

$A = \frac{1}{2} \times WIDTH \times HEIGHT$
$TAN\Theta = 1/SLOPE$
$\Theta = ARCTAN(1/SLOPE)$
$TAN\Theta = HEIGHT/WIDTH$
$WIDTH = HEIGHT/TAN\Theta = HEIGHT/TAN(ARCTAN(1/SLOPE))$
$WIDTH = HEIGHT/(1/SLOPE)$
$A = \frac{1}{2} \times (HEIGHT/(1/SLOPE)) \times HEIGHT$
$A = \frac{1}{2} \times HEIGHT^2 \times SLOPE$
$SIN\Theta = HEIGHT/LENGTH$
$LENGTH = HEIGHT/SIN\Theta$
$LENGTH = HEIGHT/SIN(ARCTAN(1/SLOPE))$



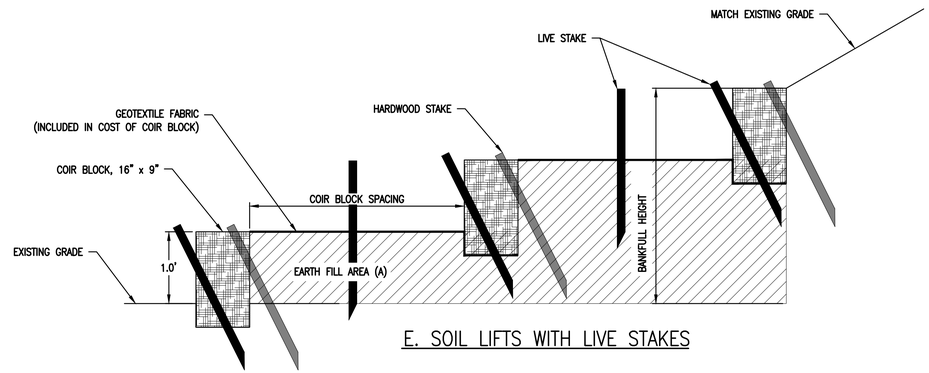
D. SOIL LIFTS WITH VEGETATION

NOTE: EARTHWORK NEGLECTED
NO. OF COIR BLOCKS = BANKFULL HEIGHT
$A = \frac{1}{2} \times (BLOCK\ SPACING + BLOCK\ WIDTH) \times (NO.\ OF\ BLOCKS - 1) \times BANKFULL\ HEIGHT$



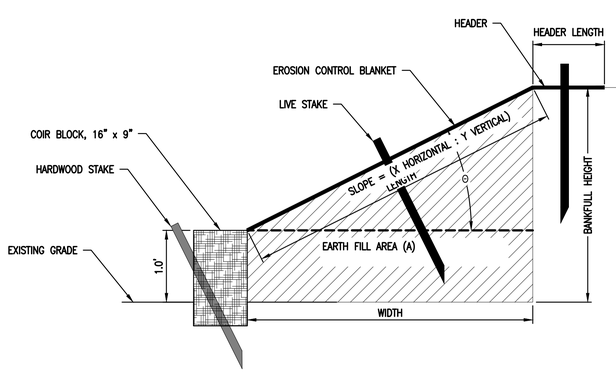
B. RIPRAP WITH LIVE STAKES

$A = \frac{1}{2} \times WIDTH \times HEIGHT$
$TAN\Theta = 1/SLOPE$
$\Theta = ARCTAN(1/SLOPE)$
$TAN\Theta = HEIGHT/WIDTH$
$WIDTH = HEIGHT/TAN\Theta = HEIGHT/TAN(ARCTAN(1/SLOPE))$
$WIDTH = HEIGHT/(1/SLOPE)$
$A = \frac{1}{2} \times (HEIGHT/(1/SLOPE)) \times HEIGHT$
$A = \frac{1}{2} \times HEIGHT^2 \times SLOPE$
$SIN\Theta = HEIGHT/LENGTH$
$LENGTH = HEIGHT/SIN\Theta$
$LENGTH = HEIGHT/SIN(ARCTAN(1/SLOPE))$



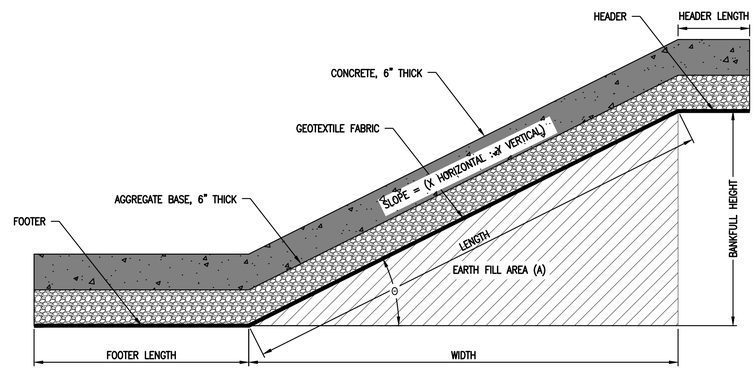
E. SOIL LIFTS WITH LIVE STAKES

NOTE: EARTHWORK NEGLECTED
NO. OF COIR BLOCKS = BANKFULL HEIGHT
$A = \frac{1}{2} \times (BLOCK\ SPACING + BLOCK\ WIDTH) \times (NO.\ OF\ BLOCKS - 1) \times BANKFULL\ HEIGHT$



C. COIR BLOCK WITH LIVE STAKES

$A = \frac{1}{2} \times WIDTH \times HEIGHT$
$TAN\Theta = 1/SLOPE$
$\Theta = ARCTAN(1/SLOPE)$
$TAN\Theta = HEIGHT/WIDTH$
$WIDTH = (HEIGHT-1)/TAN\Theta = (HEIGHT-1)/TAN(ARCTAN(1/SLOPE))$
$WIDTH = (HEIGHT-1)/(1/SLOPE)$
$A = ((HEIGHT-1)/(1/SLOPE)) \times 1\ FT) + (\frac{1}{2} \times ((HEIGHT-1)/(1/SLOPE)) \times (HEIGHT-1))$
$A = ((HEIGHT-1)/(1/SLOPE)) + (\frac{1}{2} \times (HEIGHT-1)^2 \times SLOPE)$
$SIN\Theta = HEIGHT/LENGTH$
$LENGTH = (HEIGHT-1)/SIN\Theta$
$LENGTH = (HEIGHT-1)/SIN(ARCTAN(1/SLOPE))$



F. CONCRETE REVETMENT

$A = \frac{1}{2} \times WIDTH \times HEIGHT$
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$\Theta = ARCTAN(1/SLOPE)$
$TAN\Theta = HEIGHT/WIDTH$
$WIDTH = HEIGHT/TAN\Theta = HEIGHT/TAN(ARCTAN(1/SLOPE))$
$WIDTH = HEIGHT/(1/SLOPE)$
$A = \frac{1}{2} \times (HEIGHT/(1/SLOPE)) \times HEIGHT$
$A = \frac{1}{2} \times HEIGHT^2 \times SLOPE$
$SIN\Theta = HEIGHT/LENGTH$
$LENGTH = HEIGHT/SIN\Theta$
$LENGTH = HEIGHT/SIN(ARCTAN(1/SLOPE))$

OHM
ARCHITECTS ENGINEERS PLANNERS
1145 GRISWOLD ST, SUITE 200
DETROIT, MI 48226
313-481-1250
OHM-ADVISORS.COM

REVISIONS

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	MUNICIPALITY
	0659-18-0010	MPB	MPB	MPB	WAYNE COUNTY	MULTIPLE

Huron Clinton Metro Authority
Lower Huron Streambank Stabilization
Streambank Stabilization Details

SHEET 1 of 1

DRAWING PATH: \\ohm\dfs\Corporate\Projects\0601_0699\0659\180010_HCMA_SAW_Grant_2018\Drawings\Civil\Details\180010-DET.dwg May 13, 2019 - 3:09pm

Green Infrastructure Summary

As part of park data analysis, water quality issues in each park were identified and green infrastructure concept plans were created to address these issues. All green infrastructure restoration concepts recommended for use in the Metroparks are listed in individual park reports and are defined in Table 7. Each site has a unique identifier structured as follows: GI-Park Abbreviation-Number where GI stands for Green Infrastructure. Park abbreviations can be found in Table 14. Sites were initially chosen based on existing drainage patterns and infrastructure, land use, OHM field reconnaissance, soil type, impact on water quality improvement, aerial photographs, and input and approval from HCMA staff. Once approved by HCMA staff, final sizing (see Table 6 and Equation 1 for information on sizing calculations) and cost opinions for each practice were determined and can be found in each park report. Table 8 contains practice types and their design and contingency assumptions. A cost opinion summary for each park can be found in Table 7 below. Costs are based on 2019 Metro Detroit contractor prices and can be adjusted in the "Costs" tab of the included spreadsheets if more specific costs are known or as prices change over time. Typical cross sections for each practice type are included in Figures 2-10 below. Detailed information for each park and individual practice can be found in the spreadsheets included with this report's data package.

Table 6. Green Infrastructure Calculation Definitions and Explanations

Drainage Areas	Each site is broken into sub-drainage areas contributing to the proposed GI practice. The areas were determined though measurements in the ArcGIS database created by OHM for this task. Contributing drainage area measurements were recorded in the "Total Drainage Area" column of the sizing spreadsheet.
Imperviousness	Impervious area for each sub-drainage area was measured using the ArcGIS database. This number was entered into the "Impervious Drainage Area" column of the sizing spreadsheet.
Soil Type (HSG)	The hydrologic soil group (HSG) for infiltration practices was determined from the USDA Web Soil Survey for each sub-area. When a practice area was predominantly HSG C or D soils, an underdrain was included in the cost estimate, unless there was no feasible structure or drainage course for connection.
Existing Runoff	Runoff volumes were calculated using the Runoff Volume Method (Equation 1) for each practice. A 2-year 24-hour storm (2.35 inches of rainfall) was used for calculations, which is common for GI design parameters. These calculations are included in the excel spreadsheets and can be manipulated to include larger or smaller storm events, but all GI practices in this document are sized based on 2.35 inches of rainfall.

Equation 1. Runoff Volume Method Equation

$$WQ_V = \frac{P * R_v * DA}{12}$$

Where WQ_V = Water Quality Volume (ft^3)

P = Design Rainfall Depth (in)

R_V = Runoff Volume Coefficient $(R_V = 0.05 + 0.009 * I)$

DA = Drainage Area of Sub-Basin (ft^2)

I = Percent Impervious Surface

Table 7. Overall Park System Green Infrastructure Recommendations

Park ID	Number of Recommended Practices	Treatment Surface Area (Ft^2)	Estimated Cost
Delhi	7	50,272	$117,708
Dexter-Huron	3	73,842	$117,986
Hudson Mills	16	166,518	$685,368
Huron Meadows	9	35,674	$255,226
Indian Springs	6	59,498	$340,492
Kensington	35	399,620	$2,612,840
Lake Erie	18	212,715	$367,892
Lake St. Clair	5	266,847	$239,116
Lower Huron	27	694,529	$2,573,526
Oakwoods	9	137,328	$545,743
Stony Creek	33	202,600	$1,363,806
Willow	35	384,705	$1,500,032
Wolcott Mill	2	59,945	$269,789
Total:	**205**	**2,744,093**	**$10,989,524**

Table 8. Green Infrastructure Practice Definitions

Practice Type	Definition and Benefits	Design Cost	Contingency Cost
Rain Garden	A Rain Garden is a shallow depression in the landscape that captures and treats stormwater runoff in an amended planting soil mix. The depression allows water to pool for a short time (less than 48 hours) after rainfall and then slowly absorb into the soil and vegetation. Native plants are typically used because of their deep roots, hardiness, and ability to provide habitat.	15%	15%
Naturalized Swale	A Naturalized Swale is a stormwater drainage ditch that incorporates native landscaping instead of mowed turf grass. The swale can be vegetated with a combination of grasses, shrubs, and/or trees designed to slow, filter, and possibly store or infiltrate stormwater runoff.	5%	15%
Bioswale	A Bioswale is a naturalized swale that has the additional component of planting soil mix and/or a stone sub-basin to promote additional storage and infiltration. As such, a bioswale is essentially a linear rain garden that conveys water along its length instead of serving as the capture location.	15%	15%
Native Landscaping	Native Landscaping uses native plants instead of turf grass or other higher maintenance non-native landscaping features. Native landscaping performs similar to a rain garden but without the ponding and underground storage.	5%	15%
Native Prairie	Native Prairies are extensive native areas that use native grasses and other native prairie plants (and few trees) to promote infiltration through deep rooted native plants. They are less formally planned than Native Landscaping.	5%	15%
No Mow Zone	No Mow Zones are the cheapest green infrastructure option because they are exactly what they sound like. Absence of mowing allows the native seedbank to return, increasing the depth of root systems and allowing increased infiltration.	NA	NA
Stormwater Treatment Wetland	Stormwater Treatment Wetlands are shallow naturalized detention ponds that provide temporary storage of stormwater runoff to prevent downstream flooding and the attenuation of runoff peaks. The plants provide water quality and habitat benefits not found in traditional dry or wet stormwater ponds.	15%	15%
Pavement Removal	Pavement Removal reduces runoff from parking lots by replacing unnecessary parking space with turf, or replacing traditional impervious parking with an aggregate stone base that allows parking but also allows infiltration and storage.	5%	15%
Porous Pavers	Porous Pavement is a stormwater management technique that combines storage and infiltration with a structural pavement. Porous pavement can consist of permeable asphalt, porous concrete or interconnected concrete paver blocks that are underlain by a storage reservoir.	15%	15%

Typical Green Infrastructure Cross Sections:

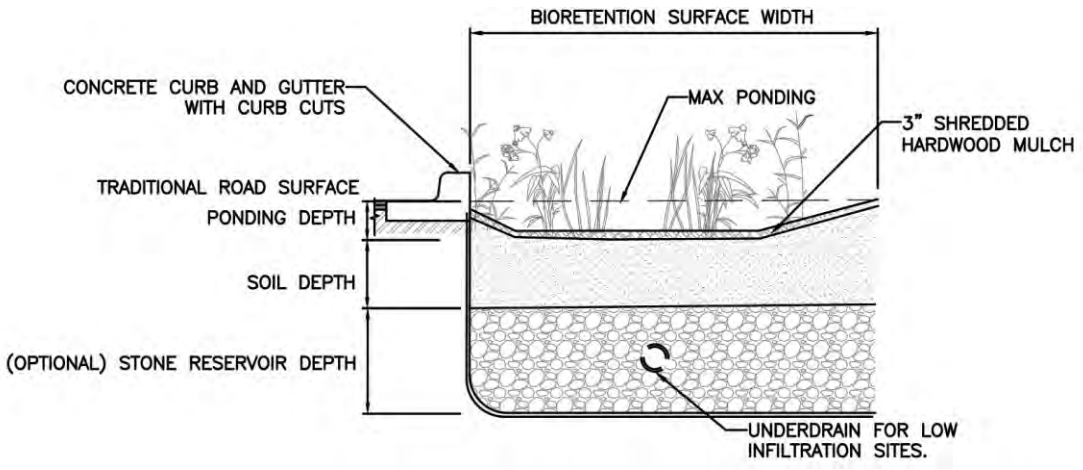


Figure 2. Rain Garden Typical Section

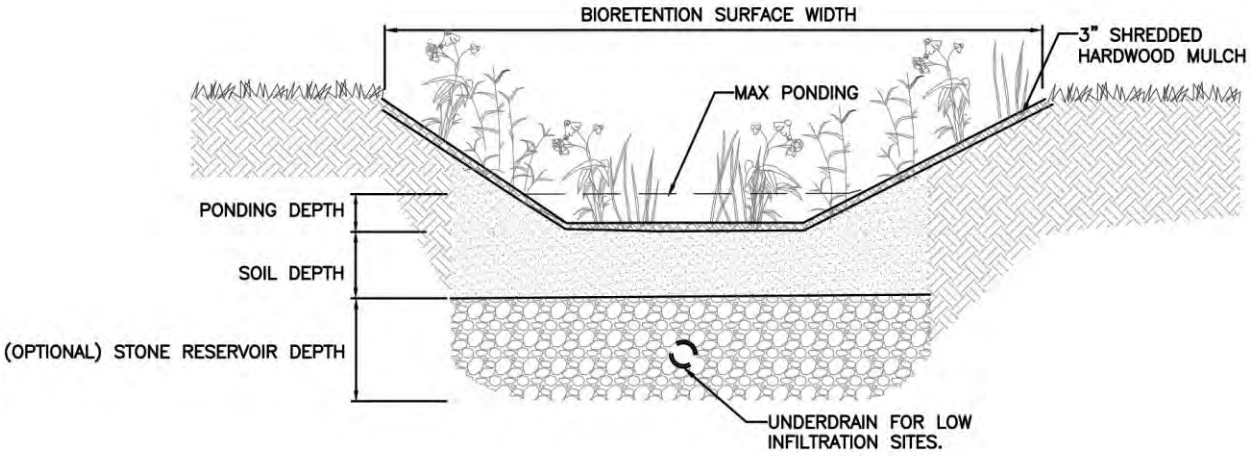


Figure 3. - Bioswale Typical Section

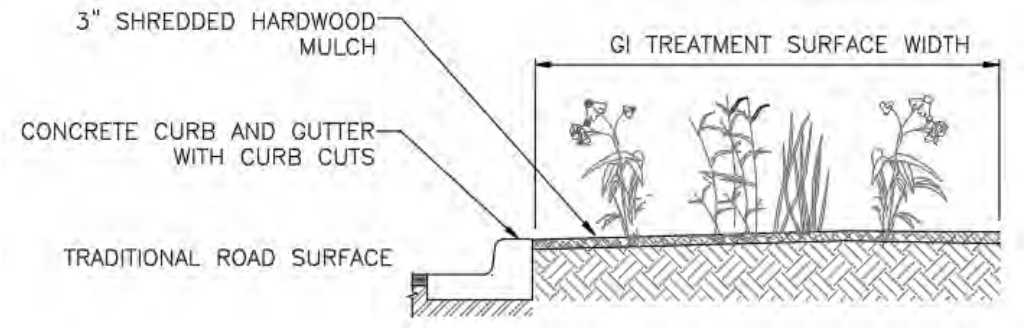


Figure 4. - Native Landscaping Typical Section

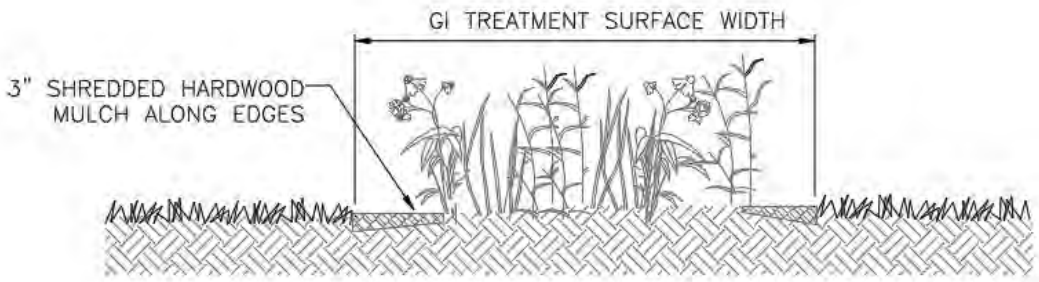


Figure 5. - Native Prairie Typical Section

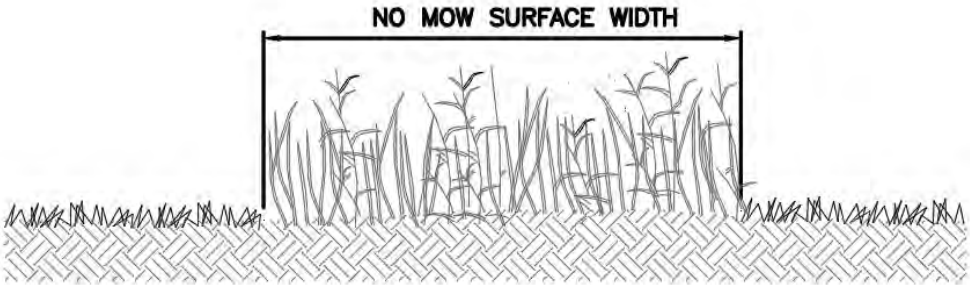


Figure 6. - No Mow Zone Typical Section

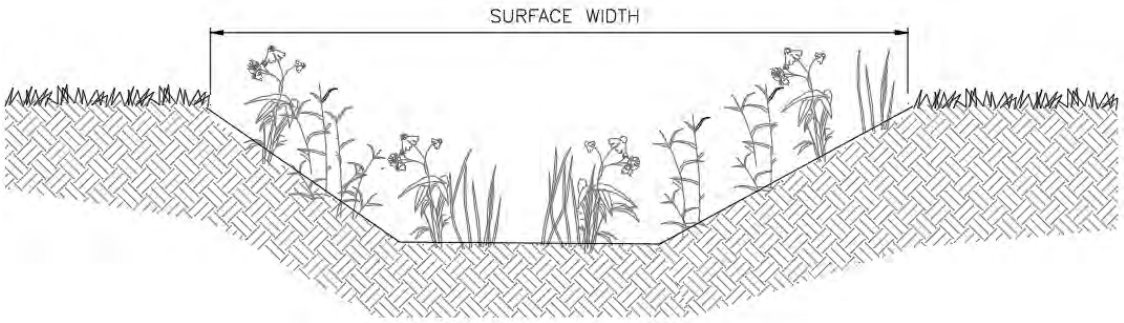


Figure 7. - Naturalized Swale Typical Section

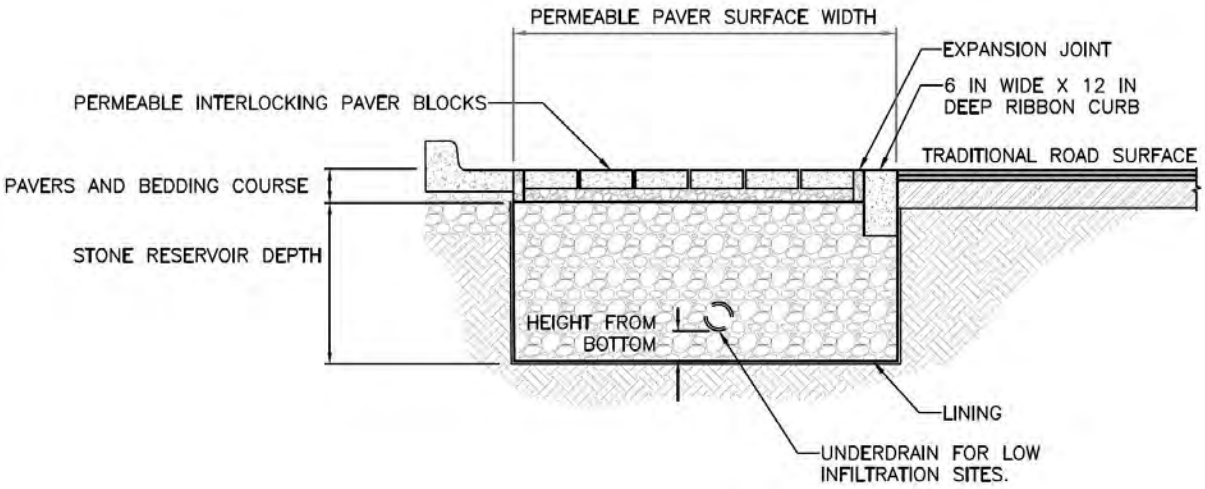


Figure 8. - Porous Pavers Typical Section

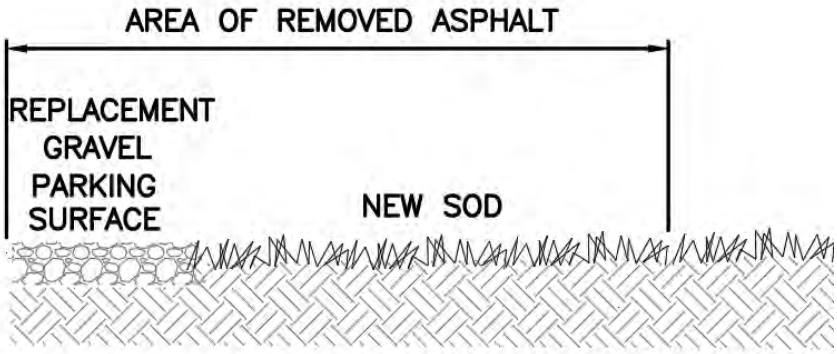


Figure 9. - Pavement Removal Typical Section

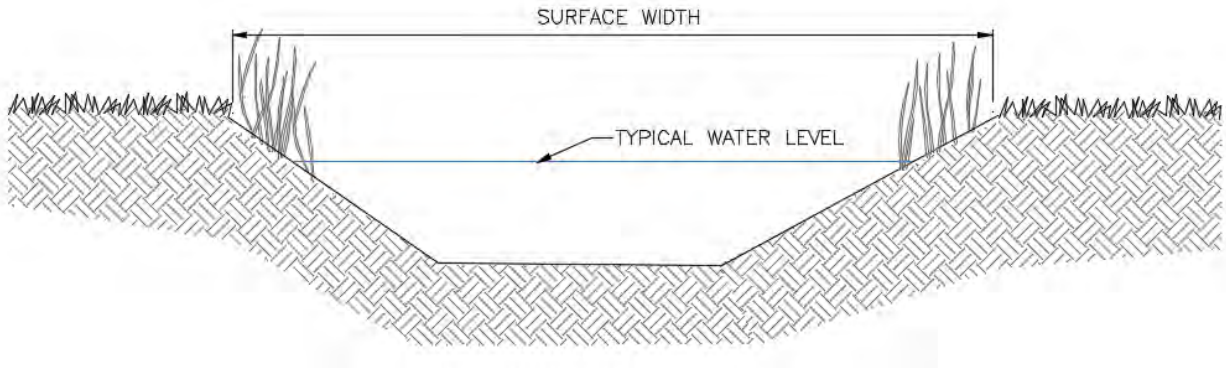


Figure 10. - Stormwater Treatment Wetland Typical Section

GSI Maintenance

As with any type of stormwater infrastructure, maintenance is a critical but often overlooked component. As such, an effective and rigorous maintenance program is crucial for the long-term sustainability and function of all Green Stormwater Infrastructure (GSI) systems. GSI systems utilize both gray stormwater infrastructure and vegetation, as such they can change over time as plant communities grow and establish. In urban environments in particular, GSI may be subject to temperature extremes, pollution, heavy sediment and debris accumulation, and an aggressive weed community. All of these factors can create a challenging environment for vegetation. Furthermore, sediment and trash, if allowed to accumulate, can create unsightly conditions and diminish functionality within the stormwater conveyance system. Proper maintenance can ensure that GSI systems remain healthy, attractive, and safe for many years to come.

The following tables provide standard operating procedures for specific maintenance tasks for a variety GSI practice types. As all sites are different it may be necessary to modify any maintenance program to ensure its effectiveness and functionality for specific site needs.

Permeable Pavement

Permeable paving is a method of paving vehicle and pedestrian pathways to enable infiltration of stormwater runoff. Permeable pavement surfaces typically include pervious concrete, porous asphalt, paving stones, and interlocking pavers. Maintenance requirements for permeable pavement can be found in Table 9**.**

Table 9. Permeable Pavement Maintenance Checklist

Inspection Checklist	Yes/No	Maintenance Type Needed
Is there sediment, litter, or organic debris deposited on the surface of the practice area?	Y/N	Remove sediment and other debris from practice area using a backpack blower, or other comparable equipment.
Is the source of the deposited sediment evident i.e. exposed soil nearby?	Y/N	Stabilize the sediment source using vegetation or other comparable measure.
Is there moss growing in the practice area?	Y/N	Sprinkle baking soda on mossy areas and allow to dry for two weeks. Remove moss then dry vacuum practice area. If moss persists treat area with lime water application followed by a dry vacuum two weeks later.
It has rained within the last 48 hours at this location and there is standing water in the practice area.	Y/N	Porosity has been reduced and the practice area should be swept or dry vacuumed to removed sediment build up.

Raingarden

A Rain Garden is a shallow depressional area in the landscape that captures and treats stormwater runoff in an amended planting soil mix. The depression (or ponding area) allows water to pool for a short time (less than 48 hours) after a rainfall and then slowly absorb into the soil and vegetation. Native plants are typically used because of their deep roots, hardiness, and ability to provide habitat. In addition to the maintenance items outlined in Table 10., Non-woody vegetation will need to be cutback in late fall or early spring to allow for regrowth the following year.

Table 10. Raingarden Maintenance Checklist

Inspection Checklist	Yes/No	Maintenance Type Needed
Are weeds, or invasive plants, present in the practice?	Y/N	Hand pull any weeds or invasives, ensuring you remove the entire root to prevent re-sprouting.
Has sediment settled in the practice to a depth of 25% of the total depth? Exp. 2" in sediment in 8" deep practice.	Y/N	Remove sediment from practice area using hand tools and the proper PPE and dispose of off-site.
Is there trash, leaves, grass clippings or other debris in the practice?	Y/N	Remove all debris from practice area and address any surrounding maintenance issues that might result in reoccurrence i.e. mowing direction around practice, nearby trash receptacles.
Is anything obstructing the inlet or outlet of the practice?	Y/N	Remove any obstructions from inlet/outlet. Check surrounding area for cause of sediment infill into practice i.e. exposed soil, gravel parking lots
Is there evidence of erosion, or bare soil, in the practice?	Y/N	Add mulch to areas that have been washed out. Add plants if necessary to stabilize the surrounding soil. Add rocks near inlets to slow the flow of water into the practice
Is there standing water after 48 hours after rain in the practice?	Y/N	This indicates that the infiltration rate of the soil is too low. Further evaluation and corrective measures will be needed.
If an outlet or underdrain is present, is there standing water in the practice after 48 hours?	Y/N	Check outlets/underdrain to ensure no blockage is present. If no blockage is present, then a larger issue may exist, and further action will be needed.

Bio-Swale

Bioswales are linear channels designed to concentrate and convey stormwater runoff while removing debris and pollution. Bioswales can also be beneficial in recharging groundwater while removing harmful pollutants. Bioswales are typically planted with a variety of native plants that are pollution tolerant and can withstand prolonged periods of root inundation and drought periods. The drainage

course is typically graded to less than 6%. Maintenance requirements for bio-swales can be found in Table 11.

Table 11. Bio-Swale Maintenance Checklist

Inspection Checklist	Yes/No	Maintenance Type Needed
Are the stormwater inlets clear of debris and sediment?	Y/N	Remove any debris that may be obstructing the water flow. Clear out sediment deposits and dispose of properly
Are weeds, or invasive plants, present in the practice?	Y/N	Hand pull any weeds or invasives, ensuring you remove the entire root to prevent re-sprouting.
Has sediment settled in the practice to a depth of 25% of the total depth? Exp. 2" in sediment in 8" deep practice.	Y/N	Remove sediment from practice area using hand tools and the proper PPE and dispose of off-site.
Is there trash, leaves, grass clippings or other debris in the practice?	Y/N	Remove all debris from practice area and address any surrounding maintenance issues that might result in reoccurrence i.e. mowing direction around practice, nearby trash receptacles.
Does the vegetation appear full with little to no bare areas?	Y/N	Replant, or reseed bare areas utilizing the appropriate vegetation type.
Is there evidence of erosion, or bare soil, in the practice?	Y/N	Add mulch to areas that have been washed out. Add plants if necessary to stabilize the surrounding soil. Add rocks near inlets to slow the flow of water into the practice
Is there standing water after 48 hours after rain in the practice?	Y/N	This indicates that the infiltration rate of the soil is too low. Further evaluation and corrective measures will be needed.
If an outlet or underdrain is present, is there standing water in the practice after 48 hours?	Y/N	Check outlets/underdrain to ensure no blockage is present. If no blockage is present, then a larger issue may exist, and further action will be needed.

Stormwater Treatment Wetlands

Stormwater Treatment Wetlands are shallow naturalized detention ponds that provide temporary storage of stormwater runoff to prevent downstream flooding and the attenuation of runoff peaks. The plants provide water quality and habitat benefits not found in traditional dry or wet stormwater ponds. Maintenance requirements for stormwater treatment wetlands can be found in Table 12.

Table 12. Stormwater Treatment Wetland Maintenance Checklist

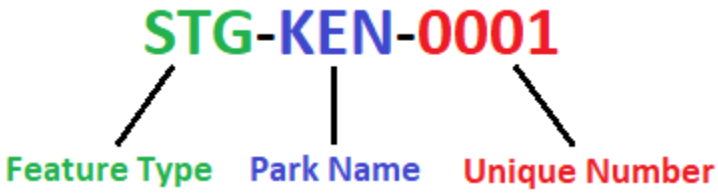
Inspection Checklist	Yes/No	Maintenance Type Needed
Are the inlet structures obstructed by debris?	Y/N	Remove debris to allow flow to enter and exit the practice
Are any of the inlet structure askew or misaligned?	Y/N	Repairs are needed to realign structure inlets to prevent erosion and sedimentation of the wetland
Does the practice water smell of gasoline, contain a sheen caused by gas or oil?	Y/N	Try and identify the source of the contaminant. I pretreatment system might need to be added
Is anything obstructing the inlet or outlet of the practice?	Y/N	Remove any obstructions from inlet/outlet. Check surrounding area for cause of sediment infill into practice i.e. exposed soil, gravel parking lots
Is there evidence of erosion, or bare soil, in the practice?	Y/N	Soil stabilization will be needed to prevent future slumping and erosion. Add vegetation to increase root density.
Are weeds, or invasive plants, present in the practice?	Y/N	Hand pull any weeds or invasives, ensuring you remove the entire root to prevent re-sprouting.

Geographic Information Systems

Geographic Information Systems (GIS) are widely used to manage utility infrastructure such as stormwater conveyance networks. Geographical location and attributes of each individual asset, such as size, depth, or condition rating, within the system prove essential to utility owners when making important decisions. Highly functioning geographic information systems rely on unique identifiers or "names" to differentiate between multiple assets of the same type in a system. By assigning a unique identifier to each asset, attribute information can be easily linked to the appropriate features in GIS. Without unique identifiers, the time it takes to link existing or newly collected attribute data to the asset features in GIS increases tremendously and occasionally, proves impossible. Without attribute information, geographic information systems lack the information component making them merely a spatial map of the system.

After the stormwater assets within HCMA's GIS were analyzed, a list of suggested updates to increase functionality were developed. A brief description of each update can be found in the bulleted list below:

- **Create one geodatabase for all HCMA data.** Before this project, HCMA's stormwater assets were stored in multiple geodatabases based on park name. The schema (structure in which the database is set up and information stored) for each geodatabase was different and inconsistent. Therefore, a new master geodatabase was created based on the widely accepted ESRI Local Government Schema so all data could reside in one place with the data stored in a more organized, consistent manner.
- **Combine all HCMA data into the new geodatabase.** Data from each geodatabase was added to the newly created master geodatabase. An additional attribute field called "Park name" was included for each feature type, so that the flexibility to query/sort based on park name still remains. For example, all manhole features across the park system are now located in the same manhole feature class and contain the same attribute fields regardless of which park it is located in. The values inside of the "Park Name" attribute field will vary based on which park each manhole feature is located.
- **Add OHM collected data to the new database.** All stormwater network features collected by OHM have been added to the master geodatabase in the appropriate feature class. All known attributes for those new features were populated as well.
- **Convert to Local Government Naming convention.** The existing identifiers of the GIS features did not appear to have a consistent naming convention as some features displayed the exact same identifier and some features lacked an identifier altogether. In order to standardize and assure no duplicate identifiers, or lack thereof, can cause problems in the future, a new naming convention was developed. The new naming convention was based on the widely accepted Local Government Naming convention and assigns each feature its own unique identifier. The new identifiers contain three components separate by hyphens. An example of a stormwater gravity sewer/main located in Kensington Metropark can be seen below.



The Asset ID's and any other existing identifiers used in the past were kept as a "Legacy_ID" in the attribute table in case they are ever needed to be a link to join data that was stored or collected using those old identifiers.

- **Correct the flow direction for each pipe feature.** The flow direction for all pipe features was corrected to the greatest extent possible, based on the data available. The values in the "From manhole" and "To manhole" attribute fields of each pipe feature were also updated with the Legacy_ID values, since this was needed for the pipeline inspection data task.
- **Perform system wide topology checks.** To prepare the stormwater gravity main layer for integration with future data, critical topology checks must be performed to ensure connectivity throughout the system. Missing structures or discharge points were added where missing and the endpoints of the pipe features were snapped to their access point features. The stormwater features' attributes were also updated as needed.

After all geodatabase updates were completed, PACP inspection data for the stormwater sewers and culverts was analyzed. The inspections were completed between June 25, 2018 and November 6, 2018. A breakdown of the inspection data used for the SAW project can be seen in the table below:

Table 13. PACP Inspection Data Breakdown

Park	Number of Inspections	Inspection Footage
Hudson Mills	11	920.9
Huron Meadows	12	691.5
Indian Springs	22	2,447.3
Kensington	87	7,147.3
Lake Erie	15	2,602.8
Lower Huron	34	5,225.7
Oakwoods	7	490.6
Stony Creek	81	6,588.3
Wolcott Mill	5	493.8
Lake St. Clair	110	13,229.2
Willow	55	5,744.0
TOTALS	**439**	**45,581.4**

After the inspection data was compiled, corrections and analysis were applied. Several brief description of the tasks completed to can be found in the bulleted list below:

- **Generate unique pipe identifiers for each inspection.** None of the inspections contained the unique identifier of the pipe segment being inspected. Without a pipe identifier, there is no way to join the inspection data to the appropriate GIS feature. In order to know what inspection data pertains to each pipe, the unique feature identifier must be generated. Using the upstream and downstream features listed, a tool was used to generate as many unique pipe identifiers as possible. The remaining inspections (about 30%) were corrected manually, one by one.
- **Review PACP inspection data.** Inspections containing major defects were flagged for manual review, which consists of a trained rehabilitation expert watching the entire inspection video and manually assigning a rehab recommendation to fix the defects found during the inspection. The rest of the inspections have rehab recommendations generated automatically, if needed. It is important to note that only rehab recommendations generated from manual reviews are fully implementation ready projects. Rehab recommendations generated from the automatic calculations are meant for budgeting purposes only. These pipes should be manually reviewed before being included in a formal project plan or bid. The final estimated rehabilitation costs are then generated based on competitive pricing observed for similar and recent rehabilitation projects in the area.
- **Develop Final Inspection Data Tables.** After the inspection data has been compiled, PACP ratings generated, and rehab recommendations added, the final inspection data tables are generated. A brief description of each table can be found in the list below:

- Media Table: Table linking all videos to each inspection/pipe segment that was inspected.
- Conditions: Table listing all PACP defects and their associated details that were found during the inspections.
- Inspections: Table listing all information regarding each individual inspection. The ratings at the right side of this table are each pipe segment's rating according to that particular inspection only. In other words, if a pipe segment was inspected more than once, there will be multiple rows and ratings for that pipe segment in this table.
- Final Inspection Summary: Table listing all inspection information pertaining to each individual pipe segment. The ratings at the right side of this table are each individual pipe segment's final rating. If there are multiple inspections pertaining to the same pipe segment, the "Multiple Inspections?" column will be marked "Yes", and the defects from those inspections may be combined (if they do not overlap) to form one final rating for that particular pipe segment. In other words, there is only one row per pipe segment in this table. This eliminates the confusion of "which rating do we use?" and "how do we combine the ratings for the separate halves of the pipe?" when reversals are required and multiple inspections/ratings are generated for one pipe segment.
- Rehab Recommendation Summary: Table listing all rehab recommendations and their associated costs per pipe segment. Restoration costs were included for any rehab methods that would require open cut work.

- **Incorporate the PACP inspection data into the geodatabase.** The final inspection tables were incorporated into the geodatabase using related tables. This will allow the inspection data to analyzed, viewed and mapped within the GIS. Each feature displays only the data pertaining to that particular asset. In other words, the user won't have to sort through data tables to find the data pertaining only to that one asset.

Naming Conventions:

SSS-XXX-# - Streambank Stabilization Site – Park Abbreviation – Unique Number

SLR-XXX-# - ShoreLine Rehabilitation – Park Abbreviation – Unique Number

SDC-XXX-# - Stormwater Discharge Culvert – Park Abbreviation — Unique Number

CUL-XXX-# - Culvert – Park Abbreviation – Unique Number

GI-XXX-# - Green Infrastructure – Park Abbreviation – Unique Number

Table 14. Park Abbreviations in This Document

Park Name	Park Abbreviation
Delhi	**DEL**
Dexter-Huron	**DEX**
Hudson Mills	**HUD**
Huron Meadows	**HUR**
Indian Springs	**IND**
Kensington	**KEN**
Lake Erie	**LE**
Lake St. Clair	**LSC**
Lower Huron	**LOW**
Oakwoods	**OAK**
Stony Creek	**STO**
Willow	**WIL**
Wolcott Mill	**WOL**

GIS Data Package Components List:

- Excel files for each park used for calculating green infrastructure practice costs and sizes
- Checklist of all recommended improvements for each park (Word format)
- Digital copy of this SAW Grant report in full and broken up by park section
- All GIS data collected for Huron-Clinton Metropark Authority as listed below:
    - HCMA Analysis Data (GIS_Stage.sde\GIS_Stage.DBO.HCMA_Analysis)

Feature Class	Type / Description
Hydrology_Erosion_Survey	line for from Erosion points collected by OHM Environmental Planning
Shoreline_Condition_Survey	lines from Shoreline points collected by OHM Environmental Planning
GI_Recommnedation_Concept_Area	Don Carpenter Recommendation Concept Areas for Green Infrastructure/ polygon
sShoreline_Site	points /shoreline recommendation sites recommended by OHM / drived Data Driven maps for report
sStabilization_Site	points /stream stabilization recommendation sites recommended by OHM / drived Data Driven maps for report

- HCMA Field Data (raw data) (GIS_Stage.sde\GIS_Stage.DBO.HCMA_Analysis)

Feature Class	Type / Description
OHM_Culvert_EndPoints	OHM Field Collected Data
OHM_Erosion_Point	OHM Field Collected Data
OHM_InvasiveSpecies	OHM Field Collected Data
OHM_Obstruction	OHM Field Collected Data
OHM_Point_of_Interest	OHM Field Collected Data
OHM_Drainage_Course_Pt	OHM Field Collected Data
OHM_Drainage_Course_Line	OHM Field Collected Data
OHM_Wetlands_Point	OHM Field Collected Data

- Stormwater Infrastructure Data

Feature Class	Type / Description
HCMA_swCulvert	Line, culvert lines, created using OHM collected end points and existing HCMA culvert shapefiles
HCMA_DiscargePoint	OHM Collected and HCMA shapefiles
HCMA_swGravityMain	Line, Gravity Main
HCMA_swInlet	sw Inlet Points from HCMA
HCMA_swManhole	sw Manhole Points from HCMA
HCMA_swNetworkStructure	network structures for connectivity
HCMA_Cleanout	HCMA Shapefiles
HCMA_Oil_Grit_Separator	grease traps / other stormwater structures

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Mike Henkel, Chief of Engineering Services
Project No: 510-17-311
Project Title: Approval – Willow Park Office Concept
Project Type: Capital Improvement
Location: Willow Metropark
Date: October 1, 2019

Action Requested: Motion to Approve

That the Board of Commissioners (1) approve the building concept; and (2) authorize staff to move forward with the full design of a new park office building that will service Willow, Oakwoods and Lower Huron Metroparks as recommended by Chief of Engineering Services Mike Henkel and staff.

Fiscal Impact: The project is currently funded in the Capital Project Fund for $2 million. The current project cost is estimated at $2,101,251.

Scope of Work: The project will include site work necessary to construct a 6,150 square foot park office building at the South Huron Road entrance at Willow Metropark. The project will also include a parking lot and associated site work. The project does not include the gas service line, which will be addressed under a separate project.

Background: The existing park office at Lower Huron has foundation settling issues that is causing the walls to separate. In addition, the current building location is not conducive for park operations and park patrons. The building was constructed in 1958 and sightlines from a steel storage building. At the March 8, 2018 Board meeting, the firm of Struab, Pettitt, and Yaste was approved to provide architectural design services.

The current building concept and location was developed from discussions with park operations and maintenance staff. All departments were instrumental in the designing of the size, flow and operational needs of the proposed facility. Items that were incorporated into the design include, natural lighting, location and access to sensitive police and money operations, visual sightlines in the building to the lobby area, separation of police and operational functions, sightlines to the existing tolling area, employee work areas in the main common area to save space and cost, storage, mechanical efficiencies and systems controls, information technology disaster recovery area, public areas and restroom facilities.

The location for the building was chosen by park staff to provide a more centralized location to Lower Huron, Willow and Oakwoods. Willow hosts larger group events, and as such, the location of the park office at Willow will aid in those functions. Lower Huron and the Turtle Cove supporting infrastructure provides much of the park support needed during the peak summer months and additional support from a park office was not needed at that location. In addition, discussions have taken place to provide natural gas service to not only the proposed park office but to convert the existing maintenance garage and carpenter shop to natural gas. By converting those building the parks will realize operational cost savings.

Example of Front of the building

Example of back of the building

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Mike Henkel, Chief of Engineering Services
Project No: 510-19-314
Project Title: Bids – Golf Course Culvert Repair
Project Type: Major Maintenance
Location: Willow Metropark
Date: October 4, 2019

Bids Received: September 24, 2019

Action Requested: Motion to Approve

That the Board of Commissioners award Contract 510-19-314 to DP Schweihofer Excavating in the amount of $64,1900 as recommended by Chief of Engineering Services Mike Henkel and staff.

Fiscal Impact: This project is an unbudgeted repair.

Scope of Work: The work will include the removal of the existing corrugated metal pipe culvert, installation, cutting back the existing asphalt, excavation, installation of new pipe bedding material, placing new culvert sections, placing pave surface, and site restoration.

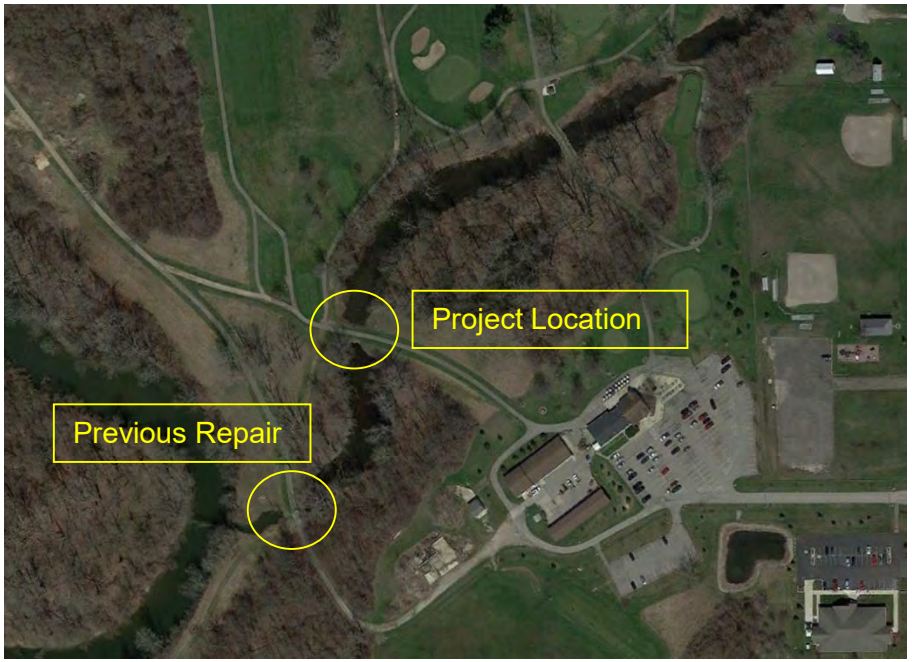
Background: The existing culvert that services the golf course cart path has failed and is in need of replacement The culvert allows the passage of the golf course cart path which connects the starter building to the course across the Hale Drain. . A hole developed in the surface of the path from the degradation of the corrugated metal pipe. Currently park forces have place a steel plate over the area to facilitate golfers. The downstream culvert which services the maintenance drive was replaced after it failed in 2017.

Contractor	City	Amount
DP Schweihofer	St. Clair	$ 6 4,190.00
Fonson Company, Inc.	Brighton	$ 78,500.00
Gibralter Construction Co.	Trenton	$ 98,888.00
Bricco Excavating Co. LLC	Oak Park	$106,425.00
Erie Constuction LLC	Woodhaven	$113,925.00
Anglin Civil, LLC	Livonia	$125,025.00
M-K Construction Co.	Brownstown	$127,713.29

Budget Amount for Contract Services and Project Administration $ 00.00

- Work Order Amount
- Contract Amount – DP Schweihofer $ 64,190.00
- Contract Administration $ 4,000.00
    - o Total Proposed Work Order Amount $ 68,190.00

Culvert Photos



HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Mike Henkel, Chief of Engineering Services
Project No: 510-17-313
Project Title: Bids – Maintenance Yard Storm Water Improvements
Project Type: Capital Improvement
Location: Willow Metropark
Date: October 4, 2019

Bids Received: September 26, 2019

Action Requested: Motion to Approve

That the Board of Commissioners (1) award Contract No. 510-17-313 to the low responsive, responsible bidder, Erie Construction, LLC in the amount of $96,512; and (2) approve the transfer of funds within the Capital Project Fund from the Stony Creek Sanitary Sewer Rehabilitation Project as recommended by Chief of Engineering Services Mike Henkel and staff.

Fiscal Impact: Funding is available for this project within the Capital Project Fund from the Stony Creek Sanitary Sewer Rehabilitation project.

Scope of Work: The project will include the installation of a water control structure, excavation, placement of rip rap, outfall pipe installation and site restoration.

Background: As part of the SAW (storm Water, Asset Management and Waste Water) grant program, projects were identified throughout the park system to address storm water management improvements. The grant program paid for a portion of the design of the projects but not for construction. However, in order to receive funding for the design, the projects need to be constructed. The Willow maintenance yard project was identified due to its proximity to the Huron River. The project will address runoff from the site before entering the river. This project will provide a retention basin for runoff for pretreatment.

Contractor	City	Amount
Erie Construction	Woodhaven	$ 96,512.00
Gibralter Construction Co.	Trenton	$114,282.00
M-K Construction Co.	Brownstown	$130,034.80
Anglin Civil	Livonia	$190,606.25

Budget Amount for Contract Services $ 57,231.00

Work Order Amount

- Contract Amount Inland Waters and Pollution Controls $ 51,162.00
- Contract Administration $ 3,000.00
  - o Total Proposed Work Order Amount $ 54,162.00

This project was reported and publicly advertised in the following construction reporting outlets: MITN, Construction Association of Michigan, Reed Construction Data, Construction News Corporation, Construction News Service, HCMA Website, Builders Exchange of Michigan, McGraw Hill Dodge, Builders Exchange of Lansing and Central Michigan.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Mike Henkel, Chief of Engineering Services
Project No: 713-19-053
Project Title: Bids – Pasture Fence Replacement
Project Type: Major Maintenance
Location: Wolcott Mill Metropark, Macomb County
Date: October 4, 2019

Quotes Received: September 23, 2019

Action Requested: Motion to Approve

That the Board of Commissioners award Contract No. 713-19-053 to the low responsive, responsible bidder, Future Fence Company in the amount of $37,891 as recommended by Chief of Engineering Services Mike Henkel and staff.

Fiscal Impact: The project was budgeted at $50,000 and is under budget by $12,109.

Scope of Work: The project includes the removal and disposal of the existing fence and installation of approximately 3,400 feet of woven wire pasture fence and gate installation.

Background: The existing pasture fence at the Wolcott Mill Farm is in poor condition and needs to be replaced. It is difficult for park staff to maintain the integrity of the existing fence due to the poor condition of existing posts and fencing material.

Contractor	City	Amount
Future Fence	Warren	$37,891.00
Nationwide Construction Group	Richmond	$57,210.00
Proulx Fencing Corp.	Metamora	non-responsive

Budget Amount for Contract Services $37,891.00

Work Order Amount

- Contract Amount Future Fence Company $37,891.00
- Contract Administration $ 4,000.00
  - Total Proposed Work Order Amount $41,891.00

This project was reported and publicly advertised in the following construction reporting outlets: MITN, Construction Association of Michigan, Reed Construction Data, Construction News Corporation, Construction News Service, HCMA Website, Builders Exchange of Michigan, McGraw Hill Dodge, Builders Exchange of Lansing and Central Michigan.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Mike Henkel, Chief of Engineering Services
Project No: 709-17-043
Project Title: Bids – Sewer Rehabilitation
Project Type: Major Maintenance
Location: Stony Creek Metropark
Date: October 4, 2019

Bids Received: September 26, 2019

Action Requested: Motion to Approve

That the Board of Commissioners award Contract No. 709-17-043 to the low responsive, responsible bidder, Inland Waters Pollution Control in the amount of $51,162 as recommended by Chief of Engineering Services Mike Henkel and staff.

Fiscal Impact: The current budget amount available for the project is $57,231 and the funds are currently in the Capital Project Fund under sanitary sewer Rehabilitation.

Scope of Work: The project includes installing cured in place pipe lining of 1,102 feet of sanitary sewer.

Background: The existing sanitary sewer system is experiencing ground water infiltration through the pipe joints. Any infiltration into the system adds cost to the operation of the system. Pipe lining is a lower cost alternative to pipe replacement and will extend the life of the conveyance system. The areas were identified from the televising of the system from a previous project.

Contractor	City	Amount
Inland Waters Pollution Controls	Detroit	$51,162.00
Insituform Technologies USA	Chesterfield	$54,672.20
DVM Utilities		Non-responsive

Budget Amount for Contract Services $57,231.00

Work Order Amount

- Contract Amount Inland Waters and Pollution Controls $51,162.00
- Contract Administration $ 3,000.00
  - Total Proposed Work Order Amount $54,162.00

This project was reported and publicly advertised in the following construction reporting outlets: MITN, Construction Association of Michigan, Reed Construction Data, Construction News Corporation, Construction News Service, HCMA Website, Builders Exchange of Michigan, McGraw Hill Dodge, Builders Exchange of Lansing and Central Michigan.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Mike Henkel, Chief of Engineering Services
Project Title: Approval – Ray Township Property Exchange Agreement
Project Type: Land Use
Location: Wolcott Mill Metropark
Date: October 1, 2019

Action Requested: Motion to Approve

That the Board of Commissioners approve the land exchange agreement with Ray township as recommended by Chief of Engineering Services Mike Henkel and staff.

Fiscal Impact: There is no fiscal impact from the land exchange.

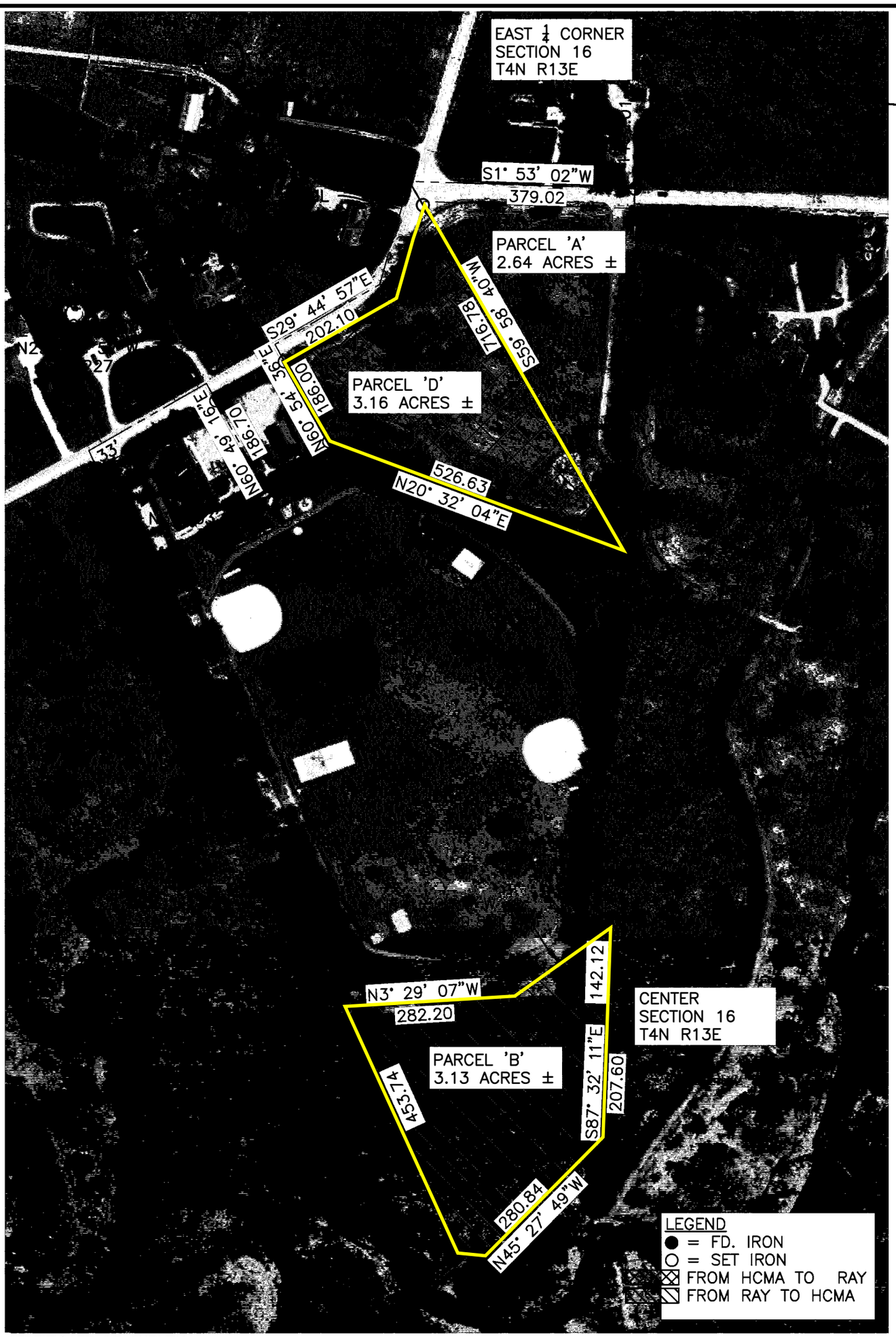
Background: At its Sept. 17 meeting, the Ray Township Board of Trustees approved the land exchange agreement with the Metroparks, which was draft by Miller Canfield. The land agreement will exchange approximately 3.16 acres of Metroparks property for approximately 3.13 acres of property from Ray Township.

The land exchange will benefit both parties as the Metroparks will be able to physically connect the Wolcott Farm with the Historic Center via a trail. Ray township will be able to expand their municipal services complex.

Connecting the Wolcott Farm and Historic Center has been a long-term goal for the Metroparks and will open up opportunities for programming between the two areas of the park.

Upon approval by the Board, staff will move forward and work with Macomb County on the parcel split and the transfer of the property.

Attachment: Aerial View Photo of Land Exchange and Property Description
Property Exchange Agreement



CERTIFICATE OF SURVEY

BEARINGS ESTABLISHED FROM SURVEY PROVIDED BY RAY TOWNSHIP

I HEREBY CERTIFY THAT I HAVE SURVEYED AND MAPPED THE LAND HEREIN PLATTED AND/OR DESCRIBED ON MAY 23, 2019 AND THAT THE RATIO OF CLOSURE ON THE UNADJUSTED FIELD OBSERVATIONS OF SUCH SURVEY WAS 1/5000 OR GREATER, AND THAT ALL REQUIREMENTS OF ACT No. 132, P.A. 1970 (AS AMENDED) HAVE BEEN COMPLIED WITH.

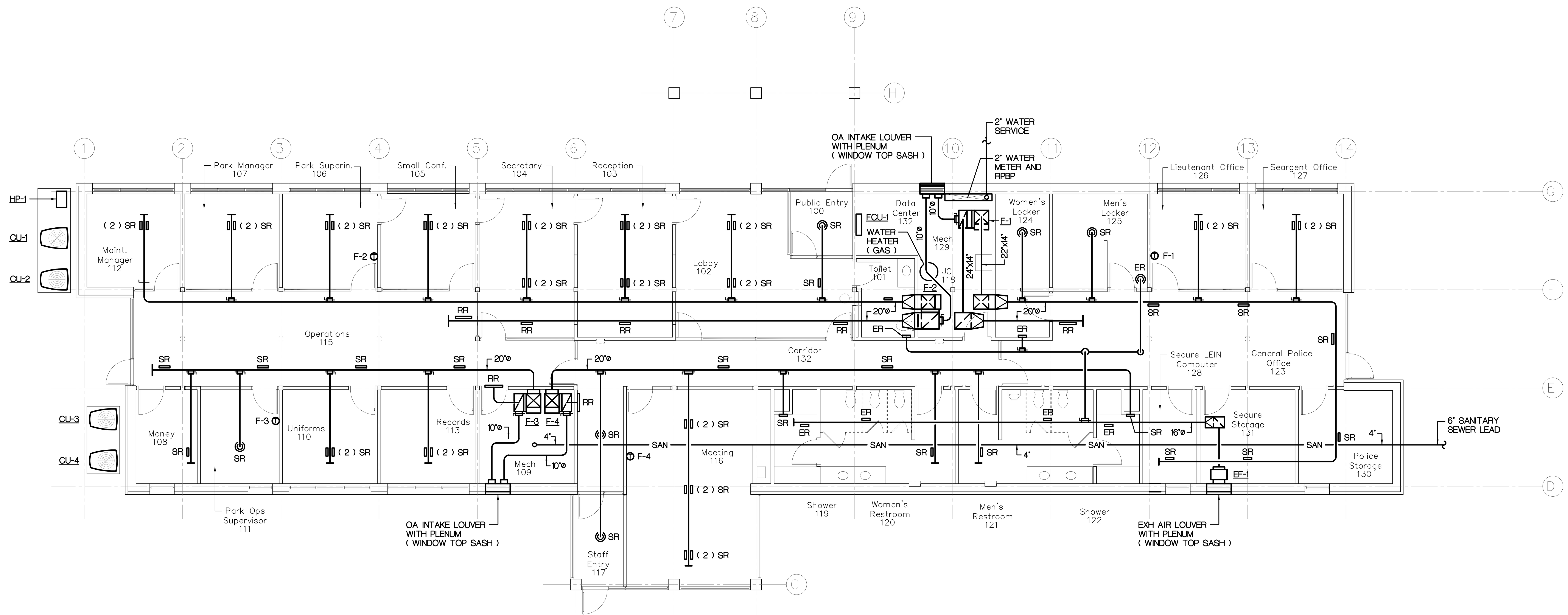
SCALE 1 INCH= 200 FEET

SECTION 16 TOWN 4 NORTH RANGE 13 EAST

RAY TOWNSHIP

MACOMB COUNTY

DATE: 05-23-2019	PROJECT: RAY TWP
DRAWN: ADC	SHEET 1 OF 4



PRELIMINARY MECHANICAL FLOOR PLAN

SCALE: 1/8"=1'-0"

GENERAL HVAC + PLUMBING NOTES:

1. THIS DRAWING IS DIAGRAMATIC & SHOULD BE USED TO DETERMINE THE DESIGN INTENT. THE M.C. & P.C SHALL FIELD VERIFY ALL WORK & SHALL NOTIFY THE ARCH. IMMEDIATELY OF ANY DISCREPANCIES IN THE DOCUMENTS BEFORE PROCEEDING. FAILURE TO DO SO WILL RESULT IN THE M.C. TAKING FULL RESPONSIBILITY & LIABILITY FOR SAID DISCREPANCIES.
2. ALL WORK SHALL BE DONE IN ACCORDANCE W / ALL LOCAL, STATE, COUNTY CODE REGULATIONS, MIOSHA, AND ADA.
3. ALL SANITARY WASTE PIPING SHALL SLOPE AT 1/8" PER FOOT UNLESS OTHEWISE NOTED.
4. INSTALL ASSE 1070 THERMOSTATIC MIXING VALVES ON HAND SINKS.
5. ALL VENTING SHALL BE INSTALLED PER THE 2015 M.P.C. ALL DRY VENTS CONNECTING TO A HORIZ. WASTE / SANITARY LINE SHALL CONNECT ABOVE THE CENTERLINE OF THE HORIZONTAL DRAINAGE PIPE.
6. DUE TO LIMITED SPACE IT IS CRITICAL THAT THE LOCATION OF ALL PIPING, DUCTWORK & RELATED ACCESSORIES IN CEILING SPACE BE COORDINATED WITH ALL OTHER TRADES IN FIELD.
7. THE CONTRACTORS SHALL FIELD VERIFY AND COORDINATE WITH ALL OTHER TRADES AS REQUIRED TO FACILITATE THE INSTALLATION OF ALL EQUIP., PIPING, DUCTWORK, GRILLES, ETC. TO AVOID CONFLICTS

NOT FOR CONSTRUCTION

HURON CLINTON METROPOLITAN AUTHORITY
WILLOW METROPARK OFFICE

TBD

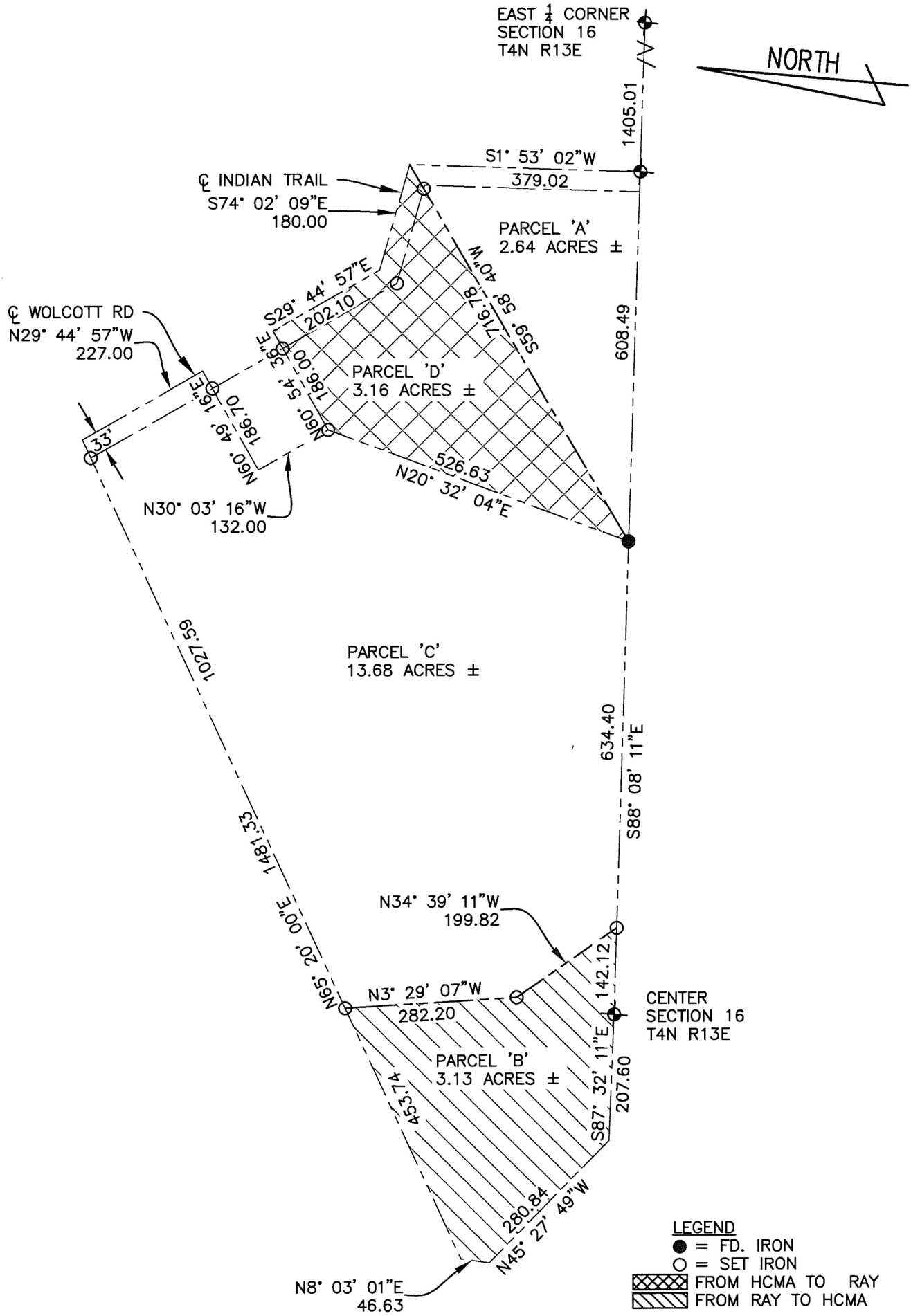
1804

Straub Pettitt Yaste
850 North Crooks
Clawson, Michigan 48017-1311
248-658-7777 PHONE
248-658-7781 FAX

Potapa - Van Hoosear Engineering, Inc.
Consulting Engineers
48653 Van Dyke Ave.
Shelby Twp., MI 48317
Phone: 586-997-0922

PRELIMINARY MECH. FLOOR PLAN

M1



CERTIFICATE OF SURVEY

BEARINGS ESTABLISHED FROM SURVEY PROVIDED BY RAY TOWNSHIP

I HEREBY CERTIFY THAT I HAVE SURVEYED AND MAPPED THE LAND HEREIN PLATTED AND/OR DESCRIBED ON MAY 23, 2019 AND THAT THE RATIO OF CLOSURE ON THE UNADJUSTED FIELD OBSERVATIONS OF SUCH SURVEY WAS 1/5000 OR GREATER, AND THAT ALL REQUIREMENTS OF ACT No. 132, P.A. 1970 (AS AMENDED) HAVE BEEN COMPLIED WITH.

SCALE 1 INCH= 200 FEET

SECTION 16 TOWN 4 NORTH RANGE 13 EAST

RAY TOWNSHIP

MACOMB COUNTY

DATE: 05-23-2019 | PROJECT: RAY TWP

DRAWN: ADC | SHEET 1 OF 4

ORIGINAL HCMA DESCRIPTION

Land in the Township of Ray, Macomb County, Michigan described as:
A parcel of land in the Northeast ¼ of Section 16, Town 4 North, Range 13 East, Ray Township, Macomb County, Michigan, Commencing at the Southeast corner of the West ½ of the Northeast ¼ of said Section 16; thence North 88 degrees 17 minutes 30 seconds West 608.50 feet along the East and West ¼ line of Section 16; thence North 20 degrees 29 minutes East, 526.85 feet; thence North 60 degrees 33 minutes East, 189.15 feet along an old fence line; thence South 29 degrees 42 minutes East 202.10 feet; thence South 73 degrees 45 minutes East 180 feet; thence South 02 degrees 05 minutes West 379 feet along the centerline of Wolcott Road to the point of beginning. Subject to the rights of the public and of any governmental unit in any part thereof taken, used or deeded for street, road or highway purposes.

ORIGINAL RAY TOWNSHIP DESCRIPTION

Part of the Northeast quarter of Section 16, Town 4 North, Range 13 East, Ray Township, Macomb County, Michigan, being described as:
Commencing North quarter corner of Section 16, thence South 29 degrees 42 minutes East 2067.87 feet along the centerline of Wolcott Road (66 feet wide); thence continuing,
South 29 degrees 42 minutes East 227 feet along the centerline of Wolcott Road; thence
South 60 degrees 23 minutes West 186.7 feet; thence South 28 degrees 55 minutes East 132 feet; thence South 20 degrees 26 minutes West 526.85 feet; thence
North 88 degrees 43 minutes West 775.00 feet; thence North 88 degrees 08 minutes West 207.6 feet; thence North 43 degrees 37 minutes West 290.6 feet; thence
North 08 degrees 03 minutes 14 seconds East 46.63 feet; thence
North 65 degrees 20 minutes East 1481.33 feet to the point of beginning. Containing 16.81 acres.
Subject to any and all easements and rights of way of record or otherwise.
From records only, no field survey performed.

PARCEL 'A'
NEW HCMA DESCRIPTION

A parcel of land in Section 16, Township 4 North, Range 13 East, Ray Township, Macomb County, Michigan, described as follows:
Commencing at the East ¼ corner of said Section 16; thence N 88° 08' 11" W 1405.01 feet along the East-West quarter line of said Section 16 to the Point of Beginning; thence continue
N 88° 08'11" W 608.49 feet along said East-West quarter line; thence N 59° 58' 40" E 716.78 feet to the centerline of Wolcott Road and centerline of Indian Trail; thence S 1° 53' 02" W 379.02 feet to the Point of Beginning. Said parcel contains 2.64 acres of land more or less and is subject to any easements and restrictions of record.

PARCEL 'B'
NEW HCMA PARCEL DESCRIPTION
FROM RAY TOWNSHIP

A parcel of land in Section 16, Township 4 North, Range 13 East, Ray Township, Macomb County, Michigan, described as follows:
Commencing at the East ¼ corner of said Section 16; thence N 88° 08' 11" W 2647.90 feet along the East-West quarter line of said Section 16 to the Point of Beginning; thence N 88° 08' 11" W 142.12 feet along said East-West quarter line of Section 16 to the center of Section 16; thence
N 87° 32' 11" W 207.60 feet along said East-West quarter line of Section 16; thence
N 45° 27' 49" W 280.84 feet; thence N 8° 03' 01" E 46.63 feet; thence N 65° 20' 00" E 453.74 feet; thence S 3° 29' 07" E 282.20 feet; thence S 34° 39' 11" E 199.82 feet to the Point of Beginning. Said parcel contains 3.13 acres of land more or less and is subject to any easements or restrictions of record.

CERTIFICATE OF SURVEY

BEARINGS ESTABLISHED FROM SURVEY PROVIDED BY RAY TOWNSHIP

I HEREBY CERTIFY THAT I HAVE SURVEYED AND MAPPED THE LAND HEREIN PLATTED AND/OR DESCRIBED ON MAY 23, 2019 AND THAT THE RATIO OF CLOSURE ON THE UNADJUSTED FIELD OBSERVATIONS OF SUCH SURVEY WAS 1/5000 OR GREATER, AND THAT ALL REQUIREMENTS OF ACT No. 132, P.A. 1970 (AS AMENDED) HAVE BEEN COMPLIED WITH.

SCALE 1 INCH= 200 FEET

SECTION 16 TOWN 4 NORTH RANGE 13 EAST

RAY TOWNSHIP

MACOMB COUNTY

DATE: 05-23-2019 | PROJECT: RAY TWP

DRAWN: | SHEET 2 OF 4

PARCEL 'C'
NEW RAY TOWNSHIP DESCRIPTION

A parcel of land in Section 16, Township 4 North, Range 13 East, Ray Township, Macomb County, Michigan, described as follows:
Commencing at the East ¼ corner of said Section 16; thence N 88° 08' 11" W 2013.50 feet along the East-West quarter line of said Section 16, to the Point of Beginning; thence N 88° 08' 11" W 634.40 feet along said East-West quarter line of Section 16; thence N 34° 39' 11" W 199.82 feet; thence N 3° 29' 07" W 282.20 feet; thence N 65° 20' 00" E 1027.59 feet to the centerline of Wolcott Road; thence S 29° 44' 57" E 227.00 feet along said centerline of Wolcott Road; thence S 60° 49' 16" W 186.70 feet; thence S 30° 03' 16" E 132.00 feet; thence S 20° 32' 04" W 526.63 feet to the Point of Beginning. Said parcel contains 13.68 acres of land more or less and is subject to any easement and restrictions of record.

PARCEL 'D'
NEW RAY TOWNSHIP DESCRIPTION
FROM HCMA

A parcel of land in Section 16, Township 4 North, Range 13 East, Ray Township, Macomb County, Michigan, described as follows:
Commencing at the East ¼ corner of said Section 16; thence N 88° 08' 11" W 2013.50 feet along the East-West quarter line of said Section 16 to the Point of Beginning; thence N 20° 32' 04" E 526.63 feet; thence N 60° 54' 36" E 186.00 feet to the centerline of Wolcott Road; thence S 29° 44' 57" E 202.10 feet along said centerline of Wolcott Road; thence S 74° 02' 09" E 180.00 feet along said centerline of Wolcott Road; thence S 59° 58' 40" W 716.78 feet to the Point of Beginning. Said parcel contains 3.16 acres of land more or less and is subject to any easements and restrictions of record.

CERTIFICATE OF SURVEY

BEARINGS ESTABLISHED FROM SURVEY PROVIDED BY RAY TOWNSHIP

I HEREBY CERTIFY THAT I HAVE SURVEYED AND MAPPED THE LAND HEREIN PLATTED AND/OR DESCRIBED ON MAY 23, 2019 AND THAT THE RATIO OF CLOSURE ON THE UNADJUSTED FIELD OBSERVATIONS OF SUCH SURVEY WAS 1/5000 OR GREATER, AND THAT ALL REQUIREMENTS OF ACT No. 132, P.A. 1970 (AS AMENDED) HAVE BEEN COMPLIED WITH.

SCALE 1 INCH= 200 FEET

SECTION 16 TOWN 4 NORTH RANGE 13 EAST
RAY TOWNSHIP
MACOMB COUNTY

DATE: 05-23-2019 | PROJECT: RAY TWP
DRAWN: | SHEET 3 OF 4

NEW PARCEL FOR TAX ID 05-16-100-004
TO INCLUDE PARCEL 'B'

Land in the Township of Ray, Macomb County, Michigan, described as: Part of Section 16, town 4 north, range 13 east, Ray Township, Macomb County, Michigan, described as follows: Beginning at the north ¼ corner of said Section 16; thence south 29 degrees 42 minutes east along the centerline of Wolcott Road a distance of 642.48 feet; thence south 59 degrees 38 minutes west a distance of 343.65 feet; thence south 1 degree 42 minutes 30 seconds east a distance of 640.16 feet; thence south 65 degrees 20 minutes west a distance of 599.40 feet; thence south 27 degrees 55 minutes west a distance of 123.43 feet; thence south 14 degrees 50 minutes east 221.00 feet; thence south 38 degrees 32 minutes east a distance of 111.65 feet; thence south 71 degrees 30 minutes east 169.10 feet; thence south 8 degrees 03 minutes 14 seconds west 378.83 feet; thence south 43 degrees 37 minutes east 290.63 feet, thence south 88 degrees 08 minutes 23 seconds east 207.65 feet along the east and west ¼ line of said Section 16 to the center post of said Section 16; thence south 88 degrees 48 minutes 11 seconds east a distance of 773.28 feet; thence south 88 degrees 17 minutes 30 seconds east a distance of 608.50 feet; along the east and west ¼ line of said Section 16; thence south 0 degrees 23 minutes west 987.41 feet along the centerline of Wolcott Road; thence north 89 degrees 18 minutes 58 seconds west a distance of 218.00 feet; thence south 0 degrees 23 minutes west, a distance of 264.00 feet; thence north 89 degrees 18 minutes 58 seconds west, a distance of 1135.76 feet; thence south 1 degree 11 minutes 48 seconds east a distance of 520.60 feet; thence north 88 degrees 24 minutes 30 seconds west, 200.00 feet; thence south 1 degree 11 minutes 48 seconds east 850.00 feet; thence north 88 degrees 24 minutes 30 seconds west, a distance of 216.00 feet along the southerly line of said Section 16; thence north 0 degrees 42 minutes east, a distance of 850.00 feet, thence north 88 degrees 24 minutes 30 seconds west a distance of 914.00 feet; thence north 0 degrees 42 minutes east, a distance of 811.06 feet; thence north 87 degrees 53 minutes 22 seconds west, a distance of 1268.23 feet; thence north 2 degrees 30 minutes 30 seconds east, a distance of 976.91 feet along the westerly line of said Section 16 to the west ¼ corner of said Section 16; thence north 2 degrees 33 minutes 15 seconds east, a distance of 2659.74 feet along the westerly line of said Section 16, to the northwest corner of said Section 16; thence south 88 degrees 29 minutes 45 seconds east 2288.28 feet along the northerly line of said Section 16, to the point of beginning.

To also include:

A parcel of land in the East ½ of the Southwest ¼ of Section 16, Township 4 North, Range 13 East, Ray Township, Macomb County, Michigan, described as follows: Commencing at the South ¼ corner of said Section 16; thence N 01° 11' 48" W along the North-South ¼ line of said Section 16 600.71 feet to the Point of Beginning; thence N 88° 24' 30" W and parallel to the South line of said Section 16 and the centerline of 29 Mile Road 200.00 feet; thence N 01° 11' 48" W and parallel to the North-South ¼ line of said Section 16 250.30 feet; thence S 88° 24' 30" E and parallel to the South line of said Section 16 and the centerline of 29 Mile Road 200.00 feet to the North-South ¼ line of said Section 16; thence S 01° 11' 48" E along said North-South ¼ line of said Section 16 250.30 feet to the Point of Beginning; and also a parcel of land in Section 16, Township 4 North, Range 13 East, Ray Township, Macomb County, Michigan, described as follows: Commencing at the East ¼ corner of said Section 16; thence N 88° 08' 11" W 2647.90 feet along the East-West quarter line of said Section 16 to the Point of Beginning; thence N 88° 08' 11" W 142.12 feet along said East-West quarter line of Section 16 to the center of Section 16; thence N 87° 32' 11" W 207.60 feet along said East-West quarter line of Section 16; thence N 45° 27' 49" W 280.84 feet; thence N 8° 03' 01" E 46.63 feet; thence N 65° 20' 00" E 453.74 feet; thence S 3° 29' 07" E 282.20 feet; thence S 34° 39' 11" E 199.82 feet to the Point of Beginning. Said parcel contains 263.63 acres of land more or less and is subject to any easements or restrictions of record.

CERTIFICATE OF SURVEY

BEARINGS ESTABLISHED FROM SURVEY PROVIDED BY RAY TOWNSHIP

I HEREBY CERTIFY THAT I HAVE SURVEYED AND MAPPED THE LAND HEREIN PLATTED AND/OR DESCRIBED ON MAY 23, 2019 AND THAT THE RATIO OF CLOSURE ON THE UNADJUSTED FIELD OBSERVATIONS OF SUCH SURVEY WAS 1/5000 OR GREATER, AND THAT ALL REQUIREMENTS OF ACT No. 132, P.A. 1970 (AS AMENDED) HAVE BEEN COMPLIED WITH.

SCALE 1 INCH= 200 FEET	
SECTION 16 TOWN 4 NORTH RANGE 13 EAST RAY TOWNSHIP MACOMB COUNTY	
DATE: 05-23-2019	PROJECT: RAY TWP
DRAWN:	SHEET 4 OF 4

PROPERTY EXCHANGE CLOSING AGREEMENT

THIS PROPERTY EXCHANGE CLOSING AGREEMENT (the "Agreement") is made and entered into this as of _____, 2019 (the "Effective Date") by and between the HURON CLINTON METROPOLITAN AUTHORITY, a public body corporate under the laws of the State of Michigan, whose address is 13000 High Ridge Drive., Brighton, MI 48114 (the "HCMA"), and RAY TOWNSHIP, a Michigan charter township, whose address is _____ (the "Township").

RECITALS

WHEREAS, HCMA is the owner of certain property located in Ray Township, Macomb County, Michigan, more particularly described on the attached **Exhibit A** (the "HCMA Parcel");

WHEREAS, the Township is the owner of certain property in Ray Township, Macomb County, Michigan, more particularly described on the attached **Exhibit B** (the "Township Parcel");

WHEREAS, the Township and HCMA have agreed to exchange ownership of the respective parcels, owned by each and described herein, such that on the date hereof, the Township has conveyed to HCMA the Township Parcel and HCMA has conveyed to the Township the HCMA Parcel;

WHEREAS, the parties wish to confirm and memorialize their respective agreements concerning the terms and conditions under which the parcels are being exchanged.

NOW THEREFORE, in consideration of the mutual covenants and agreements herein contained, HCMA and the Township agree as follows:

1. Recitals: The Recitals, as set forth above, are acknowledged to be true, correct, and complete and otherwise incorporated herein by reference.

2. Acknowledgement. Each of HCMA and the Township certify to the other that, prior to the date hereof, (i) each has undertaken such investigations of the parcel to be conveyed to it as deems appropriate and/or necessary, including but not limited to, physical inspection of the subject property, a review of the state and quality of title thereto, surveys of the Property, the environmental condition thereof, and all other aspects of the parcel to be conveyed to each party hereunder, (ii) each party acknowledges expressly that it is acquiring title to the parcel to be conveyed to it in an AS IS, WHERE IS condition without representation or warranty by the party conveying title to such parcel, and (iii) each party shall be responsible for recording the deed given to it by the other and paying any and all transfer and or recording taxes and the cost of any title insurance it chooses to obtain. Each party hereto further certifies, represents, and warrants to the other that it is a tax exempt organizations.

3. Form of Conveyance.

(a) HCMA has executed and conveyed title to the HCMA Parcel to the Township pursuant to the quit claim deed attached hereto as **Exhibit C**.

(b) The Township has executed and conveyed title to the Township Parcel to HCMA pursuant to the quit claim deed attached hereto as **Exhibit D**.

4. Grant of Right of First Refusal.

(a) As additional consideration for the conveyance by HCMA to the Township of the HCMA Parcel, Township hereby confirms the grant to HCMA Parcel of an exclusive and irrevocable and perpetual right of first refusal ("ROFR") to acquire the Property in the event the Township desires to transfer or conveyance of all or any part of title thereto to any third party.

(b) The parties hereto agree that they shall execute, and HCMA may record, the Memorandum of Right of First Refusal in the form attached hereto as **Exhibit E** promptly following the execution of this Agreement pursuant to which the ROFR rights granted to HCMA hereby are placed of record.

(c) Prior to accepting any offer for the sale or transfer of title to the Property to any third party which is otherwise acceptable to the Township, the Township shall provide to HCMA at least fifteen (15) days advance written notice to HCMA of the Township's intent to effect such sale as well as a true copy of the terms and conditions of such sale agreement as proposed by such third party and which are acceptable to the Township. HCMA shall have fifteen (15) business days following receipt of such notice from the Township to exercise its ROFR granted hereunder. In the event HCMA exercises its ROFR, the parties shall proceed to execute an agreement on the same terms and conditions as were disclosed, such execution to occur within fifteen (15) days of the exercise by HCMA of its ROFR. The parties shall thereafter consummate the transaction in accordance with the terms of said agreement. In the event HCMA fails to timely exercise said ROFR, then the Township may proceed to effect the sale as disclosed on the terms of said purchase agreement as was included in the notice, provided however, in the event the purchase price or the material terms and conditions of such third party sale are modified (it being agreed that any reduction in the purchase price by more than $10,000.00 or 2.5% shall be deemed a material modification), then the terms and conditions of HCMA's ROFR shall reapply to such modified terms. In the event the Township fails to complete the disposition of the HCMA Parcel in accordance with the Purchase Agreement as was provided in the notice within ninety (90) days for any reason, then the terms and conditions of HCMA's ROFR shall reapply.

(d) Notices required to be given pursuant to this Section 3 shall be deemed as given hereunder upon personal delivery to the address set forth below, by registered or certified mail, postage prepaid to such address or by a nationally recognized overnight delivery service. Notices shall be addressed:

If to HCMA: _____
13000 High Ridge Drive.,
Brighton, MI 48114

If to Ray Township: _____
_____
_____
_____

5. Vacant Land. The parties certify to each other that the respective parcels to be conveyed by each are vacant that neither has granted any third party the right to lease, occupy, or purchase the parcel so conveyed, and that no utilities are currently being provided to or consumed by any improvements on said property.

6. Transfer Costs and Expenses. In connection with this agreement, each party shall pay their own legal and professional fees and other fees of their consultants incurred in connection with this agreement and the exchange of lands contemplated hereby.

7. Representations. Each party represents and warrants to the other as follows:

(i) Such party has the legal right, power, and authority to enter into this agreement and to execute and deliver the deeds and to consummate the property exchange contemplated by this Agreement.

(ii) Each party has taken all requisite governmental actions have been taken by each of the parties in connection with (a) entering into this Agreement, the instruments referenced herein and the consummation of the property exchange contemplated by this agreement. No further consent of any judicial or other administrative body, governmental authority, or other party is required in connection with the execution and delivery of the documents by each of the parties hereto.

(iii) The individuals executing this agreement and the instruments referenced herein on behalf of each of the parties have the legal power, right, and actual authority to bind the parties for who may act to the terms and conditions of those documents.

8. Miscellaneous.

(a) Counterparts; Electronic Signatures. This Agreement may be executed by facsimile or other electronic signatures and/or in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

(b) Partial Invalidity. If any term or provision of this Agreement shall be deemed to be invalid or unenforceable to any extent, the remainder of this Agreement shall not be

affected thereby, and each remaining term and provision of this Agreement shall be valid and be enforced to the fullest extent permitted by law.

(c) Possession of the Property. Each party shall deliver legal and exclusive possession of the parcel conveyed.

(d) Waivers. No waiver of any breach of any covenant or provision contained herein shall be deemed a waiver of any preceding or succeeding breach thereof or of any other covenant or provision contained herein. No extension of time for performance of any obligation or act shall be deemed an extension of the time for performance of any other obligation or act except those of the waiving party.

(e) Successors and Assigns. This Agreement is binding upon and inures to the benefit of the permitted successors and assigns of the parties hereto.

(f) Entire Agreement. This Agreement (including all Exhibits attached hereto) constitutes the entire contract between the parties hereto with respect to the subject matter hereof and may not be modified except by an instrument in writing signed by the party to be charged.

(g) Time of Essence. Grantor and Grantee hereby acknowledge and agree that time is strictly of the essence with respect to each and every term, condition, obligation and provision hereof.

(h) Captions Not Binding; Exhibits. The captions in this Agreement are inserted for reference only and in no way define, describe or limit the scope or intent of this Agreement or of any of the provisions hereof. All Exhibits attached hereto shall be incorporated by reference as if set out herein in full.

(i) Governing Law. The parties hereto expressly agree that this Agreement shall be governed by, interpreted under, and construed and enforced in accordance with the laws of Michigan.

(j) WAIVER OF JURY TRIAL. EACH PARTY HEREBY WAIVES TRIAL BY JURY IN ANY PROCEEDINGS BROUGHT BY THE OTHER PARTY IN CONNECTION WITH ANY MATTER ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE TRANSACTION, THIS AGREEMENT, THE PROPERTY OR THE RELATIONSHIP OF GRANTEE AND GRANTOR HEREUNDER.

(k) Brokers. Each party represents to the other that no brokers or finders have been involved in this transaction. Each of HCMA and the Township agree that if any other claims for brokerage commissions are ever made against the other in connection with this transaction, all claims shall be handled and paid by the party whose actions or alleged commitments form the basis of such claim.

(signatures on following page)

IN WITNESS WHEREOF, the undersigned have caused their signatures to be placed on the day and year first above written.

HURON CLINTON METROPOLITAN AUTHORITY,
a Michigan Inc.

By: _____

RAY TOWNSHIP, a Michigan township

By: _____

EXHIBIT A
HCMA PARCEL

EXHIBIT B
TOWNSHIP PARCEL

EXHIBIT C
HCMA DEED

_____ [SPACE ABOVE THIS LINE FOR RECORDING INFORMATION] _____

QUIT CLAIM DEED

For and in consideration of $1.00, receipt of which is hereby acknowledged, Grantor, HURON CLINTON METROPOLITAN AUTHORITY, a public body corporate under the laws of the State of Michigan, whose address is 13000 High Ridge Drive., Brighton, MI 48114 does hereby quitclaim to Grantee, RAY TOWNSHIP, a Michigan charter township, whose address is _____, the following described real property situated in the Township of Ray, County of Macomb, State of Michigan.

See attached Exhibit "A"

This conveyance is exempt from taxation pursuant to MCL 207.505(a) AND (h) and MCL 207.526(a) and (h).

Dated this ____ day of _____, 2019

[signature page follows]

HURON CLINTON METROPOLITAN AUTHORITY, a public body corporate under the laws of the State of Michigan

By:_____

Its:_____

STATE OF MICHIGAN)
) ss.
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____ day of _____, 2019, by _____, the _____ of HURON CLINTON METROPOLITAN AUTHORITY, a public body corporate under the laws of the State of Michigan.

_____
Notary Public, _____ County, MI

This instrument drafted by
and after recording return to:

Joseph M. Fazio, Esq.
Miller Canfield Paddock & Stone, PLC
101 N. Main Street, 7th Floor
Ann Arbor, MI 48104

EXHIBIT A

to Quit Claim Deed

EXHIBIT D
TOWNSHIP DEED

_____ [SPACE ABOVE THIS LINE FOR RECORDING INFORMATION] _____

QUIT CLAIM DEED

For and in consideration of $1.00, receipt of which is hereby acknowledged, Grantor, RAY TOWNSHIP, a Michigan charter township, whose address is _____ does hereby quitclaim to Grantee, HURON CLINTON METROPOLITAN AUTHORITY, a public body corporate under the laws of the State of Michigan, whose address is 13000 High Ridge Drive., Brighton, MI 48114, the following described real property situated in the Township of Ray, County of Macomb, State of Michigan.

See attached Exhibit “A”

This conveyance is exempt from taxation pursuant to MCL 207.505(a) and (h) and MCL 207.526(a) and (h).

Dated this ____ day of _____, 2019

[signature page follows]

RAY TOWNSHIP, a Michigan charter township

By:_____

Its:_____

STATE OF MICHIGAN)
) ss.
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____ day of _____, 2019, by _____, the _____ of RAY TOWNSHIP, a Michigan charter township.

_____
Notary Public, _____ County, MI

This instrument drafted by
and after recording return to:

Joseph M. Fazio, Esq.
Miller Canfield Paddock & Stone, PLC
101 N. Main Street, 7th Floor
Ann Arbor, MI 48104

EXHIBIT A

to Quit Claim Deed

EXHIBIT E

Form of Memorandum of Right of First Refusal

_____ [SPACE ABOVE THIS LINE FOR RECORDING INFORMATION] _____

MEMORANDUM OF RIGHT OF FIRST REFUSAL

This Memorandum of Right of First Refusal is made on this __ day of _____, 2019, by and between HURON CLINTON METROPOLITAN AUTHORITY, a public body corporate under the laws of the State of Michigan, whose address is 13000 High Ridge Drive., Brighton, MI 48114 (the "HCMA), and RAY TOWNSHIP, a Michigan charter township, whose address is _____ (the "Township").

WHEREAS, on even date herewith HCMA has consummated a transaction with the Township pursuant to which the Township and its constituent members granted to HCMA and its constituent members a right of first refusal to purchase the lands owned by the Township, as described on the attached Exhibit A, incorporated hereby referenced, said lands being located in the Township of Ray, County of Macomb, State of Michigan.

The purpose of this Memorandum is to give record notice of the right of first refusal rights as granted in that certain Closing Memorandum dated on even date herewith by and among HCMA, the Township and the constituent members of each.

IN WITNESS WHEREOF, the undersigned have caused this Memorandum to be executed on the date first above written. A copy of the Closing Memorandum may be obtained from either HCMA or the Township.

HURON CLINTON METROPOLITAN AUTHORITY, a public body corporate under the laws of the State of Michigan,

BY:_____

Its:_____

RAY TOWNSHIP, a Michigan charter township,

BY:_____

Its:_____

STATE OF MICHIGAN)
) ss.
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____ day of _____, 2019, by _____, the _____ of HCMA.

_____
Notary Public, _____ County, MI

STATE OF MICHIGAN)
) ss.
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____ day of _____, 2019, by _____, the _____ of Ray Township.

_____
Notary Public, _____ County, MI

This instrument drafted by
and after recording return to:

Joseph M. Fazio, Esq.
Miller Canfield Paddock & Stone, PLC
101 N. Main Street, 7th Floor
Ann Arbor, MI 48104

EXHIBIT A

Legal Description

PARK	MONTHLY VEHICLE ENTRIES				MONTHLY TOLL REVENUE			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St Clair	43,578	42,666	42,676	2%	$ 85,193	$ 100,671	$ 102,767	-17%
Wolcott Mill	5,712	5,467	6,974	-18%	$ 12,077	$ 2,545	$ 3,440	251%
Stony Creek	53,016	67,029	60,111	-12%	$ 119,817	$ 140,322	$ 143,815	-17%
Indian Springs	9,768	9,935	9,863	-1%	$ 15,000	$ 15,220	$ 15,038	0%
Kensington	69,815	75,729	76,361	-9%	$ 129,753	$ 148,286	$ 149,214	-13%
Huron Meadows	13,402	12,558	11,989	12%	$ 14,411	$ 15,326	$ 15,277	-6%
Hudson Mills	21,096	20,837	21,887	-4%	$ 33,344	$ 36,775	$ 37,635	-11%
Lower Huron/Willow/Oakwoods	50,494	52,093	52,214	-3%	$ 73,904	$ 69,196	$ 73,897	0%
Lake Erie	18,236	20,061	20,066	-9%	$ 33,834	$ 38,350	$ 37,231	-9%
Monthly TOTALS	285,117	306,375	302,143	-6%	$ 517,333	$ 566,691	$ 578,313	-11%

PARK	Y-T-D VEHICLE ENTRIES				Y-T-D TOLL REVENUE			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St Clair	359,087	350,569	345,377	4%	$ 1,457,542	$ 1,464,277	$ 1,427,198	2%
Wolcott Mill	25,998	42,690	49,324	-47%	$ 79,650	$ 40,961	$ 32,150	148%
Stony Creek	462,137	498,233	479,648	-4%	$ 2,132,636	$ 2,069,461	$ 2,172,789	-2%
Indian Springs	73,359	74,682	76,219	-4%	$ 263,457	$ 260,470	$ 265,175	-1%
Kensington	626,721	638,189	634,457	-1%	$ 2,330,767	$ 2,307,736	$ 2,343,698	-1%
Huron Meadows	74,573	77,478	76,931	-3%	$ 70,539	$ 67,026	$ 60,573	16%
Hudson Mills	160,549	159,354	165,348	-3%	$ 422,449	$ 430,959	$ 460,677	-8%
Lower Huron/Willow/Oakwoods	423,888	444,665	450,554	-6%	$ 916,110	$ 949,590	$ 992,426	-8%
Lake Erie	161,264	158,047	161,792	0%	$ 547,048	$ 529,042	$ 537,150	2%
Monthly TOTALS	2,367,576	2,443,907	2,439,650	-3%	$ 8,220,198	$ 8,119,522	$ 8,291,836	-1%

PARK	MONTHLY PARK REVENUE				Y-T-D PARK REVENUE			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St Clair	$ 116,952	$ 127,343	$ 132,269	-12%	$ 2,174,991	$ 2,130,233	$ 2,101,635	3%
Wolcott Mill	$ 23,326	$ 20,565	$ 35,486	-34%	$ 238,009	$ 188,549	$ 301,886	-21%
Stony Creek	$ 266,884	$ 296,631	$ 301,256	-11%	$ 3,684,918	$ 3,603,537	$ 3,725,969	-1%
Indian Springs	$ 122,788	$ 120,848	$ 117,170	5%	$ 1,010,443	$ 1,020,132	$ 1,021,737	-1%
Kensington	$ 334,061	$ 336,008	$ 332,595	0%	$ 4,315,140	$ 4,173,238	$ 4,066,018	6%
Huron Meadows	$ 123,293	$ 113,602	$ 114,138	8%	$ 873,526	$ 826,498	$ 801,767	9%
Hudson Mills	$ 123,113	$ 116,623	$ 113,184	9%	$ 1,019,282	$ 989,331	$ 977,692	4%
Lower Huron/Willow/Oakwoods	$ 207,991	$ 221,566	$ 212,648	-2%	$ 2,720,056	$ 2,679,418	$ 2,725,653	0%
Lake Erie	$ 160,280	$ 180,961	$ 162,864	-2%	$ 1,631,106	$ 1,631,651	$ 1,601,609	2%
Y-T-D TOTALS	$ 1,478,688	$ 1,534,147	$ 1,521,611	-3%	$ 17,667,471	$ 17,242,587	$ 17,323,967	2%

District	Y-T-D Vehicle Entries by Management Unit				Y-T-D Total Revenue by Management Unit			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Eastern	847,222	891,492	874,349	-3%	$ 6,097,918	$ 5,922,319	$ 6,129,490	-1%
Western	935,202	949,703	952,956	-2%	$ 7,218,391	$ 7,009,199	$ 6,867,214	5%
Southern	585,152	602,712	612,345	-4%	$ 4,351,162	$ 4,311,069	$ 4,327,262	1%

HURON-CLINTON METROPARKS MONTHLY STATISTICS **September, 2019**

GOLF THIS MONTH	MONTHLY ROUNDS				MONTHLY REVENUE			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Stony Creek	4,903	3,857	3,925	25%	$ 127,164	$ 121,132	$ 125,707	1%
Indian Springs	3,691	3,343	3,095	19%	$ 101,228	$ 97,668	$ 87,425	16%
Kensington	4,481	4,137	4,015	12%	$ 137,109	$ 130,076	$ 118,150	16%
Huron Meadows	3,562	3,446	3,281	9%	$ 108,882	$ 98,276	$ 98,728	10%
Hudson Mills	3,086	2,667	2,309	34%	$ 69,648	$ 65,789	$ 57,280	22%
Willow	3,876	3,497	3,369	15%	$ 108,810	$ 96,807	$ 91,442	19%
Lake Erie	3,914	3,389	3,116	26%	$ 99,701	$ 106,061	$ 90,943	10%
Total Regulation	27,513	24,336	23,110	19%	$ 752,542	$ 715,809	$ 669,675	12%
LSC Par 3	647	834	906	-29%	$ 5,052	$ 4,299	$ 5,286	-4%
LSC Foot Golf	77	50	75	3%	$ 562	$ 313	$ 517	9%
Total Golf	28,237	25,220	24,483	15%	$ 758,156	$ 720,421	$ 678,036	12%

GOLF Y-T-D	GOLF ROUNDS Y-T-D				GOLF REVENUE Y-T-D			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Stony Creek	28,203	27,552	27,470	3%	$ 866,051	$ 887,523	$ 890,297	-3%
Indian Springs	22,575	23,011	22,050	2%	$ 669,637	$ 661,462	$ 606,798	10%
Kensington	31,137	28,544	27,465	13%	$ 956,189	$ 880,103	$ 789,704	21%
Huron Meadows	25,386	24,049	23,266	9%	$ 779,146	$ 728,930	$ 718,785	8%
Hudson Mills	20,297	18,839	16,228	25%	$ 481,520	$ 446,703	$ 391,158	23%
Willow	21,501	19,032	20,539	5%	$ 624,600	$ 546,715	$ 586,146	7%
Lake Erie	23,718	22,439	21,970	8%	$ 642,952	$ 646,873	$ 613,372	5%
Total Regulation	172,817	163,466	158,988	9%	$ 5,020,095	$ 4,798,309	$ 4,596,261	9%
LSC Par 3	5,285	6,532	6,934	-24%	$ 41,448	$ 36,659	$ 40,607	2%
LSC Foot Golf	772	318	712	8%	$ 5,032	$ 1,925	$ 5,396	-7%
Total Golf	178,874	170,316	169,879	5%	$ 5,066,575	$ 4,836,893	$ 4,663,869	9%

AQUATICS THIS MONTH	PATRONS THIS MONTH				MONTHLY REVENUE			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St. Clair	697	1,770	1,487	-53%	$ 3,485	$ 9,239	$ 7,528	-54%
Stony Creek Rip Slide	332	1,109	1,088	-69%	$ 1,892	$ 5,702	$ 5,416	-65%
KMP Splash	485	1,675	1,530	-68%	$ 3,355	$ 9,700	$ 8,824	-62%
Lower Huron	863	3,784	2,711	-68%	$ 12,076	$ 42,299	$ 30,186	-60%
Willow	247	969	630	-61%	$ 2,318	$ 6,535	$ 4,721	-51%
Lake Erie	331	1,306	985	-66%	$ 5,485	$ 12,431	$ 9,850	-44%
TOTALS	2,955	10,613	8,468	-65%	$ 28,611	$ 85,905	$ 66,815	-57%

AQUATICS Y-T-D	PATRONS Y-T-D				REVENUE Y-T-D			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St. Clair	44,386	46,746	46,371	-4%	$ 221,464	$ 233,797	$ 230,496	-4%
Stony Creek Rip Slide	22,771	26,031	29,601	-23%	$ 119,246	$ 133,308	$ 151,369	-21%
KMP Splash	39,035	44,648	43,208	-10%	$ 276,482	$ 264,525	$ 255,696	8%
Lower Huron	82,566	93,625	90,585	-9%	$ 946,701	$ 951,568	$ 908,678	4%
Willow	19,475	19,116	19,482	0%	$ 90,681	$ 90,592	$ 96,455	-6%
Lake Erie	31,672	33,731	32,618	-3%	$ 259,693	$ 265,065	$ 258,895	0%
TOTALS	239,905	263,897	262,817	-9%	$ 1,914,266	$ 1,938,855	$ 1,908,385	0%

HURON-CLINTON METROPARKS MONTHLY STATISTICS **September, 2019**

PARK	Seasonal Activities this Month				Monthly Revenue			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St. Clair								
Welsh Center	4	1	3	50%	$ 7,200	$ 600	$ 2,367	204%
Shelters	5	2	2	114%	$ 2,475	$ 665	$ 885	180%
Boat Launches	536	357	550	-3%	$ -	$ -	$ -	-
Marina	415	625	566	-27%	$ 2,029	$ 3,728	$ 4,674	-57%
Mini-Golf	657	809	853	-23%	$ 2,358	$ 3,324	$ 3,235	-27%
Wolcott								
Activity Center	10	8	9	15%	$ 2,500	$ 2,100	$ 1,367	83%
Stony Creek								
Disc Golf Daily	1,069	1,213	1,455	-27%	$ 3,495	$ 3,639	$ 4,391	-20%
Disc Golf Annual	0	0	1	-	$ -	$ -	$ 30	-
Total Disc Golf	1,069	1,213	1,455	-27%	$ 3,495	$ 3,639	$ 4,421	-21%
Shelters	17	7	5	264%	$ 4,025	$ 1,575	$ 1,050	283%
Boat Rental	892	1,098	1,084	-18%	$ 9,995	$ 10,940	$ 11,465	-13%
Boat Launches	134	68	86	56%	$ -	$ -	$ -	-
Indian Springs								
Shelters	3	0	0	800%	$ 600	$ -	$ 67	800%
Event Room	2	4	4	-54%	$ 4,400	$ 5,300	$ 7,187	-39%
Kensington								
Disc Golf Daily	1,500	1,735	2,051	-27%	$ 4,500	$ 5,205	$ 6,152	-27%
Disc Golf Annual	2	0	0	500%	$ 120	$ -	$ 18	555%
Total Disc Golf	1,502	1,735	2,051	-27%	$ 4,620	$ 5,205	$ 6,170	-25%
Shelters	34	4	7	410%	$ 7,650	$ 1,000	$ 1,683	354%
Boat Rental	967	1,347	1,602	-40%	$ 14,347	$ 15,993	$ 20,850	-31%
Huron Meadows								
Shelters	0	0	0	-	$ -	$ -	$ -	-
Hudson Mills								
Disc Golf Daily	659	542	800	-18%	$ 1,977	$ 1,626	$ 2,399	-18%
Disc Golf Annual	1	0	0	-	$ 60	$ -	$ -	-
Total Disc Golf	660	542	800	-17%	$ 2,037	$ 1,626	$ 2,399	-15%
Shelters	1	2	3	-67%	$ 200	$ 400	$ 600	-67%
Canoe Rental	653	823	779	-16%	$ 14,797	$ 9,083	$ 7,286	103%
Lower Huron / Willow / Oakwoods								
Disc Golf Daily	127	127	144	-12%	$ 381	$ 381	$ 432	-12%
Disc Golf Annual	0	0	0	-	$ -	$ -	$ -	-
Total Disc Golf	127	127	144	-12%	$ 381	$ 381	$ 432	-12%
Shelters	11	2	2	371%	$ 2,350	$ 400	$ 483	386%
Lake Erie								
Shelters	1	1	2	-40%	$ 200	$ 300	$ 400	-50%
Boat Launches	1,016	1,234	1,395	-27%	$ -	$ -	$ -	-
Marina	0	344	121	-	$ 16,317	$ 17,863	$ 18,537	-12%

PARK	Seasonal Activities Y-T-D				Seasonal Revenue Y-T-D			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St. Clair								
Welsh Center	50	49	37	35%	$ 43,525	$ 35,950	$ 29,150	49%
Shelters	309	230	221	40%	$ 81,530	$ 56,604	$ 57,653	41%
Boat Launches	3,712	3,823	4,791	-23%	$ -	$ -	$ -	-
Marina	1,866	2,514	2,703	-31%	$ 16,467	$ 22,313	$ 24,251	-32%
Mini-Golf	9,403	8,427	8,613	9%	$ 34,314	$ 30,542	$ 30,984	11%
Wolcott								
Activity Center	41	77	80	-49%	$ 21,980	$ 15,750	$ 13,547	62%
Stony Creek								
Disc Golf Daily	10,281	10,507	12,925	-20%	$ 34,793	$ 33,436	$ 40,284	-14%
Disc Annual	104	102	120	-13%	$ 5,860	$ 5,590	$ 6,402	-8%
Total Disc Golf	10,385	10,609	13,044	-20%	$ 40,653	$ 39,026	$ 46,685	-13%
Shelters	395	323	340	16%	$ 89,050	$ 72,675	$ 74,462	20%
Boat Rental	16,790	15,358	15,929	5%	$ 177,737	$ 159,464	$ 168,146	6%
Boat Launches	849	786	769	10%	$ -	$ -	$ -	-
Indian Springs								
Shelters	71	38	37	90%	$ 9,975	$ 7,250	$ 5,983	67%
Event Room	25	41	44	-43%	$ 45,900	$ 64,800	$ 77,439	-41%
Kensington								
Disc Golf Daily	15,899	16,788	19,030	-16%	$ 52,104	$ 53,992	$ 58,298	-11%
Disc Annual	175	180	150	17%	$ 10,200	$ 9,720	$ 8,025	27%
Total Disc Golf	16,074	16,968	19,179	-16%	$ 62,304	$ 63,712	$ 66,323	-6%
Shelters	489	395	364	34%	$ 109,813	$ 90,325	$ 89,362	23%
Boat Rental	16,925	17,667	17,310	-2%	$ 232,366	$ 214,133	$ 221,885	5%
Huron Meadows								
Shelters	25	25	23	10%	$ 5,000	$ 5,000	$ 4,533	10%
Hudson Mills								
Disc Golf Daily	5,572	5,256	7,298	-24%	$ 16,716	$ 15,768	$ 21,895	-24%
Disc Annual	131	163	145	-10%	$ 7,660	$ 8,765	$ 7,768	-1%
Total Disc Golf	5,703	5,419	7,443	-23%	$ 24,376	$ 24,533	$ 29,663	-18%
Shelters	72	94	99	-28%	$ 14,400	$ 20,200	$ 20,467	-30%
Canoe Rental	8,173	6,785	6,389	28%	$ 37,071	$ 27,766	$ 30,704	21%
Lower Huron / Willow / Oakwoods								
Disc Golf Daily	942	1,156	945	0%	$ 2,826	$ 3,477	$ 2,839	0%
Disc Annual	7	16	10	-28%	$ 420	$ 840	$ 512	-18%
Total Disc Golf	949	1,172	955	-1%	$ 3,246	$ 4,317	$ 3,351	-3%
Shelters	269	263	254	6%	$ 58,450	$ 57,850	$ 55,225	6%
Lake Erie								
Shelters	75	59	62	20%	$ 16,400	$ 12,900	$ 13,967	17%
Boat Launches	14,500	13,600	13,981	4%	$ -	$ -	$ -	-
Marina	0	2,317	836	-	$ 149,884	$ 158,743	$ 158,451	-5%

INTERPRETIVE FACILITIES

PARK	Monthly Patrons Served (total program participants and non-program visitors)				YTD Patrons Served (total program participants and non-program visitors)			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St Clair	15,621	14,417	14,729	6%	149,580	140,678	145,834	3%
Wolcott Mill	4,911	2,761	4,032	22%	17,235	28,396	25,124	-31%
Wolcott Farm	12,808	17,175	12,286	4%	50,896	98,215	64,959	-22%
Stony Creek	18,404	18,439	18,288	1%	148,384	143,963	150,446	-1%
Eastern Mobile Center	159	1,982	1,246	-87%	7,445	17,382	12,842	-42%
Indian Springs	8,228	7,905	7,556	9%	60,280	7,905	44,725	35%
Kens NC	25,232	21,143	22,882	10%	223,087	210,712	215,495	4%
Kens Farm	18,892	17,077	18,919	0%	203,772	79,241	172,226	18%
Western Mobile Center	1,435	2,102	1,337	7%	9,076	2,850	6,729	35%
Hudson Mills	3,607	4,054	3,495	3%	32,291	4,054	21,786	48%
Oakwoods	15,604	15,001	15,316	2%	117,502	114,378	117,366	0%
Lake Erie	17,022	14,895	15,880	7%	121,482	46,598	94,963	28%
Southern Mobile Center	86	7,681	3,739	-98%	10,822	16,428	12,524	-14%
Totals	142,009	144,632	139,706	2%	1,151,852	910,800	1,085,019	6%

PARK	Monthly Revenue				YTD Revenue			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St Clair	$ 2,653	$ 1,141	$ 1,006	164%	$ 23,584	$ 18,578	$ 22,982	3%
Wolcott Mill	$ 360	$ 1,814	$ 1,443	-75%	$ 4,383	$ 15,811	$ 12,462	-65%
Wolcott Farm	$ 2,285	$ 3,751	$ 3,688	-38%	$ 60,278	$ 50,295	$ 50,918	18%
Wagon Rides	$ -	$ 258	$ 670	-	$ -	$ 7,208	$ 9,463	-
Livestock/Produce	$ 975	$ 1,961	$ 2,020	-52%	$ 42,307	$ 25,356	$ 23,913	77%
FARM TOTAL	$ 3,260	$ 5,969	$ 6,377	-49%	$ 102,585	$ 82,859	$ 84,294	22%
Stony Creek	$ 1,957	$ 3,387	$ 2,022	-3%	$ 16,587	$ 20,683	$ 20,989	-21%
Eastern Mobile Center	$ 675	$ 975	$ 500	35%	$ 9,763	$ 14,063	$ 6,291	55%
Indian Springs	$ 1,560	$ 2,660	$ 1,846	-15%	$ 20,397	$ 25,171	$ 27,351	-25%
Kens NC	$ 2,268	$ 2,246	$ 1,387	63%	$ 28,484	$ 24,429	$ 22,462	27%
Kens Farm	$ 3,545	$ 2,270	$ 1,166	204%	$ 49,834	$ 57,811	$ 51,642	-4%
Wagon Rides	$ 3,249	$ 4,546	$ 5,135	-37%	$ 15,541	$ 19,205	$ 26,568	-42%
Livestock/Produce	$ 1,397	$ 420	$ 315	343%	$ 4,152	$ 3,908	$ 7,906	-47%
FARM TOTAL	$ 8,191	$ 7,236	$ 6,616	24%	$ 69,527	$ 80,924	$ 86,116	-19%
Western Mobile Center	$ 2,000	$ 375	$ 525	281%	$ 18,906	$ 13,950	$ 14,283	32%
Hudson Mills	$ 551	$ 1,082	$ 1,304	-58%	$ 11,031	$ 11,382	$ 11,691	-6%
Oakwoods	$ 1,387	$ 2,215	$ 2,049	-32%	$ 17,295	$ 15,102	$ 14,955	16%
Lake Erie	$ 4,157	$ 4,997	$ 3,944	5%	$ 11,382	$ 13,207	$ 12,953	-12%
Southern Mobile Center	$ 1,200	$ -	$ 1,033	16%	$ 11,338	$ 16,272	$ 8,059	41%
Totals	$ 30,219	$ 34,098	$ 30,054	1%	$ 345,262	$ 352,430	$ 344,888	0%

HURON-CLINTON METROPARKS MONTHLY STATISTICS **September, 2019**

BREAKDOWN OF ATTENDANCE	ON-SITE Programs and Attendance				OFF-SITE Programs and Attendance			
	CURRENT YEAR		PREVIOUS YEAR		CURRENT YEAR		PREVIOUS YEAR	
	Programs	Attendance	Programs	Attendance	Programs	Attendance	Programs	Attendance
Lake St Clair	78	2,021	56	1,381	-	-	15	471
Wolcott Mill	-	-	14	403	-	-	-	-
Wolcott Farm	12	727	19	774	104	-	-	-
Stony Creek	22	504	37	839	-	-	-	-
Eastern Mobile Center					9	159	22	1,982
Indian Springs	29	1,376	32	1,356	-	-	-	-
Kens NC	8	163	11	272	-	-	-	-
Kens Farm	50	550	66	1,077	4	60	-	-
Western Mobile Center					5	1,435	8	2,102
Hudson Mills	5	107	7	116	-	-	12	438
Oakwoods	34	628	62	927	1	36	6	186
Lake Erie	28	1,092	23	1,037	-	-	6	142
Southern Mobile Center					6	86	18	7,681
Totals	266	7,168	327	8,182	129	1,776	87	13,002

BREAKDOWN OF ATTENDANCE	OTHER VISITORS (Non-programs)	
	Current	Previous
Lake St Clair	13,600	12,565
Wolcott Mill	4,911	2,358
Wolcott Farm	12,081	16,401
Stony Creek	17,900	17,600
Indian Springs	6,852	6,549
Kens NC	25,069	20,871
Kens Farm	18,282	16,000
Hudson Mills	3,500	3,500
Oakwoods	14,940	13,888
Lake Erie	15,930	13,716
Totals	133,065	123,448

"ON-SITE" - Statistics includes both programs offered to the public and programs offered to school and scout groups.

"OFF-SITE" - Statistics includes outreach programs at schools, special events such as local fairs, or outdoor related trade shows.

"OTHER VISITORS" - Represents patrons to interpretive centers who visit to view exhibits, walk trails, and generally just enjoy the outdoors.