AGENDA
Huron-Clinton Metropolitan Authority
Board of Commission Meeting
June 13, 2019 – 10:30am
Lake St. Clair Metropark – Thomas Welsh Activity Center

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1. Call to Order

2. Chairman's Statement

3. Public Participation

4. Approval – May 9, 2019 Regular Meeting and Closed Session Minutes

5. Approval – June 13, 2019 Full Agenda

Consent Agenda

6. Approval – June 13, 2019 Consent Agenda
- a. Approval – May 2019 Financial Statements
- b. Approval – May 2019 Appropriation Adjustments pg. 1
- c. Approval – 2019/2020 Tax Levy Report pg. 3
- d. Approval – Director Salary Increase pg. 6
- e. Report – Purchases Over $10,000 pg. 7
- f. Purchases
  1. Diesel Work Tractor, Indian Springs Metropark pg. 8

Regular Agenda

7. Reports

A. *Administrative Department*
1. Approval – Rebranded Metroparks Logo
2. Report – Marketing Update pg. 9
3. Report – Attendance Trends pg. 13

B. *Finance Department*
1. Report – Monthly Capital Project Fund Update pg. 14
2. Report – 2018 Audited Financial Statements pg. 17
3. Report – Five-Year Financial Forecast pg. 18

C. *Planning Department*
1. Approval – Coastal Management Grant Application Resolution, Lake Erie Metropark pg. 19

D. *Natural Resources Department*
1. Approval – Ecological Restoration and Invasive Plant Management Agreement pg. 29
2. Bids – Lake Erie Coastal Restoration Project Management pg. 37
3. Report – PFAS Testing Results on Huron River pg. 95

E. *Engineering Department*
1. Bids – Asphalt Replacement, Wolcott Mill Metropark Farm Center pg. 105

8. *Closed Session*
1. For the purpose of purpose of consulting with attorney(s) to discuss material, which is exempt from discussion or disclosure under the Freedom of Information Act, this is a permissible purpose for a closed session pursuant to Section 8(h) of the Open Meetings Act.

9. Election of Board Officers pg. 107

10. Other Business

11. Staff Leadership Update

12. Commissioner Comments

13. Motion to Adjourn

A Board Work Session will take place
Thursday, June 13, 2018 – ***9:30 a.m.***
Lake St. Clair Metropark – Thomas Welsh Activity Center

The next regular Metroparks Board meeting will take place
Thursday, July 11, 2019 – 10:30 a.m.
Oakwoods Metropark – Nature Center

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Rebecca Franchock, Chief of Finance
Subject: Approval – May Appropriation Adjustments
Date: June 6, 2019

Action Requested: Motion to Approve

That the Board of Commissioners' approve the May 2019 Appropriation Adjustments as recommended by Chief of Finance Rebecca Franchock.

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 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 May, $29,985 represents funds transferred within and between the departments to cover over budget accounts or to move funds to the correct account. None of these transfers had any net impact on Fund Balance.

In addition, revenue account budgets were increased by $11,292 reflecting funds received to fund expenditures totaling $3,792 as well as $7,500 in interpretive programming.

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

Attachment: May Appropriation Adjustments

Huron-Clinton Metroparks
March 2019 Appropriation Transfer Summary

Expense Accounts

	Location	Increase	Decrease	Difference
Capital	Hudson Mills, Dexter, Delhi	$ 4,674	$ 5,030	$ (356)
	Huron Meadows	356		356
	Total	**$ 5,030**	**$ 5,030**	**$ -**
Operations	Lake St. Clair	$ 1,000	$ 3,955	$ (2,955)
	Kensington	5,355	3,000	2,355
	Lower Huron, Willow, Oakwoods	3,000	3,000	-
	Hudson Mills, Dexter, Delhi	3,000	3,000	-
	Stony Creek	3,600	3,000	600
	Lake Erie	3,000	3,000	-
	Indian Springs	3,000	3,000	-
	Huron Meadows	3,000	3,000	-
	Total	**$ 24,955**	**$ 24,955**	**$ -**
	Total Expense	**$ 29,985**	**$ 29,985**	**$ -**

Foundation Support

		Revenue Increase	Expense Increase	Net
Operations	Lake St. Clair	$ 549		$ 549
	Stony Creek	8,408	3,270	5,138
	Wolcott Mill	2,335	522	1,813
	Total	**$ 11,292**	**$ 3,792**	**$ 7,500**
	Total Foundation Support	$ 11,292	$ 3,792	$ 7,500

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Rebecca Franchock, Chief of Finance
Subject: Approval – 2019/2020 Tax Levy Report
Date: June 6, 2019

Action Requested: Motion to Approve

That the Board of Commissioners' (1) approve the 2019 Tax Rate Request forms at .2117 mills (formerly .2129 mills); and (2) approve the inclusion of "net" tax revenues of $32,618,609 with an additional $400,000 in Personal Property Tax Exemption Loss for a grand total of $33,018,609 – in the 2020 Budget as recommended by Rebecca Franchock and staff.

Summary: Final 2019 Taxable Value figures used for the calculation of the Metroparks 2020 tax revenues have been received from the county treasurer's offices. At this time, it is necessary for the Board of Commissioners to certify the requested tax levy rate of .2117 mills for each county.

Background: The calculation of the Metroparks tax levy millage rate is controlled by the "Headlee" Millage Reduction Formula (Michigan Compiled Law 211.34d) and Proposal A (1994 Public Act 415). Once the Metroparks tax levy rate is calculated, it is applied to the "taxable values" throughout the five counties of Livingston, Macomb, Oakland, Washtenaw and Wayne.

The Metroparks "taxable value" for the five counties for 2019 is $157.7 billion, an increase of $7.5 billion (5.02 percent) from the 2018 value of $150.2 billion. The Metroparks taxable value showed an overall positive trend, with all five counties having increased from the previous year. Washtenaw showed the largest increase with close to 6 percent. Livingston, Oakland, Macomb and Wayne had large increases, all around 5 percent. The overall 5.02 percent increase is favorable to our long-term planning.

In applying the 2018 taxable value figures to the Headlee Millage Reduction Factor calculation formula, with the permitted inflation rate multiplier of 1.024, the Metroparks will be permitted to levy .2117 mills for 2020. For the third year in a row, the Metroparks has to decrease their levy rate due to the MRF calculation remaining below 1.000. The Metroparks is currently levying 85 percent of the original authorized millage of .2500 mills. This results in an annual loss of $6,041,451 in tax revenue due to the Headlee Reduction.

In applying the .2117 millage rate against the district's 2019 "taxable value" figures, anticipated "gross" tax revenues for 2020 will be $33,393,609. The breakdown by county is as follows:

	2019/20 Levy	%	2018/19 Levy	%	Change
Livingston	$ 1,980,597	5.9%	$ 1,890,156	5.9%	4.6%
Macomb	$ 6,019,474	18.0%	$ 5,765,456	18.0%	4.2%
Oakland	$ 12,752,525	38.2%	$ 12,186,165	36.6%	4.4%
Washtenaw	$ 3,724,791	11.2%	$ 3,536,548	10.8%	5.1%
Wayne	$ 8,916,222	26.7%	$ 8,599,110	28.3%	3.6%
Total	$ 33,393,609	100.0%	$ 31,977,435	100.0%	4.2%

As the Authority has done for the last 10 years, staff recommends that the Metroparks estimate the amount of "captured" tax revenues and potential tax refunds and adjust the anticipated gross tax revenues down at the start of the budget year. This is due to (1) the number of tax abatement programs which include Downtown Development Authorities (DDA), Local Development Finance Authorities (LDFA), Tax Incremental Finance Authorities (TIFA), Brownfield, and Neighborhood Enterprise Zones; (2) the large number of communities that are utilizing them; and (3) the amounts of Metroparks tax revenue that is being captured and refunded.

By booking this adjustment at the beginning of the budget year, we are able to have a more accurate picture of the actual amount of tax revenue that should ultimately be collected in 2020. Based on trends from the last five years of data from the amount of Metroparks tax revenue captured and refunded, the following breakdown details the "net" tax revenues recommended to be used for the 2020 Budget.

	2019/20 Gross Tax Levy	Estimated Captured Taxes	2019/20 Net Tax Levy
Livingston	$ 1,980,597	$ (30,000)	$ 1,950,597
Macomb	6,019,474	(25,000)	5,994,474
Oakland	12,752,525	(300,000)	12,452,525
Washtenaw	3,724,791	(70,000)	3,654,791
Wayne	8,916,222	(350,000)	8,566,222
Tax Levy Total	$ 33,393,609	$ (775,000)	$ 32,618,609
PPEL Reimbursement	400,000	0	400,000
Grand Total	$ 33,793,609	$ (775,000)	$ 33,018,609

The 2019 Budget was prepared based on anticipated net tax revenues of $31,222,435. The recommended net tax revenue for 2020 is $32,618,609, an increase of $1,396,174. For 2020, the Metroparks budgeted revenue remains fairly close to the amount of tax revenues that were received in 2006, but still remain less than the peak year of 2008.

Staff also recommends adding $400,000 in the budget for Personal Property Tax Exemption Loss, which is money reimbursed for personal property tax on all operating millage's by the state of Michigan.

The Metroparks have received confirmation of the calculations of the 2019 tax millage rate and revenues from the State Department of Treasury, Assessment and Certification Division. At this time, it is necessary for the Board to certify the 2019 tax levy rate for each county.

Attachment: 2013 – 2020 Tax Revenue Trends

Property Tax Levy
Historical Data 2013-2020
Huron-Clinton Metroparks Authority

	2013	2014	2015	2016	2017	2018	2019	2020
Livingston County	1,565,732	1,594,749	1,621,383	1,693,299	1,728,341	1,776,026	1,860,156	1,950,597
% of Total	**5.3%**	**5.7%**	**5.8%**	**6.0%**	**5.9%**	**5.9%**	**6.0%**	**6.0%**
Macomb County	5,151,431	5,120,419	5,216,972	5,437,583	5,396,668	5,533,351	5,745,456	5,994,474
% of Total	**17.5%**	**18.2%**	**18.5%**	**19.1%**	**18.4%**	**18.5%**	**18.4%**	**18.4%**
Oakland County	10,054,927	10,146,651	10,321,459	10,766,960	11,010,893	11,395,116	11,901,165	12,452,525
% of Total	**34.2%**	**36.0%**	**36.7%**	**37.9%**	**37.6%**	**38.1%**	**38.1%**	**38.2%**
Washtenaw County	2,884,061	2,988,396	3,034,765	3,126,874	3,203,075	3,300,885	3,466,548	3,654,791
% of Total	**9.8%**	**10.6%**	**10.8%**	**11.0%**	**10.9%**	**11.0%**	**11.1%**	**11.2%**
Wayne County	8,257,786	8,060,251	7,943,130	7,997,144	7,893,747	7,940,852	8,249,110	8,566,222
% of Total	**28.1%**	**28.6%**	**28.2%**	**28.1%**	**26.9%**	**26.5%**	**26.4%**	**26.3%**
Total Adjusted Levy	**$ 27,913,938**	**$ 27,910,467**	**$ 28,137,710**	**$ 29,021,861**	**$ 29,232,725**	**$ 29,946,230**	**$ 31,222,435**	**$ 32,618,609**

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Randy Rossman, Chief of Human Resources and Labor Relations
Subject: Approval – Director Salary Increase
Date: June 6, 2019

Action Requested: Motion Approve

That the Board of Commissioners' approve a salary increase for Director Amy McMillan at a new annual salary of $150,000 effective May 9, 2019 as recommended by Chief of Human Resources and Labor Relations Randy Rossman.

Fiscal Impact: The 2019 budget impact will be $1,400.

Background: The increase is in accordance with the Board of Commissioners recommendation included with the Director's annual performance evaluation conducted at the May 9, 2019 Board meeting.

Additionally, the next annual performance evaluation for the director will be completed at the end of 2020. Annual compensation will be reviewed at that time with any adjustment to be effective January 2021. The director will not participate in annual overall salaried employee compensation adjustments.

The Board of Commissioners reserves the right to complete an interim evaluation of performance and/or compensation adjustment at any time.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Amy McMillan, Director
Project Title: Update – Purchases over $10,000
Date: June 6, 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. AMS Grounds	Mulch Installation Stony Creek Metropark	$10,810.00
2. D&G Equipment	Manure Spreader Kensington Metropark Farm Center	$10,992.10
3. NBC Truck Equipment	Two Western Salt Spreaders One each at Hudson Mills and Huron Meadows Metroparks	$11,512.00
4. Knapheide Truck Equip	Platform Body w/Liftgate for F-550 Stony Creek Metropark	$12,584.91
5. Knapheide Truck Equip	F-250 Service Body for Vehicle 2 at Kensington Metropark	$13,059.53
6. John R Spring Service	Three-Western Snow Plows Stony Creek Metropark	$13,100.00
7. GolfNow	HP 600G4PO All in One Computer Equipment and Software for all Metropark Golf Courses	$20,081.60

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Heidi Dziak, Senior Buyer
Project No: ITB 2019-038
Project Title: Purchase – Diesel Work Tractor
Location: Indian Springs Metropark
Date: June 6, 2019

Action Requested: Motion to Approve

That the Board of Commissioners' award ITB 2019-038 to Weingartz Supply of Utica, Michigan, the low responsive, responsible bidder for the purchase of a new 2019 Kubota model L6060HSTC Diesel Work Tractor for a total amount of $39,206 as recommended by Senior Buyer Heidi Dziak and staff.

Fiscal Impact: Funds will come from the Board approved 2019 Capital Equipment budget which allowed for $40,000 for the purchase. The purchase will total $39,206; a difference of $794 in favor of the budget.

Scope of Work: Furnish and deliver one (1) new Kubota model L6060HSTC Diesel Work Tractor.

Background: The proposed purchase was competitively bid and posted on the Michigan Intergovernmental Trade Network (MITN) site, which provided notice of the solicitation to 93 vendors, of which 15 downloaded the ITB.

This item will replace three pieces of equipment that will be sold at auction (1) unit 320, a 1989 Ford tractor with 3912 hours; (2) unit 996, a 1987 Ford tractor with 3685 hours; and (3) unit 871, a 1984 International tractor with 2490 hours.

Vendor	Location	Total Price
Weingartz Supply*	Utica	$39,206.00
Wolverine Rental & Supply	Ann Arbor	$39,384.00
Rosy Brothers, Inc	Dryden	$45,850.00

(*) Indicates recommended award.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Danielle Mauter, Chief of Marketing and Communications
Subject: Report – May Marketing Update
Date: June 6, 2019

Action Requested: Motion to Receive and File

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

Attachment: May Marketing Update

Highlights from the Past Month

At the April board meeting, a new marketing plan and brand identity was presented. The board approved the brand identity and the marketing plan and strategy as well as production of a set of TV commercials to compliment the new brand identity. A decision vote on logo for the Metroparks will be discussed at the June board meeting. Here are some highlights of what has been done this past month.

- Coordinated with Factory Detroit to schedule, approve and find cast for a set of three TV commercials. Coordinate with park and operational staff and police with all details of filming. Filming to take place June 3, 4 and 5.
- Chief of Marketing and Communications attended and presented at all three district staff meetings to give an update on branding and presented the new marketing plan. Chief of Marketing and Communications also presented a brief update on marketing and branding at four new staff orientations and trainings as a way of keeping all staff informed.
- Met with Truscott Rossman on May 21 to kick off work with that contract. Gathering data and information for them by June 4 as a step to finalizing an editorial/theme calendar and a rough draft earned media plan to work towards.
- Part-time marketing assistant continued training and began working on implementation of pieces of the new social media plan.
- Rolled out set of six new branded radio commercials on multiple stations. Negotiated schedules and added value on each station. Commercials are running on WHMI (93.5), The Praise Network, The Bounce (105.1), WJR (AM-760) and WDVD (96.3)
- Assisted with gathering information for the Trust for Public Land as part of the Economic Impact Study project.
- Completed park event rack cards for July – September.

Update on 2019 Marketing Goals

1. ***Increase awareness and understanding of the Metroparks brand and identity***
   Completed graphics requests for upcoming events and facilities in current brand look. Will be switching to new brand identity starting after June board meeting pending decision about the logo is made. Radio campaigns have started. New social media plan is in the early stages of roll-out. Billboards, digital ads, TV and print ads will roll-out after June board meeting.

2. ***Increase overall attendance by 30,000 vehicles in 2019***
   Attendance trends will be presented at June board meeting. From there, will be utilizing regular reports from park staff to monitor progress.

3. ***Track events we promote and their respective attendance***
   Will be looked at in more depth in June

4. ***Track total interpretive attendance overall and per location***
   Will be looked at in more depth in June

5. ***Increase Family reunions/picnics/events booked in the parks by 3-5 percent***
   Will be looked at in more depth in June

6. ***Support the organizational goal of increasing golf revenues systemwide to $5,230,294***

7. ***Increase Instagram followers to 2,000***
   Currently at 1,261. See social media chart below for more details.

8. ***Increase Facebook followers by 20 percent (Reach 14,000 by end of 2019)***
   Currently at 12,530. See social media chart below for more details.

9. ***Increase average Facebook engagement by 20 percent***

See social media chart below. You will notice a big spike in May. We had several highly engaged posts in late April and May that have related to toll scanning and wildlife in the parks. The post shared about the sandhill crane that adopt a gosling received 9.9k engagements and reached 122.2k people. Both posts about toll scanning reached between 8-10k people and each had around 2k clicks and a few hundred engagements. Our most recent posts about the albino deer fawns received 600 engagements.

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

	Jan 1 - Jan 25	Jan 1 - Feb 25	Jan 1 - Mar 25	Jan 1 - Apr 25	Jan 1 - May 25
Followers YTD Facbook	11,369	11,460	11,733	12,020	12,530
Followers YTD Instagram	1,095	1,131	1,173	1,219	1,261
Followers YTD Twitter	2,116	2,135	2,146	2,173	2,188
Engagement YTD Facebook	1,483	2,924	5,940	8,217	23,180
Engagement YTD Instagram	252	455	785	1,076	1,597
Engagement YTD Twitter	54	98	171	201	225

	January (12/25 - 1/25)	February (1/25 - 2/25)	March (2/25 - 3/25)	April (3/25 - 4/25)	May (4/25 - 5/25)
Followers: Facebook	11,369	11,460	11,773	12,020	12,530
Followers: Instagram	1,095	1,131	1,173	1,219	1,261
Followers: Twitter	2,116	2,135	2,146	2,173	2,188
Engagement: Facebook	2,014	1,475	3,125	2,448	15,013
Engagement: Instagram	259	203	384	291	521
Engagement: Twitter	58	44	91	30	24

11. ***Grow email subscriber list by 10 percent (80,300 total subscribers by the end of 2019)***

Currently list is at 84,752 subscribers – still needs to be scrubbed and cleaned before measuring growth. Expect a lower clean number in the June report.

12. ***Maintain email open rate at industry benchmark. Benchmark = 26 - 27.5 percent***

Campaign Name	Total Sent	Open Rate	Total Unique Opens	Mobile Open Rate	Desktop Open Rate	Click Through Rate	Total Unique Clicks	Bounce Rate	Total Bounces
2019 Summer Camps	68,379	16%	9,468	48%	52%	17%	1,615	13%	8,833
2019 Summer Fun - Final Email	282	42%	97	23%	77%	17%	16	19%	53
2019 Summer Fun - Tier 2 Email	168	50%	67	18%	82%	31%	21	20%	34
Toll Pass Scanning	84,613	32%	22,982	39%	61%	4%	920	15%	12,768
Howl Check	101	77%	76	28%	72%	59%	45	2%	2
2019 Movie in the Park Survey	84,727	17%	11,919	51%	50%	15%	1,747	15%	12,353
mParks Volunteer Awards	84,862	22%	15,703	38%	62%	3%	461	15%	12,335
2019 Summer Fun	147	60%	75	13%	87%	61%	46	14%	21
2019 March Newsletter	81,478	24%	16,488	40%	60%	12%	2,034	15%	12,214
2019 Golf Course Openings	22,135	25%	4,326	46%	54%	5%	197	21%	4,599
2019 Kensington Golf Open	22,148	21%	3,727	54%	46%	4%	142	20%	4,521
Golf Pre-Season Contest	22,172	25%	4,304	49%	51%	11%	484	21%	4,589
Earth Day Events 2019	78,479	18%	12,073	48%	52%	15%	1,849	15%	11,698
2019 Maple Sugaring Season	78,382	18%	12,095	47%	53%	13%	1,561	13%	10,364
2019 Get Out and Learn	1,021	40%	291	25%	75%	27%	78	29%	293
2019 YTD Averages		32%	7,579	38%	62%	20%	748	16%	6,312
2019 YTD Averages (minus outliers)		22%	11,309	46%	54%	10%	1,101	16%	9,427

13. Increase earned media

The Metroparks were mentioned and featured in several articles and media rankings over the last month. The Metroparks were mentions 163 times for a total audience of 10,222,838 and an estimated news value of $276,855 according to our media tracking software, Critical Mention.

Highlights include:

- Stony Creek Metropark Playground being ranked by WXYZ Channel 7: https://www.wxyz.com/news/you-voted-and-these-are-the-top-7-playgrounds-in-metro-detroit
- Several stories about the cranes that adopted a gosling: https://www.audubon.org/news/this-sandhill-crane-couple-adopted-baby-goose
- Several stories about our pass scanning press release like this one: https://www.monroenews.com/news/20190501/new-procedures-begin-for-huron-clinton-metroparks-2019-pass?rssfeed=true
- Relocated osprey nest: https://www.monroenews.com/news/20190501/new-procedures-begin-for-huron-clinton-metroparks-2019-pass?rssfeed=true, and multiple events calendar listings and mom blog mentions.

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 10 days over the past month collecting photos and video.

15. Make visitor surveys available at all park events, interpretive programs and on our website

Begin working with interpretive department, park staff and Chief of Diversity, Equity and Inclusion in the month of June on this project. Currently, there are survey monkey surveys being utilized for Get Out and Learn and Get Out and Play group leaders, volunteers, and survey cards from last year at some events.

16. Survey response rate of 10 percent

See above

17. Outreach events and relationship building

Scheduled upcoming community events

Event	Date
City of Southfield Health Fair	June 7
Macomb County Employee Health Fair	Aug. 7
Livingston County Health Fair	Aug. 13

Spoke with Henry Ford Health System public relations contact about getting information to their 35,000-staff people.

Worked with chambers and CVBs to gather some information for the Trust for Public Land Economic Impact Study.

18. One Speaker presentation through Speakers bureau every week

This will be rolled out more heavily in June with the new look. Flyers were included in folders given to all legislators and sent with Amy, Parks Director, to the Mackinac Policy Conference and presentations to Oakland County board of commissioners and General Motors.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Amy McMillan, Director
Subject: Report – Attendance Trends
Date: June 6, 2019

Background: Director McMillan will present Metroparks attendance trends at the June 13 meeting.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Rebecca Franchock, Chief of Finance
Subject: Report – Monthly Capital Project Fund
Date: June 6, 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:

- Pace of construction increased in May resulting in year-to-date expenditures doubling from the April 30 balance of $626,000 to $1.2 million.
- Significant work was completed on the Black Creek Shore Fishing Access and the Pump Station replacement projects at Lake St. Clair.
- $205,000 was paid at Stony Creek Metropark on the 26 Mile Road Bridge rehabilitation project.
- $24,000 was paid to complete the fiber connectivity project (tollbooth near Kensington Golf Course).

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

Attachment: May Capital Project Fund Update

Capital Project Fund Report
Period Ending 5/31/2019

Project Code	Project Description	Location	Category	Life to Date Budget	Year to Date Expenditures	Life to Date Expenditures	Life to Date Encumbrance	Balance
50217.677	Black Creek Shore Fishing Access	Lake St Clair	Other Improvements	110,829.66	112,349.96	127,358.79	63,749.00	(16,529.13)
50217.679	Nature Center Improvements-DNR Passport Grant Funded	Lake St Clair	Building	60,000.00	0.00	0.00	0.00	60,000.00
50217.683	Pump Station No. 1 Replacement-SAW Grant	Lake St Clair	Other Improvements	373,110.66	304,540.99	334,704.51	330,873.00	38,406.15
50217.684	Park Maintenance Area Stormwater Improvements-SAW Grant	Lake St Clair	Infrastructure	156,250.28	9,659.66	9,659.66	0.00	146,590.62
50218.687	Truck Hoist	Lake St Clair	Building	60,000.00	0.00	0.00	0.00	60,000.00
50416.1098	Shoreline Protection	Kensington	Land Improvements	17,684.05	0.00	17,684.05	0.00	0.00
50417.1107	Maple Beach Site Improvements	Kensington	Other Improvements	874,349.38	22,312.17	111,199.12	0.00	763,150.26
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	14,527.07	21,664.17	25,892.98	11,888.00	(11,365.91)
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	27,161.55	27,090.52	27,090.52	19,597.83	71.03
50618.489	Turtle Cove Screen Wall	Lower Huron	Building	12,580.00	0.00	0.00	0.00	12,580.00
50817.213	Golf Course Maintenance Area Stormwater Improvements-SAW Grant	Hudson Mills	Infrastructure	208,485.68	1,698.95	9,988.60	0.00	198,497.08
50818.215	Island Bridge Replacement	Hudson Mills	Other Improvements	355,570.62	2,503.78	8,401.10	207,500.00	139,669.52
50916.532	Boat Launch Site Revelopment	Stony Creek	Other Improvements	5,342,648.00	(56,303.90)	996,539.98	4,228,539.83	117,568.19
50917.542	Baypoint Beach Site Improvements	Stony Creek	Other Improvements	883,427.84	14,264.78	93,830.47	95,011.10	694,586.27
50917.547	Sanitary Force Main Replacement-SAW Grant	Stony Creek	Infrastructure	428,808.30	336,217.45	379,358.25	49,841.15	49,450.05
50918.548	Shelden Trails Redevelopment	Stony Creek	Infrastructure	182,689.00	0.00	8,479.00	33,139.00	141,071.00
50918.550	26 Mile Road Bridge & Desk Rehabilitation-Design/Study	Stony Creek	Infrastructure	599,080.58	215,563.63	297,974.45	803,518.81	301,106.13
50919.552	Sanitary Sewer Rehabilitation	Stony Creek	Infrastructure	600,000.00	0.00	0.00	0.00	600,000.00
51017.311	Park Office Replacement	Willow	Building	2,126,206.09	21,075.63	67,086.96	60,275.00	1,998,844.13
51118.110	Oakwoods Nature Center Exhibit Design	Oakwoods	Other Improvements	720,000.00	35,985.60	35,985.60	564,014.40	120,000.00
51119.111	Flat Rock Dam Boom Installation	Oakwoods	Other Improvements	25,000.00	387.21	387.21	0.00	24,612.79
51215.228	Pool Backwash Connection	Lake Erie	Other Improvements	176,077.08	143,099.04	164,995.80	22,693.35	11,081.28
51218.238	Course Storm Siren	Lake Erie	Building	20,395.00	0.00	0.00	0.00	20,395.00
51218.239	Shoreline and Fish Habitat Restoration	Lake Erie	Other Improvements	1,600,486.70	1,417.09	2,160.14	0.00	1,598,326.56
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	27,000.59	9,145.95	8,145.95	5,500.00	13,354.64
51618.091	Demolition of 4 Quonset Huts in Service Yard Area	Huron Meadows	Building	175,831.75	17,181.14	26,068.18	109,269.00	40,494.57
51619.092	Lightning Detection System Installation	Huron Meadows	Building	30,000.00	0.00	0.00	0.00	30,000.00
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)
				$ 13,484,731.59	**$ 1,239,853.82**	**$ 2,752,991.32**	**$ 6,605,409.47**	**$ 5,428,491.94**

Capital Project Fund Report
Period Ending 5/31/2019

Project Code	Project Description	Location	Category	Life to Date Budget	Year to Date Expenditures	Life to Date Expenditures	Life to Date Encumbrance	Balance
50217.677	Black Creek Shore Fishing Access	Lake St Clair	Other Improvements	110,829.66	112,349.96	127,358.79	63,749.00	(16,529.13)
50217.679	Nature Center Improvements-DNR Passport Grant Funded	Lake St Clair	Building	60,000.00	0.00	0.00	0.00	60,000.00
50217.683	Pump Station No. 1 Replacement-SAW Grant	Lake St Clair	Other Improvements	373,110.66	304,540.99	334,704.51	330,873.00	38,406.15
50217.684	Park Maintenance Area Stormwater Improvements-SAW Grant	Lake St Clair	Infrastructure	156,250.28	9,659.66	9,659.66	0.00	146,590.62
50218.687	Truck Hoist	Lake St Clair	Building	60,000.00	0.00	0.00	0.00	60,000.00
50416.1098	Shoreline Protection	Kensington	Land Improvements	17,684.05	0.00	17,684.05	0.00	0.00
50417.1107	Maple Beach Site Improvements	Kensington	Other Improvements	874,349.38	22,312.17	111,199.12	0.00	763,150.26
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	14,527.07	21,664.17	25,892.98	11,888.00	(11,365.91)
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50419.1117	Installation of Fiber at Tollbooth near Golf Course	Kensington	Infrastructure	27,161.55	27,090.52	27,090.52	19,597.83	71.03
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50918.548	Shelden Trails Redevelopment	Stony Creek	Infrastructure	182,689.00	0.00	8,479.00	33,139.00	141,071.00
50918.550	26 Mile Road Bridge & Desk Rehabilitation-Design/Study	Stony Creek	Infrastructure	599,080.58	215,563.63	297,974.45	803,518.81	301,106.13
50919.552	Sanitary Sewer Rehabilitation	Stony Creek	Infrastructure	600,000.00	0.00	0.00	0.00	600,000.00
51017.311	Park Office Replacement	Willow	Building	2,126,206.09	21,075.63	67,086.96	60,275.00	1,998,844.13
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51218.238	Course Storm Siren	Lake Erie	Building	20,395.00	0.00	0.00	0.00	20,395.00
51218.239	Shoreline and Fish Habitat Restoration	Lake Erie	Other Improvements	1,600,486.70	1,417.09	2,160.14	0.00	1,598,326.56
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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)
				$ 13,484,731.59	**$ 1,239,853.82**	**$ 2,752,991.32**	**$ 6,605,409.47**	**$ 5,428,491.94**

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Rebecca Franchock, Chief of Finance
Subject: Report – 2018 Audited Financial Statements
Date: June 5, 2019

Action Requested: Motion to Receive and File

That the Board of Commissioners' receive and file the 2018 Audited Financial Statements Report as recommended by Chief of Finance Rebecca Franchock and staff.

Summary: The Authority's auditing firm, Yeo and Yeo, has completed their audit of the Metroparks 2018 accounting records, pension plan, retiree health care trust and related financial statements. Together with Yeo and Yeo's Audited Financial Statements, staff compiled the Authority's 2018 Comprehensive Annual Financial Report (CAFR), which will be provided for review at the June 13 meeting. Alan Panter will also review the 2018 Audited Financial Statements with the Board at that time.

Background: Staff is pleased to report that Yeo and Yeo have issued an unqualified opinion, meaning the Audited Financial Statements present fairly the financial position of the governmental activities and each major fund of the Authority as of Dec. 31, 2018 in conformity with generally accepted accounting principles. Yeo and Yeo conducted their audit following generally accepted auditing standards in order to obtain reasonable assurance that the Authority's financial statements are free of any material misstatements.

As reflected on the Government Wide Statement of Net Position, the Authority's total net position at $210.8 million decreased by $13.4 million from the 2017 net position of $224.8 million. The total General Fund – Fund Balance is reported at $36.2 million, a decrease of $1.7 million. The decrease to the General Fund – Fund Balance is primarily a result of development of the new Capital Fund. The Fund Balance for all funds taken together increased from $42.6 million to $48.4 million. This overall increase is again related to capital budgeting. During 2018, more than $3 million worth of planned capital projects were cancelled resulting in less use of Fund Balance than originally anticipated.

The 2018 the General Fund Committed Fund Balance totaled $6.6 million. This represents Committed for Land Acquisition ($5.5 million) and Committed for Rate Stabilization ($1.1 million). The 2018 Assigned Fund Balance totals $7.2 million. This represents Assigned for Compensated Absences ($3.7 million), Assigned for Encumbrances ($1.0 million) and Assigned for Planned Use of Fund Balance ($2.5 million). The 2018 Unassigned Fund Balance stands at $21.2 million. This level of Unassigned Fund Balance represents 39.5 percent of General Fund revenues. The Statement of Revenues and Expenditures shows 2018 General Fund expenditures and transfers out at $55.9 million against revenues of $54.2 million producing a deficit of $1.7 million.

The Authority intends to submit this 2018 Comprehensive Annual Financial Report (CAFR) to the Government Finance Officers Association Certificate of Excellence in Financial Reporting program. The Authority has received a Certificate of Achievement for the last 17 years and staff believes this 2018 report will continue to earn this distinction. This achievement would not be possible without the dedicated work efforts of the entire Finance Department.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Amy McMillan, Director / Rebecca Franchock, Chief of Finance
Subject: Report – Five-Year Financial Forecast
Date: June 6, 2019

Background: Rebecca Franchock, chief of finance will give a presentation on the Five-Year Financial Forecast at the June 13 meeting.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Nina Kelly, Chief of Planning and Development
Subject: Approval – Coastal Management Grant Resolution
Location: Lake Erie Metropark
Date: June 6, 2019

Action Requested: Motion to Approve

That the Board of Commissioners' approve the resolution for the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Coastal Management grant application for the development of a shoreline restoration plan at Lake Erie 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 $150,000, with $75,000 requested in grant funding (50 percent) and $75,000 in match. Matching funds may be in the form of cash, in-kind services, or donations.

Background: The proposed project is the develop a plan for expanding the shoreline softening efforts that have been completed or are currently underway along the coastline of Lake Erie Metropark as part of the Coastal Management Program's *Coastal Healthy Habitat, Waters, and Communities Initiative*. Specifically, the planning process would result in the development of the design and associated cost estimate for shoreline restoration in the areas identified in the attached image, an estimated total of 2,800 linear feet. Additionally, staff would be seeking an opportunity for designing and installing interpretive signage along the shoreline and coastal wetland areas. Public engagement opportunities would be incorporated into the planning process.

This proposed project would the support implementation of the Storm Water Management Plan being developed by OHM Advisors, Inc., which is anticipated for completion by fall 2019.

Application Timeline

Deadline for submission: June 17, 2019
Anticipated project start: October 2019
Project completion: September 2020

Attachments: Resolution for Submission of Coastal Grant Application
Lake Erie Shoreline Restoration Concept
Michigan Coastal Management Program Grant Overview

HURON-CLINTON METROPOLITAN AUTHORITY
13000 HIGH RIDGE DRIVE, BRIGHTON, MICHIGAN 48114

RESOLUTION APPROVING SUBMISSION OF COASTAL GRANT APPLICATION FOR LAKE ERIE METROPARK IMPROVEMENTS

Resolution No. 2019-13

Motion made by: _____

Supported by: _____

AT A MEETING OF THE BOARD OF COMMISSIONERS OF THE HURON-CLINTON METROPOLITAN AUTHORITY HELD ON JUNE 13, 2019, THE BOARD ADOPTED THE FOLLOWING RESOLUTION:

WHEREAS, the Lake Erie Metropark Shoreline Restoration Project is working to soften and naturalize the shoreline to protect coastal habitat, achieve healthy coastal waters in Lake Erie, and enhance public access

WHEREAS, the shoreline restoration project needs design work, the development of cost estimates, and community engagement activities, and

WHEREAS, funding is available from the U.S. Department of Commerce through the Coastal Management Program, and

WHEREAS, total project cost is estimated up to $150,000, 50 percent of which would be funded through the Coastal Program and 50 percent would be a local match;

NOW, THEREFORE, BE IT RESOLVED, that the Huron-Clinton Metropolitan Authority approves the submission of the grant application to the Michigan Coastal Management Program for up to $75,000 for the improvements to Lake Erie Metropark and commits that the local match shall be provided if the project is funded.

AYES: Commissioners: _____

NAYS: Commissioners: _____

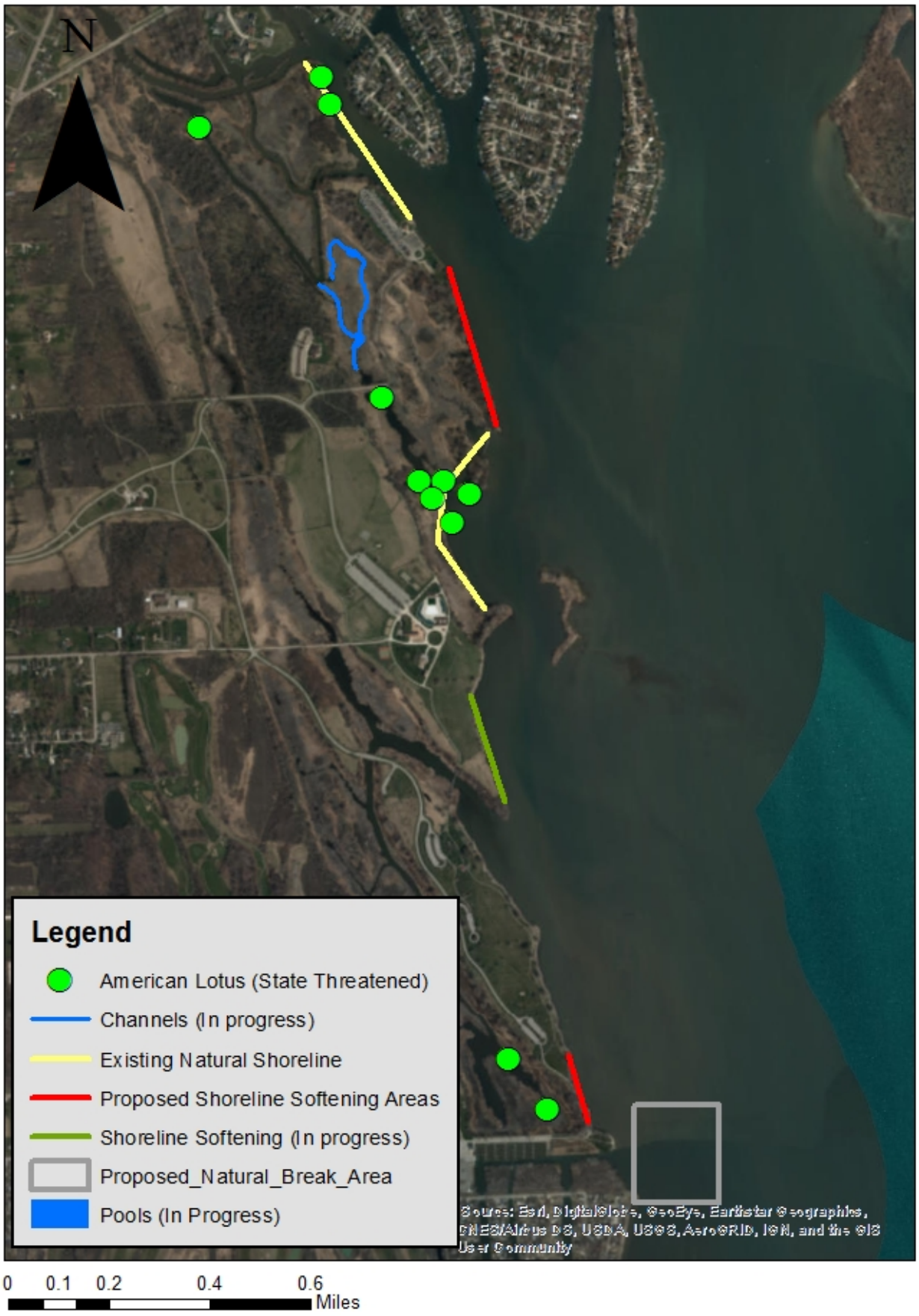
ABSTAIN: Commissioners: _____

ABSENT: Commissioners: _____

I hereby certify that the above is a true and correct copy of the Resolution adopted by the Huron-Clinton Metropolitan Authority on June 13, 2019.

_____
Bernard Parker, Secretary

Lake Erie Shoreline Restoration Concept



MICHIGAN COASTAL MANAGEMENT PROGRAM

Coastal Healthy Habitat, Waters, and Communities Grant Funding Opportunity

Overview

The Michigan Department of Natural Resources' Office of the Great Lakes Coastal Program is pleased to announce a Coastal Management Program special Grant Funding Opportunity (GFO). The Coastal Program provides grant funds to assist in supporting coastal healthy habitat, waters, and communities through the protection and restoration of sensitive coastal resources and biologically diverse ecosystems while improving connections to the coast for public use and enjoyment.

The Coastal Program anticipates $225,000 in available grant funds for planning projects that will lead to implementation. These grant funds are made possible through a partnership with the National Oceanic and Atmospheric Administration (NOAA), in accordance with the Coastal Zone Management Act of 1972.

Healthy habitats and waters provide communities with beneficial ecological services, recreational opportunities, and desirable destinations for tourists. In Michigan, exemplary habitats occur where the Great Lakes meet the land, including coastal wetlands, freshwater beaches, and dune systems. Michigan is home to the world's largest collection of freshwater dunes. In addition to scenic beauty, wildlife habitat, and recreational opportunities, these environments help maintain water quality and provide flood storage and erosion control. Healthy, functional coastal ecosystems also increase the resilience of Michigan's coastal communities to the effects of changing climate conditions.

The Coastal Program is seeking community partners to holistically consider their coastal resources by proposing planning projects that will have a collective impact resulting in restored habitat and increased and/or protected water quality. The projects should use nature-based infrastructure solutions, enhance public access, and support stronger community engagement and stewardship. Successful planning projects may be considered for future implementation funding.

Planning Project Considerations

Consideration will only be given to planning projects that lead to implementation of on-the-ground activities focused on enhancing coastal habitats and water quality and utilizing nature-based solutions while creating and improving safe access for the public. Planning projects need to include the following elements:

- Incorporate community engagement and outreach, including design and installation of interpretative signage/display.
- Demonstrate the interconnectedness between the protection of critical coastal resources such as beaches, coastal wetlands, sand dunes, and high-quality waters.
- Build knowledge and utilize metrics on the methodologies, effectiveness, costs, and challenges associated with implementing nature-based infrastructure solutions.
- Recognize the connections between protecting coastal habitats and achieving healthy coastal waters.
- Develop feasibility plans and cost estimates.
- Conduct a review of National Environmental Protection Act, state and federal environmental requirements.

The following information, if relevant, is encouraged to increase the competitiveness of the application:

- Explain how the proposed project is consistent with existing plans and ordinances.
- Indicate local support for the project and identification of agencies or organizations partnering on the project. Letters of support from the public and letters of commitment from project partners may be included in the application submittal as hardcopies or PDF files.
- A letter from each entity contributing match, with amount specified, must be received.
- Describe how the proposed project leverages other technical or financial resources.

Note: Planning projects must be located entirely within the approved Michigan Coastal Management Program coastal boundary (see "Grant Funding Information") to be eligible for implementation funding.

Grant Funding Information

Who is Eligible

Eligible applicants include coastal communities (e.g., local units of government, cities, counties, villages, and townships), regional planning agencies, educational institutions, and tribal governments located within the approved programmatic boundary.

As part of this program, grant awards must be able to comply with the Office of Management and Budget (OMB) guidance in subparts A through F of 2 CFR 200, OMB Uniform Guidance.

Who is Ineligible

Ineligible applicants include: State and federal agencies, for-profit organizations, and not-for-profit organizations.

Additionally, ineligible applicants are those that have demonstrated past organizational performance issues; lack demonstration of financial stability; or are unable to meet statutory, regulatory, or other requirements.

Ineligible Uses for Grant Funds

- Large-scale beach renourishment projects.
- Shoreline hardened erosion control structures (e.g., groins, seawalls, etc.).
- Private resident benefit.
- Permit or other regulatory fees.
- Land acquisition projects.
- Plans and designs for general recreational and athletic facilities such as playground equipment, ball fields, and courts.
- Plans and designs for restroom facilities.
- Dredging projects including removal of contaminated sediments.
- Roadway, parking lots or other transportation related projects.
- Purchase of general-purpose equipment such as computers, cameras, and/or printers.

Grant Amounts

No less than $10,000 and no greater than $75,000.

Project Location

Site-specific, low-cost construction projects must be located entirely within the approved Michigan Coastal Program coastal boundary. Coastal zone boundary maps are available through www.mi.gov/coastalmanagement.

Match Requirement

All applicants must demonstrate the ability to provide a 1-to-1 non-federal match and provide documentation of committed and/or source of match funds. Match may be in the form of cash, in-kind services, or donations.

Project Award Period

The anticipated project start date is October 1, 2019, with completion no more than 12-months from the start date of the project. Projects will be evaluated on project readiness and feasibility for completion within this time frame.

Application Deadline

Complete applications being submitted via postal mail must be postmarked no later than **June 17, 2019**.

Application Submittal
Submit via postal mail or e-mail by the deadline.

Information for Applicants
Applications are considered public information under the Michigan Freedom of Information Act, PA 442 of 1976, as amended.

Successful applicants will be required to enter into a grant agreement with the Department of Natural Resources which includes standard terms and conditions which are not subject to modifications. Failure of a successful applicant to accept these obligations will result in withdrawal of the grant offer.

Application Package

Applications need to be concise and provide enough detail to be evaluated as to meeting the project considerations; overall quality and clarity of the application; organizational capability, specifically financial stability; readiness of the specific work proposed; degree of public benefit; and measurability of project outcomes.

The application must include a cover letter signed by an authorized representative of the applicant and the applicant's letterhead must accompany the application.

Applications are to be submitted to the following e-mail or mailing address:

By e-mail:
DNR-OGL-CoastalProgram@michigan.gov

By postal mail:
Ronda Wuycheck, Program Manager
Michigan Coastal Management Program
Department of Environment, Great Lakes, and Energy
P.O. Box 30473
Lansing, Michigan 48909-7973

Notice: The Coastal Management Program will transfer to the new Michigan Department of Environment, Great Lakes, and Energy (EGLE) April 22, 2019. Grant processes will not be interrupted.

Application Cover Page
The cover page must include the following information:

- Applicant agency or organization name.
- Applicant mailing address.
- Authorized representative's e-mail address.
- Authorized representative's telephone number.
- Authorized representative's fax number.

- Proposed Project Title.
- Location.
- Great Lake or Connecting Waterway.
- Grant Amount Requested.
- Match amount to be provided.
- Total Project Cost.
- Vendor ID.
- Address ID.
- Applicant Federal ID #.
- Applicant DUNS #.
- Name, title, and contact information of an organization contact person, if different from that of the applicant's authorized representative.
- Congressional District, State Senate District, and State House District numbers of the project location.

Proposed Project Summary

Provide summary (150 words or less) of the proposed project to explain the scope, coastal resources which are the focus of the effort, coastal significance, and primary outcome of the project.

Detailed Proposed Project Description

Provide the following information in the detailed proposed project description:

- Project scope, why the project is needed, and how it advances Michigan's Coastal Program's goal of supporting coastal healthy habitat, waters, and communities.
- List of key project tasks and the outcome(s) of each task.
- List of work products.
- Project schedule showing the progress and completion of key project tasks by quarter. The schedule must show that all tasks will be completed within the project period.
- Source of secured or committed match.
- Project coordinates in decimal degree format or degrees, minutes, seconds format. If there is no specific project point location (e.g., regional or statewide study), please provide coordinates for the location of your organization, and label as such.

Documentation of Property Ownership Type

- Public Ownership Affidavit. If the property on which construction will occur is not subject to easements or other encumbrances held by a party other than the applicant, prepare and submit a hard copy or a Portable Document Format (PDF) version of a Public Ownership Affidavit. Example can be found at: www.mi.gov/documents/deq/deq-ogl-czmp-PublicOwnershipAfffidavit_407110_7.doc.

- Attorney Title Opinion. If property on which construction will occur is subject to easements or other encumbrances held by a party other than the applicant, prepare and submit a hard copy or a PDF version of an Attorney Title Opinion. Example can be found at: www.mi.gov/documents/deq/deq-ogl-czmp-AttorneyTitleOpinion_407108_7.doc.

Project Tasks and Schedule

Display project tasks and schedule in the following format for major tasks, target milestones, work products, and performance metrics.

Tasks	Oct-Dec	Jan-Mar	Apr-June	Jul-Sep	Work Products/Performance Metrics
1.					
2.					
3.					
4.					
5.					

Organizational Capability

Describe the qualifications of the individual(s) anticipated to work on the project and the past experience of the applicant in managing grant projects.

Applicants must provide documentation of financial stability by providing proof of a successful financial audit within 24 months of this GFO. Note that the audit date is based on the audit period and not the date of the audit or audit letter.

Detailed Project Budget

Download and use the budget form through the link provided below. When completing the form, select one of three cost accounting approaches for project indirect costs. Indirect accounting options include: 1) the applicant's federally negotiated indirect rate, 2) a ten percent de minimis rate (of the modified direct costs), or 3) zero indirect expenses for projects that do not require any reimbursement of indirect costs.

Submittal of a completed, current Negotiated Indirect Cost Rate Agreement is required to use a federally-negotiated rate.

Proposed Budget Form: (www.michigan.gov/documents/ogl/OGL-CZM-Project-Budget_633612_7.xlsx)

Resolution of Support

Applications from local units of government must include a resolution of support or equivalent authorization from the legislative body. The resolution of support may be included in the submittal as a hardcopy or PDF file. An example can be found at www.mi.gov//documents/deq/deq-ogl-czmp-ResolutionofSupport_407111_7.doc

Application Assistance

For questions, please contact the following who are ready to assist:

Karen Boase, Coastal Habitat Coordinator
517-284-5037, boasek@michigan.gov

Madeleine Gorman, Coastal Water Quality Coordinator
517-284-5042, gormanm1@michigan.gov

The Michigan Department of Natural Resources will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation. Questions or concerns should be directed to the Quality of Life – Office of Human Resources, P.O. Box 30473, Lansing, Michigan 48909-7973.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Ryan Colliton, Chief of Natural Resources and Environmental Compliance
Subject: Approval – Ecological Restoration and Invasive Plant Management
Project Title: Green Ribbon Initiative
Location: Lower Huron, Willow and Oakwoods Metroparks
Date: June 6, 2019

Action Requested: Motion to Approve

That the Board of Commissioners' approve the Ecological Restoration and Invasive Plant Management Agreement between the Huron-Clinton Metropolitan Authority and The Nature Conservancy as recommended by Chief of Natural Resources and Regulatory Compliance Ryan J. Colliton and staff.

Fiscal Impact: Staff time will be used to coordinate on the ground efforts with The Nature Conservancy.

Background: Metroparks staff has worked with The Nature Conservancy on many projects over the past several years, including restoration and invasive species control efforts at Lower Huron, Willow, Oakwoods and Lake Erie. The Nature Conservancy would like to continue this partnership with the Metroparks to restore and maintain rare habitats in the Oak Openings Ecoregion. The proposed agreement would continue this nearly decade long collaborative partnership and outline general parameters for working together moving forward.

Miller Canfield has reviewed the proposed agreement on behalf of Metroparks

Attached: Ecological Restoration and Invasive Plant Management Agreement

ECOLOGICAL RESTORATION AND INVASIVE PLANT MANAGEMENT AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 2019 by and between Huron-Clinton Metropolitan Authority, a Michigan public body corporate, whose address is 13000 High Ridge Drive, Brighton, MI 48114 ("HCMA"), and The Nature Conservancy, a non-profit corporation organized and existing under the laws of the District of Columbia , whose address is 6375 Riverside Drive Suite 100, Dublin, Ohio 43017 ("Conservancy"). In this Agreement, either HCMA or Conservancy may be referred to individually as a "Party" or collectively as the "Parties".

Recitals

A. The HMCA owns approximately 4500 acres of land commonly known as Lower Huron, Willow, and Oakwoods Metroparks more particularly described in Exhibit A attached hereto and incorporated herein by reference (the "Property").

B. The Conservancy is a non-profit organization dedicated to the preservation, protection, restoration and maintenance of natural areas and ecological systems and the plant and animal species they support for scientific, educational and public awareness purposes.

C. The Property is within the project area of the Oak Openings Interagency Restoration project, an undertaking to restore high quality ecosystems within the states of Ohio and Michigan, and is a priority area for prescribed burns and invasive species control within the Lakeplain Oak Openings region of the western Lake Erie basin.

D. The Conservancy wishes to undertake certain activities of restoration and invasive plant management on the Property, as well as programs and activities such as biological and physical inventory and vegetative management.

NOW THEREFORE, HCMA authorizes the Conservancy to access the Property under the following terms and conditions:

1. TERM. This Agreement shall be in effect from the date listed in the opening paragraph ("Effective Date") to the 31st day of December, 2022, unless otherwise terminated as provided for herein.

2. MANAGEMENT. For the period beginning from the Effective Date of the Agreement through December 31, 2022 (the "Management Period"), the Conservancy, its employees, and volunteers are hereby granted permission to:

   (a) Manage and maintain the ecological values of the Property by the use of techniques and methods consistent with the preservation, protection and restoration of natural features and ecological values of the Property, including but not limited to invasive species removal and ecological monitoring; and,

   (b) Conduct scientific, educational and research programs on the Property; and,

   (c) Enter the Property for the above listed purposes; and,

   (d) Publish this Agreement and the results of any studies or investigations accomplished under this Agreement.

The above granted powers are subject to the following conditions:

(a) Any prescribed burning will be by separate agreement between the Parties or by amendment to this Agreement.

(b) The Conservancy must provide 48 hours' notice to HCMA when activities conducted by the Conservancy, its employees or volunteers are to take place on the Property. HCMA retains the right to designate areas of the Property that will not be subject of ecological management or other activities conducted by the Conservancy.

(c) Any management or maintenance of the Property performed hereunder shall be at the option and expense of the Conservancy.

(d) The Conservancy shall comply with all federal, state, and local laws, statutes, ordinances, regulations, rules, insurance policy requirements, and requirements applicable to its activities under this Agreement. The activities and services will be performed by the Conservancy in a diligent manner in accordance with industry practices, by individuals of suitable training, skill, and licensure if appropriate. The Conservancy has, and will maintain throughout the term of the Agreement, all licenses, permits, authorizations and approvals necessary for the lawful conduct of its business.

3. DISCLOSURES & INSPECTIONS. HCMA acknowledges that the Conservancy receives funding for the activities on the Property through grants from entities such as the National Fish and Wildlife Foundation (NFWF), the U.S. Fish and Wildlife Service (USFWS) or other funders (each, a "Funding Agency"). HCMA consents to disclosure by the Conservancy of necessary and relevant information required for the Conservancy's compliance with its grant requirements to a Funding Agency on request. HCMA consents to the inspection of the Property by the Conservancy, a Funding Agency, and their respective employees and representatives.

4. RESTORED AREAS. HCMA agrees to allow treated or restored areas of the Property, as designated in writing by HCMA, to remain in their natural restored state for a minimum of ten (10) years. HCMA further agrees that it will not introduce invasive plants within the treated or restored areas of the Property.

5. INDEMNIFICATION, RELEASE, LIMITATION OF LIABILITY AND DISCLAIMER OF WARRANTIES.

(a) Indemnification and Release. The Conservancy shall indemnify and hold HCMA harmless from any and all Claims (as defined below) which are incurred by or asserted against HCMA by any person or entity from the negligent acts, performances, errors, or omissions of the Conservancy, its employees and volunteers, or any Funding Agency, its employees and volunteers including, without limitation, all Claims relating to injury or death of any person or damage to any property.

The indemnification rights contained herein are in excess and over and above any valid and collectible insurance rights/policies. During the term of the Agreement, if the validity or collectability of the Conservancy's insurance is disputed by the insurance company, the Conservancy shall indemnify HCMA for all claims asserted against the HCMA and if the insurance company prevails, the Conservancy shall indemnify the HCMA for uncollectable amounts.

The Conservancy shall have no rights against HCMA for any indemnification (e.g., contractual, equitable, or by implication), contribution, subrogation, and/or any other right to be reimbursed by HCMA except as expressly provided herein.

The Conservancy waives and releases all actions, liabilities and damage including any subrogated rights it may have against HCMA based upon any Claim brought against HCMA.

The term "Claims" means any alleged losses, claims, complaints, demands for relief or damages, suits, causes of action, proceedings, judgments, deficiencies, liability, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are imposed on, incurred by, or asserted against HCMA, or for which the HCMA may become legally and/or contractually obligated to pay, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether any such claims are brought in law or equity, tort, contract, or otherwise, and/or whether commenced or threatened.

(b) Limitation of Liability. Neither Party shall be liable to the other for any amounts representing loss of profit, loss of business, or other incidental, consequential or punitive damages of the other Party under this Agreement.

(c) Disclaimer of Warranties. HCMA MAKES NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE HEREBY EXPRESSLY DISCLAIMED. WITHOUT LIMITING THE GENERALITY OF THE RIGHTS OF THE HCMA, IN NO EVENT SHALL THE AUTHORITY'S AGGREGATE LIABILITY UNDER OR RELATING TO THE AGREEMENT AT ANY TIME EXCEED THE TOTAL AMOUNT PAID TO THE HCMA AS PROVIDED HEREIN.

6. INSURANCE. The Conservancy, its employees, and its volunteers shall not commence work under this Agreement until they have obtained the insurance required under this paragraph, and shall keep such insurance in force during the entire life of this contract. All coverage shall be with insurance companies licensed and admitted to do business in the state of Michigan and acceptable to HCMA. The requirements below should not be interpreted to limit the liability of the Conservancy. All deductibles and SIR's are the responsibility of the Conservancy.

   The Conservancy shall procure and maintain the following insurance coverage:

   (a) Worker's Compensation Insurance including Employers' Liability Coverage, in accordance with all applicable statutes of the State of Michigan.

   (b) Commercial General Liability Insurance on an "Occurrence Basis" with limits of liability not less than $1,000,000 per occurrence and aggregate. Coverage shall include the following extensions: (A) Contractual Liability; (B) Products and Completed Operations; (C) Independent Contractors Coverage; (D) Broad Form General Liability Extensions or equivalent, if not already included.

(c) Automobile Liability including Michigan No-Fault Coverages, with limits of liability not less than $1,000,000 per occurrence, combined single limit for Bodily Injury, and Property Damage. Coverage shall include all owned vehicles, all non-owned vehicles, and all hired vehicles.

(d) Professional Liability, for contracts where professional services are rendered, in an amount not less than $1,000,000 per occurrence and $1,000,000 aggregate. If this policy is claims made form, then the Conservancy shall be required to keep the policy in force, or purchase "tail" coverage, for a minimum of 3 (three) years after the termination of this agreement.

(e) Limits of Liability referenced above may be obtained with primary policies or by the use of primary policies and umbrella coverage.

(f) Additional Insured: Commercial General Liability and Automobile Liability as described above, shall include an endorsement stating the following shall be *Additional Insureds*: HCMA, all elected and appointed officials, all employees and volunteers, all boards, commissions, and/or authorities and board members, including employees and volunteers thereof. It is understood and agreed by naming HCMA as additional insured, coverage afforded is considered to be primary and any other insurance HCMA may have in effect shall be considered secondary and/or excess.

(g) Cancellation Notice: All policies, as described above, shall include an endorsement stating that is it understood and agreed Thirty (30) days, Ten (10) days for non-payment of premium, Advance Written Notice of Cancellation, Non-Renewal, Reduction, and/or Material Change shall be sent to: HCMA, attention Executive Director.

(h) Proof of Insurance Coverage: The Conservancy shall provide HCMA, at the time that the contracts are returned by him/her for execution, a Certificate of Insurance as well as the required endorsements. In lieu of required endorsements, if applicable, a copy of the policy sections where coverage is provided for additional insured and cancellation notice would be acceptable. Copies or certified copies of all policies mentioned above shall be furnished, if so requested.

(i) Commercial Property Insurance: The Conservancy shall be responsible for obtaining and maintaining insurance covering their equipment and personal property against all physical damage.

(j) General Insurance Conditions: The aforementioned insurance shall be endorsed, as applicable, and shall contain the following terms, conditions:

(i) The insurance company(s) issuing the policy(s) shall have no recourse against the HCMA for subrogation, premiums, deductibles, or assessments under any form;

(ii) All policies shall be endorsed to provide a written waiver of subrogation in favor of HCMA;

(iii) If any of the above coverages expire during the term of this contract, the Conservancy shall deliver renewal certificates and endorsements to (Your Entity) at least ten (10) days prior to the expiration date.

7. DISPUTE RESOLUTION. Unless the Parties agree otherwise, any claims, disputes or other matters in controversy arising out of or related to the Agreement shall be subject to mediation as provided herein as a condition precedent to litigation:

(a) The Party bringing a claim shall give notice to the other Party and, in writing, propose a meeting within fourteen (14) days after the claim arises in which to discuss and attempt to resolve the claim.

(b) In the event the meeting between the Parties to resolve the claim does not resolve the dispute or does not take place within said fourteen (14) day period, the Parties shall designate, by mutual agreement, an independent mediator who shall convene a meeting of the parties within a period of fourteen (14) days of the later of the initial meeting between the parties or the date notice was given pursuant to subparagraph (1) above. The Parties may, by mutual written agreement, extend the time periods required under this subparagraph.

(c) The purpose of mediation is to attempt to resolve the dispute between the Parties. The mediator shall not be empowered with the authority to render a binding opinion or award.

(d) In the event the independent mediator's attempt to resolve the dispute between the Parties fails, then each Party will be free to any claims at law in a court of competent jurisdiction.

(e) During the pendency of this alternative dispute resolution process, the Parties agree that any statute of limitations applicable to all claims that are the subject of this process shall be tolled.

8. TERMINATION. This Agreement shall remain in effect through December 31, 2022. However, either party may terminate this agreement with or without cause by providing thirty (30) days written notice to the other party. Notwithstanding the foregoing, HCMA may suspend performance of this Agreement if Conservancy has failed to comply with Federal, State, or local laws, or any requirements contained in this Agreement. The right to suspend activities is in addition to the HCMA's right to terminate and/or cancel this Agreement. HCMA shall incur no penalty, expense, or liability to Conservancy, if the HCMA suspends activities as provided herein.

9. GENERAL PROVISIONS.
   (a) Taxes. The Conservancy shall pay its own local, state and federal taxes, including without limitation, social security taxes, and unemployment compensation taxes. HCMA shall not be liable to or required to reimburse the Conservancy for any federal, state and local taxes or fees of any kind.

   (b) Conservancy Employees. The Conservancy shall solely control, direct, and supervise all Conservancy Employees with respect to all Conservancy obligations under the Agreement. The Conservancy will be solely responsible for and fully liable for the conduct and supervision of any Conservancy Employee. All employees of the Conservancy assigned to work under the Agreement may, at the HCMA's discretion, be subject to a security check and clearance by HCMA, provided however that HCMA will assume financial responsibility for any such security check.

   The term "Conservancy Employee" means without limitation, any employees, officers, directors, members, managers, trustees, volunteers, attorneys, and representatives of the Conservancy, and also includes any licensees, concessionaires, associate researcher, independent sub-contractor, the Conservancy's suppliers, subsidiaries, joint ventures or partners, and/or any such persons, successors or predecessors, employees, (whether such persons act or acted in their personal, representative or official capacities), and/or any and all persons acting by, through, under, or in concert with any of the above. "Conservancy Employee" shall also include any person who was a Conservancy Employee at any time during the term of this Agreement but, for any reason, is no longer employed, appointed, or elected in that capacity.

(c) Independent Contractor. The Conservancy's relationship to the HCMA is that of an Independent Contractor. Nothing in the Agreement is intended to establish an employer-employee relationship between HCMA and either the Conservancy or any Conservancy Employee. All Conservancy Employees assigned to provide services under the Agreement by the Conservancy shall, in all cases, be deemed employees of the Conservancy and not employees, agents or sub-contractor of HCMA.

(d) Non-Exclusive Agreement. No provision in the Agreement limits, or is intended to limit, in any way the Conservancy's right to offer and provide its Services to the general public, other business entities, municipalities, or governmental agencies during or after the term of the Agreement. Similarly, the Agreement is a non-exclusive agreement and the HCMA may freely engage other persons to perform the same work that the Conservancy performs. Except as provided in the Agreement, the Agreement shall not be construed to guarantee the Conservancy or any Conservancy Employee any number of fixed or certain number or quantity of hours or services to be rendered to HCMA.

(e) Reservation of Rights. This Agreement does not, and is not intended to impair, divest, delegate, or contravene any constitutional, statutory, and/or other legal right, privilege, power, obligation, duty, or immunity of the HCMA, its officers or employees.

(f) Modifications or Amendments. Any modifications, amendments, rescissions, waivers, or releases to this Agreement must be in writing, agreed to by both Parties, and added as a change order or amendment to this Agreement.

(g) Governing Laws. This Agreement shall be governed, interpreted and enforced by the laws of the State of Michigan.

(h) Severability. If a court of competent jurisdiction finds a term, condition, or provision of this Agreement to be illegal or invalid, then the term, condition, or provision shall be deemed severed from this Agreement. All other terms, conditions, and provisions of this Agreement shall remain in full force and effect. Notwithstanding the above, if Conservancy's promise to indemnify or hold the HCMA harmless is found illegal or invalid, Conservancy shall contribute the maximum it is permitted to pay by law toward the payment and satisfaction of any claims against the HCMA.

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

[Remainder of Page Intentionally Blank]

10. NOTICE. Where this Agreement requires written notice or the submission of reports to the parties, these documents shall be hand delivered or mailed to the parties at the addresses set forth below:

The Nature Conservancy 10420 Old State Line Rd Swanton, OH 43558	Huron-Clinton Metropolitan Authority 13000 High Ridge Drive Brighton, MI 48114

(a) If notice is mailed, it shall be effective when deposited in the mail.

(b) The Conservancy may provide oral notices to the HCMA of its schedule for management and associated activities as required pursuant to paragraph 2 of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first set below.

THE NATURE CONSERVANCY

By: _____

Its: _____

Date: _____

THE HURON-CLINTON METROPOLITAN AUTHORITY

By: _____
Amy McMillan

Its: Director

Date: _____

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Ryan Colliton, Chief of Natural Resources and Environmental Compliance
Project No: RFP 2019-037
Project Title: Bids – Lake Erie Coastal Restoration Project Management
Location: Lake Erie Metropark
Date: May 31, 2019

Action Requested: Motion to Approve

That the Board of Commissioners' award RFP 2019-37 to the low responsive, responsible bidder, GEI Consultants of Michigan in the amount of $174,500 as recommended by Chief of Natural Resources and Environmental Compliance Ryan Colliton and staff.

Fiscal Impact: $1,499,608 has been allocated in the 2019 capital projects budget; GEI will be awarded $174,500 to provide project management services for this project.

Scope of Work: This project will enhance fish and wildlife habitat and create resilient coastal wetlands through the dredging of channels and pools in the Coastal Marshes at Erie Metropark. Approximately 1.7 acres of channels and pools will be created to improve fish and wildlife habitat (specifically, northern pike, walleye, bass species and yellow perch), provide water-based recreation opportunities such as kayaking and fishing and provide new areas for educational programs. Additionally, approximately 1,183 linear feet of shoreline will be softened by removing rip-rap and establishing site appropriate vegetation and grades from upland portions of the park to below the ordinary high-water mark. The project manager will provide oversight of design, construction, and pre- and post- ecological monitoring of restoration efforts. All bid solicitation and awards for contractor services will be done in coordination with the Metroparks.

Background: In September 2018, the Metroparks was awarded $1,365,141 in Great Lakes Restoration Initiative Funds (GLRI) by the Great Lakes Commission (GLC). The Metroparks will provide $134,467 of in-kind services for a total project budget of $1,499,608.

In May of 2019, the RFP was competitively bid and posted on the Michigan Intergovernmental Trade Network (MITN) site for a project manager to oversee design, construction and monitoring aspects of the project. Bids were evaluate based on price, firm expertise and experience, and project understanding. GEI Consultants ranked in the top of all categories assessed. GEI will develop monitoring protocols based on schedule and professionally excepted standards, provide design for shoreline and marsh restoration based on environmental factors such as wave action, fluctuating water levels and site appropriate vegetation. In addition, GEI will also oversee all aspects of implementation with a targeted completion date of Sept. 30, 2021.

GEI has extensive shoreline and wetland restoration experience throughout the Great Lakes region and has established a well-qualified core team to oversee project management.

Attachment: GEI Proposal
GEI Price Proposal

Huron-Clinton Metropolitan Authority
RFP 2019-037 Project Management of Lake Erie Metropark Coastal Restoration

Price Proposal Form

The undersigned hereby certifies that they have examined the Specifications and are fully informed as to the nature of the equipment and services to be furnished. The undersigned agrees that it will obtain all necessary permits, licenses and insurance, and that it will comply with all applicable federal, state and local codes, laws and regulations.

GEI Consultants of Michigan, P.C.
Company Name

9282 General Drive, Suite 180 | Plymouth | MI | 48170
Address | City | State | Zip

sdierks@geiconsultants.com
Email

734-681-1599
Telephone

Scott Dierks
Printed Name of Person Authorized to Offer Proposal

Senior Water Resources Engineer
Title

Signature of Person Authorized to Offer Proposal

5/28/2019
Date

Price Proposal must include all expenses including overhead. HCMA is tax exempt. A sales tax exemption certificate will be shared with the successful Proposer upon request.

Proposed Total Price for Work Outlined in this RFP $174,500

Proposed Payment Plan
(example: % due for each portion of work completed or one payment upon completion)

Paid on a time and materials basis per % completion by item

Prompt Payment Discount

Indicate if a prompt payment discount is available for invoices paid within a particular number of days:

____NA____% if paid within _____ business days.

7-D-2-b

GEI Consultants

Lake Erie Metropark Coastal Restoration

Project Management
RFP #2019-037

Prepared for: Huron-Clinton Metropolitan Authority

May 28, 2019

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Transmittal Letter

May 28, 2019

Ms. Heather Dziak, CPPB
Huron-Clinton Metropolitan Authority
13000 High Ridge Drive
Brighton, MI 48114

RE: GEI Proposal
Project Management of Lake Erie Metropark Coastal Restoration
Request For Proposal #2019-037

Dear Ms. Dziak:

GEI Consultants of Michigan, P.C. (GEI) is pleased to provide this proposal to provide project management of the Lake Erie Metropark Coastal Restoration. We look forward to continuing our long-standing relationship with the Huron-Clinton Metropolitan Authority (HCMA) with this critical habitat restoration project.

As you are aware, GEI specializes in wetland and shoreline restoration, and is considered a leader of these services throughout Michigan and the Midwest. GEI is intimately familiar with HCMA parklands, having provided restoration and stewardship services at numerous Metroparks, including Stony Creek, Wolcott Mills, Indian Springs, Lower Huron, Oakwoods, and Willow, and we are currently under contract to treat invasive shrubs at Stony Creek and Wolcott Mills. In addition to our familiarity with HCMA properties, GEI staff have been involved in the design and implementation of numerous large-scale coastal wetland and shoreline restoration projects throughout the Great Lakes, including those in Muskegon along Lake Michigan, near Sandusky (OH) in Lake Erie, in Marysville on the St. Clair River, and at the nearby Detroit River International Wildlife Refuge. Our staff has also treated invasive vegetation at Lake Erie Metropark and other nearby coastal wetlands for The Nature Conservancy, Sterling State Park, at several industrial facilities, and at private hunt clubs in recent years.

With our extensive design/build experience and highly-skilled technical staff, we believe we are uniquely qualified to provide project management of this restoration, and we are confident we can exceed your expectations. Our knowledge of ecological restoration principals and keen attention to detail will ensure that we deliver a quality product according to schedule and within budget.

If awarded, this project will be managed by Scott Dierks out of GEI's Plymouth office; his contact information is provided below:

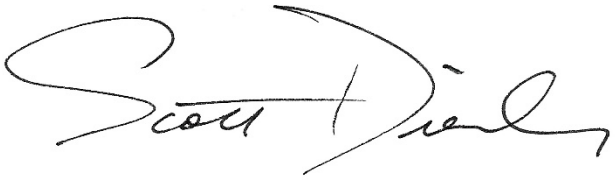
Scott Dierks, P.E.
Senior Water Resources Engineer
9282 General Drive, Suite 180
Plymouth, MI 48170
Office: (734) 680-1599 Cell: (517) 230-1952
Email: sdierks@geiconsultants.com

GEI has reviewed the RFP, Addendum #1 (May 21, 2019), and Addendum #2 (May 22, 2019). The following proposal will remain valid for a period of not less than ninety (90) days from the date of submission.

Thank you again for the opportunity to provide a proposal for this project. If you have any questions, please contact Scott Dierks at (734) 680-1599, or by email at sdierks@geiconsultants.com.

Sincerely,

GEI CONSULTANTS OF MICHIGAN, P.C.



Scott Dierks, P.E.
Project Manager

1.0 Qualifications, Related Experience, and Capacity

1.1 COMPANY HISTORY AND SERVICES OFFERED

For more than 40 years, GEI has helped our clients succeed by providing a broad array of geotechnical, environmental, water resources, ecological science, and engineering consulting services nationwide. From four people working from one office in 1970, GEI has grown to more than 800 people working from multiple offices across the country. Most staff members hold advanced degrees and are registered in their professional disciplines. In Michigan, we now have seven offices in the lower and upper peninsulas with restoration ecologists, botanists, biologists, fisheries ecologists, geologists, and ecological, civil and geotechnical engineers.

GEI's multidisciplinary team of ecological professionals offers Midwest and nationwide expertise in wetlands, water resources, aquatic ecology, wildlife, sustainability and conservation, native design, and restoration with an emphasis on bioengineering.

GEI has assembled a team of experienced ecologists, designers, professional engineers, landscape architects, environmental scientists, and planners who work together to integrate ecological principles with key elements of planning, engineering, coastal zone management, and planting design. This enables us to produce scientifically and technically competent solutions to complex environmental challenges.

We aim to strike a healthy balance with nature and to be responsive to the program elements, needs, and interests of our clients, while meeting review agency standards. Projects have included: wetland restoration, shoreline and streambank protection, nature trails, parks, and private property planning. GEI's broad spectrum of services allows us to provide a full-service project management approach to project completion; from preliminary site assessment through design, construction, vegetation and bioengineering material installation, and long-term monitoring and maintenance. This comprehensive approach also enables us to provide efficient and cost-effective project management. At GEI we pride ourselves on following structured safety and communication protocols so that we are able to complete projects safely, on time, and on budget. Our staff is comprised of technical team members all dedicated to delivering outstanding service on every project.

A representative list of the applicable services GEI staff members provide is presented below.

NATURAL RESOURCES MANAGEMENT

- Avian surveys
- Aquatic ecology and fisheries management
- Bat habitat surveys
- Bioengineering materials and shoreline stabilization
- Biological inventories and botanical surveys
- Brownfield redevelopment planning
- Community preservation planning and outreach
- Construction and construction oversight
- Ecological and human risk assessments
- Ecological restoration and mitigation
- Endangered and threatened species surveys and monitoring
- GIS design, modeling, and database management
- In-house aquatic toxicology laboratory
- Invasive species control
- Macroinvertebrate identification
- Reservoir limnology
- Wetland determinations and delineations
- Wildlife habitat restoration and enhancement

WATER RESOURCES MANAGEMENT AND ENGINEERING

- Alternative stormwater solutions and green infrastructure
- Comprehensive groundwater services
- Construction and implementation
- Dam design, dam safety
- Hydrologic/Hydraulic studies
- Stream and riparian assessment
- Toxic substances and Areas of Concern
- Water conveyance (pipelines, pumps)
- Water quality assessment and compliance
- Water rights, water banking, and permitting
- Water supply planning and permitting
- Watershed and stormwater management
- Wetland, lake, and stream design and restoration

PERMITTING & COMPLIANCE

- Michigan Department of Environment, Great Lakes, and Energy (EGLE) Aquatic Nuisance Control (ANC) permitting
- Clean Air Act compliance
- Clean Water Act Sections 401 and 404 compliance
- Facility siting, permitting, and licensing
- Federal and state endangered species compliance
- Michigan Natural Resources and Environmental Protection Act (NREPA) compliance
- National Environmental Protection Act (NEPA) and state-level environmental impact assessment (EA/EIS)
- Product safety, assessment, and regulatory support
- Regulatory impact analysis
- Resource Conservation and Recovery Act (RCRA) compliance
- Toxic Substances Control Act (TCSA) compliance

1.2 EXPERTISE AND EXPERIENCE

GEI has completed numerous wetland and shoreline restoration projects for a variety of clients, including the US Fish and Wildlife Service, the Eaton County Drain Commission, Waste Management, the West Michigan Shoreline Regional Development Commission, the City of Marysville, the City of Monroe, the State of Vermont, Oakland County Parks, The Nature Conservancy, and numerous private companies and individuals.

Of particular note is our experience with the Muskegon Lake Area of Concern, where we have completed over 20 projects including Great Lakes coastal wetland restoration, hydrologic reconnection, and shoreline softening. Many of these projects have been completed in partnership with the National Oceanic and Atmospheric Administration (NOAA) and the Great Lakes Commission (GLC). As a result, our team has experience working with NOAA partnership-funded projects, and we likely have experience with some of the individuals who may act as technical monitors to support the HCMA restoration efforts.

GEI is also a founding member and technical contributor to the Michigan Natural Shoreline Partnership. Contributions have included planning, regulatory, design, construction oversight and training. GEI is also currently assisting the states of Vermont and Maine with development of their naturalized shoreline and coastline programs.

GEI has included three Project Sheets detailing the restoration services provided to our clients in Appendix A (Representative Projects).

1.3 LIST OF CLIENTS AND SIMILAR PROJECTS

A list of clients and projects related to wetland and shoreline restoration completed within the last three years is provided below:

Client	Project
West Michigan Shoreline Regional Development Commission	Bear Creek Hydrologic Reconnection & Wetland Restoration Lower Muskegon River Wetland Restoration Veterans Memorial Park Fish and Wildlife Habitat Restoration
Waste Connections, Inc	Brent Run Landfill – Stream, Wetland, Floodplain Mitigation Design, Permitting, and Ecological Restoration
Taplin Enterprises	Alcott Street Dam Removal Restoration
Oakland County Parks	Addison Oaks
The Nature Conservancy (OH)	Muddy Creek Bay
City of Corunna	Corunna Dam

1.4 PROFESSIONAL REFERENCES

Muskegon Lake Area of Concern
Client: West Michigan Shoreline Regional Development Commission
Program Manager: Kathy Evans
316 Morris Avenue, Suite 340
Muskegon, MI 49440
kevans@wmsrdc.org
231-772-7878 ext. 17
GEI Project Manager –Brian Majka

Brent Run Landfill
Client: Waste Connections, Inc.
Client Contact: Tim Church
8247 Vienna Road
Montrose, MI 48457
timc@wasteconnections.com
810-639-3077
GEI Project Manager – Brian Majka

Muddy Creek Bay
Client: The Nature Conservancy
Client Contact: Matthew Kovach
2900 Columbus Avenue
Sandusky, OH 44870
Matthew.kovach@tnc.org
419-627-7564
GEI Project Manager – Scott Dierks

1.5 PROJECT MANAGER AND KEY STAFF

To provide the highest quality of service and communication, GEI will assign Scott Dierks out of our Plymouth office as the primary point of contact for all project correspondence. Scott will serve as the GEI Project Manager for all activities, leading to an efficient, streamlined communication channel. He will lead the GEI interdisciplinary team to effectively manage the functional, biological, and social components of this project. Scott will work in concert with project team members but will serve as the Project Manager and be responsible for all site inspection documentation, contracts, permitting, design development, and grant reporting requirements.

SCOTT DIERKS, PE

In addition, to acting as the Project Manager, Scott will act as the lead water resource engineer for GEI's design team. Scott leads design and engineering services on watershed management and ecological engineering projects. His green infrastructure design work includes stormwater and wastewater treatment and re-use and aquatic ecosystem restoration. Scott has over 22 years of engineering experience, including numerous hydrologic, hydraulic, sediment transport, and water quality monitoring and modeling projects. He also has extensive experience writing and administering numerous grants, including Clean Michigan Initiative, Clean Water Act Section 319, and other public and private foundation grants. His specialty in Low Impact Development (LID) planning, analysis, and site design led him to serve on the team that wrote Michigan's statewide LID guidance manual.

JEFF BRIDGLAND, PWS

Jeff is an Ecologist and Project Manager and is the Ecological Team Lead in GEI's Plymouth (MI) office. Jeff has over 20 years of professional experience in natural resource monitoring and management. Jeff has managed hundreds of ecological projects over his career, including those involving floristic quality assessment, threatened/endangered species survey, natural features inventory, wetland delineation and permitting, wetland mitigation monitoring and management, land use mapping, and land stewardship and restoration. Jeff has extensive experience in designing and executing long-term habitat management plans and has a strong knowledge of Midwestern wetland and terrestrial flora. He is a Professional Wetland Scientist, Certified Pesticide Applicator, and holds a Threatened/Endangered Species permit through the Michigan Department of Natural Resources (MDNR).

BRIAN MAJKA, CERP

Brian is a Certified Ecological Restoration Practitioner with extensive experience in project oversight, design and implementation of wetland construction, soft shoreline engineering, prairie planting, natural areas management and best management practice (BMP) design projects with more than 19 years of experience. He is responsible for project management of ecological restoration design/build projects for GEI. Brian served as the Vice Chair for both the Michigan Natural Shoreline Partnership and the Michigan Invasive Plant Council, currently serves on the Grand Valley State University Natural Resources Management Advisory Council, and travels the country to present on various ecological restoration topics.

TODD BOWEN

Todd specializes in project management and field implementation of ecological restoration projects. Todd will act as GEI's primary equipment operator and will oversee construction of the shoreline repairs and creation of wetland habitat. Todd is a licensed commercial pesticide applicator in Michigan for aquatics and right-of-way and is a certified Michigan Natural Shoreline Professional. He has received OSHA 40-Hour HAZWOPER certification and wildland firefighter training S-130, S-190, and I-100.

STEVE RICE, CWB

Steve specializes in native community restoration, technical report writing and review, regulatory compliance and permitting, protected species surveys, and large-scale project management. Steve manages and performs ecological studies on multiple types of projects and properties including linear corridors, large private tracts proposed for development or restoration, and municipal, state, and federal lands. Steve has worked on natural resource projects across the country, assisting clients in over 20 states with regulatory compliance issues. Steve has more than 27 years of environmental assessment and consulting experience.

KELLY RICE, PWS

Kelly specializes in wetland assessments and delineations, wetland mitigation design, wildlife and protected species surveys and habitat assessments, technical report writing and review, regulatory compliance and permitting, and large-scale project management. She manages and performs ecological studies on multiple types of projects and properties including energy and transportation linear corridors, large private tracts proposed for development or restoration, and municipal, state, and federal lands. Kelly has more than 25 years of environmental assessment and consulting experience.

CONNOR WOJTOWICZ, CERP

Connor is a restoration ecologist whose area of expertise includes plant identification, vegetation monitoring, data collection, and technical reporting. He has lead crews in a number of projects ranging from vegetation monitoring to largescale wetland delineations in remote areas with limited site access. His background knowledge of soil and ecology also prove useful for field assessments and site evaluations.

TOM CLEMENT

Tom is an Aquatic/Wetland Biologist for GEI Consultants. Tom has a M.S. in biology specializing in Fisheries Ecology from Central Michigan University and a B.S. in Fisheries and Aquatic Sciences from SUNY Environmental Science and Forestry. Tom has over eight years of experience leading and managing large aquatic and fisheries assessment projects with the largest being the GLRI Great Lakes Coastal Wetland Monitoring Program. Smaller fisheries projects include river habitat assessment and fish use with USFWS, USEPA and MDNR.

BERT CAREY

Bert is a recent graduate of Grand Valley State University who majored in Aquatic Sciences Biology and Natural Resource Management. Bert previously worked at the Annis Water Resources Institute and for Trout Unlimited, where he has performed numerous fish and macroinvertebrate surveys, aquatic habitat assessments, and stream studies where he has collected water quality data. Bert has strong fish and macroinvertebrate identification skills, and will assist in the pre- and post-monitoring efforts associated with this project.

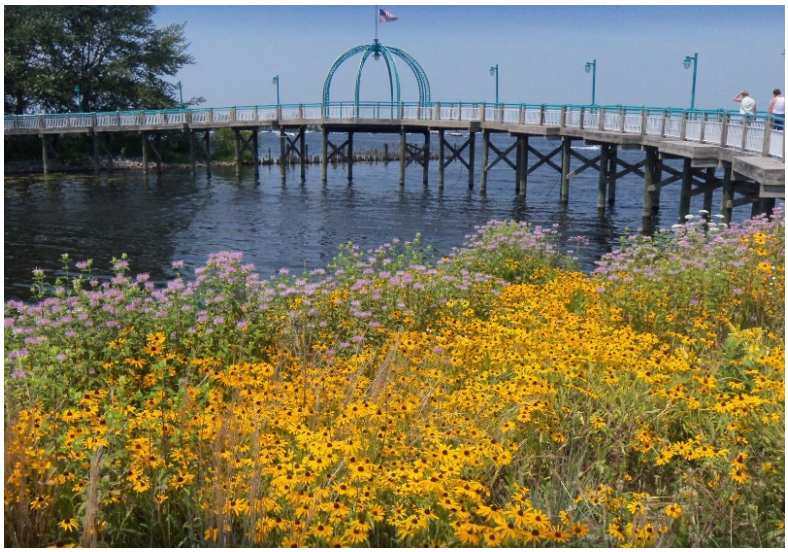
In addition to these key individuals, GEI has dozens of experienced restoration, survey, ecological, and engineering professionals ready to meet the needs of the Huron-Clinton Metropolitan Authority. This highly skilled group has diverse technical experience in landscape architecture, native plant community evaluation and design, botany, wildlife, habitat restoration, and water resources engineering.

Resumes for key personnel have been attached in Appendix B.

2.0 Project Understanding, Methodology, and Approach

GEI has thoroughly reviewed RFP #2019-037 and the two issued Addendums to provide Project Management, design and permitting of the Lake Erie Metropark Coastal Restoration. This section covers our understanding and proposed scope of work for this project. GEI staff have also recently visited Lake Erie Metropark to assess proposed project limits and get a hands-on understanding of existing conditions.

Lake Erie Metropark is a unique site with historical and cultural significance. Located just north of the Huron River mouth, this Metropark sits in the western end of Lake Erie. As the most biologically productive area within the Great Lakes, this area is regionally important for fish and wildlife. The abundant coastal wetlands that once served as natural buffers against flooding and provided critical habitat for spawning fish have been significantly reduced and degraded over the years from erosive wave energy, sedimentation, the alteration of natural shoreline, and the invasion of non-native vegetation such as Phragmites. Only 5% of the historic coastal wetland in the western basin of Lake Erie remains.



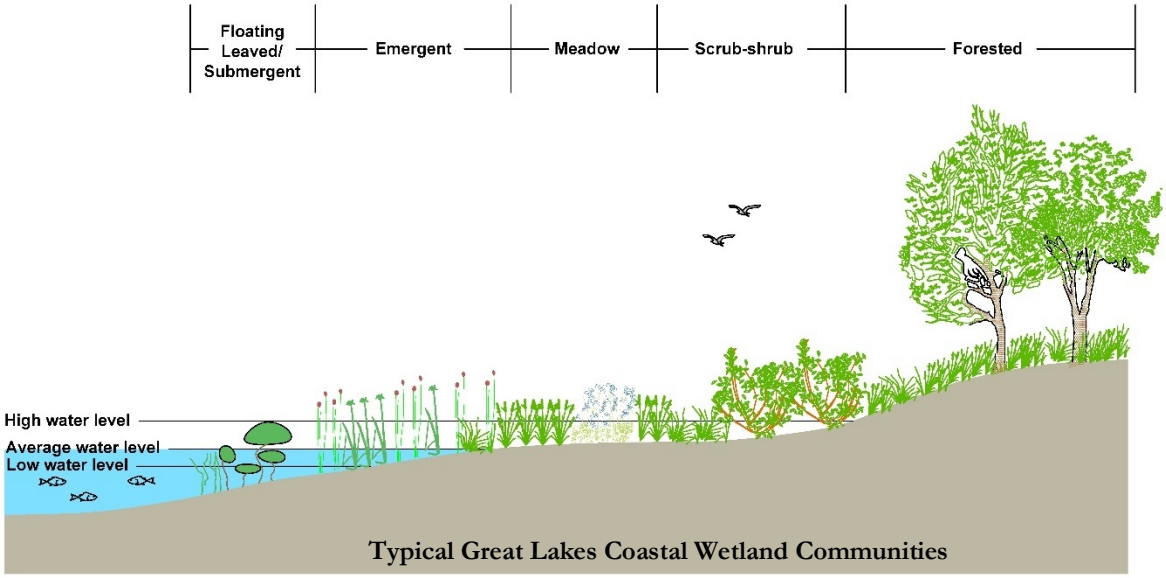
Re-establishing a natural shoreline and enhancing the coastal marshes of Lake Erie Metropark is crucial to restoring the functions and values that have been lost in recent decades. This project will also reinforce the recent restoration efforts at nearby Sugar and Celeron Islands.

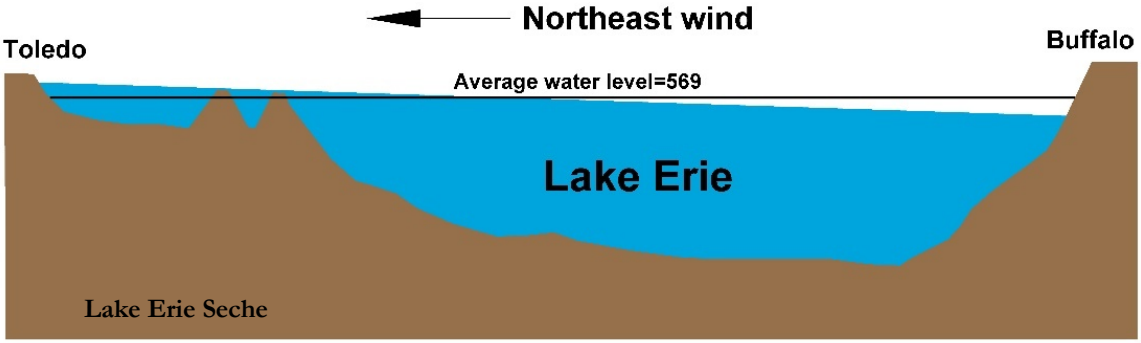
The primary goals of this project to restore coastal marsh habitat and degraded shoreline will help build coastal resiliency while improving vital habitat for spawning fish and other wildlife. GEI understands that HCMA has developed conceptual designs and is now in search of a firm to provide not only project management during final design and implementation, but also to coordinate efforts with HCMA, a Technical Advisory Team, and NOAA. GEI's methodology and approach to the tasks required by HCMA under this RFP are described below.

Restoration of Great Lakes coastal wetlands and shorelines requires an understanding of the complex interactions of the physical, chemical, biological, and anthropogenic factors that drive the ecology of these crucial wetland systems. Great Lakes coastal wetlands are virtually defined by their dynamic nature, which is primarily driven by water levels which fluctuate on both short- and long-term cycles. During low water periods, wet meadow, scrub-shrub, and forested wetlands typically

expand while emergent wetlands retract. When water levels rise, however, emergent wetlands will typically become predominant along Great Lakes coasts.

In addition to typical and cyclic water level fluctuations, Lake Erie is also subject to potentially extreme seiche events because its long axis is parallel to the primary wind direction. During these events, wind has the potential to cause 10-15-ft elevation differences in lake level between the east and west ends of the lake. These events typically last for only 24-48 hours but have the potential to impact wetlands through wave energy and high water.

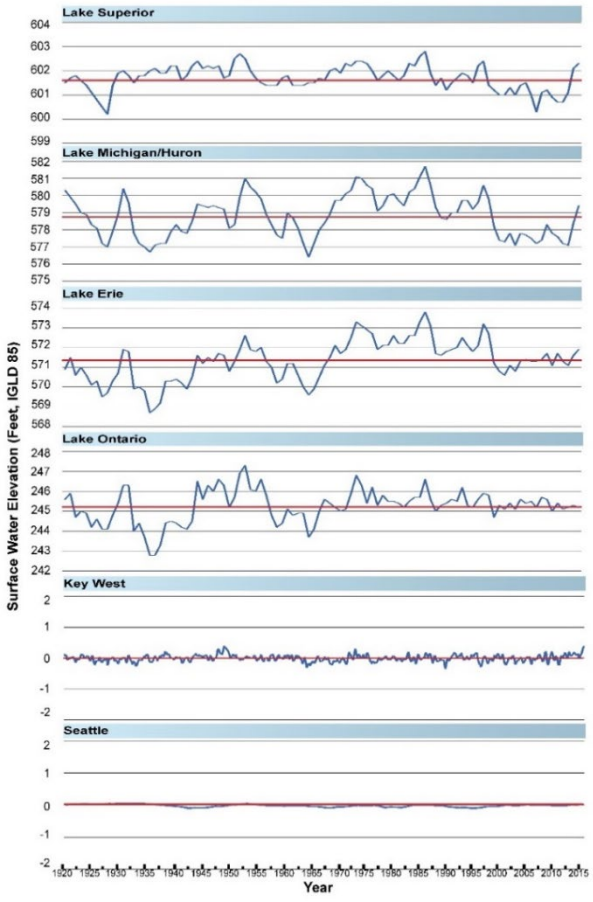




Design Considerations

These short- and long-term water level fluctuations have important implications for both the immediate establishment and long- term resiliency of the restored wetlands and will be carefully considered in project designs. Since the mid-1960s, Lake Erie has typically fluctuated between the elevations of 571 and 574.

Although the low water datum for Lake Erie is 569.4, Lake Erie has not reached that elevation since the 1930s, and Lake Erie is projected to reach its record high in 2019. Although long-term fluctuations must be considered, it is also important to consider any anthropogenic and climatic changes may have caused water levels in Lake Erie to be permanently elevated (right).



Accounting for these factors, restoration may include grading, placement of stone for wave protection, bioengineering, and the installation of native plants to restore the shoreline. Natural Great Lakes coastal wetlands shorelines have 15:1 - 20:1 slopes. This allows these wetlands to naturally adapt and "chase" water levels as they fluctuate. To the greatest extent possible, mimicking these conditions can lead to successful restoration projects that are resilient in the long term.

Restored Great Lakes Coastal Wetlands with Gentle Slopes in Muskegon Lake (GEI)

Understanding that not all parts of the restored shoreline can have gentle slopes, hardening techniques using stone and strategically placed wood may be used to provide protection against waves and ice under different water levels, while still allowing the establishment of native wetland vegetation.

Restored Great Lakes Coastal Wetlands with detached breakwaters along the St. Clair River (project management, design and photos by GEI staff) at Marysville, Michigan on the St. Clair River

When physical forces are too high for vegetation alone to establish along a shoreline, stone and wood can be used to provide wildlife habitat and access and functional protection of the shoreline. Stone structures can take several forms – riprapped slopes, sills, dikes, groins, boulder clusters and detached breakwaters are examples of some of the ways to protect shorelines from the energy of a Great Lakes' shoreline.

Restored High Energy Shoreline with Bioengineering and Rock Gaps (GEI, Muskegon Lake)

Additionally, we will consider transport in the connecting channels to the deepened marsh area. There may be a way to keep those channels narrow, perhaps with large woody material structures that would enhance habitat but keep the connecting channels narrow enough that they are self-cleaning.

Our design approach, as described below, incorporates an understanding of the Great Lakes and lessons learned from previous projects to most effectively design and oversee construction of these critical ecosystems.

2.1 PROJECT MANAGEMENT, ADMINISTRATION, AND REPORTING

As mentioned, Scott Dierks, P.E. out of our Plymouth office, will act as the GEI project manager and will coordinate efforts for the GEI team throughout all phases of design, construction, and monitoring. GEI will assist HCMA with putting together the Technical Advisory Committee (TAC) and deciding on the frequency and schedule of meeting to best suit the project needs. We have assumed at least quarterly meetings with the TAC.

Subtasks associated with project management will include:

A. Project Kick-Off Meeting & TAC

B. Regular communication with HCMA and project stakeholders

C. Support of HCMA with monthly and semi-annual reports to NOAA and the Great Lakes Commission (GLC)

D. Regular reporting at project partner meetings, workshops, and conferences

2.2 ENGINEERING SITE ASSESSMENT

The engineering site assessment will include:

- Survey and estimation of soft sediment quantities in the coastal marsh and connection channels
- Water level, wind, and wave energy analyses
- Review of topographic and bathymetric surveys of the coastal marsh completed by HCMA and supplementing if needed

This analysis will be used to size any imported material and check adequacy of existing stone. As noted, stone can be used in a variety of coastline energy-dissipating structures and the stone size distribution and sediment transport impacts differ by structure. For instance, sizing for stone placed off-shore needs to be bigger than stone placed against at the toe of a shoreline slope.

We will obtain Lake Erie water level information from historical hourly water level data from western Lake Erie USACE Wave Information Studies (WIS) station and NOAA buoys. Lake water levels, surge, and total water levels for a 100-year return period and intermediate periods will also be compiled. Results will be compared to readily-available relevant studies and published information from organizations such as FEMA and the USACE.

Wave and wind characterization will be determined by reviewing historical wind and wave data from NOAA buoys on the lake and nearby USACE WIS hindcast data and determine deepwater design characteristics of significant wave height (Hs), peak wave period (Tp), and wind velocity at 10-meter height for a 100-year return period.

We will determine nearshore wave characteristics for a 100-year return period by using an STWAVE model to propagate the deepwater characteristics to nearshore conditions. We will use collected near-shore data as well as compile lake bathymetry, as available.

Proposed soft sediment cross-sections in the coastal marsh (left image) and connecting channels and cross-section data needed for Lake Erie shoreline (right)

Subtasks include:

A. Soft sediment estimation

B. Water level, wind and wave analyses

C. Development of baseline existing conditions plan, including existing site topographic and bathymetric data, soft sediment areas and existing riprap/stone cover

2.3 ENGINEERING DESIGN

After assessing the existing site conditions, GEI will meet with HCMA and project stakeholders to review design options. Options will be based on ecological and public use goals, project grant requirements, HCMA goals, budget, feasibility, and site restrictions. GEI will work through an iterative design process, where designs are developed, discussed with project stakeholders, compared against site conditions and budgets. Through this process, designs will move from 30% to 60% and 90% completion, eventually arriving at construction-ready designs.

Design drawings will, at a minimum, include:

- Cover sheet, project location map, sheet index, contacts
- Existing Conditions/Base Map
- Soil Erosion/Sedimentation Control Plan
- Grading/Layout/Dredging Plan
- Existing and proposed cross-sections
- Terrestrial/wetland planting plans

- Habitat installation details, e.g., Large woody material, hibernacula
- Planting/restoration details

Subtasks include:

A. Submittal and review of 30% design

B. Submittal and review of 60% design

C. Submittal and review of 90% design

D. Construction cost estimates

2.4 PERMITTING

In reviewing the conceptual design, it appears as though the project will require coordination with the Michigan Department of Environment, Great Lakes, and Energy (EGLE), the U.S. Army Corps of Engineers, and Wayne County. As currently proposed, the project will likely require a Nationwide Permit 27 from the United States Army Corps of Engineers (USACE), a Part 31/301/303 permit from EGLE, and a Soil Erosion and Sedimentation Control (SESC) Permit from Wayne County. The cost estimate for these fees are covered under GEI's proposed pricing estimate. We believe the most effective way to initiate the permitting is to get the key agency personnel from all the main agencies in the same room together for a pre-application meeting to thoroughly acquaint them with the project goals and conceptual design and then examine any potential red flags to obtaining the necessary permits in a timeframe that aligns with the project schedule.

GEI will prepare and submit the permit applications for the proposed activities. The USACE and EGLE joint application will include a "Feasible and Prudent Alternatives Analysis", landowner permission letter(s) if necessary, GIS-prepared location map, specific impact area maps, complete wetland delineation report with required wetland determination data forms, and all required permit application drawings. Following submittal of the application, GEI will act as HCMA's agent and track the application throughout the review process by EGLE, USACE, and other commenting entities (local, state, or federal government), to the point of initial agency decision. This includes correspondence, telephone discussions, responses to requests for additional information or clarification, etc., and negotiation with the agency on HCMA's behalf. One agency meeting on site or in the Warren District office is included as part of GEI's scope. Please note that this scope does not include a Public Hearing or utilization of EGLE Administrative Hearing Process. This scope also does not include efforts to address threatened and/or endangered species concerns should they be raised by commenting agencies.

Based on similar project experience, we believe that the USACE, EGLE, and SESC permits should be obtainable in a timeframe that works with the grant deadlines. GEI will provide coordination with HCMA, Wayne County, and EGLE throughout the entire process to ensure timely reviews.

Subtasks include:

A. Agency Pre-Application Meeting

B. Prepare and review draft EGLE, USACE and Wayne County permit applications

C. Finalize and submit permit applications

D. Respond to agency comments and questions

2.5 BIDDING

The GEI team will coordinate with HCMA and the Technical Advisory Team to complete draft Construction Technical Specifications in Construction Specification Institute (CSI) formatting, refine any restoration plan sheets necessary, and develop a complete set of competitive bid documents. Toward completion of this task, GEI will meet with HCMA staff to review the draft RFP/RFQ document, solicit comments, and assist with development of a distribution list prior to solicitation of construction bids.

GEI will hold a mandatory pre-bid meeting on site with potential bidders, HCMA, and stakeholders. All bidder questions will be answered by GEI and formal addenda will be generated, as necessary. Assistance will be provided to HCMA during bid review and construction contract development. GEI will work with HCMA, its stakeholders, and the selected contractor to prepare a HASP to guide construction activities which will be in compliance with due care obligations. Following the submittal of construction bids, GEI will review all submitted construction bids with HCMA and the bid selection team. GEI will provide input on the technical and financial merits of the bids and will work with the selection team to provide follow up questions or perform interviews with contractors as appropriate. Following the review of the bids, GEI will make a recommendation for award.

Subtasks include:

A. Draft and review bid documents

B. Finalize bid documents

C. Arrange/attend pre-bid meeting

D. Review bids/recommend contractor

2.6 CONSTRUCTION OVERSIGHT

GEI will manage, administer, and oversee construction and restoration activities that are completed on the project site. During this stage of the project, GEI will inspect contractor work, answer contractor questions, and encourage the overall successful completion of proposed restoration activities in accordance with project design. It should be noted that although GEI proposes to conduct construction oversight for 20 hours per week, staff will be available at any time to answer contractor questions that arise. Also, GEI can adjust the amount of time on site upon request by HCMA or may require adjustment of construction takes more or less time than estimated.

Subtasks include:

A. Conduct pre-construction meeting with selected contractor(s)
B. Conduct on-site construction observation, assuming 12 weeks @ 20 hours/week
C. Photo document construction work and progress
D. Respond to contractor requests for information and change orders
E. Review and approve contractor invoices
F. Punch list inspection and final approvals

GEI will review monthly contractor pay applications, which will include AIA forms and verification of work complete when appropriate. GEI will sign and forward to HCMA with a recommendation for payment according to HCMA requirements.

2.7 PRE- AND POST- RESTORATION ECOLOGICAL ASSESSMENTS

The project will restore the degraded shoreline through removal of existing hard-armoring and placement of this material into the near-shore areas in a manner that will protect the shoreline while allowing for vegetation to establish. Additionally, the continuous area of functional coastal wetland and nearshore habitat will be increased as a result of the hard-armoring removal.

As a means to determine success, GEI will develop a pre- and post- restoration monitoring and assessment program suitable for HCMA to document water quality, fish, macroinvertebrate, and herpetofauna diversity as well as vegetative communities, and will demonstrate that invasive species were not introduced or exacerbated as a result of the restoration. Fish, macroinvertebrates, water quality, and vegetation will be sampled and assessed using the standard operating procedures of the Great Lakes Coastal Wetland Monitoring Program (GLCWMP), as developed by the Great Lakes Coastal Wetland Consortium. Herpetofauna will be assessed using Marsh Monitoring Protocol, as developed by Bird Studies Canada and Environment Canada. These monitoring efforts will be completed in a way to meet anticipated EGLE permit requirements. Appropriate pre- and post-restoration site photographs will be taken to provide documentation.

In addition to the physical assessments, GEI will complete pre-restoration ecological assessments. GEI will also perform a wetland delineation of the areas proposed for restoration. The delineation will be required by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and the United States Army Corps of Engineers (USACOE) during the permit process.

2.7.1 Wetland Delineation

A wetland delineation of the project limits will be required by the USACOE and EGLE since a permit will be necessary to complete the restoration project. The delineation will be completed according to the U.S. Army Corps of Engineers Wetland Delineation Manual (87' Manual), Northeast/North Central Regional Supplement. GEI will collect the flagging using a sub-meter GPS unit, and will upload the points into a GIS database. GEI will provide a comprehensive wetland delineation report with a map showing the location of the wetlands. Please note that EGLE

typically requires a wetland delineation report if regulated wetlands, watercourses, and/or floodplains are proposed for impact and a permit is necessary.

2.7.2 Pre- and Post-Restoration Water Quality Assessments

GEI will complete an assessment of water quality within the project limits that will be used for comparison following restoration. GEI will collect pre- and post-restoration water samples to test for field parameters such as dissolved oxygen (DO), pH, temperature, biochemical oxygen demand (BOD), turbidity, and specific conductivity. GEI can also collect water samples and send them to a lab to be analyzed for alkalinity, turbidity, soluble reactive phosphorus, ammonium, [nitrate+nitrite] nitrogen upon request.

2.7.3 Fish Pre- and Post-Restoration Surveys

A primary goal of this project is to create fish spawning and nursery habitat through the establishment of shallow pools and channels within the coastal marshland. Fish will be sampled using protocol set forth in the Great Lakes Coastal Wetland Monitoring Program. Prior to restoration activities, GEI will conduct a baseline survey for fish using a boom shocker affixed to our boat. Electrofishing will occur in all available habitat types within the project limits (e.g., within open water and vegetated areas of emergent marsh, within shallow pools, and along the shoreline). Two trained GEI staff will electroshock fish while a third will net and assist with the transfer of fish to a holding container. Stunned fish will be transferred to buckets filled with site water for temporary holding until electrofishing is complete. GEI biologists will identify, count, and measure fish prior to release. Representative photographs will be taken throughout the effort.

A post-restoration survey using the same GLCWMP techniques will be performed in the spring or early summer of 2021.

2.7.4 Macroinvertebrate Pre- and Post-Restoration Surveys

Following the fish survey, benthic macroinvertebrates will be qualitatively assessed following the GLCWMP guidelines. Appropriate survey locations will be identified by GEI prior to the survey. Crews will collect macroinvertebrate samples from the major plant zones in the coastal marsh, and along the shoreline within the project limits by sweeping D-nets. Index for Biotic Integrity (IBI) scores can then be calculated from these data.

The survey will consist of approximately 30 minutes or more of sampling (i.e., two biologists sampling for 15 minutes each), or until 150 organisms are collected. GEI biologists will sample all available plant zones within the project limits of the coastal marsh, and all available substrate types within the project limits of the shoreline. Mesh nets will be rinsed with site water and contents will deposited onto clean, sorting trays for enumeration and identification.

2.7.5 Herpetofauna Pre- and Post-Restoration Surveys

In order to characterize the existing herpetofauna within the proposed restoration areas, several reptile and amphibian baseline surveys are proposed for early spring of 2020, when herpetofauna are most active (this window was missed in 2019). Although weather dependent, it is anticipated that the spring 2020 surveys will be conducted between April 1 and June 1, prior to the start of construction. These surveys will be replicated in the spring of 2021, post-restoration. Monitoring

and sampling will focus on the areas proposed for restoration and will not include the adjacent wetland communities. The proposed survey methods are described below.

- **Acoustic Surveys**
  These nighttime auditory surveys will be conducted with a special emphasis on recording anuran (frog and toad) species. Methods will be established that mimic the Marsh Monitoring Program (MMP) protocol, and any available previously-collected MMP data will be reviewed prior to the initiation of the surveys (if available). It is estimated that 4-6 acoustic survey locations will be established, and every attempt will be made to record those species vocalizing within the restoration footprint. Other anuran vocalizations outside the restoration footprint may be recorded, but those will be identified as such. Three acoustic survey evenings are proposed pre- and post-restoration (6 total –3 in spring 2020, and 3 post-restoration in 2021).

- **Dip Net Surveys**
  If present at the time of inspection, any inundated habitats or bodies of water within the restoration footprint will be dip-netted to sample for the presence of larval forms of herpetofauna. Dip nets will be utilized to sample the water column at a variety of depths in those pools that are large enough to support the presence of larval herpetofauna. Three dip net survey events within inundated habitats, if present, are proposed pre- and post-restoration (6 total).

- **Cover boards/artificial cover objects (wood and metal)**
  Cover boards will consist of artificial material placed at a sampling location to provide temporary cover for various reptile and amphibian species. In an attempt to attract a greater diversity of herpetofauna, arrays of both wood and metal cover objects will be used. Approximately 20-30 total boards or panels will be utilized. These boards will be checked three times in the spring of 2020 and three times post-restoration in 2021. At least one of the surveys will be conducted during nighttime hours on a warm rainy evening in an attempt to observe nocturnal movement (6 total).

- **Visual encounter surveys**
  Pedestrian transects will be utilized to conduct visual encounter surveys within the proposed restoration site. These surveys will document herpetofauna species presence and diversity. Meandering pedestrian surveys will be conducted with a focus on observing any ground movement, turning over logs and rocks, and searching through leaf litter and other debris. The results of the visual encounter surveys will be evaluated by comparing the results with the time spent conducting the surveys. Six total visual encounter surveys of the proposed restoration areas will be conducted (3 pre-restoration in 2020 and 3 post-restoration in 2021).

Once the habitat restoration project is complete, GEI proposes to conduct post-restoration herpetofauna surveys in the spring and/or early summer of 2021, after construction has been

completed, using the same methods as those proposed for the pre-restoration surveys. This will allow for a direct before- and after-comparison between pre- and post-restoration data. Although the exact timeline for construction has not yet been finalized, it will be beneficial to wait as long as possible to conduct the post-restoration herpetofauna surveys so that habitat improvement results may be realized to the maximum extent possible. However, it will be important to replicate the same spring monitoring window.

Upon completion of post-restoration herpetofauna monitoring, a summary report will be prepared that documents and compares the results of both the pre- and post-restoration monitoring results.

2.7.6 Vegetation Pre- and Post-Restoration Surveys

To quantitatively assess vegetative cover, GEI will monitor 1-meter by 1-meter (one m^2) sampling plots that will be laid along transects to assess the herbaceous, aquatic, and shrub plant communities within the project limits. The approximate percent coverage for each plant species will be recorded pre- and post-restoration for before and after comparison. The number of transects and plots, and their locations, will be determined prior to the survey with input from HCMA, and may be somewhat dictated by conditions expected to be set forth in the EGLE permit. Once the sampling locations are determined, the aerial cover of each living plant species will be estimated in five (5) percent intervals for each herbaceous sampling plot. In addition to aerial cover of vegetation, areas of bare ground and/or open water will be noted. For cost estimating purposes, it is assumed that GEI will sample 40 vegetative plots pre-restoration and 40 post-restoration (20 within the coastal marsh areas, and 20 along the nearshore areas, in 2019 and 2021).

Subtasks include:

A. Wetland Delineation

B. Pre- and post-restoration vegetation monitoring

C. Pre- and post-restoration water quality assessments

D. Pre- and post-restoration fish monitoring

E. Pre- and post-restoration herpetological assessment

F. Pre- and post-restoration macroinvertebrate assessments

G. Draft and final pre- and post-restoration monitoring report

2.8 TIMELINE

As stated in the RFP, it is expected that this project will be completed by September 30, 2021. Pre-restoration monitoring will commence shortly after the contract is awarded, with the exception of herpetofauna (which will be conducted in the early spring of 2020, prior to construction).

Design and permitting activities are expected to take up to nine months beginning in mid-July 2019, including the federal/state/local review process and revisions to the design based upon agency comments.

GEI assumes that construction will commence in mid-spring 2020, and may continue through the end of the year, depending on weather conditions and water levels.

Post-restoration monitoring activities will begin in April or May 2021.

The expected timeline required to complete this project along with milestones and deliverables is provided on the following page. Please note that agency review could affect the timing of some tasks.

2.9 REPORTING

Throughout the course of the project, GEI will provide management and project tracking to submit invoices and monthly, quarterly, and/or semi-annual progress reports necessary to meet HCMA and Great Lakes Restoration Initiative (GLRI) grant requirements. It is expected that GEI will provide weekly or bi-weekly updates to HCMA Natural Resources staff and will provide semi-annual reports to NOAA describing progress to date and upcoming goals. Additionally, GEI understands that monthly calls with NOAA, the Great Lakes Commission, HCMA, and Technical Advisory Committees will be required.

PROPOSED PROJECT TIMELINE

SUB-TASKS	2019, 3rd Qtr			4th Qtr			2020, 1st Qtr			2nd Qtr			3rd Qtr			4th Qtr			2021, 1st Qtr			2nd			3rd			4th		
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
A. Kick-Off Meeting/TAC Meetings (freq. TBD)	1																													
B. Regular Communication																														
C. Monthly & semi-annual NOAA/GLC reports						x						x						x						x						x
D. Regular reporting																														
A. Soft Sediment Survey																														
B. Develop base map																														
C. Water level, wave and wind analyses																														
A. Submittal &review 30% design				3																										
B. Submittal & review 60% design						5																								
C. Submittal & review 90% design							6																							
D. Construction cost estimates																														
A. Agency Pre-Application Meeting				4																										
B. Prepare & review draft permit apps																														
C. Finalize & submit permit applications							7																							
D. Respond to agencies																														
A. Draft and review bid documents																														
B. Finalize bid documents										8																				
C. Arrange/attend pre-bid meeting																														
D. Review bids/recommend contractor												9																		
A. Pre-con																														
B. On-site observation												10																		
D. Photo document																														
E. Respond to contractor requests																														
F. Review & approve contractor invoices																														
G. Punch list inspection & final approvals															11															
A. Wetland Delineation																														
B. Pre- and post-restoration veg monitoring																														
C. Pre- and post-restoration water quality																														
D. Pre- and post-restoration fish																														
E. Pre- and post-restoration herp																														
F. Pre- and post-restoration macroinv.																														
G. Draft & final pre- and post- monitoring reports			2																								12			

Deliverables and Milestones

x - Semi-Annual NOAA/GLC Reports

1 - Kick- Off Meeting

2. Sbumit pre-restoration monitoring reports

3. Submittal of 30% design review set

4. Permitting Agency Pre-Application Meeting

5. Submittal of 60% design review set

6. Submittal of 90% design review set

7. Submit EGLE & USACE permit applications

8. Finalize Construction Bid Docs

9. Receive bids/recommend contractor

10. Receive permits by/Start Construction

11. Punch list/Constrution Complete

12. Submit final monitoring reports

3.0 Exceptions and Deviations

There are a few potential project deviations that could occur that bear mentioning. The first is the regulatory timeline. While we have identified a window for agency review and approval for the EGLE and USACE permits, in our experience there can sometimes be unaccounted for issues that can delay approval. We hope to head off this potential outcome with early and continuous communication with the agencies, but even this kind of effort can be insufficient. We do not anticipate any permitting deviations (with the exceptions called out below) causing changes to our scope and budget necessarily but they could delay construction.

While HCMA has noted that they have park topography and NOAA data can be consulted for bathymetry, in our experience near-coast areas tend to have a poor resolution of the immediate land to water transition. This can sometimes simply be an issue related to changes in water level. However, we want to reserve the right to review existing topographic and bathymetric data to determine if there are gaps. If there are gaps, we will provide additional scope and budget to cover the additional survey required.

This gap analysis is particularly important for any detached, near shore wave break/wave protection structures that are installed/created along the open lake coastline. These detached structures are completely at the mercy of the wind, wave and ice forces and the immediate topography and bathymetry are critical to determine erosive forces and development of adequate structure designs.

We have also assumed there are no contaminant issues nor issues associated with structures or material of historical or anthropological significance. We have also assumed there no issues with Threatened and Endangered Species surveys. If any of these assumptions prove to be incorrect, we will work with the HCMA to develop additional scope and budget to cover these additional efforts.

4.0 Price Proposal and Other Forms and Certifications

The Price Proposal Form and other completed Forms and Certifications have been attached as a separate submittal. However, below is a detailed breakdown of proposed project costs, by task:

Task	Description	Cost
2.1	Project Management, Administration, and Reporting	$22,000
2.2	Engineering Site Assessment	$10,000
2.3	Engineering Design	$28,000
2.4	Permitting	$21,500
2.5	Bidding	$14,000
2.6	Construction Oversight	$36,500
2.7	Pre- and Post-Monitoring Assessments	$42,500
	PROPOSED COST:	**$174,500**

5.0 Signed Addenda

OFFER AND AGREEMENT FORM

TO THE HURON-CLINTON METROPOLITAN AUTHORITY:

The undersigned hereby offers and agrees to furnish the material or service in compliance with all terms, scope of work, conditions, specifications, and amendments in the Contract.

The undersigned hereby states, under penalty of perjury, that all information provided is true, accurate, and complete and states that he/she has HCMA to submit this proposal, which will result in a binding Contract if accepted by the Huron-Clinton Metropolitan HCMA.

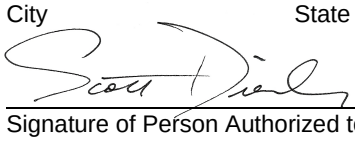
We acknowledge receipt of the following addendum(s): Addendum #1, Addendum #2, _____, _____.

I certify, under penalty of perjury, that I have the legal authorization to bind the firm hereunder:

GEI Consultants of Michigan, P.C.
Company Name

9282 General Drive, Suite 180
Address

Plymouth MI 48170
City State Zip



Signature of Person Authorized to Sign

Scott Dierks
Printed Name

Senior Water Resources Engineer
Title

For clarification of this offer, contact:

Name: Scott Dierks

Phone: 734-680-1599

Fax: _____

VENDOR REGISTRATION SHEET

1. GEI Consultants of Michigan, P.C.
Company

Scott Dierks 734-680-1599
Contact Name Phone

2. 9282 General Drive, Suite 180, Plymouth, MI 48170
Address/City/State/Zip

734-680-1599
Telephone Fax Number County

3. GEI Consultants, 400 Unicorn Park Drive, Woburn, MA 01801
Name and address of Headquarters/Home Office, if different from above.

4. Is your business incorporated in Michigan? Yes [X] No [ ]

5. If not, has your business obtained a Certificate of Authority to transact business or conduct affairs in Michigan from the Michigan Department of Licensing and Regulatory Affairs?

Yes [ ] No [ ]

6. If you answered "no" to both 4 and 5, please explain:

7. What is main function of your business? (Be specific.)

Ecological restoration, water resources, civil & geotechnical engineering and consulting

8. Year established 1970

9. Company ownership (if any) Employee - Owned Firm

10. Personnel in development and support, full time and total. 800

11. Is the firm Minority Owned? No

12. Please include a copy of your current business license.

Scott Dierks
Authorized Signature

Senior Water Resources Engineer
Position Title

PROPOSER DISCLOSURE STATEMENT

Disclosure of Familial Relationship

The Proposer hereby represents and warrants, except as provided below, that no familial relationship exists between the owner(s) or any employees of the Proposer and any HCMA official or HCMA employee.

List and describe any familial relationships:

None

Disclosure of Substantial Interest in Business

The Proposer hereby represents and warrants, except as provided below, that no HCMA official or HCMA employee or their immediate family has any substantial interest in the Proposer's business.

List and describe any substantial interest held by a HCMA official, City employee, or their immediate family in Proposer's business:

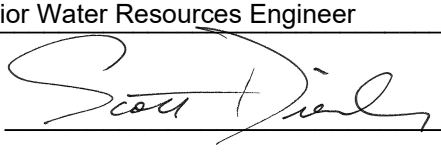
None

I certify and swear that to the best of my knowledge, information and belief the above information is true, accurate, and complete.

Company: GEI Consultants of Michigan, P.C.

Name Printed: Scott Dierks

Title: Senior Water Resources Engineer

Signature: 

Date: May 28, 2019

Appendix A – Representative Projects

PROJECT

Sandusky Delta Restoration Project - Muddy Creek Bay

Location: Sandusky County, Ohio
Client: The Nature Conservancy

Service Dates

Start: 2018

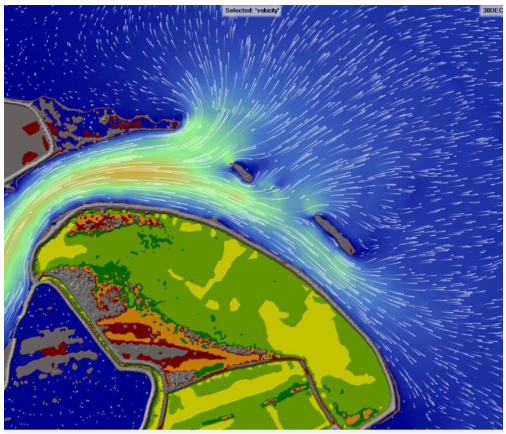
Completed: Ongoing

Fees

- GEI Fee: $209,620

Key Elements

- Site investigation and analysis
- Hydrologic and hydraulic modeling
- Conceptual design
- Stakeholder coordination



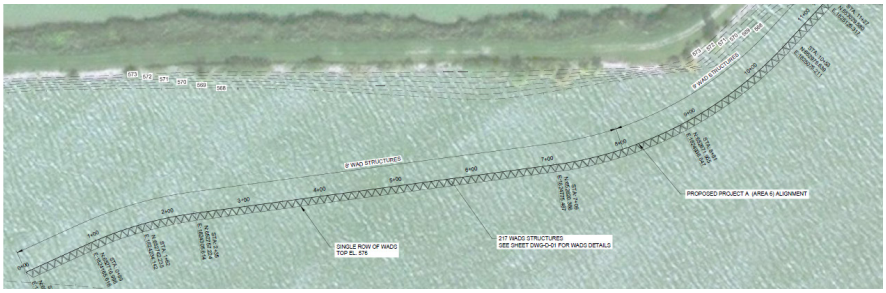
Muddy Creek Bay is a smaller estuary within Sandusky Bay, connecting the Sandusky River to Lake Erie. The bay has experienced extensive loss of wetlands and resulting impairment to ecological functions. GEI led a team to collect bathymetry, sediment and vegetative cover data in Muddy Creek Bay, and to develop preliminary designs for bay restoration.

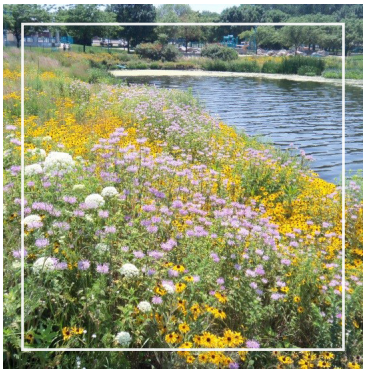
The normal hydrodynamic and sediment transport regimes in Sandusky Bay from outer Sandusky Bay to inner Muddy Creek Bay, have been significantly altered by human activities. These alterations have impaired the ecological functions and structure that depend on these natural physical processes, causing significant harm to the overall bay ecosystem. The intent of this project is to begin to repair and/or restore historic processes to help re-establish the natural hydrologic and sediment transport processes and begin restoring the bay ecosystem.

GEI led a team in collecting bathymetric survey data, sub-bottom profiling, acoustic Doppler current profiling, vibracore sediment sampling, and ecological assessments in Muddy Creek Bay.

GEI then developed a 2-dimensional hydrodynamic model of existing conditions in Muddy Creek Bay based on the bathymetry survey data, USGS gage data for Sandusky River, and current and historic water level, wind and wave data for Lake Erie. The model simulates water depths and velocities throughout the bay based on flow in the Sandusky River and water level in Lake Erie. GEI used the model to test design scenarios for wetland protection structures.

Design concepts for Muddy Creek Bay include building wetlands in protected (diked) areas, and/or using submerged detached breakwaters to reduce wave action near restoration sites. GEI is using the results of data collection and modeling to design systems to act as buffers, redirect flows, or provide wave protection as temporary or permanent solutions to re-establish wetlands in the bay. This work is now being used to attract funding to implement the designs.





PROJECT

Muskegon Lake Area of Concern (AOC) Restoration

Location: Muskegon County, Michigan
Client: West Michigan Shoreline Regional Development Commission

Service Dates

Start: 2009

Completion: Ongoing

Fees

- GEI Fee: $1,300,000+

Key Elements

- Fish and wildlife habitat restoration
- Shoreline stabilization design
- Hydrologic reconnection
- Contaminated sediments
- Stakeholder coordination
- Engineered design
- Construction design plan and specification development
- Construction management and oversight
- Invasive species control
- Native plant relocation

GEI has provided engineered design, restoration management planning, construction management and grant administration support services on multiple Muskegon Lake Area of Concern (AOC) habitat and shoreline restoration sites.

Muskegon Lake was designated a United States Environmental Protection Agency (EPA) Area of Concern in 1987 because of water quality and habitat impairments associated with the historical discharge of pollutants into the AOC, and the potential adverse effect the pollutants could have on Lake Michigan. As part of GEI's role in shoreline, wetland, and habitat restoration, our project engineers and restoration ecologists have worked closely with a variety of private and public stakeholders including the National Oceanic and Atmospheric Administration, the Great Lakes Commission, the Muskegon Lake Watershed Partnership, Grand Valley State University, and the West Michigan Shoreline Regional Development Commission, to design and implement numerous restoration projects along the lakeshore.

A variety of ecological solutions have been integrated on the restoration sites including hardened shoreline and fill removal, bioengineering integration, native plant installation, vegetative buffer establishment, fish and wildlife habitat structure installation, invasive species control, marine debris removal, hydrologic reconnection, passive recreation access point creation, and educational outreach. Each design has been accompanied by detailed restoration management plans that identify current and anticipated vegetation, along with well-defined goals and management strategies. GEI has worked with a variety of stakeholders to gather input into these management plans, and then conducted workshops to teach local stakeholders, volunteers, and professionals the necessary ecological restoration tools to manage the sites after initial restoration has occurred.

GEI's efforts have resulted in approximately 13,000 linear feet of shoreline restoration, 100 acres of wetland creation, 18 acres of open water restoration, and invasive species survey and control of approximately 150 acres. This work has occurred through approximately 20 individual projects, several of which are highlighted below.

- ***Bear Creek Wetland Restoration and Hydrologic Reconnection*** - GEI developed plans to dredge approximately 150,000 cubic yards of soil to restore and reconnect 26 acres of wetland to Bear Creek and Bear Lake, which connect with Muskegon Lake and Lake Michigan.
- ***Lower Muskegon River*** - GEI developed plans to do hydrologically reconnect and restore approximately 55 acres of Great Lakes Coastal wetland to the Muskegon River.
- ***Veterans Memorial Park*** - GEI developed ecological restoration plans to hydrologically reconnect a 10 acre pond to the Muskegon River. The project included dredging, installation of habitat structures, and installation of approximately 50,000 native plants to create a native buffer along nearly one mile of shoreline at a public park.
- ***Michigan Steel/Center Pointe Bay Marina*** - GEI developed restoration plans to soften and restore approximately 3,600 linear feet of shoreline, along with associated wetlands and uplands.
- ***Ruddiman Creek Mouth and GL&V Marine Debris Removal*** - GEI developed plans to remove marine debris from approximately 13 acres of Muskegon Lake to restore the benthic community.
- ***Invasive Species Control*** - GEI mapped and treated over 150 acres of invasive plants species, including Phragmites, purple loosestrife, spotted knapweed, and black locust. In conjunction with control efforts, GEI conducted numerous training sessions on invasive species mapping and treatment with landowners and stakeholders.
- ***Ruddiman Creek Mouth and Amoco Peninsula*** - GEI developed restoration plans to soften and restore approximately 2,400 linear feet of shoreline and remove 2 acres of historic foundry fill from Muskegon Lake.

PROJECT

Brent Run Landfill - Stream, Wetland, Floodplain Mitigation Design, Permitting and Ecological Restoration

Location: Genesee County, Michigan
Client: Waste Connections Inc.

GEI staff spent six years developing a stream relocation and securing permits in order to accommodate the expansion of an existing landfill in Montrose, Michigan. The project resulted in the relocation of 4,000 linear feet of Brent Run Creek and creation of approximately 26 acres of wetlands.

Service Dates

Start: 2009

Completion: Ongoing

Fees

- GEI Fee: $500,000+

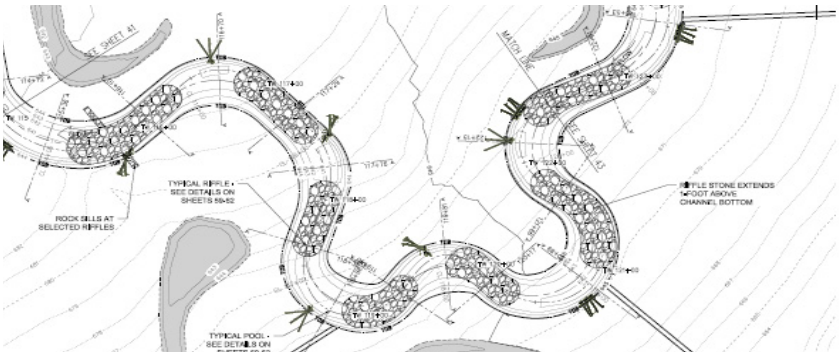
Key Elements

- Fish and wildlife habitat restoration
- Shoreline stabilization design
- Hydrologic reconnection
- Stakeholder coordination
- Engineered design
- Construction design plan and specification development
- Construction management and oversight
- Native planting and seeding
- Erosion control installation

The GEI team was hired to survey, design, permit, and construct a 4,000 linear foot stream relocation and 26 acre wetland construction to accommodate the expansion of the Brent Run Landfill in Montrose, Michigan. The mitigation design began with a natural resource assessment of approximately 300 acres of land and nearly 2 miles of stream and required extensive coordination between state and federal agencies. Wetlands, floodplains, and stream resources were delineated and assessed, including bat trees, endangered species, macroinvertebrates, mussels, fish, bed sediment, hydrology, hydraulics, and sediment transport. This project is the largest stream relocation that has been permitted in the State of Michigan.

GEI staff prepared a permit application that minimizes and mitigates for wetland impacts but also improves existing stream resources; the application was submitted for the construction of 4,000 linear feet of new stream channel and approximately 26 acres of wetland mitigation for permitting the expansion of the landfill.

GEI oversaw floodplain and channel grading of over 1.6 million cubic yards of soil while installing riffle habitat structures and relocating mussels from the abandoned stream channel. GEI is also responsible for the installation of native seed, erosion control measures, and 15,000 trees.



Appendix B – Key Staff Resumes

Scott Dierks, P.E.
Hydrologist and Ecological Engineer

Scott Dierks, PE is a civil engineer, hydrologist and ecological engineer. He has spent the last twenty plus years trying to apply the lessons of natural systems to urban and landscape design. This work includes hydrologic, water quality and sediment transport monitoring and modeling. The monitoring and modeling has been used to inform, test and refine stormwater, wastewater and stream planning and restoration projects. His design work has included treatment wetlands for sanitary and leachate wastewaters; urban and rural BMPs, and large-scale stream, wetland and shoreline restoration. His work has required close interaction with the agencies including the MDEQ, MDNR, USFWS, USEPA, USGS, FEMA and USACE.

EDUCATION
MSE, Environmental Engineering, University of Florida, 1997
B.S., Civil Engineering, University of Rhode Island, 1992
B.A., Psychology, Colgate University, 1985

EXPERIENCE IN THE INDUSTRY
22 Years

EXPERIENCE WITH GEI
>4 year

REGISTRATIONS AND LICENSES
Professional Engineer, Michigan

CERTIFICATIONS
Certified Technical Service Provider (TSP) Wetlands (Interdisciplinary) Engineering Components, number TSP-06-5399

MEMBERSHIPS
Lake Norcentra Planning Committee – Assisting Rochester College with planning work to develop conceptual master plan around Lake Norcentra

Technical Oversight and Advisory Committee on Stormwater, Ann Arbor, Michigan – Member

US Green Building Council – Member

River Raisin Institute, Monroe, Michigan – Board Member

Huron River Impoundment Management Plan Committee, Ann Arbor, Michigan – Member

Stormwater, Michigan State University, Center for Water Sciences, East Lansing, Michigan – Water Fellow

PROJECT EXPERIENCE

Restoration of the Sandusky River Delta, The Nature Conservancy, Sandusky, Ohio.
Project Manager for planning and conceptual design of delta restoration measures in Muddy Creek Bay, a ~4 sq.mi. lacustuary on Lake Erie and receiving water for the Sandusky River and its 1,830 sq.mi watershed. Single and double beam sonar was used to map bathymetry of the bay and associated sediment depths. Borings, ADCP velocity measurements, new USACE, USGS, NOAA and FEMA data and upland survey were collected. Loss of the delta and accompanying wetlands was attributed to change of the watershed's land cover, increased runoff and fine sediment loss, drainage controls, shoreline hardening, limiting of landward wetland expansion, and loss of coarse bed load due to dams. Design addresses base issues with approximately $10M in wave attenuation devices, detached barriers, and dike additions. All the projects were evaluated in terms of their impact on whole bay hydrodynamics and sediment transport using a validated 2-dimensional HEC-RAS model of the bay. Wave impacts were evaluated using FEMA's RUNUP model.

Brent Run Landfill Stream, Wetland and Floodplain Mitigation Waste Connections, Inc., Montrose, MI. Project Manager responsible for development of a stream, wetland and floodplain mitigation design for a major landfill expansion in Montrose, Michigan. The project included detailed assessment of approximately 300 acres of land and over two miles of stream channel on property owned by the Brent Run Landfill, a Type II sanitary landfill. The site assessments included hydrologic and sediment transport monitoring and modeling, pebble counts, Rosgen/RiverMorph fluvial geomorphologic analysis and longitudinal and cross-section surveys, wetland delineation, threatened and endangered species assessments, woodland surveys, and fish and macroinvertebrate surveys. The project secured the first-of-its kind Michigan permit for a mile of stream relocation, 23 acres of forested wetland mitigation and the creation of 19 ac-ft of additional floodplain storage. Approximately 2 MCY of material was excavated from the project area and re-used in landfill cell construction. Construction was completed Fall 2015. Post-construction monitoring will continue through 2025.. As project manager, responsible for all aspects of the stream restoration design and permitting.

River Raisin Dam Removal and Remediation, Michigan Department of Environmental Quality and the City of Monroe, Western Lake Erie Basin, MI. Project Manager for engineering and construction oversight of a two-phase project to restore fish and canoe/kayak passage from Lake Erie up the lower 23 miles of the River

Raisin for the first time in over 80 years. Responsibilities also included leading the grant application preparation process to secure $3.3 million in Great Lakes Restoration Initiative (GLRI) grant funding for both phases. Project work included hydrologic/hydraulic modeling, fish, macroinvertebrate and mussel sampling, rock ramp/rock arch ramp, dam removal and auxiliary fish passage design, permitting and construction oversight. Phase 1 was completed Fall 2012. Phase 2 was completed September, 2014. Scott was the project manager for all aspects of these projects, including design, permitting and the grant application process.

Lower Muskegon River Reconnection, Muskegon, MI, West Michigan Shoreline Regional Development Commission. Engineering Manager, responsible for hydrologic monitoring, modeling, restoration design and permitting assistance. When complete this project will return approximately 40-acres of farmland into a mosaic of submergent, emergent, scrub-shrub, and forested wetland. The project includes a cut of approximately 102,000-CY, much of it to remove phosphorus laden sediment upstream of Muskgeon Lake and Lake Michigan. The project includes berm removal and establishment of a new distributary channel into the reconnected wetland. The hydrodynamics of the Lower Muskegon River and the new hydrologic connection was simulated in two-dimensions with HEC-RAS to evaluate water depths, velocities, and shear stresses for a wide variety of simulated flows and Lake Michigan lake levels. Construction is planned for 2019.

Shiatown Dam Removal., **Owosso, MI. Friends of the Shiawassee River.** Project Manager responsible for leading dam removal and stream restoration design, permitting and construction oversight. The project entails design and permitting for removal of the Shiatown Dam. The gates for the dam were removed in 2012, and legacy sediment behind the dam was left in place eventually reverting to wetlands. GEI worked extensively with MDEQ to develop a design that met local stakeholder goals, grant budgets and new MDEQ design constraints, particularly for the disposition of the newly formed wetlands on the dam's legacy sediments. GEI also assisted with multiple grant applications for both dam removals. Shiatown Dam removal is planned for 2019.

Corunna Dam Removal, Shiawassee River; City of Corunna, MI. Project Manager responsible for all aspects of dam removal design, permitting and construction oversight. Following project initiation, GEI was able to help the City of Corunna also secure MI DNR Trust Funds to add a boardwalk, overlook, kayak and canoe launch and trail connection to final design. Because impoundment sediment sampling found fine sediment pollutant exceedances for human exposure around fringe areas of sediment to be exposed following drawdown, GEI worked closely with MDEQ to develop a plan to manage that sediment in-place with a form of conservation easement. Final design includes 200-LF of toewood, engineered bank, J-hook and constructed riffle, along with the boardwalk, overlook and new parking lot. Construction is due to start in 2019.

North Branch Clinton River, DTE Energy Company, Ray, Michigan. Led development of a stream relocation plan on the North Branch of the Clinton River. One of DTE's live 30-inch natural gas pipelines had become completely exposed and was left hanging for over 100-LF in the river. After an extensive alternatives analysis and conferring with the agencies, the project team opted to "put back" the river to its former meander plan form. This necessitated moving approximately 650-LF of the river, mitigating for 0.25 acres of wetland and recreating the meander bend so the pipe crossed at a hardened riffle. Work also included removal of a low head dam, filling a cut-off channel and creation of an oxbow wetland. Natural channel design included reference reach selection, consultation of regional curves, and hydrologic and hydraulic and sediment transport modeling.

Upper Macatawa River Restoration, Ottawa County Parks and Recreation Department, Ottawa County, MI. As Project Engineer, led the hydraulic and water quality modeling and design for re-meandering the Upper Macatawa River creating a 1,500-ft auxiliary channel to re-direct high river flows to a series of created riparian wetlands. Assisted the Ottawa County Parks and Recreation Commission by developing a conceptual plan for revitalization and restoration of approximately 500 acres along the Macatawa River. Also managed final design and preparation of wetland restoration drawings, permit applications, and planting plans on a 188-acre county park along the river. Provided construction inspections and installed approximately 50 acres of native seed throughout the wetland complex. Award also included Phase II of the project, which consisted of developing plans and specifications for excavation and re-contouring areas of the site, increasing flood storage capacity, and creating or improving more than 45 acres of aquatic and wildlife habitat and wetland species diversity. Phase II plans also included re-routing and meandering 1,511 feet of the Macatawa River.

Jeffrey W. Bridgland
Ecologist

Jeffrey Bridgland is an Ecologist and Ecological Team Leader in GEI's Plymouth (MI) office, specializing in a wide variety of ecological services. He brings more than 20 years of experience, including management of comprehensive ecological projects for government, energy, and commercial clients as well as private citizens. Mr. Bridgland has managed hundreds of ecological projects, including those involving wetland delineation and permitting, wetland mitigation monitoring and management, floristic quality assessment, threatened/endangered species survey, natural features inventory, native seeding/planting, tree survey, land use mapping, land stewardship and restoration, and property feasibility studies. Mr. Bridgland also has extensive experience in designing and executing long-term habitat management plans and has a strong knowledge of Midwestern wetland and terrestrial flora.

EDUCATION
B.S., Natural Resource Development, Michigan State University

EXPERIENCE IN THE INDUSTRY
21 years

EXPERIENCE WITH GEI
Less than one year

REGISTRATIONS/CERTIFICATIONS
Professional Wetland Scientist, No. 1810, Society of Wetland Scientists (2007 – Present)
Endangered Species Certification, No. 1706, Michigan DNR (2005 – Present)
Certified Arborist, MI No. 3937A, International Society of Arboriculture (ISA) (2007—Present)
Certified Pesticide Applicator, No. C006080351, MI Dept of Agriculture (2008 – present)
S-130/190, S-290 Basic Wildland Firefighting Training, National Wildlife Coordinating Group (2014)
Certified Stormwater Operator, No. C13861, MDEQ, (2007 – Present)
OSHA HAZWOPER 40-Hour Certification (1996-2012)

PREVIOUS PROJECT EXPERIENCE

Wetland Consultant, Bloomfield Township, Oakland County, MI. Served as the Wetland Consultant for Bloomfield Township for eight (8) years. Responsible for reviewing development plans, reviewing wetland boundaries and other natural resources, developing restoration/mitigation plans, presenting at public meetings, and ultimately providing regulatory guidance and recommendations for Planning Commission approval.

MDOT Wetland Restoration, Various Locations, MI. Served as Lead Ecologist to restore ten (10) MDOT mitigation wetlands through management of invasive species and subsequent replanting. Chemically treated over 4,000 combined acres of invasive reed canary grass and Phragmites using ATV's, Argo's, and/or backpack sprayers. All sites responded well to treatment and had re-established with native species. Restoration activities included hand-installation of over 75,000 bare-root native trees and shrubs on most of these sites.

USFWS Refuge Gateway Coastal Wetland Restoration, Trenton, Wayne County, MI. Ecologist for project involving restoration of degraded shoreline along the Detroit River International Wildlife Refuge in Trenton, MI. Responsible for permitting, construction oversight of a 3-acre coastal wetland, restoration of 1,200 linear feet of bioengineered shoreline, seeding of a new 20-acre prairie, and wetland restoration activities such as invasive species control and native seeding/planting.

Wetland Restoration and Construction, Cleveland Metroparks, Cuyahoga County, OH. Conducted wetland restoration activities within natural areas owned by the Cleveland Metroparks. Activities included planting and seeding of wetland and upland areas, invasive species control, installation of wildlife habitat structures, streambank erosion control, reforestation, and maintenance of greenbelts.

Wetland Inventory, Summit County Metroparks, Summit County, OH. Served as field biologist for a study to identify and evaluate wetlands within the Summit County Metroparks system in Summit County, Ohio. This analysis was undertaken identify high quality wetlands and to assess the level of preservation necessary to establish acquisition goals for other properties within the County. Other aspects of the project included determination of land use patterns, aerial photo interpretation, categorization of wetland quality, and field verification of all high-quality wetlands within the Summit County Metroparks.

Greenspace Stewardship Project, City of Rochester Hills, Oakland County, MI. Served as Project Manager responsible for conducting baseline assessments of six greenspace properties and the Clinton River riparian corridor in Rochester Hills, and later developed and implemented a long-term management plan to enhance the qualities of each area while promoting public outreach and educational opportunities. Specific duties included invasive species management, wetland enhancement, prairie restoration, habitat mapping, trail creation, sedimentation control, and native seeding/planting.

Waste Water Treatment Plant Monitoring and Management, Confidential Client, Oakland County, MI. Served as Project Manager involving a dewatering project that had the potential to indirectly impact adjacent high-quality wetland habitat. Responsible for conducting baseline evaluation of habitat types, Floristic Quality Assessment, groundwater assessments, herpetological surveys, negotiating permit conditions with Michigan Department of Environmental Quality (MDEQ), and designing and implementing a Monitoring and Management Plan to meet criteria and performance standards set forth in the MDEQ permit.

Wetland Mitigation Monitoring and Management, Various Sites, MI. Lead Ecologist responsible for performing wetland mitigation monitoring and management services for numerous wetlands annually, according to MDEQ standards. The mitigation wetlands ranged in size from one acre to over 150 acres. Monitoring was conducted annually at each site, consisting of a Floristic Quality Assessment, vegetative plot sampling, hydrologic evaluations, erosion control inspections, and wildlife surveys. As each wetland is monitored, corrective actions such as invasive species control, slope stabilization, or supplemental seeding/planting is identified and performed to ensure MDEQ compliance.

Wetland Mitigation Assessment, Various Watersheds and EcoRegions, MI. Provided ongoing services to public and private entities involving comprehensive searches for land suitable for wetland mitigation within various watersheds and ecoregions throughout Michigan. Online searches were initially conducted utilizing GIS to detect appropriate site characteristics, whereupon GIS base maps were developed by overlaying pertinent digital data such as soil types, topography, sources of hydrology, and restoration potential. Properties were preliminarily identified as potential mitigation sites based on several factors, and later field evaluated until a suitable property was identified.

Grow Zone Restoration – Wayne County Public Works, Wayne County, MI. Project Manager responsible for assessing existing conditions of 20 selected Wayne County Grow Zone sites along the Rouge River for potential restoration activities to be completed as part of a Great Lakes Restoration Initiative (GLRI) grant, with the intent of restoring green space within the Upper, Lower, and Middle Branches of the Rouge River Area of Concern. The assessment focused on identifying the presence and extent of invasive species at each site, and the recommended treatment for their control. Each Grow Zone site was characterized according to its habitat type, significance, and vegetative quality as it related to the remainder of the parkland, immediate surrounding area, the watershed, and the County as a whole. Once the Grow Zone sites were evaluated and prioritized, a long-term management plan was developed, and restoration activities were conducted through herbicide applications, mowings, and/or prescribed burns. Restored over 30 acres of degraded riparian habitat.

Wetland Inventory and Functional Assessment, Bloomfield Township, Oakland County, MI. Bloomfield Township had received a grant from the Rouge River National Wet Weather Demonstration Project to develop a comprehensive Wetland Inventory that identifies, categorizes, and assess all wetlands and surface waters within the Township. The goal of the inventory was not only to identify and characterize the Township's 1,400 acres of existing wetlands, lakes, ponds, and watercourses, but also to provide a baseline data set to be used for future land use planning. The Wetland Inventory was designed as a GIS-based tool that could be used by Township Planning, Engineering, Environmental, and Building Departments on a daily basis to evaluate projects and potential impacts to the Township's remaining natural resources. Served as Ecologist responsible for identifying and assessing over 250 wetlands utilizing the Michigan Rapid Assessment Method (MiRAM), developed by the MDEQ, which qualitatively evaluates the functions and values of a given wetland.

Brian R. Majka
Senior Professional

Brian Majka is a professional restoration ecologist with extensive experience in business management and development, project oversight, design and implementation of wetland construction, soft shoreline engineering, prairie planting, natural areas management and best management practice (BMP) design projects with more than 19 years of experience throughout the country, primarily focusing on Great Lakes restoration. Brian has a B.S. in Natural Resources and Environmental Science from Purdue University and is responsible for project management of ecological restoration design and implementation projects for GEI. Brian also actively gives presentations on various ecological restoration-oriented topics throughout the country.

EDUCATION
B.S., Natural Resources and Environmental Science (NRES), Purdue University

EXPERIENCE IN THE INDUSTRY
19 years

EXPERIENCE WITH GEI
4 year(s)

CERTIFICATIONS
OSHA 40-Hour HAZWOPER
OSHA 10-Hour Construction Safety
Michigan Commercial Pesticide Applicator's License (Category 5/6)
National Wildfire Coordinating Council (NWCG) S-130/S-190/I-100
Commercial Pilot's License, Small Unmanned Aircraft Systems (SUAS)
SER Certified Ecological Restoration Practitioner (CERP) #0086
State of Michigan Certified Stormwater Operator

PROFESSIONAL ASSOCIATIONS
Michigan Invasive Plant Council, Vice Chair 2009-2017
Michigan Natural Shoreline Partnership, Vice Chair 2014-2017
Purdue University NRES Alumni Advisory Committee, Member
Grand Valley State University Natural Resources Management Program Advisory Council
West Michigan Conservation Network Steering Committee Member

PROJECT EXPERIENCE

Muskegon Lake Area of Concern (AOC) Restoration Design and Construction Management, MI. Was contracted to design and implement wetland restoration and shoreline softening measures for 18 separate locations within the Muskegon Lake Area of Concern (AOC). This restoration will contribute to delisting the fish and wildlife habitat beneficial use impairment for the AOC. The goals of the restoration project involved the removal of fill, debris, and hardened concrete shoreline, and the integration of bioengineered solutions to soften shorelines and enhance fish and wildlife habitat. Shoreline softening and habitat enhancement measures included the integration of native plants, unmowed buffer strips, biodegradable erosion control fabric, coir lift systems, pre-vegetated coir pillows, coir log wave diffusers, tree trunks, and root ball structures. As part of this contract, was responsible for site condition analysis, wave energy and hydrologic review, vegetation surveys, local stakeholder coordination, permit acquisition, bid package and restoration plan set development, contractor review and selection, construction oversight, construction management, and long-term management plan development. These restoration efforts have led to over 23,000 linear feet of shoreline restoration, 80 acres of wetland creation, and over 80 acres of benthic restoration through marine debris, fill, and sediment removal. Principal and overall point of contact for this wetland restoration design and shoreline softening for 18 sites.

State of Vermont Bioengineering. Multiple Locations, VT. Was contracted to assist the State of Vermont with design and construction oversight of three bioengineering projects on Lake Iroquois, Lake Bomoseen, and Island Pond. The projects collectively used native plants, coir logs, and bioengineered lifts to stabilize approximately 500' of shoreline across the three sites. Following design, Brian led construction efforts in the field using local contractors and volunteers.

Kalamazoo River Restoration, MI. Contracted to implement the upland and stream habitat restoration plans for this remediation project. Installed erosion control measures and native plant seed, trees, and shrubs in order to restore the banks of the Kalamazoo River to a natural state after contaminated sediments were removed. The project encompasses two separate half mile stretches of the river. Project Manager for implementing the upland and stream habitat restoration plans for this remediation project. Tasks included finish grading, stabilized and seeded the disturbed areas and river bank stabilization.

Beaver Island Invasive Plant Surveys. Charlevoix, MI. Working jointly with the Antrim Conservation District (ACD)and The Nature Conservancy (TNC), Brian was project manager for a survey of invasive plants on approximately 43 miles of shoreline on Beaver Island in Lake Michigan. Crews surveyed a total of 996 acres of coastal wetlands and parabolic dunes along the shoreline for invasive plant species. Following surveys, GEI, ACD, and TNC prioritized areas for treatment and directed GEI restoration staff to implement control measures in high quality areas of the shorelines and dunes.

Indiana DOT, State Road 3 Wetland Mitigation, IN. Provided all phases of design and construction for 110 acres of wetland mitigation and 27 acres of upland buffers. Located potential wetland sites and evaluated surface and subsurface hydrology, soils, and topography. Following construction, the company provided and installed native plants and seed mixes in the wetland and upland areas and continued to monitor development for five years. Project Assistant performed construction observation and GPS surveys of 160 acres of total mitigation. Responsible for planting, seeding, and natural resource management of wetlands, woodlands, and prairie at the sites.

St. Clair River Shoreline Softening, Department of Homeland Security, Michigan. Was contracted to provide design services, obtain permits, and implement a shoreline softening project on the St. Clair River at Algonac State Park. Rock gabions were replaced with bioengineering and native plant materials along 1,000 feet of the riverbank. Locally collected and transplanted plant material from Algonac State Park was used in this project. Project Manager responsible for designing and overseeing construction of shoreline restoration work performed for the Department of Homeland Security on the St. Clair River.

Wayne County Refuge Gateway - Detroit River International Wildlife Refuge, U.S. Fish and Wildlife Service, Trenton, MI. Lead restoration ecologist responsible for completing the design drawings, engineering, bid package development, and construction oversight for a coastal wetland and shoreline restoration project on the Detroit River International Wildlife Refuge - Wayne County Refuge Gateway and Humbug Marsh Unit sites. Overall goals of the project included the restoration of coastal wetland habitat and the creation of a first-class coastal wetlands educational experience for the region's 6 million residents to develop the next generation of conservation stewards. The 3 objectives of the project included restoration of 8 acres of shallow emergent marsh, 7 acres of submergent marsh, and 27 acres of forested and prairie upland buffer. Brownfield property characteristics, high densities of invasive species, and a volatile Detroit River created challenges to restoration plan development. Regulatory agency coordination and preparation of a NEPA Environmental Assessment were integral components of the project.

Beaver, High and Garden Islands, MI. Worked jointly with Michigan DNR and local township officials to reduce populations of common reed along the shorelines of Beaver, High, and Garden Islands, located in northern Lake Michigan. Careful, selective herbicide applications to the target species were performed due to the presence of rare, threatened, and endangered species on the islands. Project Manager responsible for assisting with township meetings and was involved in field operations.

Bear Swamp Drain Wetland Mitigation Bank, MI. The Allegan County Drain Commissioner created a 70-acre wetland mitigation bank. Provided and installed approximately 13,000 live stake shrubs and 70 acres of wetland seed. Worked with client to obtain locally harvested seed for use in planting. Project Manager and main point-of-contact for client.

Macatawa River Restoration, MI. Assisted the Ottawa County Parks and Recreation Commission by developing a conceptual plan for revitalization and restoration of approximately 500 acres along the Macatawa River. Also managed final design and preparation of wetland restoration drawings, permit applications, and planting plans on a 188-acre county park along the river. Provided construction inspections and installed approximately 50 acres of native seed throughout the wetland complex. Phase II of the project was also awarded which consisted of developing plans and specifications for excavation and re-contouring areas of the site, increasing flood storage capacity, and creating or improving more than 45 acres of aquatic and wildlife habitat and wetland species diversity. Phase II plans also included re-routing and meandering 1,511 feet of the Macatawa River. Project Manager aided in project management, design, and construction oversight of restoration plan that included wetland creation and stream remeandering.

Todd J. Bowen
Project Manager

Todd Bowen is a project manager for a wide variety of ecological restoration projects with 10 years of experience. Projects include stream and river bank stabilizations, native seeding and plantings, shoreline and wetland restorations, restoration designs, construction oversight, and invasive species control projects. Todd has worked on all phases of these projects from estimating to project management to field work which gives Todd an in-depth understanding of the effort that goes into each project and what it takes to achieve a successful project. Todd is a certified natural shoreline professional through the Michigan Natural Shoreline Partnership and his technical expertise includes ecological restoration techniques, bioengineering practices and implementation, native plant knowledge, data management, equipment operation, and invasive species control techniques.

PROJECT EXPERIENCE

Lower Grand River Phragmites Treatments, Wetland Watch, Grand Haven, MI. Project Manager. Coordinated and managed a multi-year effort to obtain permission, survey, and treat more than 100 acres of invasive phragmites on the lower Grand River, riparian landowners, and associated islands. Survey methods included: drone surveys, boat surveys, and ground-based reconnaissance. Treatment methods included: helicopter application, boat application, ground-based ATV application, backpack application, and hand-wicking.

Northern Michigan Coastal Invasive Species Control, Michigan Department of Natural Resources, 5 Local Counties, MI. Project Manager. The restoration team performed selective herbicide treatments to invasive species along nearly 300 miles of shoreline, using a combination of backpack and ATV-mounted sprayers along with hand-wicking methods.

Beaver Island Invasive Plant Surveys. Charlevoix, MI. Working jointly with the Antrim Conservation District (ACD)and The Nature Conservancy (TNC), Todd assisted the project manager for a survey of invasive plants on approximately 43 miles of shoreline on Beaver Island in Lake Michigan. Crews surveyed a total of 996 acres of coastal wetlands and parabolic dunes along the shoreline for invasive plant species. Following surveys, GEI, ACD, and TNC prioritized areas for treatment and directed GEI restoration staff to implement control measures in high quality areas of the shorelines and dunes.

Pretty Lake Preserve Invasive Species Control, J.A. Woollam Foundation, Mattawan, MI. Project Manager. This multi-year ongoing project consists of ecological monitoring, invasive species surveys and treatments, and ecosystem restoration on nearly 400 acres of forested preserve and conservation easement property. Tasks include botanical inventories, conservation easement monitoring, invasive species surveys, and invasive species treatments.

Multiple Oakland County Parks - Restoration Services, MI. Oakland County Parks hired the company on a multi-year basis to provide consulting and restoration services at various county parks in Oakland County. The company has performed prescribed burning, selective herbicide applications, and woody species control services, as well as assistance with construction of a bioswale. Services were performed at Independence Oaks, Orion Oaks, Lyon Oaks, Waterford Oaks, Addison Oaks, Red Oaks, and Highland Oaks County Parks. Herbaceous invasive species control efforts targeted common reed and pale swallow-wort, while woody species control focused on

EDUCATION
Certificate, Nursery and Landscape Management, Michigan State University

EXPERIENCE IN THE INDUSTRY
10 years

EXPERIENCE WITH GEI
4 years

CERTIFICATIONS
OSHA 40-Hour HAZWOPER
OSHA 8-Hour HAZWOPER Refresher 2018
Chauffeur's License
Certified Soil & Sedimentation Control Inspector
Certified Stormwater Management Operator
Michigan Natural Shoreline Professional
Commercial Pesticide Applicators License
Categories: 2 – Forestry
3B – Ornamental
5 – Aquatic
6 – Right-of-Way
American Heart Association First Aid/CPR/AED

TRAININGS
I-100: Introduction to the Incident Command System
S-130: Wildland Firefighter Training
S-190: Intro to Wildland Fire Behavior
Health and Safety Training Annual
Chainsaw Training

PROFESSIONAL ASSOCIATIONS
Michigan Natural Shoreline Partnership, Member
Stewardship Network, Member
Ottawa Conservation District, Board of Directors

removal of autumn olive, honeysuckle, and glossy buckthorn shrubs. Todd was a field supervisor for this multi-year ecological restoration project.

Ingham County Wetland Reserve Program (WRP), Natural Resources Conservation Service (NRCS), Stockbridge, MI. Project Manager. Todd was responsible for pricing, coordinating, and managing this wetland restoration project. Scope consisted of installing 220,000 trees on approximately 500 acres.

Brent Run Landfill Stream Relocation, Waste Connections, Inc., Montrose, MI. Field supervisor responsible for overseeing soil preparation, seeding, erosion control blanket installation, and planting of 15,000 trees & shrubs along 4,000ft of new stream channel and 23 acres of floodplain wetland. The project secured the first-of-its kind Michigan permit for almost a mile of stream relocation, 23 acres of forested wetland mitigation, and the creation of 19 ac-ft of additional floodplain storage.

Bay City Treatment Wetland Project, Confidential Client, Bay City, MI. Project Manager. Treatment wetland planting project that included installation of 6 acres of native wetland seed, 11,000 aquatic plants, 1,100 trees & shrubs, and associated site maintenance.

Ecological Restoration Project, Confidential Client, Ludington, MI. Project Manager. Ecological restoration project. Installed 35,000 wetland plant plugs, 500 shrubs, and 10 acres of native seeding.

Three Mile Creek Restoration, Hiawatha Sportsman's Club, Engadine, MI. Task Manager. Todd was responsible for pricing, devising an implementation plan, field oversight, and managing a "one of a kind" project. GEI was responsible for removing 200 cubic yards of sediment deposition from a 1,000 foot stretch of Three Mile Creek. This was in response to an earthen dam failure that resulted in sand and sediment depositing within Three Mile Creek and adjacent wetlands. Challenges included removing this large amount of sediment using only hand tools and no excavating equipment due to the remoteness and topography of the site. In addition to sediment removal; restoration tasks included installation of native seed, native shrubs, and erosion control blanket. Project was completed on time and on budget with many new challenges, obstacles to overcome, and lessons learned.

St. Clair River Coastal Wetland Habitat Restoration Project, St. Clair County, Port Huron, MI. Project Manager. Coastal wetland habitat restoration project. Scope included 3 acres of native seeding, installation of 400 trees & shrubs, 3,000 aquatic plugs, and invasive species control along the St. Clair River.

North Hydro Park Bank Stabilization Project, Ypsilanti Township, Ypsilanti, MI. Project Manager. River bank restoration project. Scope included re-constructing a severely eroded riverbank on the Huron River that was imposing on a bike path in a public park. Implementation included installation of 60 root wads, 700 linear feet of live fascines, 700 linear feet of Bio D Block soil lifts, and planting native shrubs.

Lake Victoria Island Shoreline Restoration, Lake Victoria Owners Association, Laingsburg, MI. Project Manager. Todd was responsible for design, sales, implementation, construction, and managing the project which included the repair of 400 feet of failing shorelines on two islands in Lake Victoria. Challenges of construction included mobilizing a mini-excavator along with 80,000 pounds of aggregate material from land to the islands safely, in a timely manner, and on budget in which all three of these goals were met.

St. Clair River Shoreline Softening, Department of Homeland Security, Algonac, MI. Field Supervisor. Todd assisted with design services, obtaining permits, and coordinated field efforts implementing a shoreline softening project. Rock gabions were replaced with bioengineering and native plant materials along 1,000 feet of the riverbank. Soil lifts were installed to soften the shoreline and native shrubs and seed were installed to stabilize the shoreline.

Wetland Mitigation, Gentex Corp., Zeeland, MI. Several hundred tree and shrub plugs were planted in three mitigation wetlands. Tree species and hydric tolerance were considered when choosing the location for each plug, as well as predetermined survey points for biodiversity as established by the company.

Kalamazoo River Dredge Restoration, Terra Contracting, Albion, MI. Todd and four individuals were responsible for planting roughly 20 large trees in a recently restored riverbank. Todd was also involved in the previous seeding and blanketing of the banks and upland construction zone. The majority of trees were a variety of *Quercus spp.* with the exception of three large *Tsunga spp.* Root balls averaged two feet in diameter and were wrapped in burlap and wiring, requiring a combination of a skidsteer and a ball cart for transportation.

Kelly N. Rice, PWS
Senior Project Manager

Kelly Rice, Professional Wetland Scientist (PWS), specializes in large-scale project management as well as wetland assessments and delineations, wetland mitigation and restoration design, wildlife and protected species surveys and habitat assessments, technical report writing and review, and regulatory compliance and permitting. She manages and performs ecological studies on multiple types of projects and properties including energy and transportation linear corridors, large private tracts proposed for development or restoration, and municipal, state, and federal lands. Kelly has worked on natural resource projects across the country, assisting clients in over 20 states with regulatory compliance issues. Kelly has more than 28 years of environmental assessment and consulting experience. Her expertise in project management and technical reporting provide a valuable asset to clients and colleagues alike. She has made numerous presentations on the use of native vegetation in the landscape, habitat restoration, and sustainable development. Kelly has a BS degree with honors in Zoology with an emphasis in Wildlife Ecology from the University of Wisconsin, Madison.

EDUCATION
B.S., Zoology, University of Wisconsin-Madison

EXPERIENCE IN THE INDUSTRY
29 years

EXPERIENCE WITH GEI
5 years

CERTIFICATIONS
Professional Wetland Scientist, No. 1187
MDNR Threatened/Endangered Species Permit No. 029
OSHA 40-Hour HAZWOPER
8 Hour HAZWOPER Refresher
Indiana Department of Transportation National Environmental Policy Act Training
American Heart Association CPR/First Aid
SOLO Wilderness First Aid

TRAININGS
Lambert Consulting Group Project Management Training
U.S. Fish and Wildlife Service Habitat Conservation Planning for Endangered Species
Federal Energy Regulatory Commission Environmental Compliance Seminar and Overview
Wetland Training Institute Planning Hydrology for Constructed Wetlands
Biotic Consultants, Inc. Wetland Plant Identification

PROFESSIONAL ASSOCIATIONS
Association of State Wetland Managers, Member
Grand Rapids Community Sustainability Partnership, Member
Michigan Vernal Pool Partnership, Conservation Committee Member
Michigan Wetlands Association, Member
Ottawa County Parks and Recreation Commissioner
Society for Ecological Restoration, Member
Society of Wetland Scientists, Member
Wild Ones, Member

PROJECT EXPERIENCE

Muskegon Lake Area of Concern (AOC) Restoration Design and Construction Management, West Michigan Shoreline Regional Development Commission, Muskegon, MI. Project Manager responsible for the oversight and completion of a multi-year shoreline and habitat restoration effort. The project scope included design and implementation of wetland restoration and shoreline softening measures across over 20 different sites within the Muskegon Lake Area of Concern including the Grand Trunk boat launch/park, private residence on Edgewater Drive, Muskegon Family YMCA, Center Pointe Bay Marina, Ruddiman Creek shoreline, Ruddiman Park, BP/Amoco facility, Heritage Landing shoreline and Scrap Bay, Michigan Steel, Hartshorn Marina, Lakeshore Bike Trail, Muskegon Lake Nature Preserve, Pointe Marine, Veteran's Park, Bear Creek celery flats, and Lower Muskegon River properties. This restoration will contribute to delisting the fish and wildlife habitat beneficial use impairment for the AOC. The goals of the restoration project involved the removal of fill, debris, and hardened concrete shoreline, and the integration of bioengineered solutions to soften shorelines and enhance fish and wildlife habitat. Shoreline softening and habitat enhancement measures included the integration of native plants, unmowed buffer strips, biodegradable erosion control fabric, coir lift systems, pre-vegetated coir pillows, coir log wave diffusers, tree trunks, and root ball structures. Additional specific tasks included site condition analysis, wave energy and hydrologic review, vegetation surveys, local stakeholder coordination, permit acquisition, bid package and restoration plan set development, contractor review and selection, construction oversight, construction management, invasive species control, and long-term management plan development.

Kalamazoo River and Talmadge Creek Restoration, Confidential Client, Marshall, MI. Project Manager responsible for the oversight of contracting, ecological and restoration activities, and final document preparation for the project. Comprehensive ecological support was provided along Talmadge Creek and the Kalamazoo River

following an oil release incident. Services provided included assessment, design, and implementation of ecological restoration along the waterways, as well as regulatory compliance support. Tasks completed during the course of the project included development of interim and final restoration plans, integration of bioengineering measures along the creek and stream corridor, delineation and assessment of wetland communities and potentially impacted natural areas, completion of construction zone tree surveys, quantitative assessment and qualitative survey of vegetation communities, design and installation of fish and wildlife habitat structures, assessment of aquatic habitats, completion of river and stream geomorphological studies, development and implementation of invasive species control plans and measures, completion of riverbank soil stability and soil erosion assessments, development of technical write ups for various work and operation plans, completion of various environmental permitting tasks, design and implementation of natural stream channel and stream bed reconstruction and stabilization, completion of post-restoration monitoring surveys, coordination on various regulatory and environmental compliance issues, and development and implementation of Natural Resources Damage Assessment (NRDA) study plans and technical support.

Upper Sand Creek Restoration Assessment, Ottawa County Water Resources Commissioner, Ottawa County, MI. Project Manager responsible for the completion of a restoration assessment and 319 grant acquisition for the upper nine miles of Sand Creek. As a designated cold water trout stream in a highly agricultural area, Sand Creek has a TMDL for biota, and the impairment is attributed to excessive sedimentation from non-point sources (NPS) and flashy flow conditions that degrade stream habitat quality and associated biological integrity. The restoration assessment was completed to characterize the hydrology of Sand Creek and identify specific locations for improvements that would improve water quality, bank stability, and in-stream habitat. Identifying on-going impairments to the creek and understanding hydrologic inputs, sediment loading, and capacities in light of stream geomorphology in order to address sedimentation, channel instability, and NPS issues within this upstream portion of the creek, were the logical first steps of the restoration assessment.

Line 6B Multi-Year Ecological and Cultural Resources Survey and Assessment, Merjent and Confidential Client, Multiple Counties, MI and IN. Project Manager responsible for the completion of several years of ecological and cultural resources support services for a linear pipeline rehabilitation and replacement project in Indiana and Michigan. The survey examined approximately 250 miles of linear corridor and multiple separate work space locations. Tasks performed during the multi-year cultural surveys of the segment located in Indiana included review of historic records and archives, field reconnaissance to identify cultural resources along the corridor, assessment of resource significance, artifact analysis, and agency coordination. Tasks performed during multi-year biological surveys in Indiana and Michigan included identification and delineation of wetland boundaries, general assessment of vegetation community quality, completion of floristic inventories, assessment of habitats for potential protected species presence, completion of aerial and ground surveys for raptor and migratory bird nests, identification of potential bat roost and maternity trees, performance of acoustic monitoring for Indiana bats, monitoring of known protected species populations during construction activities, documentation of invasive species populations along the corridor, installation of over 44,000 trees and shrubs across Indiana and Michigan within temporarily impacted wetland areas, and monitoring of over 300 wetlands and 50 streams across the state of Michigan to meet Michigan Department of Environmental Quality permit requirements.

Wayne County Refuge Gateway - Detroit River International Wildlife Refuge, U.S. Fish and Wildlife Service, Trenton, MI. Project Manager responsible for completing the design drawings, engineering, bid package development, and construction oversight for a coastal wetland and shoreline restoration project on the Detroit River International Wildlife Refuge - Wayne County Refuge Gateway and Humbug Marsh Unit sites. Overall goals of the project included the restoration of coastal wetland habitat and the creation of a first-class coastal wetlands educational experience for the region's 6 million residents to develop the next generation of conservation stewards. The 3 objectives of the project included restoration of 8 acres of shallow emergent marsh, 7 acres of submergent marsh, and 27 acres of forested and prairie upland buffer. Brownfield property characteristics, high densities of invasive species, and a volatile Detroit River created challenges to restoration plan development. Regulatory agency coordination and preparation of a NEPA Environmental Assessment were integral components of the project.

Steven M. Rice, CWB
Senior Professional

Steve Rice, CWB, is a Certified Wildlife Biologist with more than 27 years of experience in ecological consulting. His experience includes ecological restoration projects, habitat assessments with a focus on threatened and endangered species inventories, wetland delineation, monitoring and mitigation design, grant coordination, and project management. An experienced ecologist, Steve has worked extensively with regulatory agencies throughout the Southeast and Midwest. He has a Bachelor of Science in Wildlife Management from Michigan State University and a Master of Science in Range and Wildlife Management from Texas A&M University.

EDUCATION
M.S., Range and Wildlife Management, Texas A&M University-Kingsville
B.S., Wildlife Management, Michigan State University

EXPERIENCE IN THE INDUSTRY
27 years

EXPERIENCE WITH GEI
4 year(s)

CERTIFICATIONS
Certified Wildlife Biologist
40-Hr OSHA HAZWOPER
8-Hr OSHA HAZWOPER Refresher Exp. 3/12/2019
NRCS Technical Service Provider
Adult First Aid/CPR/AED Exp. March 2020
Michigan Department of Agriculture and Rural Development – Commercial Pesticide Applicator 12/31/2019

PROFESSIONAL ASSOCIATIONS
Michigan Wetlands Association, Member
Michigan Wetlands Association, Past President
Michigan Water Use Council, Member

PROJECT EXPERIENCE

Kalamazoo River and Talmadge Creek Restoration, Confidential Client, Marshall, MI. Project Assistant on the team that lead ecological restoration on this project since September 2010, Steve has assisted with assessment, design, and implementation of ecological restoration along Talmadge Creek and the Kalamazoo River following an oil release incident near Marshall, Michigan. Tasks completed during the course of the project included development of interim and final restoration plans, integration of bioengineering measures along the creek and stream corridor, delineation and assessment of wetland communities and potentially impacted natural areas, completion of construction zone tree surveys, quantitative assessment and qualitative survey of vegetation communities, design and installation of fish and wildlife habitat structures, assessment of aquatic habitats, completion of river and stream geomorphological studies, development and implementation of invasive species control plans and measures, completion of riverbank soil stability and soil erosion assessments, development of technical write ups for various work and operation plans, completion of various environmental permitting tasks, design and implementation of natural stream channel and stream bed reconstruction and stabilization, coordination on various regulatory and environmental compliance issues, and development and implementation of NRDA study plans and technical support.

Line 6b ROW Wetland Monitoring, Confidential Client, Multiple Counties, MI. Field Biologist responsible for assisting with monitoring wetlands over 165 miles of pipeline corridor in 8 counties throughout southern Michigan. Assisted field crews with monitoring impacted wetlands and stream crossings. Field responsibilities included monitoring vegetation quadrats, botanical inventories for each wetland, stream crossing assessments, recording and managing data, and identifying and documenting problem areas per permit standards.

Muskegon Lake Area of Concern (AOC) Restoration Design and Construction Management, West Michigan Shoreline Regional Development Commission, Muskegon, MI. Senior Professional responsible for assisting with construction oversight of wetland restoration and shoreline softening measures across numerous separate locations within the Muskegon Lake Area of Concern (AOC) including the Grand Trunk boat launch/park, Center Pointe Bay Marina, Heritage Landing shoreline, Veteran's Park, and the Bear Creek celery flats properties. This restoration will contribute to delisting the fish and wildlife habitat beneficial use impairment for the AOC. The goals of the restoration project involved the removal of fill, debris, and hardened concrete shoreline, and the integration of bioengineered solutions to soften shorelines and enhance fish and wildlife habitat. Shoreline softening and habitat enhancement measures included the integration of native plants, unmowed buffer strips, biodegradable erosion control fabric, coir lift systems, pre-vegetated coir pillows, coir log wave diffusers, tree trunks, and root ball structures.

NEPA – Environmental Assessment, Confidential Client, Chippewa and Mackinac Counties, MI. Project Manager assisting with the development of and Environmental Assessment for the U.S. Forest Service for work proposed within the Hiawatha National Forest. Steve is authoring Chapter 2 – Alternatives, Including the Proposed Action. This section of the Environmental Assessment provides a detailed description of the proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on issues raised by the public and agencies as well as design constraints. This section also provides summary tables of the alternatives and the environmental consequences associated with each alternative. Additional services include wetland delineation and field assessments for protected species including but not limited to Hine's emerald dragonfly (*Somatochlora hineana*), Dwarf lake iris (*Iris lacustris*), and Houghton's goldenrod (*Solidago houghtonii*).

American Transmission Company, Wien to McMillan Line, WI. Project Manager responsible for performing a wetland delineation and developed access plans for an 18-mile new transmission line. Steve and his team mapped wetland boundaries with a GPS unit and assisted with location of all structures adjacent to the proposed right-of-way. Habitats assessed included agricultural fields, disturbed areas adjacent to railroad beds and residential development, and a variety of forested and herbaceous wetland systems.

River Raisin Watershed - Wetland Mitigation Bank, Michigan Department of Transportation, Southeastern MI. Principal-in-charge on a wetland mitigation bank for transportation projects within the River Raisin watershed. Steve and his team were contracted to design a 28-acre Michigan DOT forested and scrub-shrub wetland mitigation site. Using the DRAINMOD model, Steve and his team were able to simulate the proposed mitigation wetland design for a 102-year-long historical period to estimate the long-term hydrology of the proposed system. The mitigation wetland was constructed by breaking farm drainage tiles, excavating portions of the site below existing grade, and building a low berm around the site.

Rogers Wetland Mitigation Site, Michigan Department of Transportation, Spring Lake, MI. Project Assistant involved with design of a 6-acre wetland mitigation area with capacity for a 20-acre build out near Spring Lake, Michigan for use as a Michigan DOT mitigation bank. The mitigation site is situated along the Grand River, approximately nine miles upstream of the mouth at Lake Michigan. Steve and his team provided hydrologic modeling of surface water and groundwater interactions, determined expected wetland hydroperiods, completed a wetland delineation of the site, prepared wetland mitigation and construction plans, and developed custom special provisions for the wetland mitigation area.

White River Watershed – Wetland Mitigation Bank, Michigan Department of Transportation, White Cloud, MI. Project Assistant responsible for coordination with primary consultant and project QA/QC for this wetland mitigation project. Steve and his team conducted an evaluation of existing wetlands and designed a predominantly forested wetland mitigation bank to maximize wetland acreage on an approximately 30-acre site. Assisted with development of grading plans, planting plans, and special provisions for the project along Flinton Creek. Tailored wildlife habitat structures to maximize potential wildlife usage of the site. Final plans included creation of approximately 10 acres of groundwater supplied forested wetland with emergent pockets and incorporation of numerous wildlife habitat structures.

Upper Macatawa River Restoration, Ottawa County Parks, Holland, MI. As Project Manager and Principal-in-Charge, Steve developed a conceptual plan for revitalization and restoration involving creation of six different wetland types and wildlife travel corridors. Steve and his team assisted the Ottawa County Parks and Recreation Commission by developing a conceptual plan for revitalization and restoration of approximately 500 acres along the Macatawa River. Steve managed final design and preparation of wetland restoration drawings, permit applications, and planting plans on a 188-acre county park along the river. Steve provided construction inspections and installed approximately 50 acres of native seed throughout the wetland complex. Steve also acted as project manager on Phase II of the project, which consisted of developing plans and specifications for excavation and re-contouring areas of the site, increasing flood storage capacity, and creating or improving more than 45 acres of aquatic and wildlife habitat and wetland species diversity. Phase II plans also included re-routing and meandering 1,511 feet of the Macatawa River.

Connor C. Wojtowicz
Restoration Ecologist

Connor Wojtowicz is a restoration ecologist whose area of expertise includes native/nonnative plant identification, data collection for site management, and technical reporting. He has lead crews in a number of restoration projects ranging from blanketing disturbed wetlands to nonnative plant control for natural areas. His knowledge of soil types and plant ecology also prove useful for field assessments and site evaluations.

EDUCATION
B.S., Natural Resource Management,
Grand Valley State University, Allendale MI

EXPERIENCE IN THE INDUSTRY
6 years

CERTIFICATIONS
OSHA 40 Hour HAZWOPER
CPR/First Aid Certified
Wilderness First Aid Certified
Chauffeur's License
Commercial Applicator's License
Natural Shoreline Professional
Certified Ecological Restoration Practitioner
MDEQ Certified Stormwater Operator
MDNR Boater Education

TRAININGS
Accident Prevention
Chainsaw Safety/Maintenance/Operation with OSHA and ANSI recommended topics
Trailer Loading/Unloading
Securing the Load
Tractor Driving
Fire Safety
UTV-ATV Operation
CPR/First Aid
Wilderness First Aid
Health and Safety
Blood Borne Pathogens
Defensive Driving
Avoiding Rear-End Collisions
Safe Driving Autos, SUVs, and Pickups
Boater Safety
Winter Botany
MWA Wetland Mitigation Monitoring
MWA Wetland Grasses of Southern Michigan
MWA Hydric Soils
Forest Stewardship Plan Writer

PROJECT EXPERIENCE

Ecological Restoration

Brent Run Stream Relocation, Waste Connections Inc., Montrose, MI. Five to eight field staff were in charge of planting over 15,000 wetland trees/shrubs in the form of bareroot stock and one to seven gallon containers. Mr. Wojtowicz used a two-person auger, eight inch auger, and shovels to install plant matter. A four-person crew was also tasked with making and planting 1,500 live stakes cut from willow shrubs. Equipment included rebar and sledge hammers to drive the stakes into the hard clay riverbanks. Throughout the course of the summer, Mr. Wojtowicz and other crew members set up irrigation systems with trash pumps to water the tree stock. The following September, Mr. Wojtowicz and another staff biologist conducted the first year of wetland mitigation monitoring onsite. This included marking both plots and transects with a Trimble GPS unit, selecting representative photo points, determining survivability of stock, and identifying any vegetation growing within the restoration areas.

Wetland Mitigation, Gentex Corp., Zeeland, MI. Several hundred small to midsized tree/shrub plugs were planted in three mitigated wetlands. Tree species and hydric tolerance were taken into account when choosing the location for each plug, as well as predetermined survey points for biodiversity as established by the company. Shovels were used exclusively for actual planting.

Bay City Treatment Wetland, Confidential Client, Bay City, MI. Mr. Wojtowicz was part of a four to six person crew charged with installing wetland plugs, grading slopes, seeding, applying straw, and then foliar treating *Phragmites australis*. Water levels were constantly monitored and adjusted accordingly when adequate cover was not met. Erosion control blanket was also implemented on steeper slopes.

West Cell Retention Basin Restoration, Confidential Client, Mason County, MI. A six-person crew planted thousands of plugs in a recently created wetland on top of a retired retention basin in a calcium chloride production site. The project took place over a series of several weeks, with methods including a power auger in hardened soil and tree bars in inundated areas. Brush-cutters were also implemented in thick vegetation to allow proper sunlight penetration. Species arrangement and placement plans were decided by the crew.

Saint Clair Coast Wetland, Smith Group JJR, Port Huron, MI. This project was completed over several visits using a four to six-person crew, and invasive species treatments were completed on repeat trips throughout the summer. Crews installed ball and burlap as well as potted trees/shrubs within a recently constructed wetland. Native grass plugs were also installed in specific locations designated on the site design map. All trees/shrubs were wrapped and guyed to stakes, and large mulch beds were created around planted material. After all species

were planted, the site was seeded and subsequently rolled and crimped with an ATV. Over the course of the summer, crews returned to provide invasive species treatments and overall site maintenance.

Miller Creek Restoration, Boardman River Nature Center, Traverse City, MI. A four-person crew restored a damaged stream crossing on a right-of-way using a combination of bareroot shrubs, potted plants, native seed, straw, coir logs, willow bundles, and lunker structures. The willows were collected onsite using a canoe and loppers while Mr. Wojtowicz used a backpack provided by the nature center to treat Japanese honeysuckle.

Alcott Street Dam Removal, Taplin Enterprises, Kalamazoo, MI. GEI staff performed all native seeding, planting, and erosion control installation efforts associated with the ecological restoration of the Alcott Street Dam removal project on Portage Creek in Kalamazoo, Michigan. Connor led the crew responsible for the installation of seven acres of native seed, 36,500 square yards of erosion control blanket, four acres of straw mulch, and 2,100 shrub plugs. Throughout this process, he provided comments on engineering specifications and adjusted field protocols to better achieve project goals in coordination with the project construction team. GEI's restoration ecologists also worked closely with on-site contractors to eliminate disturbances of restored areas and prioritize zones by erosion potential.

Environmental Monitoring/Biological Surveys

West Cell Maintenance and Monitoring, Confidential Client, Mason County, MI. Mr. Wojtowicz along with another GEI employee performed monthly monitoring and maintenance on a restored upland ecosystem that contained several wetland cells. They were charged with establishing permanent photo stations, a rain gauge, and 1m² plots, along with creating a form that described current site conditions and signs of animal use. The plots were evaluated once in the summer and once in the fall for species presence and percent cover estimates. Using data collected from these plots, forms, and photo stations, several monitoring reports were written to describe current site conditions, provide insight on the success of the restoration efforts, and make suggestions on future management decisions. Site maintenance included planting wetland shrubs and backpack spraying invasive thistle and phragmites.

Line 6B Wetland Monitoring, Confidential Client, Southeast MI. Mr. Wojtowicz along with five to seven individuals used a combination of 1m² quadrats and site inventory forms to gather data concerning the success of restored wetlands across a recently replaced pipeline. Additional plots were implemented in scrub-shrub and forested wetlands. All plants were identified to the species level and any problem areas were noted. Trimble GPS units were used to mark the center of each quadrat, and representative photos were taken of each quadrat, plot, wetland, and problem area. After all field data was collected and post-processed, Mr. Wojtowicz was involved in writing the Kalamazoo and Southeastern District monitoring reports for the client. The report included evaluating performance standards and making suggestions to ensure the success of each wetland restoration as described in the DEQ permit.

Muddy Creek Bay Assessment, The Nature Conservancy, Sandusky, OH. Connor along with one other GEI biologist navigated Muddy Creek Bay in order to map submerged aquatic vegetation. The intent of this project was to begin to repair and/or restore historic processes to help re-establish the natural hydrologic and sediment transport processes and begin restoring the bay ecosystem. Tasks included boat navigation, data collection on a GPS unit, and completing several Qualitative Habitat Evaluation Index forms in select areas of the bay.

Kalamazoo River Corridor Survey, Assessment, and Management Plan Development, Confidential Client, Calhoun and Kalamazoo Counties. A member of a team of four that performed field assessments of each site, all of which included the delineation of distinct vegetative communities present, completion of floristic inventories and qualitative assessments within each vegetative community, assessment of invasive species percent coverage, and evaluation of wildlife and protected species habitat for potential improvements. Mr. Wojtowicz assisted in writing the final enhancement plans for each site. These plans included specific tasks required to attain desired enhancement goals within each delineated vegetative community.

Thomas A. Clement
Aquatic/Wetland Biologist

Thomas Clement is an aquatic/wetland biologist working out of GEI's Traverse City, MI office. His skills include experimental design; data analysis; project management; grant writing; lake management and fisheries assessment. He has conducted research on inland lakes, streams, rivers and the Great Lakes assessing water quality, habitat availability, wetland health and fisheries health. Mr. Clement has also been the chief operator of an EPA certified environmental water analysis lab at Central Michigan University. Additionally, he has experience in invasive species management specializing in terrestrial plants.

EDUCATION
M.S. Biology, specializing in fisheries ecology, Central Michigan University
B.S., Aquatic and Fisheries Sciences, State University of New York Environmental Science and Forestry, Syracuse

EXPERIENCE IN THE INDUSTRY
10 years

EXPERIENCE WITH GEI
Less than one year

CERTIFICATIONS
USFW/NCTC Electrofishing Safety – CSP2202
40 Hour HAZWOPR
EPA-GLRI Approved Great Lakes Coastal Wetland Protocols and Trainer in:
- GPS and Wetland Delineation
- Fish Field Sampling & Identification
- Water quality
- Macroinvertebrate Field Sampling & Identification

GEI PROJECT EXPERIENCE

Wetland and Stream Assessment, Confidential Client, Barr Engineering, Baraga County, MI. Ecologist responsible for identifying and assessing wetlands and watercourses within project corridor. Primary duties included delineating wetlands using MDEQ/USACE protocols using a sub-meter GPS unit, quantitatively and qualitatively evaluating various stream metrics (bankfull width, average depth, habitat conditions, etc.), and assessing areas within the Project Limits for potential Threatened/Endangered Species and/or its appropriate habitat. Data was collected utilizing portable Survey 123 for ArcGIS software.

PREVIOUS PROJECT EXPERIENCE

Fisheries Assessment of the Inland Lakes of Beaver Island Michigan, CMU, Beaver Island, MI. Served as project lead and expert assessing the fish community of the six perennial lakes on Beaver Island. Assessments were done using multiple gear types and multiple assessment types including size spectra and community analysis.

National Coastal Condition Assessment, as part of the National Aquatic Resources Surveys, EPA, Grand Traverse, MI. Lead biologist for a crew that sampled and assessed over 100 coastal sites of the Great Lakes. Sites were in Lake Superior, Lake Michigan, Lake Huron, Lake St. Claire and the St. Mary's River. Fish, fish tissue, macroinvertebrates, sediment and water samples were all collected following EPA NARS protocols. A portion of the sites were termed "fish only" and were sampled using an electroshocking boat in conjunction with gillnets.

EPA GLRI Great Lakes Coastal Wetland Monitoring, EPA, Mount Pleasant, MI. Served as research scientist and crew leader and project manager for the assessment of Great Lakes coastal wetland health. Work included collection of water, fish, invertebrate and plant samples. All biological samples were identified and water samples were processed for a suite of analytes including micro and macro nutrients. Collected and processed data were then used to create/modify Indexes

of Biotic Integrity (IBI's). Additionally, land use data was gathered and analyzed to create disturbance gradients of all sampled sites. Over 250 wetland sites were sampled during the project. Tom's role as project manager saw coordination, site selection and field visit with 11 other university, state and federal agencies including two Canadian entities. Tom's individual team was responsible for sampling anywhere from 20 to 45 sites each field season within the entire coastline of Michigan.

Reconstructing fish movements between coastal wetlands and near shore habitats of the Great Lakes. Served as boom shocker operator and technical fish expert for sampling Great Lakes Wetland and near shore habitats. Also assessed habitat types and availability including large woody debris and wetland composition. Sample sites also included large river systems on the west coast of Michigan.

Intensification of Great Lakes Coastal Wetland Monitoring, MDEQ, Mount Pleasant, MI. Served as research scientist and crew leader and project liaison for the assessment of Michigan's Great Lakes coastal wetland health. Work included collection of water, fish, invertebrate and plant samples. All samples were then used to assess wetland health using preexisting IBI's.

Fisheries assessment on Cass River above and below low head dam in Frankenmuth, Michigan. Assessed fish community above and below the low head dam using boom shocking. Additionally, assessed habitat including spawning habitat for cool water species. Served as field staff and technical expert for fish community assessment. Partnered with CMU and USFWS.

Assessment of remnant unionid assemblages in a selection of Great lakes Coastal Wetlands. Served as a field staff for the survey, identification and enumeration of native mussels in Great Lakes Coastal Wetlands. Also assessed the density of zebra mussels in the same Coastal Wetlands.

PRESENTATIONS

Uzarski, D.G., T.A. **Clement**, D.H. Schuberg, N.T. Schock, and M.J. Cooper. 2014 A Basin Wide Great Lakes Coastal Wetland Monitoring Program: Metrics to Evaluate Ecosystem Health. 57th International Conference on Great Lakes Research, Hamilton, Ontario.

Clement, T. A., B. A. Murry, and D. G. Uzarski (2012) Fish Biodiversity of the Inland Lakes of Beaver Island. Central Michigan University Biological Station Guest Lecture Series 2012. CMU Biological Station Beaver Island, Michigan.

Clement, T. A., B. A. Murry, and D. G. Uzarski (2012) Size Structure of Small Lake Fish Assemblages: The Role of Lake Size, Biodiversity, and Disturbance. International Association of Great Lakes Research. Cornwall, Ontario

Sherman, J.S., T.A. **Clement**, N.T. Schock, and D.G. Uzarski. (2012) A comparison of abiotic and biotic parameters of diked and adjacent open wetland complexes of the Erie Marsh Preserve. 55th International Conference on Great Lakes Research, Cornwall, Ontario.

PUBLICATIONS

Clement, T. A., B. A. Murry, K. Pangle and D. G. Uzarski (2014) Effectiveness of fishing gears to assess fish assemblage size-structure in small lake ecosystems. Fisheries Management and Ecology 21, 211-219.

Clement, T. A., B. A. Murry and D. G. Uzarski (2015) Fish community size structure of small lakes: the role of lake size, biodiversity and disturbance. Journal of Freshwater Ecology 30, 557-568.

Ryan R. Holem
Senior Professional

Ryan Holem is a project manager highly-experienced in water quality-related issues. Mr. Holem has significant field experience including performing aquatic and terrestrial fish and wildlife surveys (e.g., T & E species, mussels, herpetological) and in the collection of samples (fish, mammals, invertebrates, water, soil/sediment, etc.) for contaminant analysis. He has field and laboratory-based toxicological experience with chlorinated compounds (e.g., dioxins, PCBs), PFAS (e.g., PFOS), metals, and nutrients. Mr. Holem has planned and implemented several large-scale, multi-year field investigations focused on evaluating contaminants in fish, wildlife, and other biota and the attainment of aquatic life uses designated by USEPA or other regulatory bodies. Mr. Holem has authored and collaborated on peer-reviewed literature and has presented to stakeholders such as the USEPA, various state regulators (e.g., MDEQ, MPCA, MDHHS) and the general public.

Mr. Holem is very experienced on methodology and criteria related to fish and wildlife consumption advisories and has significant experience conducting water quality-related field studies in and around mining operations.

EDUCATION
M.S., Toxicology, University of Georgia
B.S., Zoology, Michigan State University

EXPERIENCE IN THE INDUSTRY
14 years

EXPERIENCE WITH GEI
5+ years

CERTIFICATIONS
24-Hour MSHA
40-Hour OSHA HAZWOPER
Adult First Aid/CPR
PADI SCUBA Diver

TRAINING
8-Hour HAZWOPER Refresher
Harassment Prevention Training
Health and Safety Training Annual
Driver Safety Training

PROFESSIONAL ASSOCIATIONS
American Fisheries Society, Member
Society of Environmental Toxicology and Chemistry, Member
International Association for Great Lakes Research, Member
Ducks Unlimited, Member
Trout Unlimited, Member
Michigan Oil and Gas Association, Member

PROJECT EXPERIENCE

Biological Integrity Studies, U.S. Steel Corporation – Minntac Facility, St. Louis County, MN. Project manager, ecologist. Multi-year fish, macroinvertebrate, habitat, and whole effluent toxicity studies of water bodies near Minntac tailings basin in northern MN. This information is being summarized and utilized as part of U.S. Steel's NPDES permit renewal for the Minntac facility (permit MN0057207). The effort has required direct involvement and collaboration with Minnesota Pollution Control Agency staff.

River Raisin and Otter Creek Freshwater Mussel Relocations, MDOT, Monroe County, MI. Project manager, scuba diver, client contact. Conducted freshwater mussel surveys using scuba gear at MDOT bridge project locations. Nearly 900 mussels were found and relocated to suitable areas upstream of the project sites.

Qualitative Fish Surveys, Confidential Client, Midland County, MI. Ecologist, Project Manager. Provided guidance towards the development of boat-based electrofishing methods for qualitative fisheries surveys on a mid-Michigan river. Repeat surveys are expected to be conducted in 2018 and 2019. Also served as captain of electrofishing boat.

Review of USEPA Conductivity Remarks, Multiple Clients, MN. Ecologist, Project Manager. Supported the review of Minnesota Pollution Control Agency (MPCA) and USEPA data related to conductivity and the potential applicability of a conductivity benchmark in the range 300 µS/cm for northeast Minnesota waters. Our findings highlighted issues related to methods utilized in the development of a proposed benchmark. This was a joint effort on behalf of Cliffs Natural Resources, US Steel, and ArcelorMittal.

Water Quality Surveys, Paw Paw Lake, Berrien County MI. Ecologist, lead field efforts to collect water samples and water quality measurements to assess water quality. Investigated and sampled water for algal community evaluation to address concerns related to microcystins and harmful algal blooms.

Water Quality Surveys, Lake Tyrone, Livingston county, MI. Ecologist. conducted water quality monitoring and reporting efforts associated with assessment of aeration system installed by another contractor. Report was submitted to MDEQ as part of MDEQ permit requirements.

Eastern Massasauga Rattlesnake Surveys, Michigan National Guard - Camp Grayling, MI. Conducted rattlesnake surveys at multiple locations on Camp Grayling property. Year 1 of multi-year effort to characterize EMR population.

Grand River Mussel Survey and Habitat Evaluation, Abonmarche, Ottawa County, MI. Ecologist. Assisted with freshwater mussel survey and habitat suitability survey in advance of a potential waterfront expansion project. Mussels were identified and the suitability of habitat for mussels and other aquatic life was documented for permitting considerations.

Litigation Support, Confidential Client, Kalamazoo River Mussel Survey/Relocation, Michigan Department of Transportation, Calhoun County, MI. Ecologist, Project manager. Supported survey and relocation of mussels from the Kalamazoo River at the site of a future bridge replacement project. Over 350 mussels were collected from the area of direct impact, downstream and upstream buffer zones, and relocated to suitable habitat upstream of the project site.

Fish and Wildlife Collection and Relocation, West Michigan Shoreline Regional Development Commission, Muskegon County, MI. Ecologist, report writer. Supported efforts to collect and relocate fish from a pond located in Veterans Memorial Park (Muskegon, MI) in advance of fish and wildlife habitat restoration efforts at the pond. Techniques included the use of fyke nets and seines. Nearly 12,000 fish were captured, identified, and released to the Muskegon River.

Aquatic Surveys, LSG Engineers and Surveyors, Berrien County, MI. Ecologist. Conducted MDEQ's Procedure 51 (P51) survey protocol on a section of the Yore & Stoeffer Drain. The survey was to generate information relative to the fish and macroinvertebrate community present prior to relocation of that section of the drain by the Berrien County Drain Commissioner. Backpack electrofishing, qualitative benthic macroinvertebrate sampling and a habitat survey were conducted.

Brent Run Landfill Mussel, Fish, and Benthic Macroinvertebrate Surveys, Genesee County, MI. Ecologist. Assisted with freshwater mussel survey and relocation efforts associated with stream relocation adjacent to a landfill. Two state-listed mussel species (Slippershell and Ellipse) were found as well as multiple non-listed species. Mussel locations were mapped and mussels relocated into upstream reaches. Also supported implementation of Michigan's Procedure 51 fish, benthic macroinvertebrate, and habitat assessments using backpack electrofishing and standard benthic invertebrate collection and identification techniques.

Kalamazoo River Aquatic Vegetation Surveys, Confidential Client, Calhoun County, MI. Ecologist. Part of team responsible for surveying and mapping aquatic vegetation in the Kalamazoo River from Talmadge Creek through Morrow Lake. August, 2015. Also supported the development of a summary report providing results of the 2015 survey in comparison with previous data collection efforts.

Aquatic Surveys, Leggette, Brashears and Graham, Delaware County, PA. Ecologist. Lead field efforts to assess fish and macroinvertebrate communities in an unnamed tributary to Little Crum Creek in eastern PA following PA biosurvey protocol. Techniques included backpack electrofishing for fish and kick nets for macroinvertebrates. This project was completed in order to satisfy post-construction monitoring requirements for the development of a Wawa, Inc. convenience store.

Sand Creek Restoration Planning, Ottawa County Water Resources Commission, West Olive, MI. Ecologist. Assisted with collection and identification of fish and benthic macroinvertebrates from six Sand Creek locations following state of Michigan biosurvey protocol. Techniques included barge and backpack electrofishing for fish and kick nets and Hester Dendy samplers for macroinvertebrates. Fish and macroinvertebrate habitat assessment was also performed at each location. This project was completed in conjunction with a Stormwater, Asset Management, and Wastewater (SAW) grant.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Ryan J. Colliton, Chief of Natural Resources and Regulatory Compliance
Subject: Report – PFAS Testing on Huron River
Date: June 6, 2019

Action Requested: Motion to Receive and File

That the Board of Commissioners' receive and file the report on PFAS Testing on the Huron River as recommended by Ryan J. Colliton, Chief of Natural Resources and Regulatory Compliance and staff.

Fiscal Impact: None

Background: On April 30, 2019 the Michigan Department of Environment, Great Lakes, and Energy (EGLE) formerly known as the Department of Environmental Quality conducted follow-up sampling on Norton Creek, a known source of PFAS contamination to the Huron River and Kent Lake located in Kensington Metropark. Below is a graph of the current results:

Sample ID	Description	Latitude	Longitude	Date sampled	PFOS (ppt)	PFOA (ppt)	Additional Description
NCW0100	WB NC at E Maple Rd.	42.53542	-83.55863	4/30/2019	ND	ND	(Repeat sample)
NC0010	NC US Huron River	42.57256	-83.57001	4/30/2019	13	2.7[J]	US of confluence with Huron River; DS Wixom WWTP (Repeat sample)
NC0100[R]	NC at E Buno Rd.	42.5527	-83.56223	4/30/2019	13 | 8.7	ND | ND	DS Wixom WWTP(Repeat sample)
NC0400	NC at West Maple Rd.	42.53142	-83.54761	4/30/2019	ND	ND	DS Wixom Assembly; US Wixom WWTP (Repeat sample)
NC0600	NC at Grand River Ave	42.50248	-83.5731	4/30/2019	ND	ND	US Wixom Assembly (Repeat sample)
HR0185	Behind Edgelake Drive	42.45033	-83.83189	4/30/2019	4.4[J]	ND	DS confluence with Horseshoe Creek, US Strawberry Lake
HR0190	HR US Strawberry Lake	42.46031	-83.82491	4/30/2019	6.4[J]	ND	DS Ore Creek, US Horseshoe Creek
HR0240	HR at Wixom Rd	42.57425	-83.5599	4/30/2019	ND	ND	US of confluence with Norton Creek
HR0235	HR at Burns Rd	42.5787	-83.58002	4/30/2019	ND	ND	DS of confluence with Norton Creek

When compared with past sampling efforts these results show a continued improvement regarding declining PFAS levels in surface waters. Results from sampling location NC0010 on Oct. 29, 2018, which is located on Norton Creek upstream of the Huron River were 88 ppt. Results from April 30, 2019 were 13 ppt. Health advisory levels for surface water not used for drinking water are 12 ppt.

Since sources of PFAS have been identified in Norton Creek, it is likely staff will continue to see a continued reduction in surface water levels. Continuing downstream levels of PFAS contamination continue to decrease with values of 6.4 and 4.4 ppt around Strawberry Lake (Livingston County).

The outfall at Willow Run airport was the exception and tested at 92 ppt which may impact properties in the Southern District. No testing data was provided south of Willow Run and staff has reached out to EGLE to determine the plan of action for testing areas south of the airport. Staff also continues to communicate with EGLE on PFAS testing and results and will provide updates to the Board as they are received.

Attachment: Huron River PFAS Status Report

Investigation of Per- and Polyfluoroalkyl Substances (PFAS) in the Huron River Watershed Surface Water Sampling Update May 2019

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), Surface Water Assessment Section (SWAS) conducted surface water sampling in the Huron River watershed in April 2019. This effort was initiated to continue to track potential sources of PFAS in the Huron River watershed. This included new sampling in Horseshoe Creek, more intensive sampling in Willow Run, and follow-up sampling in Pettibone Creek. Follow-up sampling in Norton Creek and the Huron River around Wixom was conducted to evaluate progress in that area. Lastly, samples were collected on the Lake Sherwood outlet and Honey Creek (Washtenaw County) and a Honey Creek tributary to follow-up on foam reports in those areas.

Michigan has developed Rule 57 surface water quality values for the protection of human health for both PFOS and PFOA. The Human Non-Cancer Value (HNV) for PFOS is 12 ng/L (parts per trillion) in surface water not used as a source of drinking water, and 11 ng/L for those waters used as a drinking water source. The HNV for PFOA is 420 ng/L and 12,000 ng/L for drinking and non-drinking water, respectively.

Surface water grab samples and two outfall samples were collected by WRD from the Huron River watershed April 29-30, 2019 (Figure 1). Samples from Willow Run and Honey Creek (Washtenaw County) were collected on April 29, 2019. Samples from Horseshoe Creek, Pettibone Creek, Norton Creek, and the Huron River were collected on April 30, 2019. Samples were collected in accordance with the Michigan Per- and Polyfluoroalkyl Substances (PFAS) Sampling Guidance[1] and MDEQ Surface Water PFAS Sampling Guidance document[2]. QA/QC procedures followed the Michigan Surface Water PFAS Investigation 2018 QAPP[3].

Findings:

- PFOS was detected in samples from 12 sites. Concentrations greater than the detection limit ranged from 3.7 ng/L to 92 ng/L.
- PFOS exceeded the HNV at five sites (Table 1; bold values).
- Samples collected in Horseshoe Creek (Figure 2), Hamburg Lake (Figure 2), and Pettibone Creek (Figure 3) were non-detect for PFOS (Table 1).
- Samples collected from Norton Creek downstream of the Wixom wastewater treatment plant (NC0010 and NC0100) exceeded the HNV (Table 1 and Figure 3) but were lower than previous samples collected in 2018.
- Concentrations of PFOS exceeded the HNV in Willow Run (WR0010 and WRW0100; Table 1 and Figure 4). WR0010 had a similar concentration to a previous sample collected in 2018.
- PFOS in outfall sample WROF002 (on main stem of Willow Run) was 92 ng/L and exceeded the HNV (Table 1).

[1] Michigan Department of Environmental Quality (MDEQ). 2018. General Per- and Polyfluoroalkyl Substances (PFAS) Sampling Guide.

[2] MDEQ. 2018. Michigan Department of Environmental Quality Surface Water PFAS Sampling Guidance.

[3] MDEQ. 2018. Michigan Surface Water Perfluoroalkyl and Polyfluoroalkyl Compound (PFAS) Investigation: Quality Assurance Project Plan (QAPP).

- A follow-up sample from the west branch of Norton Creek (NCW0100) was below the HNV (non-detect for PFOS; Table 1 and Figure 3). In August 2018, the HNV was exceeded at NCW0100 with 80 ng/L PFOS.
- Samples collected in response to public foam observations in a tributary to Honey Creek (Washtenaw County; HCT1000; Figure 5) and the Lake Sherwood tributary to the Huron River (LST0050; Figure 3) were below the HNV for PFOS (Table 1).
- PFOA values were all below the HNV and ranged from non-detect to 9.9 ng/L (Table 1).
- PFOS and PFOA concentrations in the equipment blanks, trip blanks, and field blanks were non-detect (Table 1).

Overall, these results suggest that ambient PFOS concentrations in Norton Creek, downstream of the Wixom WWTP continue to remain low relative to findings from earlier sampling efforts. There may be potential sources of PFAS in Willow Run upstream of the I-94 Service Drive, in the west tributary of Willow Run, and at outfall WROF002. This one-time sampling event did not find any potential sources in Hamburg Lake, Horseshoe Creek, or the outlet of Lake Sherwood.

Previously low concentrations in Pettibone Creek were confirmed by this sampling event. In addition, fish collected from Pettibone Creek further upstream in a separate effort had low concentrations of PFAS. Based on the weight of evidence we believe elevated surface water concentrations measured in the August 2018 sampling event may have been due to a sample mix-up at the analytical laboratory.

Report By: Sarah Bowman, Toxicologist
Surface Water Assessment Section
Water Resources Division
Michigan Department of Environment, Great Lakes, and Energy

Table 1: PFOS concentrations (ng/L) in surface water samples collected from the Huron River watershed in April 2019. Bold values indicate a concentration that exceeded the HNV. Columns with two numbers include the original sample and a replicate or duplicate. R = replicate; D = duplicate; ND = non-detect; J = below reporting limit, but above method detection limit; US = upstream; DS = downstream; WWTP = wastewater treatment plant; WB = west branch; EB = east branch; SB = south branch; SW = storm water.

Sample ID	Description	Latitude	Longitude	Date sampled	PFOS (ppt)	PFOA (ppt)	Additional Description
Horseshoe Creek (HSC)							
HSC0050	At Merrill Road (Manly Bennett Park)	42.452988	-83.82143	4/30/2019	ND	ND	US of confluence with Huron River
HSC0100	At Hamburg Road	42.448	-83.80231	4/30/2019	ND	ND	DS of old landfills and Key Plastics Fire
HSC0300[D]	At Northfield Twp. WWTP driveway	42.435968	-83.78170	4/30/2019	ND | ND	ND | ND	DS WWTP outfall; US Key Plastics Fire and old landfills
HSC0400	At 8 Mile Road	42.428915	-83.77776	4/30/2019	ND	ND	US WWTP outfall, old landfills, and Key Plastics fire; DS of Woodbridge Foam Plant
HSC0500	At Barker Road	42.422578	-83.76631	4/30/2019	ND	ND	US Woodbridge Foam Plant
HSC0600	At Schrum Drive	42.404247	-83.75929	4/30/2019	ND	ND	DS Horseshoe Lake
Hamburg Lake							
Hamburg Lake 0010	Hamburg Lake	42.432858	-83.79534	4/30/2019	ND	3.2[J]	Historical Key Plastics Fire on Northeast side of lake
Lake Sherwood Trib (LST)							
LST0050	Lake Sherwood West Trib at Sleeth Rd.	42.581685	-83.5543	4/30/2019	ND	ND	Outlet from Lake Sherwood
Pettibone Creek (PC)							
PC0010	PC at Liberty St. (DS Mill Pond)	42.58944	-83.60277	4/30/2019	ND	ND	(Repeat sample)
Norton Creek (NC)							
NCW0100	WB NC at E Maple Rd.	42.53542	-83.55863	4/30/2019	ND	ND	(Repeat sample)
NC0010	NC US Huron River	42.57256	-83.57001	4/30/2019	**13**	2.7[J]	US of confluence with Huron River; DS Wixom WWTP (Repeat sample)
NC0100[R]	NC at E Buno Rd.	42.5527	-83.56223	4/30/2019	**13** | 8.7	ND | ND	DS Wixom WWTP (Repeat sample)
NC0400	NC at West Maple Rd.	42.53142	-83.54761	4/30/2019	ND	ND	DS Wixom Assembly; US Wixom WWTP (Repeat sample)
NC0600	NC at Grand River Ave	42.50248	-83.5731	4/30/2019	ND	ND	US Wixom Assembly (Repeat sample)

Table 1 (cont.)

Sample ID	Description	Latitude	Longitude	Date sampled	PFOS (ppt)	PFOA (ppt)	Additional Description
Huron River (HR)							
HR0185	Behind Edgelake Drive	42.450331	-83.83189	4/30/2019	4.4[J]	ND	DS confluence with Horseshoe Creek, US Strawberry Lake
HR0190	HR US Strawberry Lake	42.46031	-83.82491	4/30/2019	6.4[J]	ND	DS Ore Creek, US Horseshoe Creek
HR0240	HR at Wixom Rd	42.57425	-83.5599	4/30/2019	ND	ND	US of confluence with Norton Creek
HR0235	HR at Burns Rd	42.5787	-83.58002	4/30/2019	ND	ND	DS of confluence with Norton Creek
Honey Creek (Washtenaw County)							
HC0100	HC at Wagner Rd	42.31808	-83.79538	4/29/2019	ND	ND	(Repeat sample)
HCT1000	HC Trib behind Stowe St	42.296049	-83.795302	4/29/2019	7.0	ND	Access from 3424 Stowe Street
Willow Run (WR)							
WR0010[R]	WR at service drive	42.2193	-83.53661	4/29/2019	**33 | 32**	3.6[J] | 5.8[J]	US Confluence with Belleville Lake; DS Willow Run Airport (outfalls 007, 001, 002a, 002, and 003) and industrial area (Repeat sample)
WR0150[D]	WR just DS Tyler Rd.	42.232825	-83.547244	4/29/2019	3.7[J] | ND	3.0[J] | 3.0[J]	US Tyler Road, YCUA outfall, and landfills; DS of WR Airport outfall 001 and automotive industrial areas
WR0200	WR US Tyler Rd.	42.2341	-83.550229	4/29/2019	6.1[J]	5.7[J]	At sewer line crossing
WR0500	WR at dam on ACM property	42.240668	-83.559692	4/29/2019	4.1[J]	ND	US of largely industrial area
WRW0100	WR West Trib at McGregor Ave	42.223803	-83.552191	4/29/2019	**14**	9.9	DS YCUA Emergency outfall; US Wayne Disposal and Old Ford Landfill
Outfalls to Willow Run							
WROF002	WR Airport SW Outfall 002	42.22799	-83.543633	4/29/2019	**92**	6.1[J]	SW outfall for main drainage area at Willow Run Airport
WROF001	YCUA Outfall	42.23115	-83.54813	4/29/2019	5.4[J]	5.8[J]	72"outfall to Willow Run
Blanks							
TB0001	Trip blank			4/29/2019	ND	ND	water and bottle provided by TestAmerica
FB0001	Field blank			4/29/2019	ND	ND	Filled in field with TestAmerica water
CC0001	Chlorophyll equipment blank			4/29/2019	ND	ND	
TB0002	Trip blank			4/30/2019	ND	ND	water and bottle provided by TestAmerica
FB0002	Field blank			4/30/2019	ND	ND	Filled in field with TestAmerica water
CC0002	Chlorophyll equipment blank			4/30/2019	ND	ND	

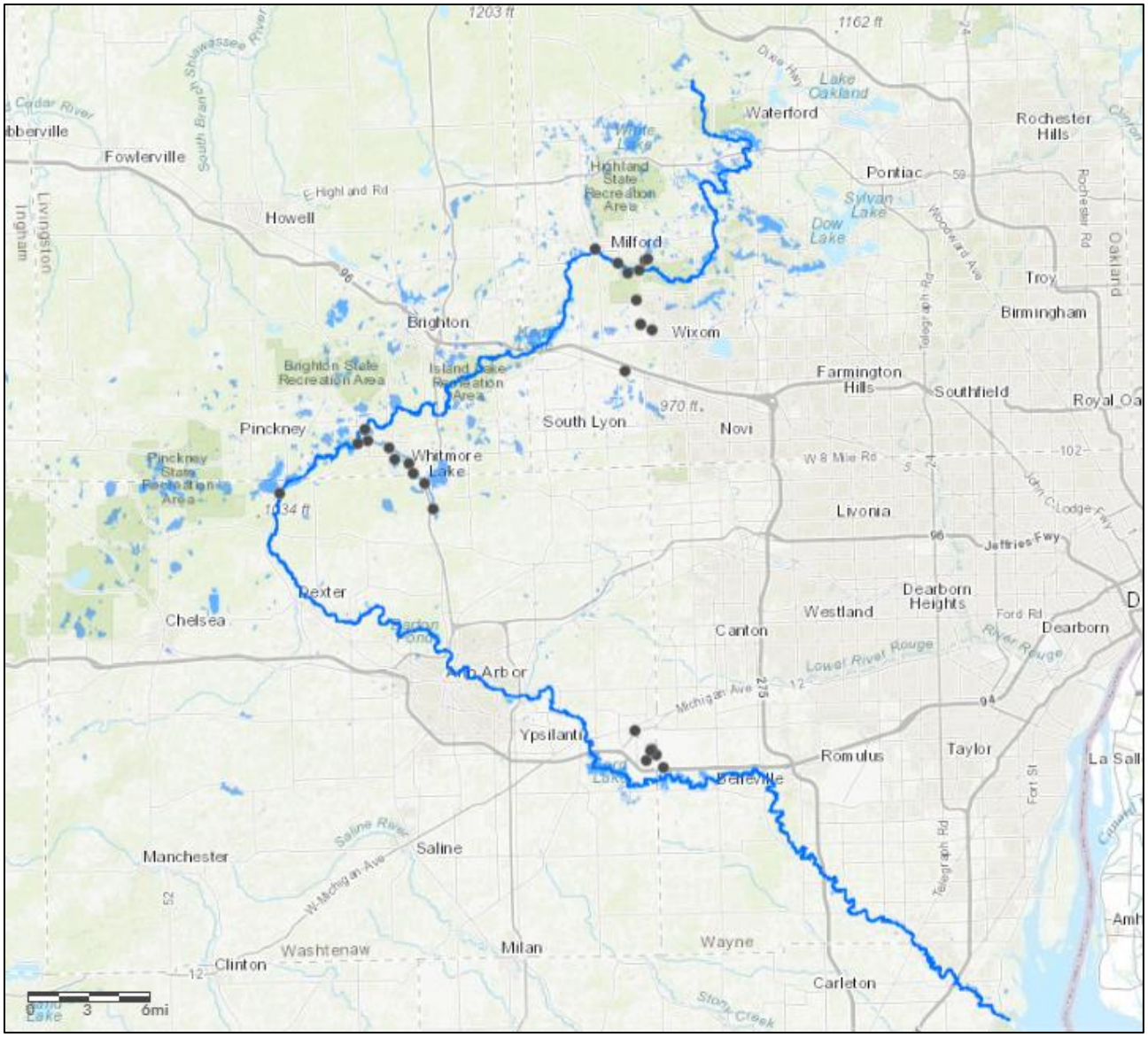


Figure 1: Overview map of sampling sites on the Huron River, Norton Creek, Pettibone Creek, Horseshoe Creek, and Willow Run.

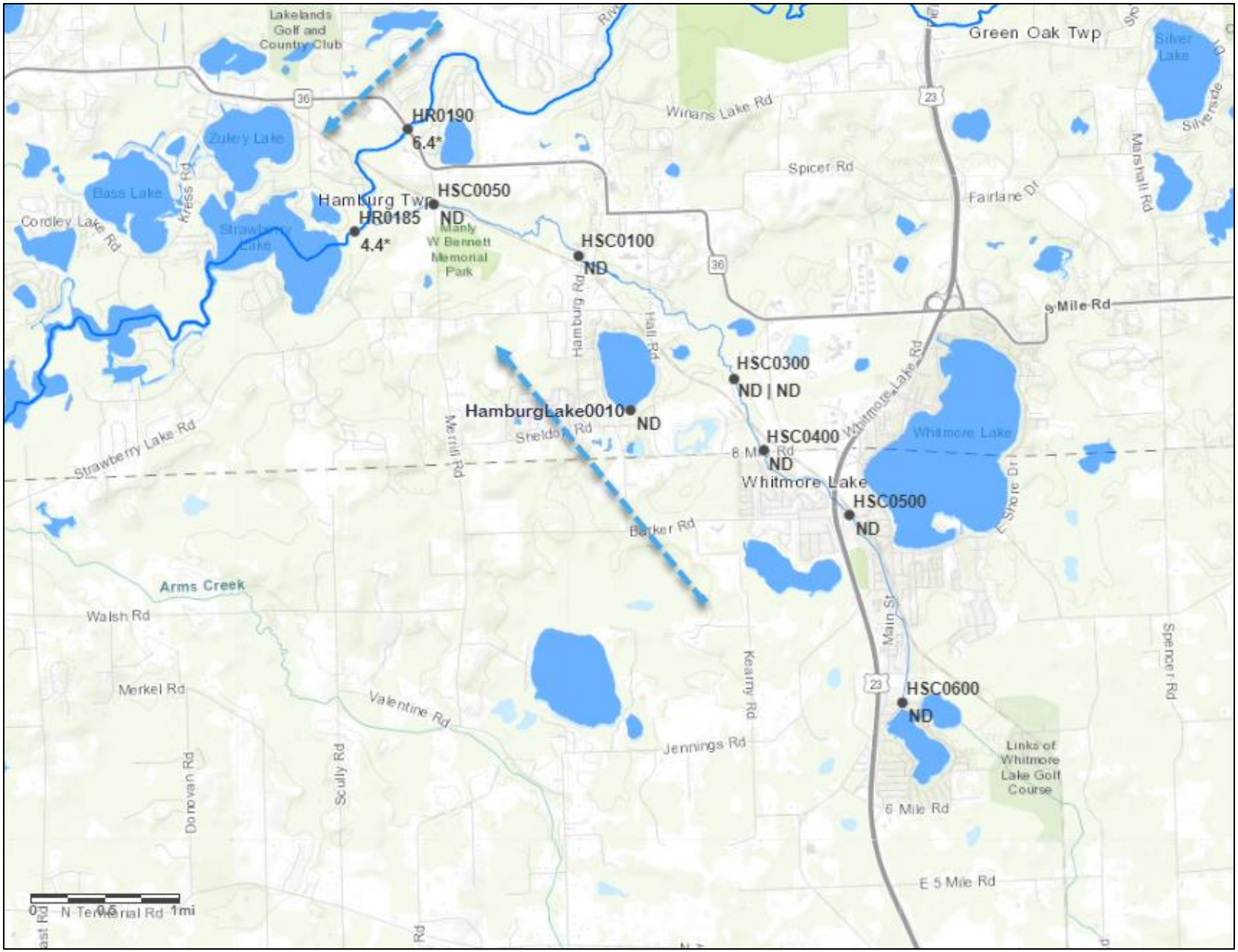


Figure 2: Sample results (PFOS ng/L) in Horseshoe Creek, Hamburg Lake and the Huron River. Concentrations that were less than the reporting limit but greater than or equal to the method detection limit are marked with an asterisks (*). Concentrations that were less than the detection limit (non-detect) are displayed as “ND”. Results from duplicates and replicates are shown for samples with two concentrations.

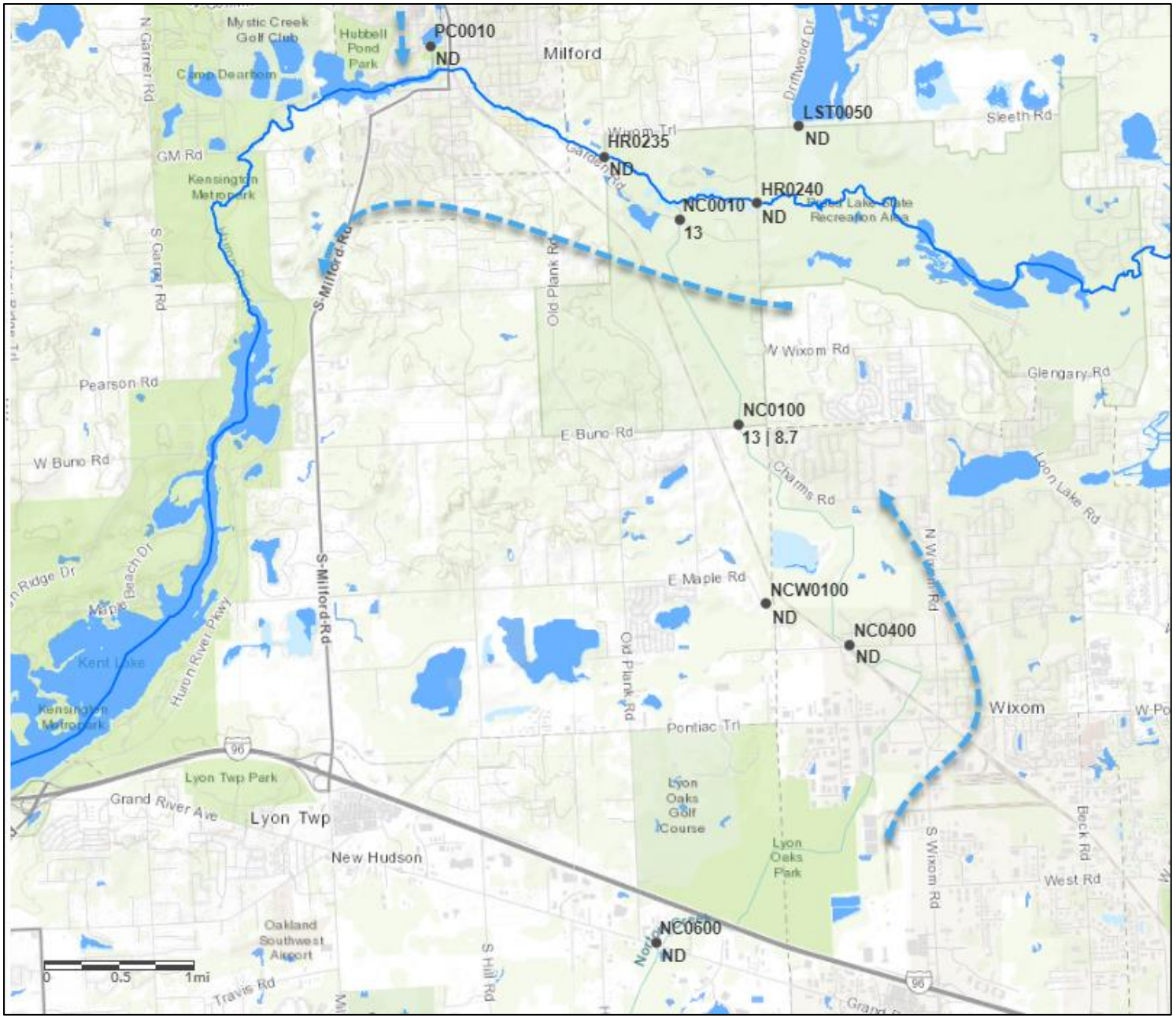


Figure 3: Sample results (PFOS ng/L) in Norton Creek, Pettibone Creek, Lake Sherwood Tributary, and the Huron River. Concentrations that were less than the detection limit (non-detect) are displayed as “ND”. Results from duplicates and replicates are shown for samples with two concentrations.

Figure 4: Sample results (PFOS ng/L) on Willow Run. Samples exceeded the HNV for PFOS at WROF002, WR0010, and WRW0100. Concentrations that were less than the reporting limit but greater than or equal to the method detection limit are marked with an asterisks (*). Concentrations that were less than the detection limit (non-detect) are displayed as “ND”. Results from duplicates and replicates are shown for samples with two concentrations.

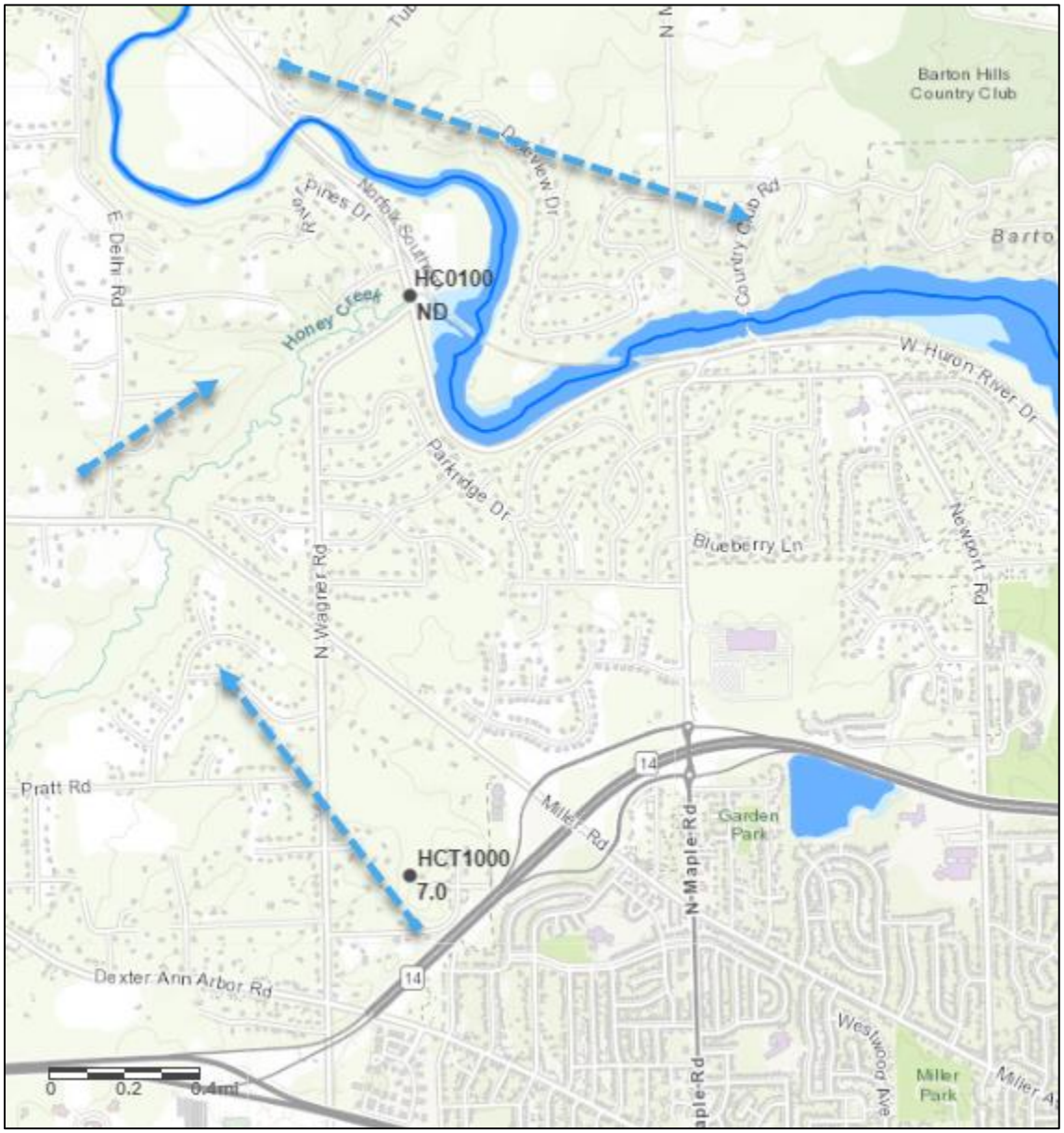


Figure 5: Sample results (PFOS ng/L) on Honey Creek (Washtenaw County). Concentrations that were less than the reporting limit but greater than or equal to the method detection limit are marked with an asterisks (*). Concentrations that were less than the detection limit (non-detect) are displayed as “ND”.

HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Mike Henkel, Chief of Engineering Services
Project No: 713-19-051
Project Title: Bids – Asphalt Removals and Repairs
Project Type: Major Maintenance
Location: Wolcott Mill Metropark Farm Center
Date: June 6, 2019

Bids Received: May 29, 2019

Action Requested: Motion to Approve

That the Board of Commissioners' award Contract No. 713-19-051 to the low responsive, responsible bidder, Astec Asphalt, Inc. in the amount of $ $42,690.50 as recommended by Chief of Engineering Services Mike Henkel and staff.

Fiscal Impact: The bid is $17,309.50 under the $60,000 budgeted amount.

Scope of Work: The project includes installation of erosion controls, 328 square yards of asphalt removal, placement of base material, drainage improvements, asphalt paving and site restoration.

Background: Park staff requested that the existing alligatored asphalt surface be replace. The project is located between the dairy and sheep barns. This area is frequented by school groups and has drainage issues, which causes the area to become muddy easily. The project will expand the existing asphalt area around the entrance to the dairy barn to eliminate the wet area. A small swale will be constructed, and a drainage structure will be adjusted to address the site runoff issues.

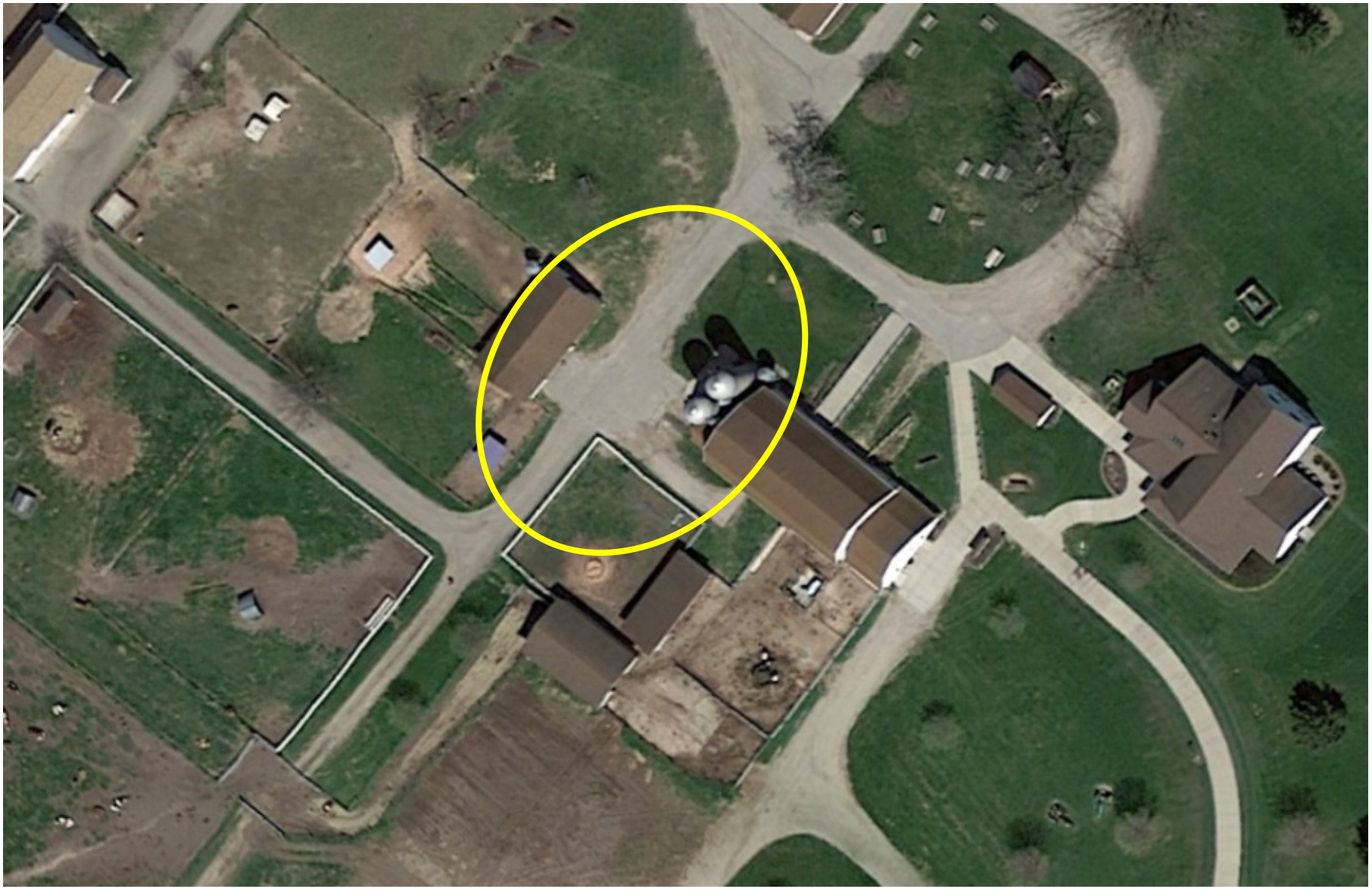
Contractor	City	Amount
Astec Asphalt, Inc.	Brown City	$42,690.50
James P. Contracting	Washington	$46,471.00
Dave's Contracting	Dearborn	$53,416.00

Budget Amount for Contract Services and Administration	$60,000.00
Work Order Amount	
Contract Amount Astec Asphalt, Inc.	$42,690.50
Contract Administration	$ 4,000.00
Total Proposed Work Order Amount	$46,690.50

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

Attachment: Project Location

Project Area



HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Amy McMillan, Director
Subject: Board of Commission – Officer Elections
Date: June 6, 2019

Requested Action: Motion to Elect Board Officers

That the Board of Commissioners' elect a Chairman, Vice-Chairman, Treasurer and Secretary at the June 8, 2017 Board meeting as required by the Metroparks Bylaws.

Background: The Huron-Clinton Metropolitan Authority Bylaws read in part:

> *The Board of Commissioners shall elect a Chairman, a Vice-Chairman, a Treasurer and a Secretary, who shall be elected by the Commissioners at the annual meeting of the Board of Commissioners.*

The regular monthly meeting held in the month of June constitutes the annual meeting of the Board of Commissioners.

HURON-CLINTON METROPARKS MONTHLY STATISTICS

May, 2019

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	40,510	52,473	46,333	-13%	$ 215,584	$ 335,871	$ 276,513	-22%
Wolcott Mill	3,811	6,357	7,031	-46%	$ 5,309	$ 4,191	$ 4,311	23%
Stony Creek	53,870	73,314	66,901	-19%	$ 299,173	$ 458,550	$ 396,568	-25%
Indian Springs	10,070	11,498	11,211	-10%	$ 44,323	$ 50,201	$ 49,244	-10%
Kensington	78,768	89,209	87,995	-10%	$ 366,801	$ 455,929	$ 415,288	-12%
Huron Meadows	9,228	10,245	10,310	-10%	$ 2,877	$ 3,052	$ 3,926	-27%
Hudson Mills	21,771	22,140	22,324	-2%	$ 66,516	$ 72,701	$ 78,412	-15%
Lower Huron/Willow/Oakwoods	51,616	60,629	59,956	-14%	$ 100,908	$ 146,809	$ 138,936	-27%
Lake Erie	20,208	20,946	21,324	-5%	$ 69,087	$ 89,069	$ 80,530	-14%
Monthly TOTALS	**289,852**	**346,811**	**333,384**	-13%	**$ 1,170,578**	**$ 1,616,373**	**$ 1,443,729**	-19%

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	117,933	128,120	118,962	-1%	$ 525,367	$ 638,101	$ 558,620	-6%
Wolcott Mill	12,746	21,374	23,059	-45%	$ 55,682	$ 21,587	$ 14,764	277%
Stony Creek	139,996	180,285	171,698	-18%	$ 791,965	$ 920,866	$ 934,774	-15%
Indian Springs	24,076	25,401	26,617	-10%	$ 119,434	$ 121,977	$ 133,121	-10%
Kensington	252,846	260,609	257,927	-2%	$ 1,002,086	$ 1,086,210	$ 1,084,416	-8%
Huron Meadows	26,833	29,678	29,549	-9%	$ 31,336	$ 30,896	$ 27,374	14%
Hudson Mills	66,139	65,716	66,547	-1%	$ 196,174	$ 194,344	$ 220,273	-11%
Lower Huron/Willow/Oakwoods	179,328	190,786	192,149	-7%	$ 257,810	$ 322,315	$ 338,668	-24%
Lake Erie	60,482	59,156	61,658	-2%	$ 250,421	$ 258,873	$ 261,814	-4%
Monthly TOTALS	**880,379**	**961,125**	**948,168**	-7%	**$ 3,230,275**	**$ 3,595,169**	**$ 3,573,825**	-10%

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	$ 262,901	$ 403,872	$ 369,327	-29%	$ 822,764	$ 941,652	$ 843,374	-2%
Wolcott Mill	$ 24,461	$ 26,162	$ 46,924	-48%	$ 165,360	$ 112,414	$ 131,706	26%
Stony Creek	$ 482,471	$ 716,869	$ 645,229	-25%	$ 1,195,439	$ 1,384,016	$ 1,393,069	-14%
Indian Springs	$ 164,411	$ 174,765	$ 164,348	0%	$ 309,139	$ 313,039	$ 334,792	-8%
Kensington	$ 617,152	$ 731,046	$ 657,976	-6%	$ 1,488,791	$ 1,600,287	$ 1,541,425	-3%
Huron Meadows	$ 133,013	$ 132,171	$ 124,221	7%	$ 237,306	$ 234,601	$ 224,025	6%
Hudson Mills	$ 149,143	$ 160,455	$ 152,375	-2%	$ 334,965	$ 343,840	$ 356,762	-6%
Lower Huron/Willow/Oakwoods	$ 209,530	$ 294,459	$ 293,052	-29%	$ 441,935	$ 544,285	$ 566,842	-22%
Lake Erie	$ 187,315	$ 240,752	$ 226,551	-17%	$ 431,939	$ 476,442	$ 486,293	-11%
Y-T-D TOTALS	**$ 2,230,397**	**$ 2,880,552**	**$ 2,680,004**	-17%	**$ 5,427,638**	**$ 5,950,576**	**$ 5,878,288**	-8%

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	270,675	329,779	313,720	-14%	2,183,563	2,438,082	2,368,148	-8%
Western	369,894	381,404	380,641	-3%	2,370,201	2,491,767	2,457,004	-4%
Southern	239,810	249,942	253,807	-6%	873,874	1,020,727	1,053,136	-17%

HURON-CLINTON METROPARKS MONTHLY STATISTICS

May, 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	3,562	4,907	4,479	-20%	$ 122,626	$ 159,574	$ 147,782	-17%
Indian Springs	3,449	3,813	3,490	-1%	$ 103,256	$ 110,540	$ 95,939	8%
Kensington	4,989	4,967	4,542	10%	$ 156,837	$ 152,516	$ 130,974	20%
Huron Meadows	4,065	4,022	3,740	9%	$ 128,935	$ 127,720	$ 119,296	8%
Hudson Mills	3,111	3,134	2,608	19%	$ 70,829	$ 75,071	$ 60,999	16%
Willow	2,287	1,551	2,659	-14%	$ 68,237	$ 46,256	$ 78,187	-13%
Lake Erie	3,208	3,629	3,627	-12%	$ 87,986	$ 99,636	$ 97,061	-9%
Total Regulation	24,671	26,023	25,145	-2%	$ 738,706	$ 771,313	$ 730,238	1%
LSC Par 3	569	861	940	-39%	$ 4,440	$ 4,890	$ 5,648	-21%
LSC Foot Golf	59	8	47	25%	$ 448	$ 54	$ 333	35%
Total Golf	**25,299**	**26,892**	**26,628**	-5%	**$ 743,594**	**$ 776,257**	**$ 739,612**	1%

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	5,206	6,238	6,340	-18%	$ 166,674	$ 198,477	$ 201,828	-17%
Indian Springs	4,876	5,021	5,080	-4%	$ 142,478	$ 142,975	$ 136,257	5%
Kensington	7,775	6,989	6,821	14%	$ 223,043	$ 206,015	$ 188,660	18%
Huron Meadows	6,263	5,754	5,771	9%	$ 183,739	$ 174,763	$ 175,909	4%
Hudson Mills	4,224	4,422	3,752	13%	$ 93,427	$ 98,842	$ 84,966	10%
Willow	3,324	2,800	3,897	-15%	$ 96,878	$ 78,036	$ 112,708	-14%
Lake Erie	4,583	4,854	5,231	-12%	$ 120,088	$ 132,637	$ 140,414	-14%
Total Regulation	36,251	36,078	36,892	-2%	$ 1,026,327	$ 1,031,745	$ 1,040,741	-1%
LSC Par 3	654	1,112	1,245	-47%	$ 5,976	$ 6,442	$ 7,586	-21%
LSC Foot Golf	70	19	75	-7%	$ 550	$ 105	$ 494	11%
Total Golf	**36,975**	**37,209**	**38,910**	-5%	**$ 1,032,853**	**$ 1,038,292**	**$ 1,053,600**	-2%

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	1,257	4,878	3,459	-64%	$ 6,284	$ 24,366	$ 17,306	-64%
Stony Creek Rip Slide	636	2,062	1,693	-62%	$ 3,576	$ 8,788	$ 8,101	-56%
KMP Splash	816	4,345	3,043	-73%	$ 7,731	$ 26,172	$ 17,956	-57%
Lower Huron	1,206	6,637	4,585	-74%	$ 15,770	$ 68,104	$ 46,632	-66%
Willow	265	1,473	1,186	-78%	$ 1,576	$ 7,445	$ 5,989	-74%
Lake Erie	543	3,778	2,541	-79%	$ 5,139	$ 22,813	$ 17,872	-71%
TOTALS	**4,723**	**23,173**	**16,560**	-71%	**$ 40,076**	**$ 157,688**	**$ 114,356**	-65%

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	1,257	4,878	3,459	-64%	$ 6,284	$ 24,366	$ 17,306	-64%
Stony Creek Rip Slide	636	2,062	1,693	-62%	$ 3,576	$ 8,788	$ 8,101	-56%
KMP Splash	816	4,345	3,043	-73%	$ 11,031	$ 28,372	$ 20,253	-46%
Lower Huron	1,206	6,637	4,585	-74%	$ 15,770	$ 68,104	$ 46,632	-66%
Willow	265	1,473	1,186	-78%	$ 1,776	$ 7,445	$ 5,989	-70%
Lake Erie	543	3,778	2,541	-79%	$ 5,139	$ 22,813	$ 17,872	-71%
TOTALS	**4,723**	**23,173**	**16,560**	-71%	**$ 43,576**	**$ 159,888**	**$ 116,653**	-63%

HURON-CLINTON METROPARKS MONTHLY STATISTICS **May, 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	5	4	2	200%	$ 5,500	$ 3,800	$ 2,267	143%
Shelters	53	46	43	22%	$ 14,150	$ 10,539	$ 10,920	30%
Boat Launches	343	275	516	-33%	$ -	$ -	$ -	-
Marina	329	259	413	-20%	$ 777	$ 5,704	$ 2,761	-72%
Mini-Golf	500	645	659	-24%	$ 1,919	$ 2,424	$ 2,413	-20%
Wolcott								
Activity Center	6	14	10	-40%	$ 2,000	$ 1,000	$ 1,333	50%
Stony Creek								
Disc Golf Daily	1,836	2,305	2,464	-25%	$ 6,227	$ 6,915	$ 7,749	-20%
Disc Golf Annual	10	28	25	-59%	$ 540	$ 1,540	$ 1,303	-59%
Total Disc Golf	1,846	2,333	2,489	-26%	$ 6,767	$ 8,455	$ 9,052	-25%
Shelters	65	81	73	-11%	$ 14,700	$ 18,225	$ 15,825	-7%
Boat Rental	939	1,964	1,595	-41%	$ 10,745	$ 20,552	$ 16,876	-36%
Boat Launches	118	187	122	-4%	$ -	$ -	$ -	-
Indian Springs								
Shelters	13	13	9	44%	$ 2,100	$ 2,550	$ 1,483	42%
Event Room	4	4	4	0%	$ 9,400	$ 5,600	$ 6,857	37%
Kensington								
Disc Golf Daily	2,596	2,745	3,414	-24%	$ 8,184	$ 8,235	$ 10,243	-20%
Disc Golf Annual	25	34	27	-6%	$ 1,355	$ 1,810	$ 1,393	-3%
Total Disc Golf	2,621	2,779	3,441	-24%	$ 9,539	$ 10,045	$ 11,636	-18%
Shelters	91	72	71	29%	$ 20,138	$ 16,200	$ 16,442	22%
Boat Rental	1,021	1,951	1,751	-42%	$ 14,767	$ 26,092	$ 22,907	-36%
Huron Meadows								
Shelters	6	7	5	20%	$ 1,200	$ 1,400	$ 1,200	0%
Hudson Mills								
Disc Golf Daily	811	846	1,259	-36%	$ 2,433	$ 2,538	$ 3,778	-36%
Disc Golf Annual	16	24	22	-27%	$ 940	$ 1,280	$ 1,170	-20%
Total Disc Golf	827	870	1,281	-35%	$ 3,373	$ 3,818	$ 4,948	-32%
Shelters	15	20	19	-21%	$ 3,000	$ 4,000	$ 3,800	-21%
Canoe Rental	0	0	245	-	$ -	$ -	$ 1,127	-
Lower Huron / Willow / Oakwoods								
Disc Golf Daily	92	118	116	-20%	$ 276	$ 354	$ 347	-20%
Disc Golf Annual	0	2	2	-	$ -	$ 110	$ 128	-
Total Disc Golf	92	120	118	-22%	$ 276	$ 464	$ 475	-42%
Shelters	44	54	49	-11%	$ 9,650	$ 11,750	$ 10,600	-9%
Lake Erie								
Shelters	15	13	14	10%	$ 3,300	$ 2,700	$ 3,067	8%
Boat Launches	2,883	2,325	2,279	27%	$ -	$ -	$ -	-
Marina	0	238	79	-	$ 20,081	$ 24,093	$ 26,179	-23%

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	36	34	22	64%	$ 29,225	$ 24,950	$ 17,608	66%
Shelters	167	144	134	24%	$ 42,675	$ 34,214	$ 34,436	24%
Boat Launches	344	438	691	-50%	$ -	$ -	$ -	-
Marina	329	259	415	-21%	$ 777	$ 5,704	$ 2,775	-72%
Mini-Golf	500	645	659	-24%	$ 1,919	$ 2,424	$ 2,413	-20%
Wolcott								
Activity Center	19	39	37	-49%	$ 12,450	$ 10,150	$ 8,383	49%
Stony Creek								
Disc Golf Daily	3,417	3,860	4,774	-28%	$ 11,502	$ 12,030	$ 14,854	-23%
Disc Annual	95	95	111	-14%	$ 5,320	$ 5,205	$ 5,952	-11%
Total Disc Golf	3,512	3,955	4,885	-28%	$ 16,822	$ 17,235	$ 20,805	-19%
Shelters	200	181	200	0%	$ 45,175	$ 40,725	$ 43,012	5%
Boat Rental	939	1,964	1,595	-41%	$ 10,745	$ 20,552	$ 16,876	-36%
Boat Launches	206	187	137	50%	$ -	$ -	$ -	-
Indian Springs								
Shelters	32	21	22	45%	$ 5,225	$ 4,050	$ 3,850	36%
Event Room	15	20	23	-34%	$ 30,200	$ 31,400	$ 39,057	-23%
Kensington								
Disc Golf Daily	5,434	5,349	7,151	-24%	$ 16,698	$ 16,047	$ 21,453	-22%
Disc Annual	150	144	129	16%	$ 8,070	$ 7,760	$ 6,927	17%
Total Disc Golf	5,584	5,493	7,280	-23%	$ 24,768	$ 23,807	$ 28,380	-13%
Shelters	270	240	220	23%	$ 60,538	$ 54,000	$ 54,412	11%
Boat Rental	1,021	1,951	1,751	-42%	$ 14,767	$ 26,092	$ 22,907	-36%
Huron Meadows								
Shelters	17	16	14	21%	$ 3,400	$ 3,200	$ 3,067	11%
Hudson Mills								
Disc Golf Daily	2,175	2,328	3,196	-32%	$ 6,525	$ 6,984	$ 9,588	-32%
Disc Annual	108	149	130	-17%	$ 6,340	$ 7,995	$ 6,963	-9%
Total Disc Golf	2,283	2,477	3,326	-31%	$ 12,865	$ 14,979	$ 16,551	-22%
Shelters	38	60	61	-37%	$ 7,600	$ 13,400	$ 12,600	-40%
Canoe Rental	0	0	245	-	$ -	$ -	$ 2,699	-
Lower Huron / Willow / Oakwoods								
Disc Golf Daily	325	501	325	0%	$ 975	$ 1,503	$ 974	0%
Disc Annual	7	12	7	0%	$ 420	$ 640	$ 378	11%
Total Disc Golf	332	513	332	0%	$ 1,395	$ 2,143	$ 1,352	3%
Shelters	154	175	164	-6%	$ 33,850	$ 38,450	$ 35,792	-5%
Lake Erie								
Shelters	39	33	35	11%	$ 8,500	$ 7,200	$ 7,833	9%
Boat Launches	6,451	6,154	6,123	5%	$ -	$ -	$ -	-
Marina	0	352	118	-	$ 43,509	$ 48,289	$ 49,757	-13%

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	26,916	29,587	27,641	-3%	62,010	64,481	64,701	-4%
Wolcott Mill	1,878	4,448	3,372	-44%	7,263	16,423	12,552	-42%
Wolcott Farm	7,166	25,567	12,743	-44%	23,698	62,827	35,095	-32%
Stony Creek	22,409	22,742	22,301	0%	69,419	68,828	73,613	-6%
Eastern Mobile Center	1,258	2,108	1,317	-4%	5,493	12,145	8,652	-37%
Indian Springs	12,934	11,821	12,711	2%	28,527	11,821	24,025	19%
Kens NC	28,614	32,025	29,875	-4%	105,950	32,025	81,655	30%
Kens Farm	27,600	29,734	31,070	-11%	90,598	59,856	85,314	6%
Western Mobile Center	1,342	1,568	1,134	18%	5,368	1,568	3,972	35%
Hudson Mills	3,685	3,620	3,359	10%	17,385	6,327	12,814	36%
Oakwoods	15,121	15,032	14,851	2%	54,390	50,373	54,717	-1%
Lake Erie	16,702	15,932	15,182	10%	56,853	40,857	51,269	11%
Southern Mobile Center	3,497	2,131	2,547	37%	8,196	7,054	6,421	28%
Totals	169,122	196,315	178,102	-5%	535,150	434,585	514,800	4%

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	$ 4,177	$ 5,899	$ 6,191	-33%	$ 11,292	$ 10,875	$ 13,562	-17%
Wolcott Mill	$ 984	$ 1,080	$ 1,170	-16%	$ 3,456	$ 9,090	$ 7,103	-51%
Wolcott Farm	$ 9,566	$ 12,288	$ 10,105	-5%	$ 48,390	$ 40,320	$ 37,850	28%
Wagon Rides	$ -	$ 1,707	$ 1,958	-	$ -	$ 5,202	$ 5,867	-
Livestock/Produce	$ 1,993	$ 2,217	$ 2,119	-6%	$ 30,360	$ 10,679	$ 10,267	196%
FARM TOTAL	$ 11,559	$ 16,212	$ 14,182	-18%	$ 78,750	$ 56,201	$ 53,983	46%
Stony Creek	$ 2,615	$ 4,521	$ 4,722	-45%	$ 9,443	$ 12,364	$ 12,821	-26%
Eastern Mobile Center	$ 2,175	$ 2,038	$ 916	137%	$ 6,388	$ 10,313	$ 4,408	45%
Indian Springs	$ 5,332	$ 5,871	$ 5,370	-1%	$ 10,725	$ 12,152	$ 13,064	-18%
Kens NC	$ 8,607	$ 7,472	$ 6,103	41%	$ 16,538	$ 12,777	$ 13,569	22%
Kens Farm	$ 8,185	$ 7,882	$ 6,334	29%	$ 32,896	$ 39,850	$ 33,927	-3%
Wagon Rides	$ 1,990	$ 1,790	$ 2,761	-28%	$ 6,611	$ 8,115	$ 12,790	-48%
Livestock/Produce	$ 1,068	$ -	$ 248	332%	$ 1,883	$ 1,604	$ 5,227	-64%
FARM TOTAL	$ 11,244	$ 9,672	$ 9,343	20%	$ 41,390	$ 49,568	$ 51,944	-20%
Western Mobile Center	$ 2,038	$ 413	$ 1,617	26%	$ 12,481	$ 10,137	$ 11,263	11%
Hudson Mills	$ 1,577	$ 2,625	$ 1,682	-6%	$ 8,894	$ 7,866	$ 6,976	27%
Oakwoods	$ 6,709	$ 3,740	$ 3,054	120%	$ 11,494	$ 6,737	$ 6,859	68%
Lake Erie	$ 1,462	$ 1,963	$ 1,655	-12%	$ 3,872	$ 4,958	$ 6,187	-37%
Southern Mobile Center	$ 1,465	$ 5,085	$ 1,920	-24%	$ 6,300	$ 12,009	$ 5,413	16%
Totals	$ 59,943	$ 66,590	$ 57,925	3%	$ 221,023	$ 215,047	$ 207,152	7%

HURON-CLINTON METROPARKS MONTHLY STATISTICS **May, 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	205	5,343	108	5,777	-	-	-	-
Wolcott Mill	15	422	12	508	-	-	-	-
Wolcott Farm	110	3,240	99	2,923	-	-	-	-
Stony Creek	62	3,509	63	3,742	-	-	-	-
Eastern Mobile Center					43	1,258	48	2,108
Indian Springs	73	4,593	85	4,684	30	1,405	16	417
Kens NC	67	1,933	64	2,271	4	190	-	-
Kens Farm	115	2,865	108	2,725	-	-	-	-
Western Mobile Center					48	1,342	47	1,568
Hudson Mills	44	1,185	28	955	-	-	5	165
Oakwoods	80	1,711	74	1,565	10	521	2	83
Lake Erie	86	1,921	77	1,801	2	32	1	21
Southern Mobile Center					72	3,497	70	2,131
Totals	857	26,722	718	26,951	209	8,245	189	6,493

BREAKDOWN OF ATTENDANCE	OTHER VISITORS (Non-programs)	
	Current	Previous
Lake St Clair	21,573	23,810
Wolcott Mill	1,456	3,940
Wolcott Farm	3,926	22,644
Stony Creek	18,900	19,000
Indian Springs	6,936	6,720
Kens NC	28,614	29,754
Kens Farm	24,735	27,009
Hudson Mills	2,500	2,500
Oakwoods	12,889	13,384
Lake Erie	14,749	14,110
Totals	136,278	162,871

"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.