

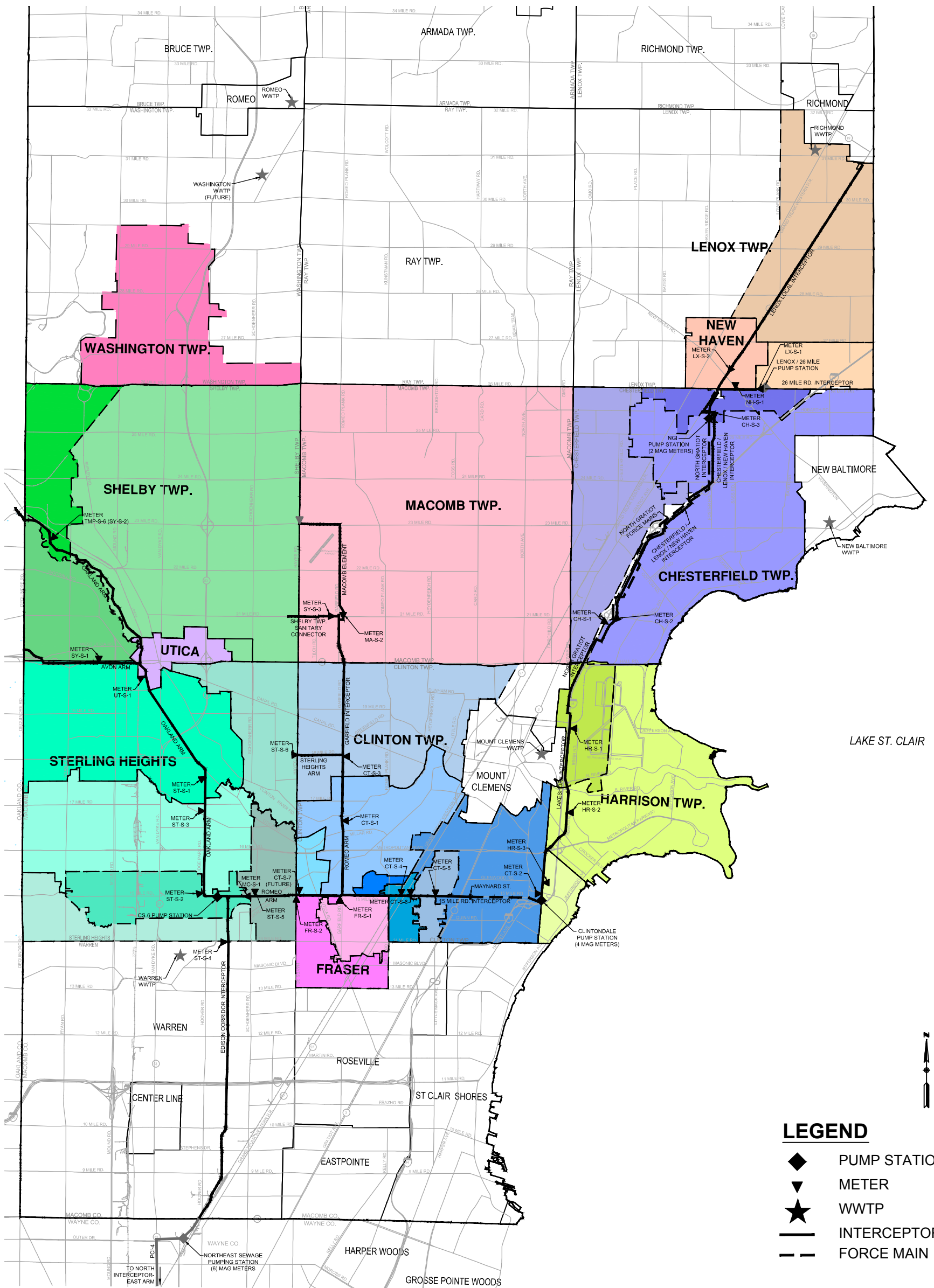
MACOMB INTERCEPTOR DRAIN
INTRA-COUNTY DRAINAGE BOARD
DECEMBER 12, 2022
10:30 A.M.
AGENDA

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

**Call in Number: 1-321-529-9096
Access Code: 738 68 3904**

	Page
1. Call of meeting to order and roll call	
2. Approval of Agenda for December 12, 2022	
3. Approval of Minutes for November 14, 2022	3
4. Public Participation	
5. Project Updates – Stephen Downing/Vince Astorino	6
6. Clintondale Pump Station Plug Valve Replacement – Vince Astorino	26
Motion: To approve the purchase of three plug valves at the Clintondale Pump Station from J.G.M. Valve Corporation in the amount of \$65,232.	
7. As Needed Engineering Services Contracts Recommendation – Vince Astorino	28
Motion: To authorize the Board Chair to execute As-Needed Engineering Services contracts with the noted 9 firms and engage the firms as needed and within budgeted amounts, subject to obtaining prior board approval for tasks exceeding \$35,000.	
8. Drop Shaft Rehab Warranty Inspection – Stephen Downing	30
Motion: To approve the warranty inspection proposal from AEW for \$44,736 and from NTH for \$53,025 for a total amount of \$97,761.	
9. Consideration for approval of invoices (see attached)	38
10. Financial Report – Bruce Manning	40
11. Adjourn	

MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT



LEGEND

- ◆ PUMP STATION
- ▼ METER
- ★ WWTP
- INTERCEPTOR
- - - FORCE MAIN



Candice S. Miller

MACOMB COUNTY PUBLIC WORKS COMMISSIONER



UPDATED: FEBRUARY 2017

An adjourned meeting of the Intra-County Drainage Board for the **MACOMB INTERCEPTOR DRAIN** was held in the Office of the Macomb County Public Works Commissioner, 21777 Dunham Clinton Township, Michigan on November 14, 2022, at 11:52 A.M.

PRESENT: Candice S. Miller, Chair
Bryan Santo, Member
Don VanSyckel, Member

ALSO PRESENT: Daniel Acciavatti, Deputy of Government Relations; Vince Astorino, Operations & Flow Manager; Brian Baker, Chief Deputy; Steve Downing, Construction & Maintenance Manager; Norb Franz, Communications Manager; Denise Harwood, Fiscal Analyst; Bruce Manning, Finance Manager; Pam Sonnenberg, Administrative Assistant; Tom Stockel, Construction Supervisor; Don Brown, Board of Commissioners

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

Adopted: YEAS: 3
NAYS: 0

Minutes of the meeting of October 24, 2022 were presented. A motion was made by Mr. Santo, supported by Mr. VanSyckel to approve the minutes as presented.

Adopted: YEAS: 3
NAYS: 0

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

Mr. Downing updated on Segment 5. Work continues on the CS-12 Structure and spray lining continues on the 8 foot pipe at 15 Mile Road and Hayes. There is also continued work being performed on the lining of the CT-S-7 and FR-S-2 connecting sewers, and spray lining on the drop manholes. He presented photos of the work being performed. Mr. VanSyckel said that he saw somewhere that the contractors were sampling cement before it goes into the forms and asked if they were still doing that. Ms. Miller said that it was in one of her videos where they were sampling cement for the in-system storage project. Mr. Downing added that, we have an inspector taking samples for every project.

Mr. Downing moved on to Segment 6. The construction of the permanent CS-13 structure was completed, as well as the excavation and the construction of the TERS for the access shaft at manhole #1. The concrete for the CS-13 control cabinet equipment pad has been placed. We are still working on the Builders Risk Claim. They have approved a partial claim amount for the actual repairs to the damaged HOBAS. Mr. Downing still has a dispute with some of their forensic review findings.

Mr. Astorino updated on the Garfield Interceptor Lining project which needs immediate repair due to hydrogen sulfide damage. We have selected to use a spiral wound PVC liner which has been installed around the world, but this is the first time it is being used in Michigan. Doetsch was mobilized to 21 Mile Road and Garfield to clean the pipe and a road permit has been obtained by the MCDOR. Project notifications have been posted on our website and notifications were sent to neighboring homes and

businesses. We are just waiting on a delivery date for our product, which has been delayed overseas in the Panama Canal. We are looking to start the project in January. Ms. Miller said that when we are doing the project, we will erect a tent for people that would like to observe. She even called the Chippewa Valley High School Principal to see if the STEM students would be interested in coming to check it out.

Mr. Astorino updated on the Interceptor Inspection Program stating that the current inspection is almost done. The Consultant is currently reviewing the data and preparing inspection reports. Mr. Astorino said we will come back to the board if anything changes with the contract. The majority of the core work has been completed.

Mr. Downing presented a Phase II Grouting update. We have not been actively grouting for several months. We had FK Engineering go in and do an annual inspection of all of the critical areas. Mr. Downing is not aware of any areas that we need to jump in to right away. When access to the Interceptor and the needed flow control can be provided we will get back on this.

A motion was made by Mr. Santo supported by Mr. VanSyckel to receive and file the project updates.

Adopted: YEAS: 3
NAYS: 0

Mr. Astorino updated on the Clintondale Pump Station Electrical Room AC upgrades. The Clintondale Pump Station was originally constructed in 1973 by the Detroit Water and Sewer Department, then taken over by the MIDDD in 2010, and rehabilitated in 2015 by our office. However, all of the electrical pumps are all in one room. There is no A/C in that room and when the pumps are running in the summer and the temperature is hot outside that room gets to temperatures of over 100 degrees. In order to protect itself, certain pump components will shut off so they are not damaged. We have put together a plan to get A/C put in that room. We put out for bid to 4 different mechanical companies. We received 2 bids back. De-Cal, Inc. came in the lowest at \$274,400. Our engineers estimate was \$304,180 so we are under that and we believe De-Cal, Inc. is capable of performing the work. The design is already done, this is just to procure and install. Mr. VanSyckel asked if the electrical service is able to support the A/C. Mr. Astorino said yes. Mr. Brown asked how many people work in that room. Mr. Astorino said that we have a separate control room, we are just trying to protect the equipment.

A motion was made by Mr. VanSyckel, supported by Mr. Santo to award the proposal for the Clintondale Pump Station Electrical Room Air Conditioning Project to De-Cal Services Group for \$274,400.

Adopted: YEAS: 3
NAYS: 0

Mr. Astorino presented on the COVID Wastewater State Grant. We were doing twice a week testing and we brought it down to once a week testing. The State has asked us if we can update the Warren Wastewater Treatment Plant to twice a week and wanted to know the cost. We gave them a number and they are approving it. The contract is ready to go, it just needs to be approved by this Board. Mr. Brown asked who was doing the testing and Mr. Astorino answered that it is Aquasight. Mr. Astorino also asked for approval to sign the contract because the grant website is very difficult to maneuver.

A motion was made by Mr. VanSyckel, supported by Mr. Santo to approve a \$37,195 amendment to the Aquasight contract for additional site testing and authorization to execute the amended State grant agreement.

Adopted: YEAS: 3
NAYS: 0

The Chair presented the invoices totaling \$1,429,924.56 to the board for review and approval.

A motion was made by Mr. Santo, supported by Mr. VanSyckel 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. VanSyckel and supported by Mr. Santo.

Adopted: YEAS: 3
NAYS: 0

There being no further business, it was moved by Mr. Santo, supported by Mr. VanSyckel, that the meeting of the Macomb Interceptor Drain Board be adjourned.

Adopted: YEAS: 3
NAYS: 0

The meeting was adjourned at 12:16 P.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 taken by the Intra-County Drainage Board for the Drainage District shown on the attached set of minutes, on November 14, 2022 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: 11/14/22



Candice S. Miller

Public Works Commissioner
Macomb County

To: Macomb Interceptor Drain Drainage District Board Members

CC: File

From: Stephen Downing, Construction & Maintenance Manager
Vincent Astorino, Operations & Flow Manager

Date: December 12, 2022

Subject: Construction Projects Status Updates for December 2022 Board Meeting

The following provides a status update for construction work performed within the Macomb Interceptor Drain Drainage District for the previous month.

Segment 5 Rehabilitation

Contractor: Oscar Renda

Engineering Consultant: FK Engineering

Project Description:

The Segment 5 reach of the Romeo Arm Interceptor is approximately 8,300 linear feet; it runs along 15 Mile Road starting at the ITC Corridor and extends east to approximately Hayes Road. The first 7,000 linear feet is 11-foot diameter non-reinforced concrete pipe, and the next 1,300 linear feet is 8-foot diameter steel reinforced concrete pipe. The rehabilitation consists of debris removal, cleaning, and inspection of the pipe's invert. Next, HOBAS pipe will be used to slip line 7,000 linear feet of the 11-foot diameter sewer and the 1,300 linear feet section of 8-foot diameter pipe will be coated with a corrosion resistant geo-polymer spray applied coating. To facilitate this work, a new control structure and access shaft is under construction in the ITC Corridor. The new control structure will provide the contractor access to the sewer to facilitate the work and will also serve as a dewatering pump station to draw down the upstream water level in the sewer.

Significant project tasks that have occurred over the past month:

1. Continued development, review, and approval of the required construction submittals.
2. Ground dewatering well maintenance and monitoring.
3. Continued spray-lining the 8-foot diameter interceptor (PCI-37).
4. Continued to perform spray-lining of the CT-S-7 FR-S-2 drop manholes.
5. Continued construction of the CS-12 permanent structure, which includes:

- a. Rebar installation for the walls and gate columns
- b. Concrete formwork removal/installation
- c. Concrete placement for permanent structure walls

Construction Costs:

	Date	
Original Contract Amount	10/21/2020	\$28,807,500.00
Current Contract Amount	11/30/2022	\$31,702,534.88
Total Spent to Date	11/30/2022	\$14,862,577.93
Remaining Budget	11/30/2022	\$16,839,956.95



Figure 1 – Cleaning CT-S-7 Drop Manhole Prior to Spray-Lining

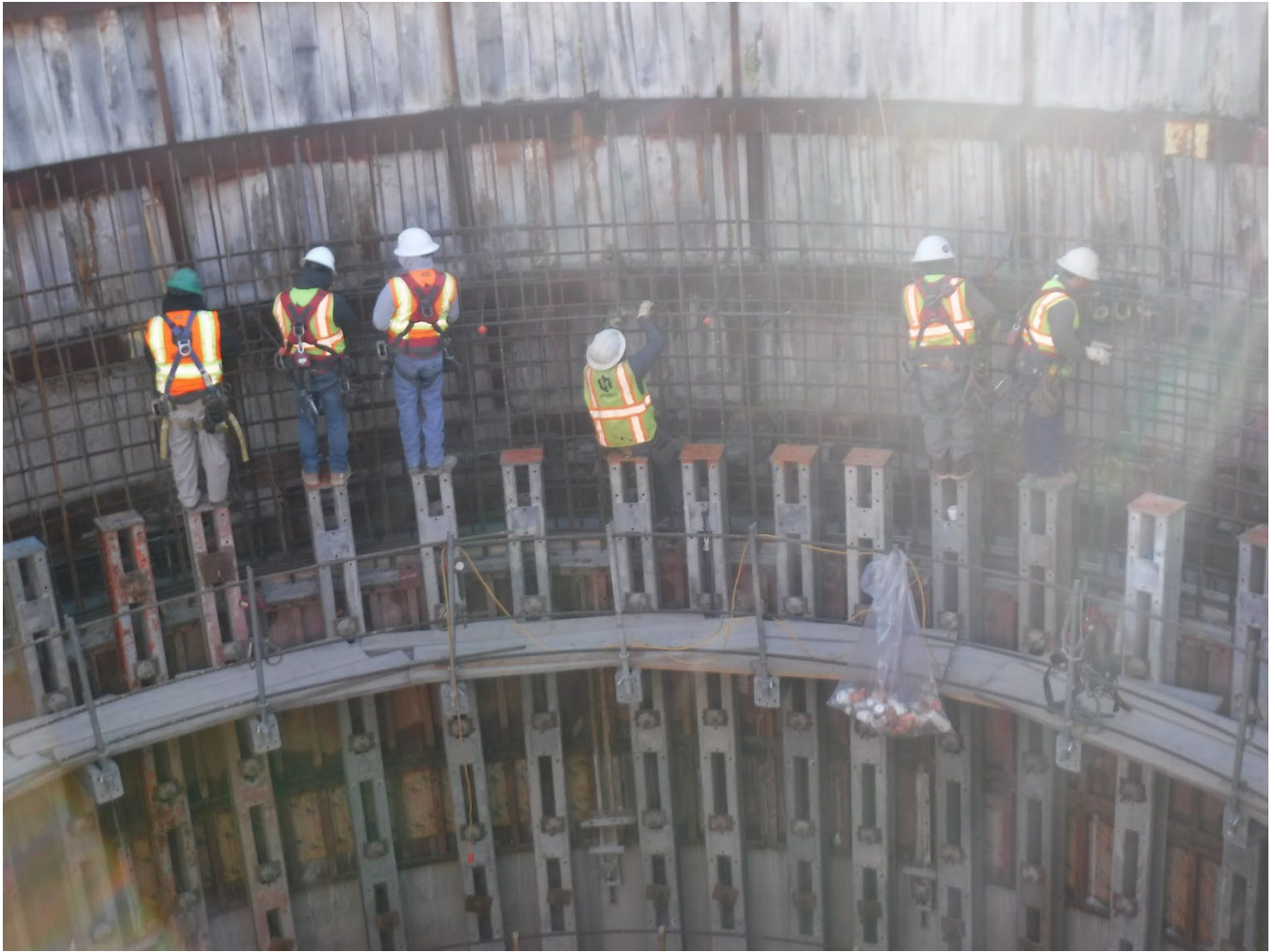


Figure 2 - CS-12 Rebar Installation



Figure 3 – CS-12 Partial TERS Removal to Facilitate Re-bar Installation

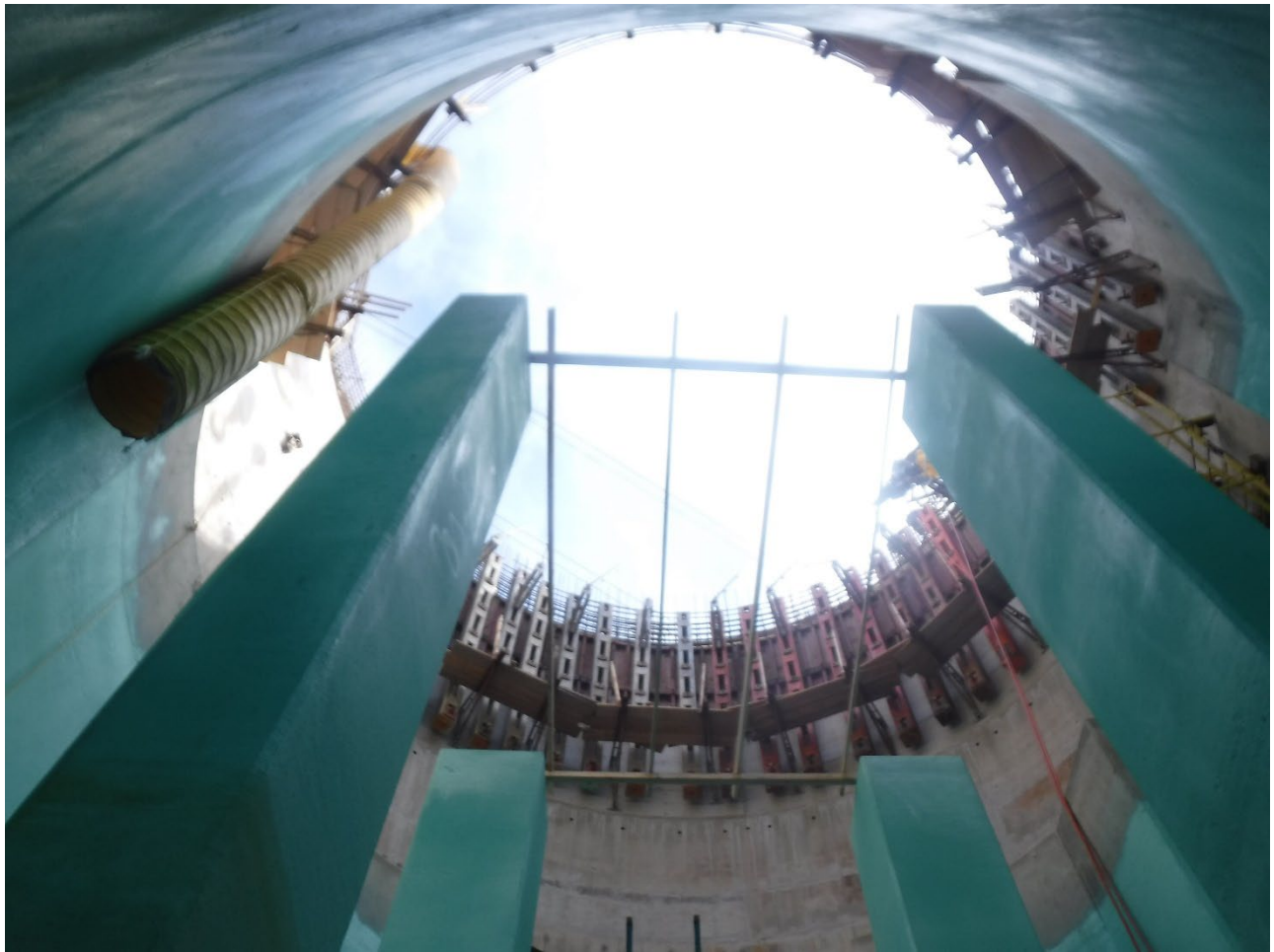


Figure 4 - CS-12 View from Below



Figure 5 - CS-12 Dry-fitting Pumps



Figure 6 – CT-S-7 CIPP Liner Installation

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 7 – CT-S-7 CIPP Liner Installation

Segment 6 Rehabilitation

Contractor: Ric-Man Construction

Engineering Consultant: FK Engineering

Project Description:

The Segment 6 Rehab project includes the rehabilitation of these main elements:

1. Cleaning and slip-lining (Hobas) of the 5-foot diameter 15 Mile Interceptor from MH-01 at Garfield Road and 15 Mile to MH-04 approximately 2200 feet east along 15 Mile.
2. Cleaning and slip-lining (Hobas) the 1400 linear feet 11-foot diameter Romeo Arm Interceptor sewer between CS-3 on 15 Mile Road and CS-2 on Garfield north of 15 Mile Road.
3. Rehabilitation of the Meter Facility FR-S-1 on Garfield south of 15 Mile Road.
4. Rehabilitation and spray-lining of the CS-2 and CS-3 control structure facilities. These concrete structures have been damaged by H₂S damage over time and need repair.
5. Installation of an air-jumper to be incorporated into the existing Biofilter facility. This is being done to address the high level of odor issues that have resulted over the years from the intersection of 15 Mile and Garfield.
6. Installation of a new gate control structure on the 15 Mile Interceptor. This will allow for the rehabilitation of the MH-01 structure and provide future storage options within that interceptor.

The project started in September 2021 and is scheduled to be completed in May 2023.

Significant project tasks that have occurred over the past month:

1. The Contractor continues to develop and submit the required submittals to the Engineer & Owner for review.
2. The Project team is working with the insurance carrier on a Builder's Risk Claim to determine if a claim condition exists for the damaged HOBAS pipe and installation of the remaining 240 feet of pipe.
 - a. The Insurance carrier's forensic Engineer submitted a Request for Information, the Project Team collected the requested information and submitted accordingly. The review of this information is ongoing.
3. Installation of the CS-13 gate was completed.
4. The Manhole #1 modifications were completed; the shaft has been backfilled to within 10 feet of grade.
5. Started excavation and construction of the lining completion TERS.

Construction Costs:

	Date (if applicable)	
Original Contract Amount	5/1/2021	\$13,541,545.00
Change Order No. 1	8/1/2021	\$132,664.70
Total Contract Amount	10/31/2022	\$13,674,209.70
Total Spent to Date	10/31/2022	\$6,032,144.26
Remaining Budget	10/31/2022	\$7,642,065.44



Figure 8 - CS-13 Equipment Cabinets Delivered



Figure 9 – 9' 2" Diameter HOBAS Delivery – Romeo Arm Curve Lining



Figure 10 - CS-13 Application of Protective Epoxy Coating



Figure 11 - CS-13 Gate Installation



Figure 12 – CS-13 Gate Installation



Figure 13 – Lining Completion Shaft Excavation



Figure 14 – Lining Completion Shaft TERS



Figure 15 – Lining Completion Shaft Excavation

Garfield Interceptor Lining Project

Contractor: SAK Construction, LLC

Engineering Consultant: AEW

Project Description: MCPWO identified 755 feet of 7-foot diameter pipe within the Garfield Interceptor that has been aggressively attacked with Hydrogen Sulfide damage. This stretch of pipe was immediately labeled as an immediate repair and MCPWO underwent an analysis of options for repairs. The selected option was a Spiral Wound PVC liner which has been installed around the world but is the first time being installed within Michigan. This product has a guaranteed useful life of 50-years and is being treated as a pilot project within the MID system.

Significant project tasks that have occurred over the past month:

- Submittals have been submitted and reviewed by MCPWO and AEW.
- The project has been delayed until the start of January 2023 due to the material being held up in shipping.

Construction Costs:

	Date (if applicable)	
Original Contract Amount	8/25/2022	\$2,394,385.00
Total Spent to Date	10/31/22	\$84,145.50
Remaining Budget	10/31/2022	\$2,310,239.50

Interceptor Inspection Program

Contractor: Doetsch Environmental Services, Inc.

Engineering Consultant: Fishbeck

Project Description:

The 2020 sewer inspection program was awarded to Doetsch Environmental Services in November 2020. The inspection program includes inspection of approximately 26 miles of sanitary sewer, 360 manholes and other aspects of the sanitary sewage infrastructure across multiple drainage districts, including the MIDDD.

The MIDDD portion of the inspection program includes 101,335 linear feet (19.25 miles) of pipe ranging in diameter from 24" to 132" and 145 manhole structures. Additionally, inspection of 8 junction chambers and 8 Drop Shaft/Connecting sewers will be performed.

The inspection interval for the entire system is based on a 3-year cycle, where non-reinforced concrete pipe is inspected every 3 years and reinforced concrete pipe is inspected every 6 years. The 2020 inspection program is the largest ever performed by the Macomb County Public Works Office. The project started in May 2021 and is expected to be completed in November of 2022.

Significant project tasks that have occurred over the past month:

1. The Consultant is reviewing the data and preparing inspection reports.
2. The Owner's Representatives, Engineering Consultant and Contractor are coordinating completion of the remaining areas to be inspected, which included:
 - a. CT-S-1 Drop connection. Doetsch issued change order which will be paid with a 50/50 split between MIDDD and Clinton Twp to clean and finish the inspection.
 - b. Lenox Local missing segments. Doetsch issued change order which will be paid for by Lenox Local funds to clean and finish the inspection.
 - c. Northeast Relief. Doetsch issued change order which will be paid for by SEMCWWDS funds to clean and finish the inspection.

Working through punch list items to finalize the Doetsch inspection work.

Construction Costs:

	Date (if applicable)	
Original Contract Amount	1/19/2021	\$280,034.00
Total Spent to Date	9/30/2022	\$184,971.35
Remaining Budget	9/30/2022	\$95,062.65

***This Table reflects the MIDDD costs only.**

Phase II Grouting

Contractor: Doetsch Environmental Services, Inc.

Engineering Consultant: AEW

Project Description:

The Phase II Grouting project was awarded to Doetsch Environmental during summer 2020. The work includes chemical grouting of the sewer and manholes where infiltration is present. The work is planned in all reaches of the system not included in the Segment 5 or portion of the Romeo Arm rehabilitated during the 2016 Interceptor Collapse. The main areas of work include the Romeo Arm along Garfield Road between 15 Mile and Clinton River Roads, the Garfield Interceptor between Clinton River and 21 Mile Roads, and the Lakeshore Interceptor between the Clintondale Pump Station at 15 Mile and Union Lake and Joy Boulevard in Harrison Township. The chemical grouting is aimed to stop all active infiltration within the system in advance of future rehabilitation and maintenance projects.

Significant project tasks that have occurred over the past month:

1. The crew has not worked since late July 2022.
2. AEW, Doetsch and MCPWO personnel have evaluated where the crew will move to next which is dependent upon the flow control needs and coordination with other projects. This coordination will require grouting to occur on afternoons or nights based on where in the system whether they are working in the Garfield or Lakeshore Interceptors.

Construction Costs:

	Date	
Original Contract Amount	6/24/2020	\$3,000,000.00
Change Order No. 1	3/14/2022	\$3,000,000.00
Current Contract Amount	11/30/2022	\$6,000,000.00
Total Spent to Date	11/30/2022	\$4,432,736.20
Remaining Budget	11/30/2022	\$1,567,263.80



Candice S. Miller

Public Works Commissioner
Macomb County

To: Macomb Interceptor Drain Drainage District Board Members

CC: File

From: Vincent Astorino, Operations & Flow Manager

Date: December 12, 2022

Subject: Clintondale Pump Station Plug Valve Replacement Recommendation

Macomb County Public Works Office (MCPWO), on behalf of the Macomb Interceptor Drain Drainage District, has recently replaced one of the four plug valves at Clintondale Pump Station. These plug valves are within the pump discharge piping and are used to stop flow from draining back from the 15 Mile forcemain and recirculation of flows between pumps. The plug valve on pump 2 which recently failed was unable to be rebuilt and therefore had to be completely isolated out which meant that the pump was out of service for close to a year waiting for new parts.

Since the existing plug valves were relatively new and did not meet their full useful life, a decision was made to change manufacturers to a different brand. MCPWO went out to bid with multiple manufacturers at that time and the selected manufacturer was the lowest cost with the best lead time. All vendors that were solicited were carefully selected to be able to meet the design requirements of the station. This work was recently completed, and the new plug valve is working well.

During the process of the first plug valve replacement, MCPWO negotiated with the manufacturer of the new valves to hold pricing for remaining three valves that are still in need of replacement which they agreed to. MCPWO also budgeted \$100,000 for this work within the FY22/23 MIDDD budget. Proposals from mechanical contractors are being obtained now and a recommendation for the removal and replacement of the valves will come to the board at a later date.

The pricing to procure the remaining three plug valves is \$65,232 and the current lead time on the equipment is 22-24 weeks.

MCPWO staff is recommending to award the purchase of the three plug valves from JGM Valve Corporation in the total amount of \$65,232.

Attachments: JGM Plug Valve Proposal 11-1-22



J.G.M. VALVE CORPORATION

1155 Welch Road Phone: 248-926-6200
 Suite D Fax: 248-926-6290
 Commerce, MI 48390 Email: Contact@jgmvalve.com

Quote

Date	Estimate #
11/1/2022	22-15877

Name / Address
Macomb County Public Works 21777 Dunham Road Clinton Twp., MI 48036

Terms	Good Thru	Rep	Account #	FOB	Project
Net due in 30 days	11/26/2022	JGM		Mars PA	
Item	Description	Qty	U/M	Rate	Total
24.00-A517-G-12-MA-BYR	24" GA Industries Figure 517 ECO-Centric Plug Valve with ductile iron body, cover and plug coated with Buna-N, SST 316 bearings and Buna-N seals, self-adjusting packing, interior and exterior 2-part NSF 61 epoxy, 125 ANSI flange, AUMA Motor Actuator	3		21,744.00	65,232.00
DLV	22-24 weeks A.R.O. Lead times are "Subject to prior sales" at time of quotation and can not be guaranteed. F.O.B.: Mars, PA ** PLUS FREIGHT **			0.00	0.00
Signature _____			Total \$65,232.00		



Candice S. Miller

Public Works Commissioner
Macomb County

To: Macomb Interceptor Drain Drainage District Board Members

CC: File

From: Vincent Astorino, Operations & Flow Manager

Date: December 12, 2022

**Subject: MIDDD As-Needed Request for Proposal - Evaluation & Recommendation
WWS-2022-RFP-001**

Macomb County Public Works Office (MCPWO), on behalf of the Macomb Interceptor Drain Drainage District (MIDDD), has coordinated a competitive Request for Qualifications (RFQ) to provide as-needed engineering support for various projects throughout the MIDDD. The as-needed program has been utilized successfully since early 2018 and allows MCPWO staff to quickly engage a consultant without having to go through the formal, lengthy RFP process. It is typically utilized for small, specialty, straight-forward projects where either A) an extensive RFP process would provide little benefit, B) the issue is urgent in nature and requires quick action, or C) a particular consultant is especially well-suited to perform a certain scope of work.

The RFQ was published on the Michigan Inter-Governmental Trade Network (MITN) website and on December 5, 2022, proposals and cost rate tables from ten (10) firms were received as follows (in alphabetical order):

- Applied Science, Inc.
- Anderson, Eckstein & Westrick
- Fishbeck
- FK Engineering
- Hubbell, Roth & Clark
- METCO Services
- NTH Consultants, Ltd.
- OHM Advisors
- Testing Engineers and Consultants
- Wade Trim Associates

Proposers were instructed to state their firm's credentials for one or more of the engineering fields. While the formation of teams was not permitted, the overall goal is for MCPWO is to have a "team" of specialty consultants under separate contracts in the following engineering fields:

- Planning and Development
- Hydraulic Engineering
- Geotechnical Engineering
- Pipeline Rehabilitation
- Structural Engineering

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- Mechanical Engineering
- Electrical Engineering
- Odor and Corrosion Control

All firms presented strong qualifications and, upon review of the proposals, it is the recommendation of MCPWO staff to enter into as-needed agreements with nine of the proposers. Testing Engineers and Consultants, Inc. also presented strong qualifications but not what the MCPWO staff were looking for, therefore, entering in an as-needed arrangement with them is not being recommended. MCPWO may continue to work with TEC on certain projects but does not see the need for a dedicated as-needed contract to do so.

The nine other firms will primarily be utilized individually for their stated specialty or specialties. However, MCPWO does not propose to assign certain fields exclusively (i.e. Firm X is the Planning and Development Consultant). Instead, staff will recommend based on the firms qualifications on a case-by-case basis as to which consultant to engage.

MCPWO staff is recommending to award the as-needed engineering services contract to the nine firms noted above. Upon board approval, MCPWO staff will execute the contracts and engage the firms as needed. Additionally, all existing as-needed contracts will be terminated once all active Tasks are completed. MCPWO staff will obtain Board approval on any specific Tasks exceeding the board required \$35,000 threshold.

The initial as-needed contracts will each be executed with up to a \$75,000 not-to-exceed amount over a three-year term; however, no services shall be rendered and/or invoiced until written Task Authorization is obtained from MCPWO. MCPWO will track all expenditures in-house ensure that the overall as-needed program stays under budget. This approval is not authorizing 9 x \$75,000 to be spent.



Candice S. Miller

Public Works Commissioner
Macomb County

To: Macomb Interceptor Drain Drainage District Board Members

CC: FILE

From: Stephen Downing, Construction & Maintenance Manager

Date: December 12, 2022

Subject: Drop Shaft Rehabilitation Warranty Inspection – AEW & NTH Projects

The Drop Shaft Rehabilitation of the six sites summarized below are due for the two-year warranty inspection. Our Office solicited proposals from AEW and NTH to provide the warranty inspection CCA Services and utilize Doetsch Environmental Services to perform the physical inspection of the drop shaft and connecting sewer at each site. The Engineering Consultants will prepare warranty inspection reports that document any observed defects that would require the Contractor's attention. The Contractor on both projects, Inland Waters Pollution Control, will be notified in advance of the inspections so they can participate if desired.

The attached AEW proposal includes the AEW CCA costs and the Doetsch inspection costs for each site. The total cost for the warranty inspection of all three AEW sites is \$44,736.00. The attached NTH proposal includes the NTH CCA costs and the Doetsch inspection costs for each site. The total cost for the warranty inspection of all three NTH sites is \$53,025.00. The total cost to perform the warranty inspection of all six sites, including Engineering CCA is \$97,761.00. The District will enter into an Agreement with AEW, NTH and Doetsch for this work. A summary of the contract amounts are as follows:

Engineering Consultant	Engineering Cost	Site	Inspection Cost (Doetsch)
AEW	\$10,836.00	ST-S-4	\$11,100.00
		ST-S-5	\$14,300.00
		UT-S-1	\$8,500.00
NTH	\$17,167.50	MA-S-2	\$9,750.00
		CT-S-2	\$12,200.00
		HR-S-2	\$12,200.00
Inspection Total (Doetsch)			\$69,757.50

The recommendation is that the Macomb Interceptor Drain Drainage District Board approve the warranty inspection work as described above and in the attached proposals for the total cost to the District of \$97,761.00.

Attachments: AEW Warranty Inspection Proposal
NTH Warranty Inspection Proposal

OFFICE LOCATION: 21777 Dunham Road, Clinton Township, Michigan 48036 • Phone: 586-469-5325 • Fax: 586-469-5933

MAILING ADDRESS: P. O. Box 806, Mt. Clemens, Michigan 48046-0806

ENGINEERING • Phone: 586-469-5910 • Fax: 586-469-7693 ♦ **SOIL EROSION** • Phone: 586-469-5327 • Fax 586-307-8264



ANDERSON, ECKSTEIN & WESTRICK, INC.
CIVIL ENGINEERS SURVEYORS ARCHITECTS

51301 Schoenherr Road
Shelby Township, MI 48315

586.726.1234
www.aewinc.com

November 28, 2022

Stephen Downing, Construction & Maintenance Manager
Macomb County Public Works
21777 Dunham Road
Clinton Township, MI 48036

Reference: ST-S-4, ST-S-5 & UT-S-1 Warranty Inspections
Request for Proposal Response

Dear Mr. Downing,

It is with great interest that we submit our proposal to provide for Professional Engineering Services for the ST-S-4, ST-S-5 and UT-S-1 Warranty Inspections. We have comprehensive knowledge of these metering facilities, rehabilitation experienced personnel, and the skills necessary ensure success.

As requested we are providing an estimated cost to perform construction administration of the warranty inspections to be performed by Doetsch Environmental Services. The assumptions and personnel are included in our engineer's estimate of probable cost as attached. Chris Frayer will be the project manager responsible for the management of the project with oversight from myself. Pat Marcus will perform a PACP/MACP review of the inspection videos and either Paul Guinnane, Chris Birkett or Kevin Anderson will provide field construction observation and reporting. The MCPWO is very familiar with the AEW staff, we welcome any preferences you may have and will gladly assign tasks accordingly.

Established in 1968, Anderson, Eckstein and Westrick, Inc. (AEW) has provided municipal engineering services for over 50 years, we currently serve over 33 southeast Michigan municipalities. The Macomb County office of Public Works is one of our earliest and most valued clients. We are honored by your consideration of Anderson, Eckstein and Westrick and if selected look forward to serving you once again.

Respectfully,

A handwritten signature in blue ink that reads "Louis J. Urban".

Louis J. Urban, P.E.
Senior Project Engineer

Enclosures:
Estimated Staff Hours by Classification – Costing Spreadsheet
Hourly Rate Schedule
Doetsch Proposal

ST-S-4, ST-S-5 & UT-S-1 Warranty Inspections Construction & Contract Administration

ST-S-4, ST-S-5 & UT-S-1 Warranty Inspection	Estimated Staff Hours By Classification											Total Cost	Commentary / Assumptions	
	AEW Services													
	Senior Project Engineer Louis Urban	Project Engineer Chris Frayer	Project Engineer Pat Marcus	Engineering Aid III Paul Guinnane, Chriss Birkett, Kevin Anderson	Secretarial									
Engineering Sub-Task	170	125	125	105	51									
Task 1 – CCA														
1 Conduct and memorialize Project kickoff meeting with the contractor and MCPWO staff.			4		1								\$ 605.00	
2 Review all submittals, shop drawings, traffic control plans, flow control plans, etc.		1	2										\$ 420.00	traffic control / permit
3 Review Contractor's Application for Payment			2										\$ 250.00	
4 Perform full-time construction observation and daily reporting		2	4		72								\$ 8,400.00	
5 Review inspection videos and logs, results and reports		2	2	8									\$ 1,590.00	
6 Project closeout / Invoicing			1			1							\$ 176.00	
Task 1 Sub-Total	0	5	11	8	72	1	0	0	0	0	0	0	\$10,836.00	

EXHIBIT "A"	
DISCOUNTED HOURLY CHARGE RATES	
EMPLOYEE CLASSIFICATION	HOURLY CHARGE RATE
PRINCIPAL ENGINEER / SURVEYOR / ARCHITECT	\$ 186.00
SENIOR PROJECT ENGINEER / SURVEYOR / ARCHITECT	170.00
LICENSED ENGINEER / SURVEYOR / ARCHITECT	153.00
GRADUATE ENGINEER / SURVEYOR / ARCHITECT	125.00
TEAM LEADER	125.00
ENGINEERING AIDE III	105.00
ENGINEERING AIDE II	94.00
ENGINEERING AIDE I	84.00
ENGINEERING AIDE TRAINEE	61.00
SECRETARIAL (Special Projects)	51.00
SURVEY FIELD (3 PERSON CREW)	253.00
SURVEY FIELD (2 PERSON CREW)	212.00
SURVEY FIELD (1 PERSON CREW)	165.00
CONFINED SPACE ENTRY CREW	244.00
CONFINED SPACE ENTRY (EACH ADDITIONAL PERSON)	82.00
GPS SURVEY EQUIPMENT	87.00
LEGAL MATTERS BILLED AT 1.5 TIMES ABOVE RATES.	
EFFECTIVE JANUARY 2023 AND UPDATED ANNUALLY TO REFLECT CPI.	

Additional Comments & Assumptions:

- 1 The MCPWO is very familiar with AEW staff. We will adjust personnel based on MCPWO preferences.
- 2 Estimating inspection at ST-S-4 in two & a half days plus time for inclement weather or other delays.
- 3 Estimating inspection at UT-S-1 in two days plus time for inclement weather or other delays.
- 4 Estimating inspection at ST-S-5 in three days plus time for inclement weather or other delays due to two drop manholes and traffic control required.
- 5 Hour estimates are based on Doetsch Environmental durations and anticipated work day as 10 hours

Doetsch

ENVIRONMENTAL SERVICES

21221 Mullin Ave. Warren MI 48089

November 22, 2022

Christopher Frayer
Project Engineer
Anderson, Eckstein and Westrick, Inc.
51301 Schoenherr Road
Shelby Twp., MI 48315

RE: Dropshaft Warranty Inspection

Mr. Frayer

Doetsch Environmental Services will provide necessary inspection equipment, inflatable plugs, custom inflatable apparatus, traffic control and labor to inspect the 3 dropshafts as directed.

Scope:

1. Temporarily plug upstream of metering pit.
2. SI inspect dropshaft.
3. CCTV inspect adit.

ST-S-4: \$11,100.00

Duration: 2.5 days

ST-S-5: \$14,300.00

Duration: 3 days

UT-S-1: \$8,500.00

Duration: 2 days

Thank you for the opportunity to be of service,



Joe Schotthoefer

Doetsch Environmental Services



NTH Consultants, Ltd.

Infrastructure Engineering
and Environmental Services

41780 Six Mile Road, Suite 200
Northville, MI 48168
248.553.6300
248.324.5179 Fax

Mr. Stephen Downing
Construction and Maintenance Manager
Macomb County Public Works Office
21777 Dunham Road
Clinton Township, MI 48043

November 30, 2022
NTH Project No. 61-180042-WAR

**Re: Proposal to Perform Warranty Inspection and Report
Metering Facility Drop Shaft and Connecting Sewer Rehabilitation
Macomb County Project Number WWS-2019-020**

Dear Mr. Downing:

NTH Consultants, Ltd. presents this proposal to provide the Warranty Inspection of the repairs performed by Inland Waters Pollution Control to the Drop Shaft and Connecting Sewers at Structures CT-S-2 in Clinton Township, HR-S-2 in Harrison Township, and MA-S-2 in Macomb Township, Macomb County, Michigan. Based on our recent telephone discussions, we have provided Doetsch Environmental Services information to acquire a quotation from them to perform the temporary flow control and closed-circuit television (CCTV) inspection of the Drop Shaft and Adit Sewer pipes from the structures to the interceptor sewer connections. We will perform these services in accordance with the terms and conditions included in our existing contract with Macomb County Public Works Office (MCPWO) for the Drop Shaft and Connecting Sewer Rehabilitation Project. The following includes our proposed Scope of Services, Limitations, and Estimated Fees.

For this project, we will perform the following services:

1. NTH will assist the County in generating the forms required to acquire the necessary right-of-way permits to access the structures. Permit fees, if required, are not included in this proposal.
2. NTH will coordinate with Doetsch Environmental Services and document their operations which include temporary traffic control, temporarily plugging the upstream pipes to allow for CCTV inspection, performing inspection of the Drop Shafts using a manhole camera, and inspection of the Adit pipes using a tractor driven CCTV camera.
3. NTH will review the CCTV videos and Drop Shaft data, identify defects, and list those that would be covered under the project warranty.
4. NTH will update the as-built drawings to indicate any changed conditions observed within the referenced systems.
5. The project deliverables will include a letter report with the as-built drawings.



The following limitations apply to this proposal:

1. Permit fees, if required, will be paid by the MCPWO.
2. Doetsch's price is based on an assumed duration of 7 days to complete the field work.
3. Temporary flow control will be provided by Doetsch which will include inflatable plugs or custom inflatable apparatus. By-pass pumping is not included in this Scope of Services.
4. Detailed PACP reports will not be required for this task, outside of documentation if any major defects are observed within the inspection areas.

We estimate a not-to-exceed fee of \$53,025 for the above Scope of Services. A detailed Fee Schedule Work Package is included with this letter. The fees include the following:


• Traffic Control, Flow Control and Inspection by Doetsch	\$35,857.50
• Engineering Support from NTH Consultants	<u>\$17,167.50</u>
Total Not-to-Exceed fee	\$53,025.00

Thank you for the opportunity to continue to provide services for this project.


If you have any questions about the information provided, please contact me at 248.662.2725 or jkosnak@nthconsultants.com.

Sincerely,

NTH Consultants, Ltd.

DocuSigned by:

 08D80029F4504E2...

John R. Kosnak, P.E.
Principal Engineer

DocuSigned by:

 1B505E3681BF483...

Charles J. Roarty, Jr., P.E.
Senior Vice President

JRK/CJR/mam

Attachments

NTH Consultants, Ltd.

Task		Detailed List of Steps or Tasks Required To Complete The Scope of Services		Initials of Team Members, Classifications, and Fee Schedule Rates						Labor Discount	
				Sub Expenses	NTH Expenses	Sr. Pr	JRK PM	JS SR. PE	PP	CADD	WP
				\$ 220.00	\$ 192.00	\$ 170.00	\$ 154.00	\$ 93.00	\$ 65.00		5%
1	Subtask 1 Warranty Inspection									\$ -	\$ -
1.1	Project Management				5.0				1.0	\$ 1,025.00	\$ 1,025.00
1.2	field inspection - assume 7 days at 9 hours per day		\$500				63.0			\$ 9,702.00	\$ 10,202.00
1.3	update report / CCTV forms - assume 12 hours			1.0	2.0		12.0		2.0	\$ 2,582.00	\$ 2,582.00
1.4	permits / access					8.0				\$ 1,360.00	\$ 1,360.00
1.5	update as-built drawings						4.0	10.0	1.0	\$ 1,611.00	\$ 1,611.00
1.6	project meeting assume 1				2.0					\$ 384.00	\$ 384.00
1.7	Doetsch	\$34,150								\$ -	\$ 35,857.50
1.8										\$ -	\$ -
Subtotal		\$34,150	\$500	1.0	9.0	8.0	79.0	10.0	4.0	\$ 16,664.00	\$ 53,021.50
Totals:		\$34,150	\$560	1.0	9.0	8.0	79.0	10.0	4.0	\$16,664	\$53,022

Doetsch

ENVIRONMENTAL SERVICES

21221 Mullin Ave. Warren MI 48089

November 23, 2022

John R. Kosnak, PE
Principal Engineer
NTH Consultants
41780 Six Mile Rd., Suite 200
Northville MI 48168

RE: Dropshaft Warranty Inspection

Mr. Kosnak,

Doetsch Environmental Services will provide necessary inspection equipment, inflatable plugs, custom inflatable apparatus, traffic control and labor to inspect the 3 dropshafts as directed.

Scope:

1. Temporarily plug upstream of metering pit.
2. SI inspect dropshaft.
3. CCTV inspect adit.

CT-S-2: \$12,200.00

Duration: 2.5 days

HR-S-2: \$12,200.00

Duration: 2.5 days

MA-S-2: \$9,750.00

Duration: 2 days

Thank you for the opportunity to be of service,



Joe Schotthoefer

Doetsch Environmental Services

MACOMB INTERCEPTOR DRAINAGE DISTRICT
11/29/2022 - 12/06/2022

<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>	
Macomb Interceptor Drain	Chapter 20							
	Chesterfield – 7.4212%							
	Clinton – 21.2122%							
	Fraser – 4.1667%							
	Harrison – 6.3461%							
	Lenox – 1.1179%							
	Macomb – 14.0617%							
	New Haven – 0.8255%							
	Shelby – 9.7911%							
	Sterling Heights – 30.6812%							
	Utica – 1.6170%							
	Washington – 2.7596%							
			Astorino	Access Interactive LLC	\$ 29,461.88	Invoice #INV000110000 - 07.27.22	SCADA Server	
			Astorino	Access Interactive LLC	\$ 5,903.04	Invoice #INV000110680 - 11.03.22	SCADA Maintenance	
			Astorino	Anderson, Eckstein & Westrick	\$ 6,696.20	Invoice #140591 - 11.3.22	Garfield Interceptor Pilot Program - 9.26.22-10.23.22	\$ 117,387.00
			Astorino	Busranur Cakal	\$ 647.53	Invoice #22-402 - 11.22.22	NEXGEN User Conference	
			Astorino	City of Fraser	\$ 500.90	Invoice #22-393 - 10.17.22	Monthly Utilities - 9.17.22 - 10.17.22	
			Astorino	Colville Electric Co., LLC	\$ 1,186.66	Invoice #22507 - 11.04.22	SCADA Server Fiberoptic Modifications	
			Manning	County of Macomb	\$ 318,072.94	Invoice #AR221048 - 10.26.22	Personnel 2nd Quarter 2022	
			Manning	County of Macomb	\$ 7,235.07	Invoice #AR221048 - 10.26.22	Indirect Costs 2nd Quarter 2022	
			Manning	County of Macomb	\$ 418,383.40	Invoice #AR221049 - 10.26.22	Personnel 3rd Quarter 2022	
			Manning	County of Macomb	\$ 7,235.07	Invoice #AR221049 - 10.26.22	Indirect Costs 3rd Quarter 2022	
			Astorino	DTE Energy	\$ 1,100.76	Invoice #22-376 - 10.31.22	Monthly Electric 10.01.22 - 10.31.22	
			Astorino	DTN, LLC	\$ 823.50	Invoice #6205152 - 10.21.22	Storm Sentry Weather Service	
			Astorino	Fishbeck	\$ 1,185.00	Invoice #416810 - 11.02.22	GLWA Assistance 10.01.22 - 10.28.22	
			Astorino	Fishbeck	\$ 3,634.00	Invoice #417731 - 11.30.22	GLWA Assistance through 11.25.22	
			Astorino	Fishbeck	\$ 1,700.00	Invoice #417748 - 11.30.22	As-Needed Services - Meter Maintenance RFP	\$ 24,311.86
			Astorino	Fishbeck	\$ 23,681.82	Invoice #417795 - 11.30.22	WWMP through 11.25.22	\$ 206,758.17
			Astorino	FK Engineering Associates	\$ 20,373.03	Invoice #22-126-001 - 11.5.22	Critical Areas Inspection Program 9.20.22-11.5.22	\$ 81,514.97
			Downing	FK Engineering Associates	\$ 67,007.09	Invoice #20-058-029 - 11.9.22	Segment 6 CCA - 10.9.22-11.5.22	\$ 734,401.49
		Downing	FK Engineering Associates	\$ 87,932.47	Invoice #20-152-023 - 11.9.22	Segment 5 CCA - 10.9.22-11.5.22	\$ 1,529,719.23	
		Astorino	NTH Consultants, Ltd	\$ 1,781.40	Invoice #631149 - 11.07.22	2023 Interceptor Inspection Program - Design	\$ 64,989.50	
		Astorino	NTH Consultants, Ltd	\$ 7,125.60	Invoice #631149A - 11.07.22	2023 Interceptor Inspection Program - Design	\$ 64,989.50	
		Downing	TBM Property Management	\$ 750.00	Invoice #746 - 12.1.22	Pipe & Material Storage - Oct. through Dec.		
		Downing	Tetra Tech, Inc.	\$ 2,492.50	Invoice #51978647 - 11.04.22	Odor & Corrosion Design 10.01.22 - 10.28.22	\$ 26,194.22	
		Astorino	Tetra Tech, Inc.	\$ 8,634.35	Invoice #51992565	Odor & Corrosion CCA 10.29.22-11.25.22	\$ 991,149.87	
		Astorino	Tyson Hockman	\$ 502.41	Invoice #22-396 - 11.14.22	NEXGEN User Conference		

MACOMB INTERCEPTOR DRAINAGE DISTRICT
11/29/2022 - 12/06/2022

<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>
<u>CPS</u>		Astorino	Clinton Township Treasurer	\$ 2,565.08	Invoice #22-362 - 11.04.22	Monthly Water - October 2022	
		Astorino	Colville Electric Co., LLC	\$ 770.50	Invoice #22525 - 11.04.22	Pump 3 VFD Troubleshooting	
		Astorino	Colville Electric Co., LLC	\$ 878.00	Invoice #22525A - 11.04.22	Pump 3 VFD Troubleshooting	
		Astorino	DTE Energy	\$ 13,654.30	Invoice #22-370 - 11.03.22	Monthly Electric 10.04.22 - 11.01.22	
		Astorino	HESCO	\$ 6,390.00	Invoice #2214023 - 11.28.22	Gate Maintenance	
		Astorino	Wade Trim	\$ 1,927.50	Invoice #2025852 - 11.29.22	As-Needed Services - Drain Valve	\$ 45,884.18
<u>NGI</u>		Astorino	Cummins Sales & Service	\$ 2,236.25	Invoice #S6-96272 - 10.10.22	Generator Annual Service	
		Astorino	Fishbeck	\$ 2,075.50	Invoice #416839 - 11.02.22	Interceptor Inspection Program 10.01.22 - 10.28.22	\$ 72,235.03
		Astorino	Fishbeck	\$ 2,448.00	Invoice #417824 - 11.30.22	Inspection Program through 11.25.22	\$ 67,054.63
		Astorino	National Industrial Maintenance	\$ 1,657.14	Invoice #43932 - 10.31.22	Jet Vac Cleaning	
<u>OMID</u>		Astorino	Access Interactive LLC	\$ 4,796.12	Invoice #INV000110000 - 07.27.22	SCADA Server	
		Astorino	Access Interactive LLC	\$ 960.96	Invoice #INV000110680 - 11.03.22	SCADA Maintenance	
		Downing	Oakland County Treasurer	\$ 4,364,430.08	Invoice #CU000597 - 11.30.22	Sewer Disposal - November 2022	
Total				\$ 5,428,836.05			

Budget to Actual
MIDDD
As of Nov 30, 2022 = 42%

DESCRIPTION	2023		ACTUAL	REMAINING BUDGET	PCT UTILIZED
	FINAL BUDGET	ENCUMBERED			
REVENUE ACCOUNTS					
GLWA-OMID	48,014,249		20,008,153	28,006,096	41.7%
OMID O&M	4,358,913		1,816,214	2,542,699	41.7%
Settlement	100,000			100,000	0.0%
Reimbursements	225,000		63,734	161,266	28.3%
PY Revenue-Fund Balance	16,738,220			16,738,220	0.0%
Reimb-Local Communities	17,159,080		7,149,617	10,009,463	41.7%
COVID Grant	-		705,520		
Interest	50,000		114,999	(64,999)	230.0%
Total Revenue Accounts	86,645,462	-	29,858,237	57,492,746	34.5%
EXPENSE ACCOUNTS					
GLWA-OMID	48,014,249		20,008,153	28,006,096	41.7%
OMID O&M	4,358,913		1,816,214	2,542,699	41.7%
Public Works Wastewater Disposal Division	1,889,760		746,050	1,143,710	39.5%
Office Operations/Insurance	343,100		35,861	307,239	10.5%
SCADA	461,990		96,697	365,293	20.9%
Engineering					
Replenish reserve from CPS refunding	618,680			618,680	0.0%
Drop shaft rehab Design	1,600,000		177,965	1,422,035	11.1%
METCO As Needed	75,000		29,073	45,927	38.8%
Data Review-Aquasight	58,000		18,000	40,000	31.0%
Annual Meter Dye Testing	50,000		26,181	23,819	52.4%
As Needed Engineering	250,000		40,834	209,166	16.3%
Odor and Corrosion Construction/CCA	3,280,000		4,223	3,275,777	0.1%
GLWA Assistance	30,000		4,151	25,849	13.8%
General Construction/Engineering Contingency-All Projects	450,000			450,000	0.0%
Garfield Interceptor Lining Pilot	-		56,165	(56,165)	100.0%
As Needed Applied Science	25,000			25,000	0.0%
As Needed Metco	60,000		13,896	46,104	23.2%
Level Sensors/Pressure/H2S-Meters	214,200			214,200	0.0%
Odor and Control-Construction	7,010,000		103,903	6,906,097	1.5%
Segment 6 Construction Administration	685,530		584,362	101,168	85.2%
Segment 6 Construction/CCA from reserve	-		1,877,344	(1,877,344)	100.0%
Wastewater Master Plan from reserve	-		18,081	(18,081)	100.0%
SY-S-1, SY-S-2, & WA-S-1 Meter Const Admin/Rehab	927,790		17,090	910,700	1.8%
Segment 5 Construction Admin	972,500		386,491	586,009	39.7%
COVID Grant	-		705,520	(705,520)	100.0%
Segment 5 Construction from reserve	611,240		1,404,990	(793,750)	229.9%
Legal Services	75,000		4,640	70,360	6.2%
Clintondale PS O&M	870,000		179,812	690,188	20.7%
NGI O&M	307,500		19,057	288,443	6.2%
Meters O&M	228,400		30,085	198,315	13.2%
Control Structures and Pump Station O&M	281,370		46,895	234,475	16.7%
Biofilter O&M	25,500		4,960	20,540	19.5%
Contribution Life Cycle Reserve	184,300			184,300	0.0%
Interceptor O&M	9,898,300		483,944	9,414,356	4.9%
Stormwater Pump Stations	131,000		54,583	76,417	41.7%
Sewage Disposal Charges - Mt. Clemens	200,000		83,421	116,579	41.7%
Debt Service - Revenue Bonds	2,458,140		1,024,225	1,433,915	41.7%
Total Expense Accounts	86,645,462	-	30,102,866	56,542,596	34.7%

	O&M Balance 6/30/2022	O&M	Total 11/30/2022
Cash - Operating	34,922,137	(244,630)	34,677,508
Accounts Receivable			0
Assets			0
Liabilities			0
Revenues		29,858,237	29,858,237
Expenditures		30,102,866	30,102,866
			0
Equity*	34,922,137		34,677,508

Detail of 2022 Equity*

Reserve at 6/30/2022	10,665,604
Construction/ Engineering Reserve	23,088,928
Life Cycle Reserve	1,167,605