

EIGHT AND ONE-HALF MILE RELIEF DRAIN
INTRA-COUNTY DRAINAGE BOARD
MAY 15, 2023
10:15 A.M.
AGENDA

**NOTE: THIS MEETING WILL BE HELD IN PERSON WITH TELECONFERENCE
OPTION FOR PUBLIC**

**Call in Number: 1-224-990-0182
Access Code: 927 405 823**

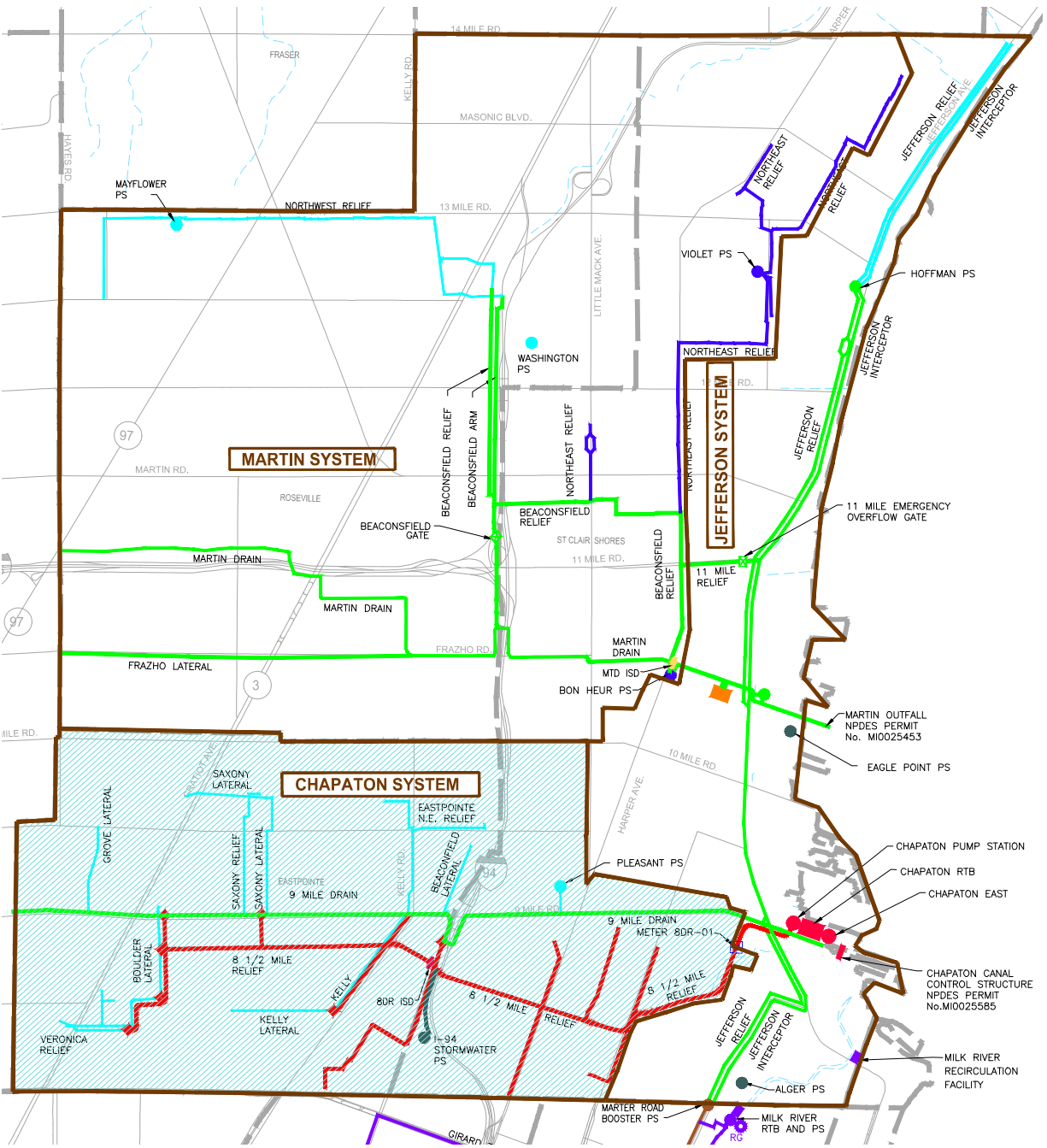
	Page
1. Call of meeting to order and roll call	
2. Approval of Agenda for May 15, 2023	
3. Approval of Minutes for April 10, 2023	3
4. Public Participation	
5. Project & Operational Updates – Vince Astorino	6
6. Chapaton Canal Rehabilitation Additional Design Scope – Vince Astorino	16
Motion: To approve the proposal from Wade Trim for additional design services totaling \$132,085 for the Canal Rehabilitation Project.	
7. Chapaton Flushing Improvements Design Proposal – Vince Astorino	22
Motion: To approve the proposal from Wade Trim for a not to exceed amount of \$270,350 for the design of the Chapaton Flushing Improvements Project.	
8. Consideration for approval of invoices (see attached)	38
9. Financial Report – Bruce Manning	39
10. Adjourn	

Hard copy is intended to be 8.5"x11" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size.

CHAPATON SYSTEM MAP

Macomb County, MI

Southeast Macomb Sanitary District Wastewater Master Plan



SYSTEM LEGEND

(AS OF DATE OF PUBLICATION)

- SYSTEM BOUNDARY

DISTRICT LEGEND

(AS OF DATE OF PUBLICATION)

- 8 1/2 MILE RELIEF DRAIN DRAINAGE DISTRICT
- SOUTHEAST MACOMB COUNTY WASTEWATER DISPOSAL SYSTEM
- MARTIN SANITARY DIVERSION DISTRICT
- SOUTHEAST MACOMB SANITARY DISTRICT
- NORTHEAST SEWAGE DISPOSAL SYSTEM
- MILK RIVER INTERCOUNTY DRAIN DRAINAGE DISTRICT
- LOCAL MUNICIPALITY
- OTHER

ASSET LEGEND

- PUMP STATION
- ⊠ FLOW CONTROL STRUCTURE
- RTB
- ▬ GRAVITY INTERCEPTOR
- IN-SYSTEM STORAGE DEVICE
- ◆ OVERFLOW POINT
- ⊕ LEVEL SENSOR
- ⊙ RAIN GAUGE
- Ⓜ FLOW METER

PROJECT NO.

181053

3.6

An adjourned meeting of the Intra-County Drainage Board for the **EIGHT AND ONE-HALF MILE RELIEF DRAIN** was held in the Office of the Macomb County Public Works Commissioner, 21777 Dunham, Clinton Township, Michigan, on April 10, 2023, at 10:45 A.M.

PRESENT: Candice S. Miller, Chair
Bryan Santo, Member
Sarah Lucido, Member

ALSO PRESENT: Joseph Romano, Macomb County Board of Commissioners; Don VanSyckel, Macomb County Board of Commissioners; Vince Astorino, Operations & Flow Manager; Stephen Downing, Construction and Maintenance Manager; Jeff Bednar, Environmental Resources Manager; Dan Acciavatti, Deputy Government Relations; Bruce Manning, Financial Manager; Norb Franz, Communications Manager; Sarah Wojdyla, Drain Account Specialist; Stephen Saph, Nickel & Saph, Inc.

PRESENT VIA TELECONFERENCE: Madison Tanghe, Administrative Assistant; Mary Shepherd, Environmental and Safety Service Supervisor City of Sterling Heights

The meeting was called to order by the Chair, Candice Miller. A motion was made by Ms. Lucido, supported by Mr. Santo to approve the agenda as presented.

Adopted: YEAS: 3
NAYS: 0

Minutes of the meeting of March 13, 2023 were presented. A motion was made by Mr. Santo, supported by Ms. Lucido to approve the minutes as presented.

Adopted: YEAS: 3
NAYS: 0

The meeting was opened to public participation, then closed, as no comments from the public.

Mr. Astorino stated that Chapaton had one wet weather event on March 31, 2023. Rainfall was 2.42 inches, with 56.2 MG treated. Water quality numbers were very good.

The Chapaton In-System Storage project is moving along. They have been hand digging under the pipe which has been quite the process and with it being so wet it's taking some time. They have been starting to pour the concrete in the sections to create concrete support under the pipe. We are anticipating that to be completed in the next couple weeks. Once this part is done they will make some great progress and pour the walls, and complete the structure itself.

We are looking to get 2 projects out to bid next week: the Chapaton Electrical Project and Chapaton Canal Project. We expect to see those awarded at the June Board.

A motion was made by Ms. Lucido, supported by Mr. Santo to receive and file the project update by Mr. Astorino.

Adopted: YEAS: 3
NAYS: 0

Ms. Miller introduced Stephen Saph Jr. with Nickel and Saph Insurance. Mr Saph presented the annual renewal for the liability coverage for the intra-county drains. There's a separate policy for the inter-county drains. This policy includes all the drains, MIDD being the largest and includes general liability, automobile liability and public official's liability. General liability includes sewer backup liability. There is an excess liability that increases the limits to \$11 million. There's a \$100,000 deductible to cover claims. The general liability is usually thought of as bodily injury and property damage. The premium in total is \$229,845, which is split based upon expenditures in the individual drains. The Eight and One-Half Mile Relief share of the premium is \$19,743.69.

A motion was made by Mr. Santo, supported by Ms. Lucido to approve the Chapter 20 General Liability Insurance coverage renewal with Argonaut Insurance Company in the amount of \$229,845 with Eight and One-Half Mile Relief portion totaling \$19,743.69.

Adopted: YEAS: 3
NAYS: 0

The Chair presented the invoices totaling \$192,546.19 to the board for review and approval.

A motion was made by Ms. Lucido, supported by Mr. Santo to approve the invoices as presented.

Adopted: YEAS: 3
NAYS: 0

A motion to receive and file the financial report given by Mr. Manning was made by Mr. Santo and supported by Ms. Lucido.

Adopted: YEAS: 3
NAYS: 0

There being no further business, it was moved by Ms. Lucido, supported by Mr. Santo, that the meeting of the Eight and One-Half Mile Relief Drain Board be adjourned.

Adopted: YEAS: 3
NAYS: 0

The meeting was adjourned at 11:11 a.m.

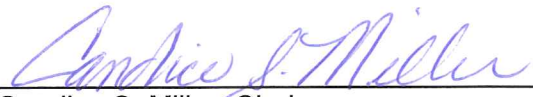


Candice S. Miller, Chair
Macomb County Public Works Commissioner

STATE OF MICHIGAN
COUNTY OF MACOMB

I certify that the foregoing is a true and correct copy of proceedings taking by the Intra-County Drainage Board for the Drainage District shown on the attached set of minutes, on April 10, 2023 the original of which is on file in the Public Works Commissioner's Office. Public notice of the meeting was

given pursuant to Act No. 267, Public Acts of Michigan, 1975, including, in the case of a special or rescheduled meeting or a meeting secured for more than 36 hours, notice by posting at least 18 hours prior to the time set for the meeting.



Candice S. Miller, Chair
Macomb County Public Works Commissioner

DATED: 4/21/23



Candice S. Miller

Public Works Commissioner
Macomb County

To: 8 ½ Mile Relief Drain Drainage District Board Members

CC: File

From: Vincent Astorino, Operations & Flow Manager

Date: May 15, 2022

Subject: Construction Projects Status Updates for the May 2023 Board Meeting

The following provides a status update for construction work completed within the 8 ½ Mile Relief Drain Drainage District (8MRDDD) for the previous month.

Wet Weather Operations

Wet Weather Event: April 4, 2023

Rainfall: 0.87 inches

Treated Discharge Volume: 3.4 MG

Water Quality Numbers: 1 cts / 100 ml geometric mean (Permit maximum is 1000 cts/ml)

Description: Unable to completely dewater from the event on 3/31/23. Everything operated as designed and there were no issues to report.

Chapaton In-System Storage Project

Contractor: Weiss Construction

Engineering Consultant: Tetra Tech

Project Description:

The primary focus of the project is the construction of an access shaft and installation of the In-System Storage Device at Beaconsfield and Oak in Eastpointe. This project will achieve an additional 3.5 million gallons of storage within the 8.5 Mile Relief tunnel.

Significant project tasks that have occurred over the past month:

1. Submittals are being received and processed by the engineering team.
2. Construction activities per Update Period:
 - Continued staging construction materials delivered & stored along Beaconsfield greenbelt.
 - Maintained secured work site with swing gates and privacy fence screening at construction sites.
 - Continued Beaconsfield site vibration and sensor monitoring and documentation during and shaft construction as required.
 - Continued dewatering and maintaining adequate working conditions within the interior of the Beaconsfield shaft as necessary.
 - Prepared 2 of 6 11ft tunnel support foundations with reinforcing steel, water-stop, and wood forms for placement concrete at Beaconsfield Shaft as required.
 - Poured in place 2 of 6 high strength concrete foundation supports below 11ft tunnel at the Beaconsfield site as designed.
 - Excavated and exposed previously installed support pier foundations for proposed control building at the Beaconsfield site.
 - Prepared control building footings with reinforcing steel and wood forms for placement of concrete located in the Beaconsfield greenbelt area as designed.
 - Poured in place high strength concrete spread footing and foundation wall for the inflatable gate control building at the Beaconsfield location as designed.
3. Construction look ahead:
 - Continue deliveries of construction materials along Beaconsfield greenbelt.
 - Continue Beaconsfield site vibration monitoring & documentation.
 - Continue to excavate and place temporary timber supports under existing 11ft tunnel per engineered sequence within the Beaconsfield shaft as required.
 - Place low strength concrete mud-mat adjacent to existing tunnel for flow bypass as designed within the Beaconsfield shaft.
 - Continue to excavate and place low strength concrete mud-mat and high strength mass concrete under-side of existing 11.5ft tunnel in proposed design sequence as required.
 - Continue to load out excavated spoils at Beaconsfield work site as necessary.
 - Install mechanical, plumbing, and electrical underground for proposed Control Building as required prior to placing concrete floor at the Beaconsfield site.
 - Place concrete floor slab for inflatable dam Control Building at Beaconsfield as planned.

Construction Costs:

	Date (if applicable)	Amount
Original Contract Amount		\$9,673,200.00
Change Order #1	9/15/22	\$269,666.49
Revised Contract Amount		\$9,942,866.49
Total Spent to Date	Pay Apps. #1 - 13	\$3,923,578.17
Remaining Budget		\$6,019,288.32

Figure 1 – Control Bldg. Foundation Excavation @ Beaconsfield



OFFICE LOCATION: 21777 Dunham Road, Clinton Township, Michigan 48036 • Phone: 586-469-5325 • Fax: 586-469-5933
ENGINEERING • Phone: 586-469-5910 • Fax: 586-469-7693 ♦ **SOIL EROSION** • Phone: 586-469-5327 • Fax 586-307-8264

Figure 2 – Control Bldg. Concrete Spread Footing



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Figure 3 – Control Bldg. Foundation Walls



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Figure 4 – Laying Out for New Concrete Support Foundations



Figure 5 – Placing New Tunnel Foundation Concrete via Hopper



Figure 6 – New Concrete Foundation – South Side of Tunnel



Figure 7 – Foundation Concrete Forms - North side of Tunnel



Figure 8 – Drone Aerial at 100 FT



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Candice S. Miller

Public Works Commissioner
Macomb County

To: 8-1/2 Mile Relief Drain Drainage District Board Members

CC: File

From: Vince Astorino, Operations & Flow Manager

Date: May 8, 2023

Subject: Chapaton RTB Canal Rehabilitation - Additional Design Scope Recommendation

The Macomb County Public Works Office (MCPWO) has continued to work towards finding solutions to reduce treated combined sewer overflows (CSO) and improve water quality within Lake St. Clair. The first project that was established to reduce treated CSO's was to expand the existing open-air canal which would have reduced average annual overflow volumes up to 60%. Unfortunately, this project was rejected by EGLE mainly due to MCPWO requesting to take additional waters of the State.

In early 2022, MCPWO re-engaged Wade Trim, the original designer of the expansion project. Over the next four months the team explored options to complete the much-needed rehabilitation components that had been a part of that project. These rehabilitation components generally consist of the following:

- Construction of new Outfall Structure that will open from the top – down.
- Raising the sides of the canal above the 500-year flood elevation of 579.4'
- Installation of a direct flushing pipe to the lake to reduce treatment costs of lake water.
- Proper abandonment of the 9 Mile Drain adjacent to the canal

In May 2022, the Board authorized Wade Trim to progress the project to 100% design and provide ready-to-bid documents in early 2023. A large component of the redesign efforts was marrying the project to the then-proposed 9-Mile Pump Station (9MPS) Project. The Wade Trim team was to review and coordinate the two designs and construction schedules to provide a cohesive project for the site.

In July 2022 and after receiving bids, the decision was made to not proceed with the 9MPS project. As a result, numerous components of the Canal Rehabilitation either had to be revisited or incorporated into the design. These generally consist of the following:

- Preservation of the 9-Mile Emergency Bypass (something the new pump station would have eliminated)
- Modifications to the East Building outfall to account for future flow through the basin and to allow for the lowering of the canal invert.
- Additional hydraulic analysis related to the two items noted above.
- 11-acre storm sewer separation along 9-Mile Road (once a part of the 9MPS project)
- Decorative screening wall design along the north property line

Despite these challenges being presented mid-project, Wade Trim was able to control design costs and stay on schedule. The design components contained their original scope have largely remained under budget. Certain components were not known at the time of the original proposal / approval and are presented in the attached proposal. Below is a summary of design costs to-date:

Project Costs Summary

Description	Amount
Original 2020 Canal Expansion Fee:	\$1,387,874.00
2022 Canal Rehabilitation Fee:	\$459,515.67
Total Board-Approved Fee:	\$1,847,389.67
Additional Scope Fee:	\$132,085.00
Total Design Cost through Contractor Award:	\$1,979,474.67

MCPWO staff is recommending that the 8-1/2 Mile Relief Drain Drainage District Board accept the proposal from Wade Trim for additional design services.

Upon approval, MCPWO will issue a change order to Wade Trim to their existing contract for the amount noted in the table above. A separate proposal for construction contract administration (CCA) services will be requested from Wade Trim and will be presented at a future Board meeting.

Attachments: Wade Trim Additional Scope Letter dated 04/25/2023



April 25, 2023

Macomb County Public Works Office
21777 Dunham Road
Clinton Township, MI 48036

Attention: Mr. Steve Wagner, PE

Re: Chapaton RTB Canal Rehabilitation – Amendment Request
8-1/2 Mile Relief Drain Drainage District Contract – Contract WWS-2019-002

Dear Mr. Wagner:

In response to a request by the Macomb County Public Works Office (MCPWO) to add additional scope to the Chapaton RTB Canal Rehabilitation project, Wade Trim (WT) has prepared this Amendment request for additional budget. The purpose of the request is to compensate for additional effort that exceeded the established project budget due to increased scope, which includes the Nine Mile Sewer Separation, the required hydraulic analysis due to the elimination of the planned Nine Mile Pump Station, as well as other additional work described below. These items have been incorporated into the Chapaton RTB Canal Rehabilitation bid set.

Additional Scope of Services

1. RTB Outfall Screen, Concrete Structures, and Subsurface Geotechnical

It was determined through hydraulic modeling that the openings at the Chapaton RTB outfall needed to be lowered to provide the required flow to the canal. The required lowering of the three existing openings conflict with the originally proposed buttressing of the sheeting. Without the ability to buttress the proposed sheeting, it was determined that a concrete outfall structure would be needed to support the required sheeting. This structure spans the width of the canal at the RTB outfall with an upper and lower slab. Static bar screens for the outfall openings will also be added to this structure.

The design team has designed the concrete outfall structure and static bar screens and performed necessary geotechnical analysis, review of constructability, and construction sequencing. The plan and details will be provided to account for the force of the canal sheeting, the existing Nine Mile bypass which will be left in place, the installation of the new screens, and the widening of the RTB outfall openings. The structure will provide upper walkway access to the screens as a part of the top slab. These items have been included in the project plan set. Additional specifications for this work have been inserted into the compiled list of project specifications.

NTH performed a subsurface environmental investigation of soils to be excavated and is preparing a due care plan.

2. Nine Mile Pump Station Deletion Evaluation

During the development of the original Chapaton RTB Canal Rehabilitation scope, it was understood that the Nine Mile Pump Station would be under design and going into construction concurrent with the Chapaton RTB Canal Rehabilitation project.

This project has since been halted, and it is assumed that the Nine Mile Pump Station will not be constructed as originally planned. The deletion of this project had unexpected effects on the Chapaton RTB Canal Rehabilitation project. Due to this, the design team was required to reevaluate the hydraulics of the RTB outfall, canal, canal bypass, and gate design.

The design team worked with MCPWO to understand the new hydraulic requirements on the Chapaton RTB Canal Rehabilitation. New alternatives were analyzed for the possible scenarios that this deletion caused. This effort included compiling parcel information, creating GIS maps, performing field investigations, and models were re-run for multiple scenarios. This data was then used to update the Hydraulic Report attached to the Chapaton RTB Canal Rehabilitation Basis of Design Report and the Basis of Design Report itself.

3. Nine Mile Sewer Separation

MCPWO has requested that the Nine Mile Sewer Separation portion of the original Nine Mile Pump Station project be included in the Chapaton RTB Canal Rehabilitation project. This allows for the reduction of hydraulic load passing through the Chapaton RTB and the canal. The following is the Scope of Work has been completed.

Design Phase

The following items are limited to the Nine Mile Road Storm Sewer Separation and Nine Mile Road Replacement:

- A. Determine new location for the storm sewer and which utilities will need to be relocated.
- B. Determine if the sanitary sewer main and lead to the Shore Club building are required and the limits of the sewer lateral.
- C. Discuss possible easement needs with MCPWO staff.
- D. Develop revised storm sewer and road alignment drawings.
- E. Coordinate demarcation point between the WT and Fishbeck design.
- F. Develop easement document if needed.
- G. Prepare revised plan and profile sheets for the storm sewer and roadway.
- H. Develop 60% drawings, develop construction cost estimate, and perform internal quality assurance/quality control (QA/QC) of drawings.
- I. Submit a Michigan Department of Environment, Great Lakes and Energy (EGLE) Part 499 Permit Application for the Water Main Relocation and Part 41 Permit Application for Sanitary Sewer.
- J. Submit Soil Erosion and Sedimentation Control Permit Application to the City of St. Clair Shores.
- K. Meet with MCPWO to review 60% drawings.
- L. Incorporate MCPWO comments into the drawings.
- M. Prepare technical specifications as needed to be incorporated into bidding documents.
- N. Develop 90% construction documents and perform internal QA/QC of drawings and specifications.
- O. Meet with MCPWO to review 90% construction documents.

- P. Incorporate MCPWO comments into the construction documents and perform final internal QA/QC.
- Q. Provide final (100%) construction documents.

Assumptions

The following assumptions have been made:

- A. No additional topographical survey or geotechnical investigations are needed.
- B. A Basis of Design Report is not needed.
- C. A Floodplain Permit Application is not included in our scope.
- D. MCPWO staff will negotiate and coordinate acquiring the easement, if required. Fishbeck will prepare the needed easement document only. No additional title commitments are needed.

4. Bidding Phase

At MCPWO direction, Wade Trim reallocated original budget associated with the bidding phase to continue uninterrupted with additional scope items added to the design. This task will reestablish the budget for the bidding phase of the project.

Schedule

The schedule for Tasks 1 and 2 is in accordance with the original Chapaton RTB Canal Rehabilitation schedule. Task 3 was completed and has been included with the bidding documents for the Chapaton RTB Canal Rehabilitation project. This date was set barring any issues with easements or permitting. The project is currently in the bidding phase.

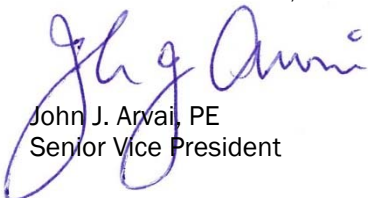
Price Proposal

The proposed Tasks have been or are to be completed in accordance with the terms of our existing WWS-2019-002 Chapaton RTB Canal Upgrades Contract on a Time and Material Basis for an amount of **\$132,085.00**. A cost breakdown for this work is attached. If additional effort is requested or required over the established budget amount, we will notify you in advance for authorization before proceeding with the work.

If you have any questions, please do not hesitate to call or email me.

Very truly yours,

Wade Trim Associates, Inc.



John J. Arvai, PE
Senior Vice President

JJA:jlb
MCW 2005.01T
20230425_WAGNER-LTR.DOCX
Attachment



Price Proposal

PROPOSAL NO.: MCPWO WWS-2019-002

April 25, 2023

CHAPATON RTB CANAL REHABILITATION

ADDITIONAL SCOPE ITEMS

SUBMITTED TO: 8 1/2 Mile Relief Drain Drainage District

PROJECT TASKS DESCRIPTION	Total Labor Hours	PM - Sr. Professional	Sr. Professional	Prof. Engineer II	CADD Tech III	Engineer IV	Engineer III							Labor	Sub/ODC	Task Pricing Totals
1- RTB Outfall Screen, Concrete Structures, and Subsurface Geotechnical																
Design - WT / NTH	28	4	8	8	8									\$ 5,220	\$ 35,000	\$ 40,220
2 - Nine Mile Pump Station Deletion Evaluation																
Hydraulic Analysis and Report - WT / ASI	5	1	2	2										\$ 1,105	\$ 17,600	\$ 18,705
3 - Nine Mile Sewer Separation and Road Replacement																
Design - WT / Fishbeck	14	2		4	8									\$ 1,950	\$ 29,000	\$ 30,950
4 - Bidding Phase																
Design - WT / NTH / ASI / Fishbeck	148	20	40	40	16	16	16							\$ 28,260	\$ 9,400	\$ 37,660
Subtotals	195	27	50	54	32	16	16	0	0	0	0	0	0	\$ 36,535	\$ 91,000	\$ 127,535
Bill Rate	\$ 265	\$ 265	\$ 155	\$ 100	\$ 155	\$ 130	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		SUB / ODC - 5%	\$ 4,550
	\$ 7,155	\$ 13,250	\$ 8,370	\$ 3,200	\$ 2,480	\$ 2,080	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		TOTAL	\$ 132,085



Candice S. Miller

Public Works Commissioner
Macomb County

To: Eight and One-Half Mile Relief Drain Drainage District Board Members

From: Vincent Astorino, Operations & Flow Manager

Date: April 21, 2023

Subject: Chapaton RTB Flushing Improvements – Consultant Recommendation

Macomb County Public Works Office (MCPWO), on behalf of the Eight and One-Half Mile Relief Drain Drainage District, has requested consultant proposals to administer the Chapaton Retention Treatment Basin (RTB) Flushing Improvements project. The Chapaton flushing system has been an objective since the commissioning of the station in the late 1960's. It is now a requirement under the National Pollution Discharge Elimination System (NPDES) permit.

The original facility had a flushing system installed which was inadequate to properly flush the RTB. In the late 1970's, a new flushing system was designed and constructed. This is the current system and consists of redundant 4,900 gpm pumps that provide flow to a zoned pipe/nozzle network within the RTB. The flushing pumps are supplied water from Lake St. Clair currently by filling the current open-air canal. This is being adjusted within the upcoming Canal Rehabilitation project to install a direct pipe to the lake which will save rate payers approximately \$200,000 annually in unnecessary treatment costs. The current flushing system has reached the end of its useful life and is becoming more difficult to find replacement parts for failing equipment.

MCPWO put together a request for proposal to design a replacement system within the RTB and publicly put that out to bid on MITN. On March 30, 2023, two proposals were received by Jacobs and Wade Trim for this effort. Per the MCPWO design bid process, both proposals were reviewed independently by MCPWO engineering staff. This review was strictly on the proposing firms' technical proposals and costs were not looked at until all technical scores were submitted. Those technical score are as follows.

Category (Max Score)	Jacobs	Wade Trim
Technical Proposal (40)	49.00	46.67
Experience and Qualifications (30)	23.83	24.00
Project Team & Key Individuals (30)	24.33	24.17
Sub-Total Score	97.16	94.84

From the technical evaluations, MCPWO identified that Jacobs scored slightly higher than Wade Trim but both firms were qualified to perform the work. After technical proposals were evaluated, the cost proposals were then opened and evaluated. The cost breakdown is as follows.

Task	Jacobs	Wade Trim
Task 1. Basis of Design	\$238,325.00	\$122,660.00
Task 2. Design Phase	\$341,706.00	\$138,400.00
Task 3. Bidding	\$19,750.00	\$9,290.00
Total Cost	\$599,781.00	\$270,350.00
Sub-Total Score	45.07	100.00

While the proposed fees varied considerably, MCPWO staff believes both proposers understood the objectives of the project. Using a weighted percentage of 90% technical and 10% cost, Wade Trim received a total score of 95.36 while Jacobs was at 91.95. This makes Wade Trim the recommended firm to execute the scope of work. Wade Trim is also the lead engineer on the Canal Rehabilitation project. Due to the new flushing water intake pipe being installed, this will allow Wade Trim to ensure that both projects integrate into each other seamlessly. The current anticipated project cost for this is approximately \$5,000,000. This will be evaluated through design and updated cost estimates will be provided at a later date.

MCPWO staff is recommending the following action:

That the 8MRDDD Board award the contract to Wade Trim in the total not-to-exceed amount of \$270,350 to design the Chapaton RTB Flushing Improvements Project.

Attachments: MCPWO Scoring Summary Matrix 4-3-23
Wade Trim Work Plan & Cost Proposal

Macomb County Public Works Office

Request for Proposal Evaluation Summary



RFP Number: WWS-2023-003

Project Description: Chapaton RTB Flushing Improvements

Budget: \$5,000,000

Requirement	Jacobs	Wade Trim
Technical Proposal	x	x
Cost Proposal - Separate Sealed Envelope	x	x
Owner-Engineer Disclosure Form	x	x
Non-Collusion Affidavit	x	x
General Information	x	x
Iran Economic Sanctions Act	x	x
Federal E-Verify Program	x	x
Proposal Form (with Cost Proposal)	x	x
Vendor Certification Debarment	x	x
Bonding Capacity - Const Projects Only		
Total:	9	9

Technical Proposal Evaluation

Category (Max Score)	Jacobs	Wade Trim
Technical Proposal (40):	49.00	46.67
Experience & Qualifications (30):	23.83	24.00
Project Team & Key Individuals (30):	24.33	24.17
Sub-Total Score:	97.16	94.84

Cost Breakdown

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Task 1. Basis of Design	\$238,325.00	\$122,660.00
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Task 3. Bidding	\$19,750.00	\$9,290.00
Total Cost	\$599,781.00	\$270,350.00
Sub-Total Score:	45.07	100.00

Composite Score

Proposal	Jacobs	Wade Trim
Technical	87.44	85.36
Cost	4.51	10.00
Total Score:	91.95	95.36

Recommendation	Proposal	Weighted Percent
Wade Trim	Technical	90%
	Cost	10%



Wade Trim Associates, Inc.
25251 Northline Road • Taylor, MI 48180
734.947.9700 • www.wadetrim.com

SECTION A. LETTER OF INTRODUCTION

March 30, 2023

Eight and One-Half Mile Relief Drain Drainage District
21777 Dunham Road
Clinton Township, MI 48036

Attention: Madison Tanghe, Senior Secretary

Re: Technical Proposal for Chapaton RTB Flushing Improvements Project (WWS-2023-003)

Dear Ms. Tanghe and Members of the Selection Committee:

The Chapaton Retention Treatment Basin (RTB) is a 28 million gallon (MG) combined sewer overflow (CSO) storage facility that serves the residents of Macomb County as a wet weather sewer relief for the 8½ Mile Relief Drain and 9 Mile Drain. All of the mechanical and piping components of the flushing system are more than 40 years old. Wade Trim previously conducted a study to identify options for improving the flushing system at this RTB—specifically, to significantly reduce or eliminate the need for staff to enter the basin to keep the floor substantially clean. Wade Trim, in collaboration with MCPWO staff, will evaluate flushing options that will provide a higher level of service and be in line with MCPWO’s budget and vision. We will also provide design services and support construction to implement these improvements.

Wade Trim will capitalize on our staff’s collective experience working with MCPWO and our subject matter expertise in flushing system, process, and pump rehabilitation projects. We bring extensive experience designing and rehabilitating CSO basins for municipalities and regional authorities. Our firm has a long history of evaluating and rehabilitating aging infrastructure, helping clients secure State Revolving Fund (SRF) funding, providing oversight of construction activity, and assisting with regulatory compliance and operational strategies. We bring the resources, experience, and innovative solutions to deliver a successful project.

The project team will be led by John Arvai, a Project Manager whom MCPWO staff has worked with on the Chapaton RTB Disinfection Improvements, NGI Gate Replacement and Pump Addition, and Chapaton RTB Canal Rehabilitation projects. John brings the perfect complement of project management and construction experience, including a direct communication style and scheduling expertise. John also brings experience working on various process-heavy projects, including basin, pump station, and wastewater projects with neighboring regional authorities and municipalities. Key personnel supporting John include David White, PE, QA/QC; Trevor Wagenmaker, PE, Design Manager; Jeff Reynhout, PE, Pump and Process Engineer; Mark Pribak, PE, Hydraulics; Greg Stanley, PE, Construction Manager; Jim White, PE, Structural; and Gary Prenger, PE, Electrical.

The following objectives have been identified and considered in our work plan:

- Improving the flushing system to enhance removal of solids
- Upgrading flushing pumps, motors, and valves
- Reducing operational costs
- Keeping the facility in service during construction

Our team's complementary expertise and knowledge, inclusive of MCPWO facilities and infrastructure, as well as an established working relationship developed on previous projects will help us develop creative solutions to resolve these issues. This team rapport will facilitate smooth project completion, on time and within budget. In addition, Wade Trim may be able to significantly reduce the Task 4 budget for construction management, engineering, and observation effort if we are able to coordinate project schedules to allow for this work to take place during our Chapaton RTB Canal Rehabilitation construction project.

Wade Trim is committed to maximizing the value of your infrastructure investment. For nearly a century, we've been solving complex engineering challenges to create stronger communities. We will use a collaborative, friendly style—built on excellent communication before, during, and after your project—to deliver solutions you can stand behind. We look forward to the opportunity to discuss our proposal with you.

Very truly yours,

Wade Trim Associates, Inc.



John J. Arvai, PE
Senior Vice President / Project Manager

WORK PLAN

Project Understanding

The Chapaton Retention Treatment Basin (RTB) is a combined sewer overflow (CSO) facility that serves the residents of Macomb County as a wet weather sewer relief for the 8½ Mile Relief Drain and 9 Mile Drain. The RTB includes a 28 million gallon (MG) storage basin and 1,545 cubic feet per second (cfs) pumping station. After use, the storage basin needs to be cleaned (“flushed”) to remove the solids that settle in the basin. The existing flushing system consists of two pumps and a distribution system of nozzles, pipes, and valves arranged to flush sediments from the basin floor in 10 sections. The flushed sediments flow through trenches built into the basin floor to the interceptor sewer.

All the mechanical and piping components of the flushing system are more than 40 years old. The performance of the system is compromised due to the age of the components as well as the inherent limitations of flushing with fixed, limited-volume pumps, pipes, and nozzles. The ineffectiveness of the flushing system results in the need for staff to enter the basin with small vehicles and other equipment to clear sediment. Wade Trim conducted a study to identify options for improving the flushing system—specifically, to significantly reduce or eliminate the need for staff to enter the basin to keep the floor substantially clean.

The goal of this project is to evaluate options to improve the flushing system at the Chapaton RTB facility. Extensive reconfiguring of the interior walls, floor slopes, etc. is not desired by MCPWO due to the significant cost and loss of CSO storage volume. Conceptually, MCPWO believes utilizing the existing piping network within the basin accompanied with an in-kind replacement of the existing pumps, motors, and automated valves is the most effective option. However, MCPWO desires improvements to the existing flushing zones, nozzle types and locations, or other changes that improve the final delivery of flushing water to the basin. A summary of project goals and objectives is provided in **Exhibit 3**.

EXHIBIT 3 SUMMARY OF MCPWO'S GOALS & OBJECTIVES



IMPROVEMENT GOALS

- Improve flushing system to enhance removal of solids
- Upgrade flushing pumps, motors, and valves
- Reduce operational costs

DESIGN OBJECTIVES

- Meet regulatory requirements
- Improve safety and facility reliability
- Provide construction phasing to allow for continuous operations
- Deliver solutions with operational flexibility and resiliency
- Focus on maintenance-centered design to reduce total life cycle costs

Project Management & Project Delivery

Managing the Chapaton RTB Flushing Improvements project requires a design manager to oversee and deliver the work, as well as an experienced project manager to guide and monitor the entire effort. The critical path runs through the study to decide on the right flushing improvements. Project Manager John Arvai will guide completion of the initial study as well as the integration of work products into subsequent tasks. John's background and experience provide the right level of technical know-how to contribute creative ideas, challenge concepts, and direct complex technical activities. John will be the single point of contact to respond to MCPWO.

John will be supported on the technical design of the project by Design Manager Trevor Wagenmaker. Trevor will oversee the technical team in day-to-day efforts for study and design. Trevor brings valuable lessons learned on flushing and screening systems gained over the past three decades. He has researched the latest technologies and has modernized CSO facilities from the Chapaton RTB era. John and Trevor will lead a seasoned and collaborative Wade Trim team that is ready to begin working with MCPWO on the basis of design.

Communication & Coordination

Effective and timely communication is essential to a project's success. Critical decisions will be made in collaborative meetings and workshops to support understanding and avoid delay of subsequent tasks. These decisions will often require evaluation and presentation of information to MCPWO before a decision can be made. Our team will develop an overall meeting plan and incorporate it into the updated P6 schedule.

Scope of Work

TASK 1 Basis of Design

The basis of design (BOD) phase of the project will follow the tasks given in the RFP, including:

- **Review of existing as-built drawings and shop drawings**—related to previous construction projects.



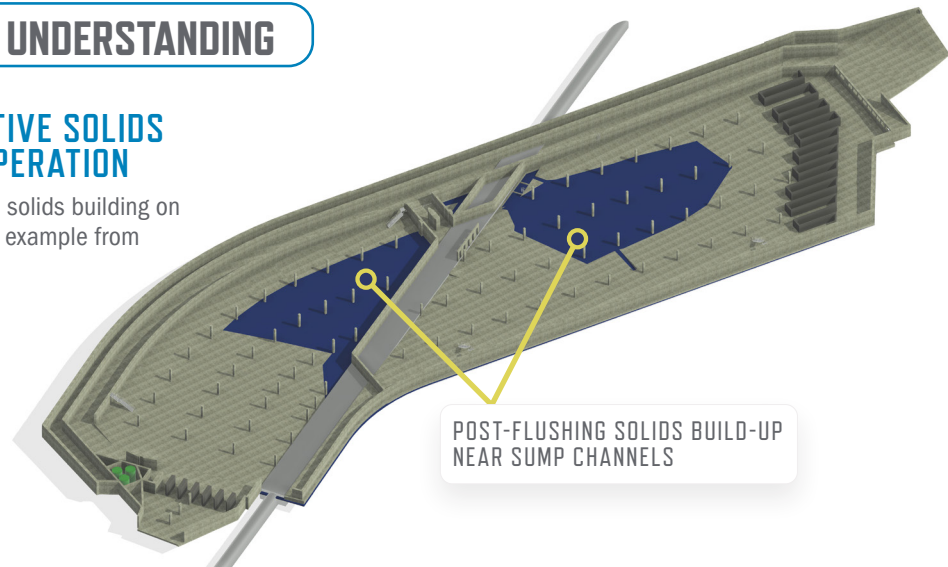
The existing knife gate valves and actuators will be replaced in kind. A new pipe spool piece from the valve to the 90-degree bend may be required due to the Victaulic connection if the new valve lay length is larger than the existing valve.

- **Structural evaluation of valve chambers and buildings.** Our structural engineer will assess existing damage, settling, and deterioration. The structural engineer and field team will enter each structure, and a detailed report with recommended improvements will be issued for review. This report will include estimated costs for improvements.
- **Electrical evaluation of existing equipment.** Our electrical engineer will evaluate the existing electrical switchgear, motor control centers, and disconnects for the equipment associated with the flushing system (flushing valves and flushing pumps). The age and repair history of the equipment will be considered, along with the potential difficulty of replacement part procurement. We will summarize our findings in a report with associated costs to implement recommended improvements.
- **Flushing system study.** To improve the performance of the existing flushing water system, we propose beginning the project by conducting a “root cause analysis” of the existing flushing system to determine the following:
 - ◆ *Existing patterns of solid deposition in the basin after an event and after an existing flushing sequence.* This is a critical step to determine which areas of the basin are currently not being flushed adequately. We will seek input from MCPWO staff to learn of their experience, as well as to gain entrance to the basin after an event to

SOLIDS MANAGEMENT UNDERSTANDING

EXAMPLE OF REPRESENTATIVE SOLIDS DEPOSITION FOLLOWING OPERATION

Wade Trim has the ability to model the solids building on the floor of the basin, as shown in this example from another proposed project.



physically observe the floors and sumps before and after flushing. We will develop a drawing to represent the levels of solids on the floor in these scenarios. The drawing will be based on the existing BIM information available for the tank. We do not anticipate needing additional survey for this task.

- ◆ *Existing flushing water amounts and patterns.* We will determine the amount of water currently discharged in each zone based on the existing pump operation and existing nozzles. This will be accomplished by reviewing records of the pump/pipes/nozzles and developing a hydraulic model. The data will be verified by entering the basin and physically observing the system in operation for each zone. We anticipate that additional field survey will be needed for this task to confirm the number, size, and location of the existing nozzles in the piping system. A detailed drawing will be prepared based on this field survey for use in the study/design.

Based on the root cause analysis, we will develop a plan for improving the flushing operation in the basin. This could consist of the following items depending on the results of the analysis.

PUMPING

We are assuming that the current flushing zones should not change based on the difficulty and expense of adding new valves to the system. If the amount of flow needs to increase per zone to achieve better flushing, the existing pump capacity will need to change. In addition to a possible flow change, the pumps may need to operate at a higher pressure to increase the spray pattern and flushing capability of the nozzles. We will examine replacement of the existing pumps, with the potential of changing the pump type to allow for a discharge above the operating floor level, which may be desired if new strainers are required. In this case, a pump style such as a vertical turbine pump in a can could be considered.

Note that Wade Trim is currently working on the Chapaton RTB Canal Upgrades project, which is installing a new 18-inch pump suction pipe in the basin to bring lake water directly to the pumps. This pipe was sized based on the existing pump capacity. If the pump capacity ends up needing to be increased above a certain threshold, this pipe will likely need to be upsized to provide the new pumps with enough net positive suction head to operate properly. We would coordinate this work with the existing project. If the pumps need

a larger motor to provide more flow or more pressure, the existing electrical feed to the pumps will need to be increased, and the existing electrical system in that building will need to be examined to confirm that it is adequate.

FLUSHING NOZZLE SYSTEM

We will examine the existing flushing nozzle system to determine if changes should be made to it. This could include replacing the existing nozzles with new nozzles or changing the number, spacing, size, or type of nozzle to achieve better performance. The goal is to have a complete spray coverage on the floor and sumps of the basin to provide a flush of the solids under normal storm events. Different storm events deposit different levels and possibly types of solids. We will review as much historical information as is available.

GATES

Two gates are being added to the basin to flush two of the trenches manually, although it is likely that they will not be in operation in time for this study. Based on another similar gate in operation in this mode, it is believed that they will be effective for a certain distance in the basin, but likely not the entire length. We can examine adding similar gates as part of this study phase and/or adding a flushing gate over the sump channel as described below.

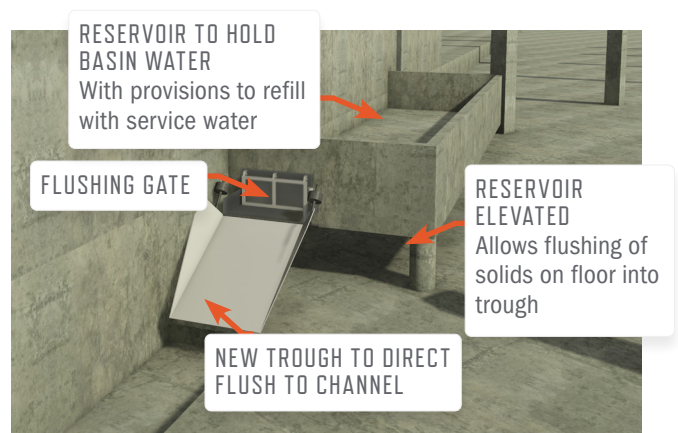
STRAINING/SCREENING

Based on our knowledge of the existing flushing operation, minimal plugging of the existing nozzles occurs. However, some of the nozzles in the system that have good performance also have a small opening that is susceptible to plugging, according to staff. With new nozzles, this problem may get worse and a strainer may need to be installed on the flushing pump discharge. We will evaluate the need and options for straining/screening solids entering the flushing system from the lake, including installation of an automatic strainer that could be installed on the discharge of the flushing pumps.

POTENTIAL ADDED VALUE ITEM

An enhancement to the flushing system to consider is to place a new flushing gate reservoir/gate system directly over the sump trenches at the end of the basin or mid-basin to create a flushing wave in the trenches for cleaning these solids. This could significantly improve the flushing of the trenches compared with other options that may be considered, as the waves from these gate systems can be modeled with some accuracy and their performance validated. We developed a similar solution for another client, which is illustrated in **Exhibit 4**. We have not included effort in our budget for this task, but can add it if desired.

EXHIBIT 4 Sump Channel Flushing Example



HYDRAULIC MODELING

A hydraulic computer model will be created for the purpose of modeling the water flushing flow from the pumps through the piping to the nozzles to determine flows and pressures required.

Additional anticipated tasks for the basis of design include:

- **Pipe condition assessment.** We will do a walkthrough of the basin and physically examine the piping with non-destructive methods such as sounding. If more destructive methods (e.g., pipe coupons) are required for this task, we can arrange it, but this



As part of our evaluation during the BOD phase, Wade Trim will look at options to remove motors and valve actuators at the floor level to provide more open space as well as better access into the pump vault below.

work is not included in our current budget. There are extensive pipe supports throughout the basin. We are not proposing to do a detailed inspection of each of these. However, if during our walkthrough it becomes obvious that there are significant issues with the supports, we will include that in our report.

- **Flushing zone valve replacement.** We will include the costs for replacing the existing flushing zone valves in the BOD report assuming that they are replaced in-kind reusing the existing electrical feed.
- **Permits.** We will identify the needed permits to complete the proposed work.

The basis of design will detail the investigation, possible options for improvement, and concept costs. This can be used to determine the course of action to be taken during the design task. Monthly meetings will be held with staff to review our findings as the work is progressing. A preliminary BOD report will be prepared for review prior to finalizing the report.

TASK 2 Design

Following confirmation of the basis of design from MCPWO, Wade Trim will prepare drawings to the 30% stage, as well as develop a specifications table of contents. We will use drawings from previous construction projects to facilitate the development of new design drawings. We will use and update the existing BIM Revit

models of the gate locations to complement information we use from the existing drawings during design. Photographs of the existing conditions will also be used to help facilitate understanding of construction work required under this rehabilitation project.

In addition to monthly progress meetings with MCPWO, Wade Trim will facilitate a 30% review workshop with MCPWO to confirm that the design is meeting the vision and goals of the project. Design review comments from the workshop will be incorporated into the design and approved prior to proceeding to the 60% design stage.

A preliminary construction schedule and engineer's opinion of probable construction cost (EOPCC) will be developed. The EOPCC will be developed at 60%, 90%, and 100%. Following MCPWO approval of the 30% drawings, we will proceed to the 60%, 90%, and 100% design stages, which will include preparing drawings and specifications for construction bidding.

Intermediate technical workshops will be needed to review the design details at each milestone. A 60%, 90%, and 100% review workshop will be held to address any final review comments and confirm that the design meets project goals. These workshops, along with monthly progress meetings, will be memorialized.

Permitting

Wade Trim will coordinate early and as needed to confirm regulatory and permitting requirements from EGLE, MCPWO, the local building department, and utilities providing service to the facility. Key elements for EGLE will be showing how the functionality of the flushing system will be maintained throughout the construction period. Draft applications of all permits will be prepared for review by MCPWO and submitted at appropriate times during the design.



Value Proposition

Wade Trim may be able to significantly reduce the Task 4 budget for construction management, engineering, and observation effort if we are able to coordinate project schedules to allow for this work to take place during our Chapaton RTB Canal Rehabilitation construction project.

DESIGN SCOPE

We are assuming the following scope of work for the design phase:

- Flushing zone valves will be replaced in kind, including mechanical and electrical drawings and specifications for this work.
- Two existing flushing water pumps will be replaced in kind, including mechanical and electrical drawings and specifications for this work.
- Flushing nozzle improvements will be made. A plan showing all of the existing flushing piping with the existing nozzles will be developed, and new nozzles/replacement nozzles will be shown on the existing piping. Specifications for the new nozzles and for the installation work will be developed.
- Sequence of construction will be developed in the specifications to provide constraints to the contractors in their execution of the work so that system operation can be maintained during construction.
- Applications will be submitted for the required permits for construction.
- Specifications will include required American Iron and Steel (AIS) and Davis-Bacon requirements.
- A construction schedule will be developed for the proposed work for use in planning.

During the design phase, we will also:

- Coordinate with other work being performed near the Chapaton Pump Station and RTB.
- Develop a comprehensive list of submittals to be provided by the contractor based on the final contract documents.

TASK 3 Bidding

Wade Trim will prepare appropriate bid documents, respond to questions during the bidding process, and prepare addenda as required during the course of bidding. We will assist MCPWO in facilitating a pre-bid meeting, and we will prepare handouts and presentations for the meeting detailing the project scope of work. Following the pre-bid meeting, we will prepare and distribute meeting minutes and responses to questions raised to attendees and MCPWO.

Following the bid opening, Wade Trim will assist MCPWO in reviewing and evaluating the bids to determine the responsible low bidder. We will conduct a pre-award meeting with the apparent low bidder, if needed. Based on our evaluation, Wade Trim will then prepare a recommendation for award to MCPWO.

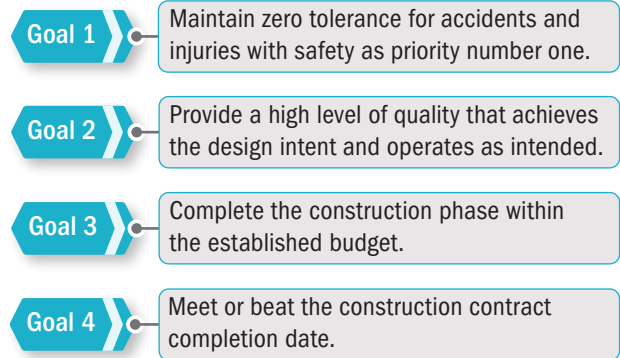
TASK 4 Construction Contract Administration

Wade Trim will provide a not-to-exceed proposal pursuant to design completion for professional services associated with contract administration and construction engineering and observation. We will work with MCPWO to make sure the scope is adequate and meets expectations. Key goals for construction success are outlined in **Exhibit 5** on page 17. We anticipate the following construction services will be required at a minimum:

- Pre-construction meeting
- Submittal review
- RFI review and response
- Pay application review and recommendation
- Coordination and memorialization of regular construction progress meetings

- Site visits by the engineer at project milestones
- Full-time construction observation with required daily reporting
- Preparation and organization of change management forms
- Record drawings in PDF and AutoCAD format
- Development of O&M manuals
- Contract closeout
- Update of NexGen database to include all new assets—MCPWO will assist with this effort

EXHIBIT 5 Four Goals Guiding Construction Success



CONTRACT CLOSEOUT

Exhibit 6 summarizes the anticipated process for contract closeout.

EXHIBIT 6 Contract Closeout Documentation



The accuracy of the closeout process and record documents are of paramount importance to manage the final work products for this project and verify they are complete and readily accessible to MCPWO staff. Wade Trim will confirm that the entire contract closeout procedures are followed and final documentation is complete.

II. Hourly Rates for Construction Contract Administration

Hourly rates for each of the applicable staff classifications required to complete the scope of work are shown below. These rates include staff classifications for the Construction Contract Administration task.

WADE TRIM HOURLY BILLING RATE SCHEDULE

Classification	Hourly Rate	Classification	Hourly Rate
Professional Engineer V	\$225.00	Survey Technician III	\$90.00
Professional Engineer IV	\$200.00	Survey Technician II	\$75.00
Professional Engineer III	\$175.00	Survey Technician I	\$65.00
Professional Engineer II	\$165.00	Construction Technician VI	\$165.00
Professional Engineer I	\$145.00	Construction Technician V	\$135.00
Engineer IV	\$165.00	Construction Technician IV	\$120.00
Engineer III	\$145.00	Construction Technician III	\$100.00
Engineer II	\$125.00	Construction Technician II	\$90.00
Engineer I	\$115.00	Construction Technician I	\$75.00
Professional Surveyor IV	\$185.00	Project Specialist V/Manager	\$215.00
Professional Surveyor III	\$160.00	Project Specialist IV/Manager	\$205.00
Professional Surveyor II	\$130.00	Project Specialist III/Manager	\$190.00
Professional Surveyor I	\$115.00	Project Specialist II	\$165.00
Surveyor III	\$120.00	Project Specialist I	\$125.00
Surveyor II	\$110.00	Project Aide III	\$140.00
Surveyor I	\$95.00	Project Aide II	\$100.00
Survey Technician VI	\$145.00	Project Aide I	\$75.00
Survey Technician V	\$125.00	Principal	\$300.00
Survey Technician IV	\$110.00	Senior Professional	\$275.00

Fees for other standard expenses will be charged on a unit rate basis as follows:

Daily Vehicle Charge	\$90.00/day
Field Vehicle	\$0.66/mile
Construction Vehicle	\$16.00/hour
Photocopies	\$0.10/copy
Color Printer	\$0.15/print
OCE Printer	\$0.15/print
Mileage, Commercial Vehicle	\$0.67/mile
Mileage, Employee Vehicle	\$0.65/mile

Rates are inclusive of all overhead items that are normal business operation. Hourly Billing Rate Schedule to be adjusted prior to the start of the Construction Contract Administration Task.

Cost Assumptions

Wade Trim has made the assumptions described below in development of our proposed costs:

- No DTE or other utility charges, fees, or costs have been included in our Fee Estimate.
- The Fee Estimate does not include costs to incorporate innovative ideas presented in the proposal or increased scope due to the alternative evaluations in the BOD phase.
- No survey easement will be required.
- Confined space support and rescue costs have not been included and are assumed to be provided by MCPWO.

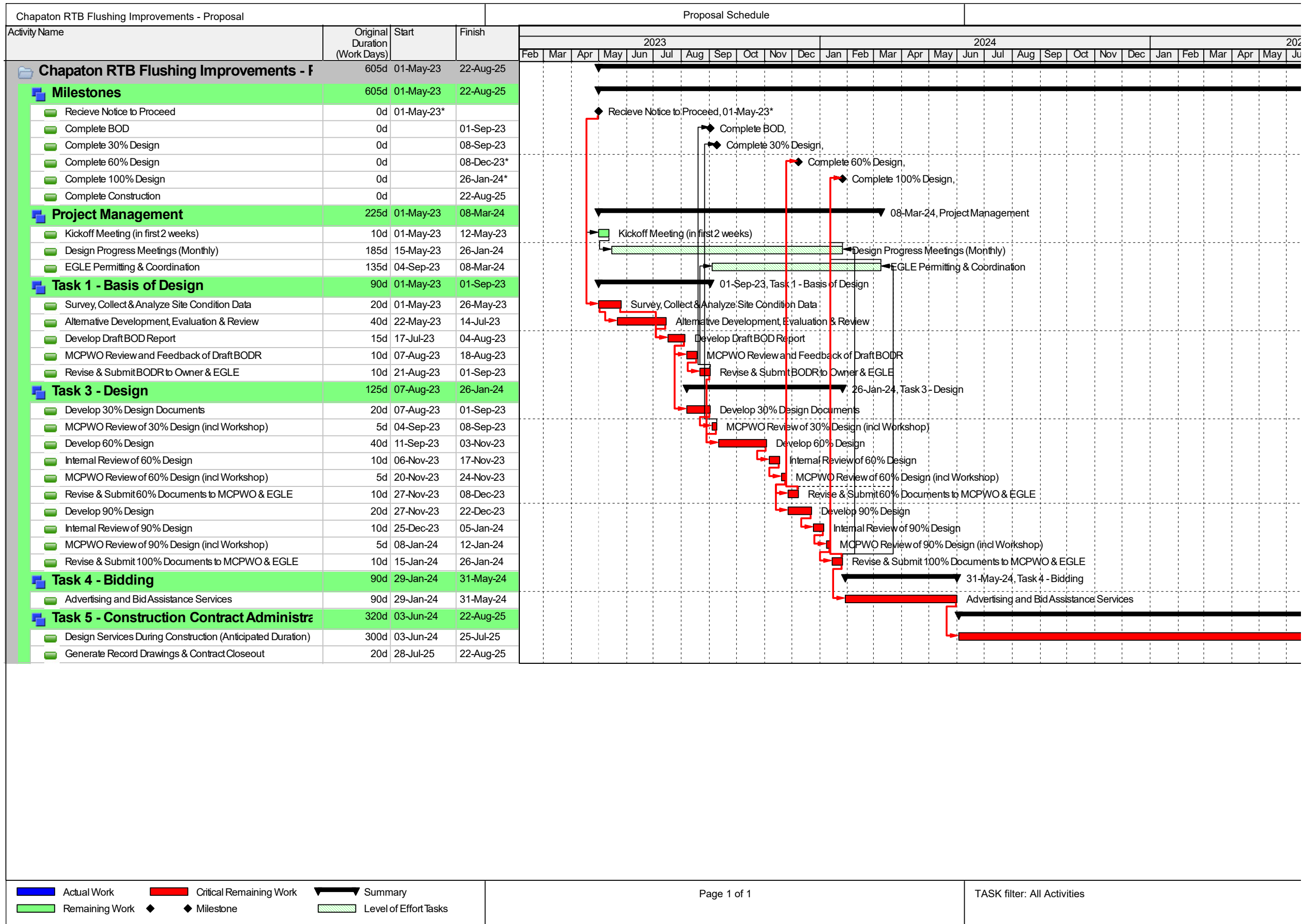
Additional assumptions made in developing our Cost Proposal include those described in the following Design and Construction Phases.

Design Phase

Our Cost Proposal is based on the scope detailed in our Technical Proposal. Given the many options, alternatives, and additional features presented in our Technical Proposal, the Design Phase fee may need to be reviewed and adjusted (increased or decreased) after acceptance of the selected final concept and completion of the basis of design to make sure the design fee accurately represents the final MCPWO selections and direction moving forward for design.

Construction Phase

A Construction Phase proposal will be submitted for approval once the design is at 100% completion. Wade Trim may be able to significantly reduce the Task 4 budget for the construction management, engineering, and observation effort if we are able to coordinate project schedules to allow for this work to take place during our Chapaton RTB Canal Rehabilitation construction project.



█ Actual Work
 █ Critical Remaining Work
 Summary
 Remaining Work
 ◆ Milestone
 Level of Effort Tasks

SECTION C

PROPOSAL FORM

Chapaton RTB Flushing Improvements

Project No. WWS-2023-003

PROPOSAL FORM

PROJECT NO.: WWS-2023-003

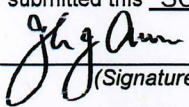
PROJECT TITLE: Chapaton RTB Flushing Improvements

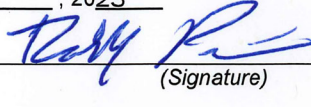
PROPOSER: Wade Trim Associates, Inc.
(Firm name, typed or printed)

The undersigned Proposer, having carefully examined the RFP Documents and the Scope of Work, the requirements of the RFP and all subsequent Addenda, all as issued by the OWNER, and being familiar with all conditions and requirements of the Scope of Work, hereby proposes and agrees to furnish all material, labor, equipment, tools and supervision; and to furnish all services necessary to complete the Work required in accordance with said documents for the following amount:

Two hundred seventy thousand three hundred fifty Dollars \$ 270,350
(Base Proposal Sum to be written out)

Respectfully submitted this 30th day of March, 2023

By: 
(Signature)

Attest: 
(Signature)

Name: John J. Arvai, PE
(Typed or printed)

Name: Ralph Picano
(Typed or printed)

Title: Senior Vice President
(Owner/Partner/President/VP)

Title: Secretary/Treasurer & CFO
(Corp. Secretary or Asst. Secretary Only)

Date: March 27, 2023
(Typed or printed)

Date: March 27, 2023
(Typed or printed)

Designated Representative

Name: John J. Arvai, PE
(Typed or printed)

Title: Senior Vice President

Phone: 734.947.9700

Address: 25251 Northline Road

Email: jarvai@wadetrim.com

Taylor, MI 48180

License: Michigan PE # 6201053115 Fed. ID No: 38-1802386

(Affix Corporate Seal Here)



EIGHT AND ONE-HALF MILE RELIEF
04/18/2023 - 05/09/2023

<u>Funding Source</u>	<u>Apportionment</u>	<u>Manager</u>	<u>Vendor</u>	<u>Amount</u>	<u>Invoice Detail</u>	<u>Project Summary</u>	<u>Project Balance</u>
8 1/2 Mile Relief	Chapter 20 State of MI – 16.04% County of Macomb – 2.25% Dept. of Roads – 2.25% Eastpointe – 54.33% St. Clair Shores – 25.13%						
		Astorino	Anderson, Eckstein, & Westrick	\$ 1,752.01	Invoice #143196 - 04.03.23	Gate Rehabilitation Project - 02.13.23 - 03.12.23	\$ 77,088.44
		Astorino	Anderson, Eckstein, & Westrick	\$ 11,388.07	Invoice #143373 - 04.24.23	Gate Rehabilitation Project - 03.13.23 - 04.09.23	\$ 65,700.37
		Astorino	City of St. Clair Shores Treasurer	\$ 1,325.59	Invoice #23-202 - 04.04.23	Monthly Utilities - 12.15.22 - 03.14.23	
		Astorino	Colville Electric Co., LLC	\$ 688.22	Invoice #23279 - 04.18.23	Server Replacement Project	
		Astorino	Colville Electric Co., LLC	\$ 2,468.84	Invoice #23276 - 04.18.23	Dewater Gate Pump Starter	
		Astorino	Consumers Energy	\$ 952.56	Invoice #207147067193 - 04.10.23	Monthly Utilities - 03.10.23 - 04.10.23	
		Astorino	Consumers Energy	\$ 764.01	Invoice #205190447966 - 04.10.23	Monthly Utilities - 03.10.23 - 04.10.23	
		Astorino	Department of Roads	\$ 706.28	Invoice #302375 - 02.17.23	Fleet Fuel - January 2023	
		Astorino	Department of Roads	\$ 584.50	Invoice #302421 - 04.12.23	Fleet Fuel - March 2023	
		Astorino	DTE Energy	\$ 606.28	Invoice #23-212 - 03.31.23	Monthly Electric - 03.01.23 - 03.31.23	
		Astorino	DTE Energy	\$ 14,782.19	Invoice #23-228 - 04.17.23	Monthly Electric - 03.09.23 - 04.10.23	
		Astorino	DTE Energy	\$ 804.84	Invoice #23-234 - 04.17.23	Monthly Electric - 03.15.23 - 04.14.23	
		Astorino	DTN, LLC	\$ 672.75	Invoice #6248793 - 01.20.23	Storm Sentry Weather Service	
		Astorino	Evoqua Water Technologies	\$ 609.12	Invoice #905830275 - 04.17.23	Lab Supplies	
		Astorino	Fishbeck	\$ 3,385.00	Invoice #422194 - 04.03.23	Confined Space/LOTO	\$ 46,556.01
		Astorino	HESCO	\$ 112,700.36	Invoice #2314234 - 02.28.23	Flowmeter Console	
		Astorino	JCI Jones Chemicals Inc	\$ 11,073.63	Invoice #910311 - 04.05.23	Hypochlorite Solution	
		Astorino	KHVPF	\$ 1,550.00	Invoice #49437 - 03.01.23	Contract Review	
		Astorino	NTH Consultants, Ltd	\$ 2,212.79	Invoice #632434 - 04.07.23	2023 Interceptor Inspection Program - Design	\$ 48,939.96
		Astorino	People Driven Technology	\$ 1,191.09	Invoice #INV4719 - 04.18.23	SCADA Maintenance	
		Astorino	Rescue Training Services LLC	\$ 1,425.00	Invoice #04142023 - 04.14.23	16 Hour Confined Space Training	
		Astorino	Tetra Tech, Inc.	\$ 17,365.00	Invoice #52054073 - 04.17.23	Chapton Electrical/Generator Design	\$ 133,498.17
		Astorino	Tetra Tech, Inc.	\$ 55,336.39	Invoice #52054066 - 04.17.23	In-System Storage CCA	\$ 540,117.87
		Astorino	ULINE	\$ 720.59	Invoice #161212178 - 03.15.23	Gloves	
		Astorino	Wade Trim	\$ 49,949.65	Invoice #2027262 - 04.26.23	Chapaton RTB Canal Rehab - Design	\$ 3,957.69
		Astorino	Weiss Construction	\$ 136,663.17	Invoice #WWS-2021-006-APP13 - 04.24.23	In-System Storage through 04.21.23	\$ 5,583,335.19
		Total		\$ 431,677.93			

Budget to Actual
8.5 Mile Relief
As of April 30, 2023 =58%

DESCRIPTION	2023 FINAL BUDGET	ENCUMBERED	ACTUAL	REMAINING BUDGET	PCT UTILIZED
REVENUE ACCOUNTS					
Interest Earned	20,000		135,850	(115,850)	679.3%
Other Revenue	5,000		156,901	(151,901)	3138.0%
State Grant-Electrical and Canal Rehab			582,382	-	100.0%
8.5 O&M/Charge Required Revenue	5,003,220		5,003,220	-	100.0%
PY Revenue-Fund Balance	4,412,010			4,412,010	0.0%
Use of Reserve from prior contributions	3,738,110			3,738,110	0.0%
Use of Reserve(Flow Meters)	350,000			350,000	0.0%
Use of SCADA Reserve	64,750			64,750	0.0%
Use of Surplus from past collections	1,051,830		-	1,051,830	0.0%
Total Revenue Accounts	14,644,920	-	5,878,353	9,348,949	40.1%
EXPENSE ACCOUNTS					
Application/Permit Fee	6,000		6,000	-	100.0%
Dues, Training, Conf, Subs.	17,010		1,590	15,420	9.3%
Engineering					
Sluice & Dewatering Gates Rehab/Replacement Project	1,974,340		1,661	1,972,679	0.1%
Canal Rehab Design	320,000		224,109	95,891	70.0%
8.5 Mile Inspection Project	500,000		18,623	481,377	3.7%
9 Mile Drain & Dewater Accusonic Flow Meters	350,000		134,508	215,492	38.4%
9 Mile Emergency Bypass Structural Rehab	3,000,000		7,633	2,992,367	0.3%
Flushing	1,895,660		1,534	1,894,126	0.1%
Chapaton Electrical Upgrades(ARP Funds)	-		91,503	(91,503)	100.0%
As needed Engineering	39,110		15,415	23,695	39.4%
Sluice and Dewatering Gates Rehab/Replace Project(Was 9 Mile PS)	2,025,660		56,350	1,969,310	2.8%
Cost Share Army Corp Grant-Green Infrastructure Project	162,500			162,500	0.0%
9 Mile Bypass Pipe Structural Repairs-Construction/CA	308,010		1,491	306,519	0.5%
Chapaton Improvements-Office Space Downstairs	100,000		1,231	98,769	1.2%
In-System Storage-Construction Admin and Construction	1,659,410		1,727,388	(67,978)	104.1%
New Equipment	3,000			3,000	0.0%
Office Supplies	500			500	0.0%
Operating Supplies	81,800		53,080	28,720	64.9%
Other Professional Svcs	42,500		21,004	21,496	49.4%
Personnel Services	1,135,790			1,135,790	0.0%
Repair & Maintenance	246,000		36,668	209,332	14.9%
Contribution to Reserve	288,240			288,240	0.0%
Scada System	199,390		29,324	170,066	14.7%
Utilities	290,000		90,218	199,782	31.1%
Total Expense Accounts	14,644,920	-	2,519,330	12,125,590	17.2%

	O&M Balance 9/30/2022	O&M	Total 4/30/2023
Cash - Operating	9,802,509	3,359,023	13,161,532
Accounts Receivable			0
Assets			0
Liabilities			0
Revenues		5,878,353	5,878,353
Expenditures		2,519,330	2,519,330
			0
Equity*	9,802,509		13,161,532

Detail of 2022 Equity*

9 Mile Bypass Struct Rprs-Const/CA	292,264	Capital Reserve	953,047
As-Needed Engineering	48,544	Contribution from Macomb Cty	2,000,000
Chapaton Improvements-Lab/Office Space	173,347	In System Contrib from SEMSD	1,351,239
Chlorine storage tank #3 relining	7,500	LSCWWI 04B Transfer	738,112
Cost Share Army corp Grant-Green Infrastructure Project	162,500	SCADA Reserve	155,140
Fiber Optic Improvements	16,130	SRF Replacement Reserve	2,592,140
Firewall Hardware Design/Config	12,900	Painting	25,000
In-System Storage Design/Const Admin/Const	116,276	SolarWind -Network Mgmt Softwar	9,670
Obsolete Wireless backhaul replacement links	16,120	Storm PLC Replacments	30,000
Sluice & Dewatering Gates Rehab/Replace Proj(Was 9 Mile PS)	1,102,581		