AGENDA

Oakland-Macomb Interceptor Drain Drainage Board
Macomb and Oakland Counties

May 17, 2023 – 11:30 a.m.
Office of the Oakland County Water Resources Commissioner
One Public Works, Building 95 West
Waterford, Michigan, and Microsoft Teams

1. Call meeting to order

   Board Members:
   Michael Gregg, Chair, Michigan Department of Agriculture and Rural Development
   Candice Miller, Macomb County Public Works Commissioner
   Jim Nash, Oakland County Water Resources Commissioner

2. Motion to approve the meeting agenda for May 17, 2023

3. Motion to approve the Drainage District Board Meeting Minutes from April 19, 2023

4. Public Comment

5. Motion to approve the Revised Cost-Share Agreement (OMIDDD and GLWA regarding Contract 2)

6. Motion to approve the following Engineering Work Orders:

   a) ASI for Additional CCA Services on the NESPS Pumping and Electrical Upgrades Project

   b) PMA for Additional Scheduling Support Services on the NESPS Pumping and Electrical Upgrades Project

7. Motion to approve the following Change Orders:

   a) Doetsch Industrial Services Change Order No. 5 for Construction of the OMID Immediate Repairs for a net increase in the amount of $8,020.00

   b) Walsh Construction Change Order No. 32 for the NESPS Pump & Electrical Upgrades Project for a net increase in the amount of $1,337,734.33

   c) D'Angelo Bros. Change Order No. 2 for the NESPS Watermain Upgrades Project for a net increase in the amount of $210,124.00

8. Motion to approve the following Construction Estimates:

   a) Construction Estimate No. 31 for Walsh Construction for NESPS Pump & Electrical Upgrades Project (GMP Phase) in the amount of $546,960.20

   b) Construction Estimate No. 26 for Marra Services for NI-EA Contract No. One for PCI 4 Rehabilitation in the amount of $717,414.03

9. Status of OMID Repairs Project

10. Financial Reports – General Financial Report and Status of State Revolving Fund Financing and Other Financing

11. Motion to approve the following invoices:

1)	Labor/Fringes/Non-Direct Labor Factor			
	• Segment 5 NI-EA Construction		$	4,472.39
	• Segment 5 NESPS Mech./Elect. Construction		$	9,579.63
2)	Equipment Charges			
	• Segment 5 NI-EA Construction		$	126.58
	• Segment 5 NESPS Mech./Elect. Construction		$	383.63
b)	ASI			
1)	Invoice No. 8421-50	NESPS	$	117,336.02
		O&M	$	1,361.00
2)	Invoice No. 8421-50a	O&M	$	27,231.86
c)	Clark Hill			
	Invoice No. 1301636	NI-EA	$	675.00
d)	CSM			
1)	Invoice No. 22OMIDDD-001	O&M	$	2,160.00
2)	Invoice No. 23-275	O&M	$	853.50
e)	Hesco			
	Invoice No. 231450	O&M	$	2,602.50
f)	Jacobs			
	Invoice No. C6A19900-08	O&M	$	88,487.69
g)	Kennedy Industries			
1)	Invoice No. 636166	O&M	$	3,467.44
2)	Invoice No. 635464	O&M	$	1,639.00
3)	Invoice No. 635928	O&M	$	431.00
4)	Invoice No. 636006	O&M	$	909.00
h)	Kone			
	Invoice No. 962443836	O&M	$	730.08
i)	Metco			
1)	Invoice No. 1811-51	O&M	$	94,613.68
2)	Invoice No. 1811-52	O&M	$	80,698.58
j)	Motor City Electric Technologies Inc.			
1)	Invoice No. 95127	O&M	$	90.00
2)	Invoice No. 95128	O&M	$	342.00
3)	Invoice No. 95129	O&M	$	180.00
k)	NTH Consultants, Ltd			
1)	Engineering Design Services Rehabilitation of NI-EA Sections PCI-4			
	Invoice No. 632668	NI-EA	$	13,437.85
2)	Contract No. 1 PCI-4			
	Invoice No. 632669	NI-EA	$	90,045.39
3)	Consulting Services 2021 OMID System Inspection			
	Invoice No. 632672	O&M	$	733.04
4)	Rehabilitation Program 2021 Closeout Services			
	Invoice No. 632673	O&M	$	2,996.08
l)	PM Technologies			
	Invoice No. 76648827	O&M	$	773.89

m) York
Invoice No. MRI-13903 O&M $ 5,450.00

12. Other Business

13. Adjourn

Next Regular Meeting: June 21, 2023, at 11:30 a.m., Eastern Standard Time.

Agenda Item No. 3

Board Meeting Minutes from April 19, 2023

MINUTES OF THE REGULAR MEETING OF THE DRAINAGE BOARD FOR THE OAKLAND-MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT

April 19, 2023

Minutes of the regular meeting of the Drainage Board of the Oakland-Macomb Interceptor Drain Drainage District held at the office of the Oakland County Water Resources Commissioner, One Public Works Drive, Building 95 West, Waterford, Michigan on the 19th day of April at 11:30 a.m. Eastern Standard Time and via Microsoft Teams.

PRESENT:

Michael Gregg, Chairperson and Deputy for Gary McDowell, Director of the Michigan Department of Agriculture and Rural Development; Candice Miller, Member and Macomb County Public Works Commissioner; and Anne Vaara for Jim Nash, Secretary and Oakland County Water Resources Commissioner.

OTHERS PRESENT:

Representing the office of the Macomb County Public Works Commissioner: Brian Baker and Stephen Downing. Representing the office of the Oakland County Water Resources Commissioner: Steve Korth, Sid Lockhart, Joel Brown, Raphael Chirolla, Jen Cook, Megan Koss, Kelsey Cooke, and Stephanie Lajdziak. Others in attendance: Fritz Klingler, FK Engineering; Terry Moore, Metco; Shawn Phelps, OC Fiscal Services; Saju Sachidanandan, and Michelle Kitzinger, NTH Consultants; Brady Harrington, MDARD; Steven Burke, Municipal Financial Consultants; Dave Pauline, Walsh Construction; Joe Colaianne and John Axe, Clark Hill; Jason Matteo, Jacobs

1. Call meeting to order.
   Chairperson Gregg called the meeting to order at 11:31 a.m.

2. Agenda.
   Motion by Miller, supported by Vaara, to amend the April 19, 2023, agenda and place the NI-EA Contract No. 2: PCI-18 and PCI-19 Rehabilitation Project (agenda item no. 9) after public comment (item no. 4).

   ADOPTED: Yeas - 3
   Nays - 0

3. Minutes.
   Motion by Miller, supported by Vaara, to approve the minutes of the March 15, 2023, meeting.

   ADOPTED: Yeas - 3
   Nays - 0

4. Public Comment.
   None.

5. NI-EA Contract No.2: PCI-18 and PCI-19 Rehabilitation Project

Joel Brown presented a memorandum pertaining to the NI-EA Contract No.2: PCI-18 and PCI-19 Rehabilitation project, which involves the installation of flow control structures at 7 Mile and Van Dyke. This project will ultimately assist with flow diversion for a lining project at Mack Ave and Gratiot. He advised that four bids came back on March 1st, with the low bid coming from Z Contractors. It was noted that there was a base bid and alternate bid presented. The base bid was for the full lining of 800 ft., which consists of a 600 ft. portion owned by Great Lakes Water Authority (GLWA). The alternate bid only consists of the 200 ft. of the Drainage District's lining. Mr. Brown advised that GLWA is expected to participate in this project and an update on the agreement can be expected at the May meeting. NTH Consultants recommend that the bid be awarded to Z Contractors, which staff concurred subject to bonds, confirmation of their insurance, and a fully executed GLWA cost share agreement before awarding the bid.

Motion by Vaara, supported by Miller to tentatively award the base bid for the NI-EA Contract No. 2: PCI and PCI-19 Rehabilitation Project to Z Contractors and further permit the Secretary to sign the Agreement and Issue a Notice to Proceed once the award conditions are met.

ADOPTED: Yeas - 3
Nays - 0

Motion by Miller, supported by Vaara, to authorize the Secretary to create a financial project having the project budget of $15,600,000.

ADOPTED: Yeas - 3
Nays - 0

6. Special Assessment Roll No. 1 – Series 2020B Bonds

Joe Colaianne with Clark Hill presented the Board with the Resolution regarding Special Assessment Roll No. 1 relating to the Series 2020B Drain Bonds (2023 Issue). He stated that Steve Burke with Municipal Financial Consultants advised that the bonds will not exceed $15,600,000 and in accordance with the Drain Code, public corporations will be notified and given the option to prepay. Mr. Burke noted that the competitive sale of the bonds is expected for June 28th and will have a hold period until July 1st.

Motion by Miller, supported by Vaara, to approve the resolution for Special Assessment Roll No.1 relating to the 2020B Drain Bonds (2023 Issue)

ADOPTED: Yeas - 3
Nays - 0

Motion by Miller, supported by Vaara, to authorize the issuance of Bonds in the principle amount of $15,600,000.

ADOPTED: Yeas - 3
Nays - 0

7. Cost Share Agreement

Joe Colaianne with Clark Hill presented the Board with the cost share agreement regarding the PCI-18 and PCI-19 rehabilitation project with GLWA. He stated that in October 2022, a cost share agreement for this project was approved, but it did not include the cost sharing of the lining of the sewer pipe. He recommended that the Board approve the cost share agreement presented in substantial form and if any issues arise from GLWA, the Board will be presented with an update at a future meeting.

Motion by Vaara, supported by Miller, to approve the proposed Cost Share Agreement in substantial form and substance, as presented by counsel, and authorize the Chairperson to execute the same on behalf of the Drainage District.

ADOPTED: Yeas - 3
Nays - 0

8. MFCI Engagement Letter

Mr. Burke briefly noted that the engagement letter presented to the Board outlined the fee schedule that matches that of what was previously in place. This letter is simply a federal requirement that is to be updated once a year. He noted that no further action needs to be taken at this time.

Motion by Miller, supported by Vaara, to receive and file the MFCI Engagement Letter as presented.

ADOPTED: Yeas - 3
Nays - 0

9. Young Insurance Law Engagement Letter

Sid Lockhart gave background on the engagement letter from Young Insurance Law presented to the Board. The insurance claim with Chubb under Builders Risk is in regard to the arc flash incident from the Summer of 2022.

Motion by Vaara, supported by Miller, to accept the engagement letter from Young Insurance Law and authorize the Chairperson to sign the letter as presented.

ADOPTED: Yeas - 3
Nays - 0

10. Construction Pay Estimates.

The following Construction Pay Estimates were submitted to the Board for approval:

a) Construction Estimate No. 30 for Walsh Construction for NESPS Pump & Electrical Upgrades Project (GMP Phase) in the amount of $471,151.19 with a transfer to the Oakland County Treasurer in the amount of $3,186.75. Motion by Vaara, supported by Miller, to approve the Construction Pay Estimate as presented.

ADOPTED: Yeas - 3
Nays - 0

b) Construction Estimate No. 25 for Marra Services for NI-EA Contract No. One for PCI-4 Rehabilitation in the amount of $401,444.00. Motion by Miller, supported by Vaara, to approve the Construction Pay Estimate as presented.

ADOPTED: Yeas - 3
Nays - 0

11. Report/Update – Status of OMI Project, Segments 1 through 4, NESPS and NI-EA.
Fritz Klingler of FK Engineering presented the Project Progress Update to the Board and summarized the status of various projects. Motion by Miller, supported by Vaara, to receive and file the report and summary.

ADOPTED: Yeas - 3
Nays - 0

12. Financial Reports.
Shawn Phelps presented the financial reports for Segments 1 through 5 and the NESPS. It should be noted that ASI Invoice No. 48-8380 and 48a-8381 were approved at the April meeting. Motion by Vaara, supported by Miller, to receive and file the financial reports.

ADOPTED: Yeas - 3
Nays - 0

13. Invoices.
The following invoices were submitted to the Board for approval:

1) Labor/Fringes/Non-Direct Labor Factor				
• Segment 5 NI-EA Construction			$	8,440.52
• Segment 5 NESPS Mech./Elect. Construction			$	10,522.57
2) Equipment Charges				
• Segment 5 NI-EA Construction			$	409.54
• Segment 5 NESPS Mech./Elect. Construction			$	440.80
b) ASI				
1) Invoice No. 49-8396		NESPS	$	100,741.10
		O&M	$	8,341.00
2) Invoice No. 49a-8397		NESPS	$	2,311.49
c) CH2M				
Invoice No.		O&M	$	3,279.31
d) Clark Hill				
1) Invoice No. 1292511		O&M	$	918.00
2) Invoice No. 1292513		NI-EA	$	149.20
e) CSM				
1) Invoice No. 22OMIDD006		O&M	$	28,428.00
2) Invoice No. 23-079		O&M	$	1,002.89
f) Hesco				
1) Invoice No. 2314264		O&M	$	585.00
2) Invoice No. 2314307		O&M	$	500.95
3) Invoice No. 2314308		O&M	$	978.40

g)	Jacobs			
	Invoice No. C6A19900-07	O&M	$	57,767.99
h)	Kone			
	Invoice No. 962443836	O&M	$	730.08
i)	Motor City Electric Technologies Inc.			
	1) Invoice No. 95056	O&M	$	405.00
	2) Invoice No. 95057	O&M	$	90.00
	3) Invoice No. 95058	O&M	$	90.00
	4) Invoice No. 95059	O&M	$	151.77
	5) Invoice No. 95060	O&M	$	180.00
j)	NTH Consultants, Ltd			
	1) Engineering Design Services Rehabilitation of NI-EA Sections PCI-4			
	Invoice No. 632374	NI-EA	$	22,089.78
	2) Contract No. 1 PCI-4			
	Invoice No. 632375	NI-EA	$	104,998.44
	3) Eng./Consulting Services NESPS Upgrade			
	Invoice No. 632378	NESPS	$	3,117.92
	4) Consulting Services 2021 OMID System Inspection			
	Invoice No. 632379	O&M	$	822.42
	5) Additional NESPS Maintenance			
	Invoice No. 632381	O&M	$	6,372.21
	6) Rehabilitation Program 2021 Closeout Services			
	Invoice No. 632386	O&M	$	262.40
k)	PM Technologies			
	1) Invoice No. 75667331	O&M	$	6,350.00
	2) Invoice No. 75674891	O&M	$	6,350.00
	3) Invoice No. 75698804	O&M	$	6,350.00
l)	PMA Consultants			
	1) Invoice No. 3559.01-33	NI-EA	$	16,276.19
	2) Invoice No. 3559.01-34	NI-EA	$	18,084.66
m)	Rotor Electric			
	1) Invoice No. 12545	O&M	$	1,318.50
	2) Invoice No. 12548	O&M	$	13,186.66

Motion by Miller, supported by Vaara, to approve the invoices as presented.

ADOPTED: Yeas - 3
Nays - 0

14. Other Business.
None.

15. Adjourn.
Motion by Vaara, supported by Miller, to adjourn the April 19, 2023, meeting at 12:47 p.m.

ADOPTED: Yeas - 3
Nays - 0

Next Regular Meeting: *Office of the Oakland County Water Resources Commissioner, One Public Works Drive, Building 95 West, Waterford, Michigan* and electronically at 11:30 a.m., Eastern Standard Time on May 17, 2023.

I hereby certify that the foregoing constitutes the minutes of the Drainage Board for the Oakland-Macomb Interceptor Drain Drainage District, at a meeting held on April 19, 2023 and that the meeting was conducted and public notice was given in compliance with the Open Meetings Act being Act 267, Public Acts of Michigan, 1976, as amended, and that the minutes were kept and will be or have been made available to the public as required by the Act.

IN WITNESS WHEREOF, I have hereunto affixed my official signature on this 19th day of April 2023.

Anne Vaara, Acting Secretary
Oakland-Macomb Interceptor Drain Drainage Board

Agenda Item No. 4

Public Comment

Agenda Item No. 5

Revised Cost-Share Agreement
OMIDDD/GLWA Contract 2

Clark Hill

MEMORANDUM

TO: Michael Gregg, Chairperson
Drainage Board, Oakland-Macomb Interceptor Drain Drainage District

FROM: Joseph W. Colaianne
Douglas R. Kelly

DATE: May 12, 2023

SUBJECT: **Resolution Approving Revised - OMIDDD-GLWA Cost-Share Agreement – Contract 2A and Contract 2B**

Background: Last month the Drainage Board approved the Cost-Share Agreement between the District and GLWA in connection with Contracts 2A and 2B. At that time, we indicated that GLWA had (tentatively) committed to paying an amount not to exceed $5,000,000 for its share of the total project costs for Contracts 2A and 2B. After further discussion, GLWA Administration agreed to participate in the cost-sharing arrangement, including the sewer lining project, but in an amount not to exceed $4.5 Million.

The attached agreement will need to proceed to GLWA's legal counsel for final review before presenting same to the GLWA Board for approval. It is anticipated that there may a few changes. However, the OMIDDD Project Team requested that the matter come before the Drainage Board for discussion, and if desired, approval of the agreement in substantial form and substance as presented.

Recommended Action: **Approve the proposed the revised Cost Share Agreement in substantial form and substance, as presented by counsel, and authorize the Chairperson to execute the same on behalf of the Drainage District.**

OAKLAND-MACOMB INTERCOUNTY DRAIN DRAINAGE DISTRICT AND GREAT LAKES WATER AUTHORITY

COST-SHARING AGREEMENT

North Interceptor-East Arm, OMID Contract No. 2
PCI-18 & PCI-19 Rehabilitation Project

THIS AGREEMENT ("Agreement") is made and entered into as of the _____ day of _____, 2023, by and between the OAKLAND-MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT ("OMIDDD"), a Michigan public body corporate, c/o Office of the Oakland County Water Resources Commissioner, One Public Works Drive, Building 95 West, Waterford, MI, 48328-1907 and the GREAT LAKES WATER AUTHORITY ("GLWA"), a Michigan public body corporate, c/o Chief Executive Officer, 735 Randolph, Suite 1900 Detroit, MI 48226. In this Agreement, either OMIDDD and/or GLWA may also be referred to individually as a "Party" or jointly as "Parties."

Recitals:

WHEREAS, the OMIDDD is a Michigan public body corporate established in accordance with Chapter 21 of Michigan Public Act 40 of the Public Acts of 1956, as amended (the "Drain Code"), MCL 280.511 *et seq.*, under the jurisdiction of a statutory drainage board; and,

WHEREAS, GLWA is a Michigan municipal authority and public body corporate organized pursuant to the provisions of Act 233, Public Acts of Michigan, 1955, as amended, MCL 124.281 et seq. ("Act 233"), and is authorized, among other things, to acquire, finance, construct, improve, operate, maintain, and repair sewage disposal systems; and,

WHEREAS, pursuant to Amendment #1 to the 2009 Wastewater Contract, OMIDDD is authorized to finance, construct and improve the North Interceptor East Arm (NI-EA) from downstream of Northeast Sewage Pumping Station to the Meldrum connection in the NI-EA PCI-19 reach which is portion of the NI-EA interceptor sewer that is a component of the regional wastewater conveyance and treatment system; and,

WHEREAS, OMIDDD will be undertaking certain improvements to the NI-EA, and in particular rehabilitation of PCI-18 and PCI-19 as further described in this Agreement and Exhibits to this Agreement (the "Project"); and,

WHEREAS, the Parties agree that the Project will benefit both OMIDDD and GLWA, and the Parties have concluded that the Project can be constructed most economically and efficiently by OMIDDD through the exercise of the powers conferred by the Drain Code; and,

WHEREAS, the final plans and specifications for the Project ("Plans and Specifications") and Project costs thereof, herein referred to as the Project Bid Cost, have been prepared and reviewed by OMIDDD and GLWA, said Bid Cost being set forth in **Exhibit A (NI-EA OMID Contract 2A and NI-EA OMID Contract 2B)**; and,

WHEREAS, in accordance with the terms and conditions set forth in this Agreement, the Parties have agreed to share in the cost of the Project for the Contract 2A and Contract 2B.

NOW, THEREFORE, in consideration of these premises and the mutual promises, representations, and agreements set forth in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, OMIDDD and GLWA mutually agree as follows:

Article I. Statement of Authority and Purpose; Project and Bid Cost.

1.1 Authority. Pursuant to the Drain Code, specifically 280.523, and Act 233, and any other applicable laws of the State of Michigan, GLWA and OMIDDD enter into this Agreement to establish terms and conditions for the Project. Each Party agrees to take all actions reasonably necessary to effectuate the objectives set forth in this Agreement.

1.2 Purpose; the "Project". The Parties approve the Project, as described and provided herein, and approve the designation of the "NI-EA OMID Contract No. 2, PCI-18 & PCI-19 Rehabilitation Project" as the name of the Project. The Project is described in the Plans and Specifications which are incorporated by referenced and on file with the OMIDDD**;** the Project Design Map is attached as **Exhibit B**; and the Hydraulic Report for the North Interceptor-East Arm – PCI-18 and PCI-19 Rehabilitation Program dated April 16, 2021 is attached as **Exhibit C**:

- **NI-EA OMID Contract 2A** - Scope of the Project is generally described as follows:
  - Construction of an access and gate structure with a flap gate on the existing 7 Mile Adit Tunnel located south of 7 Mile Road and west of Van Dyke Road
  - Modification of existing PC-663 gate structure including installation and automation of a new sluice gate at PC-663.
  - Performance of maintenance including debris removal, in-tunnel cementitious/chemical grouting, and as needed structural repairs along PCI-18 and PCI-19 upstream of the Meldrum Connection.
  - Replacement of limited manhole cones/covers along PCI-18 and PCI-19 alignment used by the Contractor for access and restore work areas as identified in the contract documents.
  - Obtain necessary permits, perform traffic control measures during construction, and restore site(s) as identified in the contract documents.

- **NI-EA OMID Contract 2B** - Scope of this portion of the Project is generally described as follows:
  - Perform spray-on lining from manhole PCI-19-103 to approximately 100 linear feet downstream of Conant-Mt. Elliott sewer drop connection. (PCI-19 sta. 26+05 to PCI-19 sta. 18+05, approximately 800 linear feet)

- Perform miscellaneous debris removal within the lining area as identified in contract documents.
- NI-EA Contract 2B will include the implementation of Lining Pilot Study Inspection and Monitoring Protocols as detailed in Memorandum dated April 7, 2021 and attached hereto as **Exhibit D**.
- Obtain necessary permits, perform traffic control measures during construction, and restore site(s) as identified in the contract documents.

1.3 Project and Bid Cost of the Project; Final Plans and Specifications; Variations. The Project shall be constructed in accordance with the work as described and specified in the Plans and Specifications for NI-EA OMID Contract 2A and NI-EA OMID Contract 2B. OMIDDD shall have sole authority to approve variations or changes during construction. The as "Bid" Cost of NI-EA OMID Contract 2A and Contract 2B, is set forth in **Exhibit A**.

Article II. OMIDDD Responsibilities.

2.1 The OMIDD shall proceed to:

(a) Enter into construction contract(s) for the Project;
(b) Procure from the contractor(s) all necessary and proper bonds;
(c) Cause the Project to be constructed in accordance with the Plans and Specifications;
(d) Facilitate and coordinate flow control as necessary to accomplish the construction as provided in the Plans and Specifications; and
(e) Do all other things required by this Agreement and Michigan law and regulations;
(f) Implement the Lining Pilot Study Inspection and Monitoring Protocols as recommended in Memorandum and attached hereto as **Exhibit D**; and,
(f) Provide construction observation and quality control testing services during construction.

2.2 Contract Administration. OMIDDD will be responsible for contract administration. OMIDDD is authorized, but not required to utilize Oakland and/or Macomb County personnel and/or retain the services of a third-party engineering firm to perform contract administration for the Project. All certificates required for payments to contractors shall be approved by the consulting engineers before presentation to OMIDDD, and OMIDDD shall be entitled to rely on such approval in making payments.

2.3 Contractor Insurance. OMIDDD shall require all contractors engaged for the Project to provide commercial general liability, umbrella or excess coverage, workers' compensation, insurance with required limits of liability not less than **Exhibit E**.

2.4 Property Access. To the extent the Project requires access rights, GLWA will cooperate and assist OMIDDD with obtaining and securing the right of access to all public and private property necessary for the Project.

2.5 Permits. GLWA will cooperate and assist OMIDDD with obtaining and securing all licenses, permits, certificates, and governmental authorizations necessary to perform all of its obligations under this Agreement.

2.6 Compliance with Laws and Regulations. The Parties will comply with all federal and state laws, regulations, and requirements applicable to the obligations under this Agreement.

2.7 Pilot Study Inspection, Monitoring, and Reporting. OMIDDD will implement the pilot study program per the details identified in the Pilot Study memorandum set forth in **Exhibit D** and share the data with GLWA. GLWA agrees to accommodate OMIDDD and commit to flow diversion during the pilot study program and the control gate structure operation protocols set forth in **Exhibit F**.

Article III. Consideration and Payment of Project Costs; Project Coordination.

3.1 Consideration and Payment of Project Costs; Cost Share. GLWA's cost share shall not to exceed $4,500,000.00 (the "GLWA Cost Share"). GLWA agrees to reimburse OMIDDD for the design, construction assistance, and construction costs for the Project in four (4) separate installments of $1,125,000 based on the following schedule:

- $1,125,000 when completed work in place is 25% or more.
- $1,125,000 when completed work in place is 50% or more.
- $1,125,000 when completed work in place is 75% or more.
- $1,125,000 at substantial completion as provided in the contract.

If the actual costs of the Project exceed the GLWA Cost Share, OMIDDD shall be responsible for all additional costs for the Project. OMIDDD employee costs for inspecting and overseeing the Project are not reimbursable. OMIDDD shall not request for reimbursement, and GLWA shall not pay for, of any cost of the Project amount over and above the GLWA Cost Share.

OMIDDD shall submit to GLWA a Request for Reimbursement Form to request reimbursement for the improvements attached as **Exhibit G**. Requests for Reimbursement shall show the percent of completed work in place of the Project in accordance with overall project cost estimate summary sheet previously provided to GLWA. Requests for Reimbursement shall be submitted via e-mail to: billing@glwater.org. Installment Payments as referenced herein shall be made within forty-five (45) Days after receipt of the Request for Reimbursement. At the conclusion of the Project, OMIDDD agrees to provide GLWA with final project costs.

3.2 Project Administration. OMIDDD will be responsible for paying the Project administration costs.

3.3 Liability and Claims; Selection of Legal Counsel. Except in the event of a Parties' negligence or breach of this Agreement, the Parties agree the costs and expenses of any

lawsuits or claims arising out of the construction the Project are construction costs and shall be paid by OMIDDD without additional compensation from GLWA.

3.4 Wastewater Flow Control During Construction. During construction and implementation of the Project, GLWA agrees to Control Gate Structure Operating Protocols set forth in **Exhibit F**. Specifically, GLWA agrees to accommodate and commit to flow diversion during PCI-19 sewer lining work for the period beginning September 27, 2024 through completion and during the pilot study program detailed in **Exhibit D**. For purposes of flow diversion, GLWA agrees to keep the wet well elevation at the Water Resource Recovery Facility Pump Station 2A below elevation as set forth in the Plans and Specifications.

3.5 Ownership, Operation and Maintenance. After completion of the Project and acceptance by GLWA, ownership shall be governed in accordance with Amendment #1 to the 2009 Wastewater Contract and the operations protocols set forth in **Exhibit F**. It is understood that OMIDDD shall have the right, upon approval by GLWA, which shall not be unreasonably withheld, to utilize the Access and Gate Structure at the 7 Mile Adit Tunnel and PC-663 for future improvements, construction and maintenance repairs to PCI-18 and PCI-19, including conducting liner pilot study and to inspect the system for ongoing maintenance.

Article IV. Effective Date; and Term.

4.1 Effective Date. This Agreement shall become effective upon the approval by resolutions of the governing body for OMIDDD and GLWA; and execution by each Party.

4.2. Term. This Agreement shall terminate upon completion of the Project. However, the conditions set forth in Section 3.5 shall survive, and the Parties agree to the PC-663 Control Gate Structure Operating Protocols set forth in **Exhibit F**.

Article V. General Provisions.

5.1 Governing Law. This Agreement is made and entered into in the State of Michigan and shall in all respects be interpreted, enforced and governed under the laws of the State of Michigan. The language of all parts of this Agreement is intended to and, in all cases, shall be construed according to its fair meaning, and not construed strictly for or against any party. As used in this Agreement, the singular or plural number, possessive or non-possessive shall be deemed to include the other whenever the context so suggests or requires.

5.2 Reservation of Rights; Governmental Function. This Agreement does not, and is not intended to impair, divest, delegate, or contravene any constitutional, statutory, and/or other legal right, privilege, power, obligation, duty, or immunity of the Parties. In addition, the Parties maintain that the obligations set forth in this Agreement will be in the exercise or discharge of a governmental function. Nothing in this Agreement shall be construed as a waiver of governmental immunity for either Party.

5.3 Severability. If any provision of this Agreement or the application to any person or circumstance is, to any extent, judicially determined to be invalid or unenforceable, the remainder of the Agreement, or the application of the provision of persons or circumstances other than those as to which it is invalid or unenforceable, is not affected and is enforceable, provided the invalid provision does not substantially alter the Agreement or make execution impractical.

5.4 Binding Agreement; Assignment; and Amendments. This Agreement will be binding upon and for the benefit of the Parties hereto and their respective successors and assigns, subject to any assignment requiring the prior written consent of the non-assigning Party by an amendment to this Agreement signed by both Parties, and the assignor binding the assignee to the terms and provisions of this Agreement.

5.5. Counterparts. This Agreement may be executed in any number of counterparts, and each counterpart shall be considered a valid original.

5.6 Captions. The section headings or titles and/or all section numbers contained in this Agreement are intended for the convenience of the reader and not intended to have any substantive meaning and are not to be interpreted as part of this Agreement.

5.7 Notices. All correspondence and written notices shall conform the process set forth in Amendment #1 to the 2009 Wastewater Contract.

5.8 Notice of Claims; Cooperation. The Parties agree that they shall promptly deliver to the other Party written notice and copies of any claims, complaints, charges, or any other accusations or allegations of negligence or other wrongdoing, whether civil or criminal in nature, that the other Party becomes aware of which involves, in any way, the Project. Unless otherwise provided by law and/or the Michigan Court Rules, the Parties agree to cooperate with one another in any investigation conducted by the other party of any acts or performances of the obligations under this Agreement.

5.9 Recitals. The recitals shall be considered an integral part of the Agreement.

5.10 Interpretation. This Agreement is intended to constitute a single agreement, to be complementary and interpreted in harmony to avoid conflict, with its words and phrases interpreted in a manner consistent with construction and design industry standards using common sense interpretations. In the event of any inconsistency, conflict, or ambiguity between this Agreement and Amendment #1 to the 2009 Wastewater Contract, Amendment #1 to the 2009 Wastewater Contract shall have priority:

IN WITNESS WHEREOF, this Agreement if executed by the Parties on the date hereafter set forth in the opening paragraph of this Agreement.

OAKLAND-MACOMB INTERCOUNTY DRAIN DRAINAGE DISTRICT

By: _____ Date: _____

Michael Gregg
Its: Chairperson, Oakland-Macomb Intercounty Drain Drainage Board

GREAT LAKES WATER AUTHORITY

By: _____ Date: _____

Suzanne R. Coffey, P.E.
Its: Chief Executive Officer

Approved as to form:

For OMIDDD:

_____
Joseph W. Colaianne
OMIDDD Legal Counsel

For GLWA:

_____
Randal M. Brown
GLWA General Counsel

EXHIBIT A

Bid Cost

Bid date 3/1/2023

NI-EA OMID CONTRACT NO. 2
PCI-18 & PCI-19 REHABILITATION
Base Bid Tabulation (Contract 2A)

Item No.		Description	Quantity	Unit	BASE BID – Z Contractors Unit Price	BASE BID – Z Contractors Amount
A. GENERAL CONDITIONS - **CONTRACT 2A**					**A. General Conditions - Contract 2A**	
	BB-1	Mobilization	1	LS	$ 470,000.00	$ 470,000.00
	BB-2	Estimated Permit Fees Allowance	1	LS	$ 30,000.00	$ 30,000.00
	BB-3	Pre and Post Construction Ground Surface Videos in Work Areas	1	LS	$ 15,000.00	$ 15,000.00
	BB-4	Ventilation and Odor Control for Access Structures and Interceptor				
	BB-4a	Access Structures and Interceptor Ventilation	1	LS	$ 150,000.00	$ 150,000.00
	BB-4b	Odor Control Units	1	Ea	$ 160,000.00	$ 160,000.00
	BB-4c	Odor Control Filter Media Replacement	1	Ea	$ 25,000.00	$ 25,000.00
	BB-5	Utility Relocation, Support, and Protection				$ -
	BB-5a	Utility Relocation by Contractor	1	LS	$ 150,000.00	$ 150,000.00
	BB-5b	Utility Support and Protection	1	LS	$ 10,000.00	$ 10,000.00
	BB-5c	Allowance for Utility Relocation by Third party (as Approved by Engineer)	1	LS	$ 50,000.00	$ 50,000.00
	BB-6	Removal and Disposal of Existing Sludge, Debris, and Sediments from Areas within 7-Mile Adit, PCI-18 and PCI-19 Interceptor	410	TONS	$ 2,220.00	$ 910,200.00
	BB-7	Labor and Equipment Support for Geotechnical Instrumentation	1	LS	$ 20,000.00	$ 20,000.00
	BB-8	Manhole Steps, Cone, and Cover Replacement: PCI-18 and PCI-19 (All assumed to be located in OMID Only Portion)	1	LS	$ 125,000.00	$ 125,000.00
	BB-9	Coordination of Work with other OMIDDD, WRC, MID, DWSD and GLWA Contractors	1	LS	$ 200,000.00	$ 200,000.00
	BB-10	Owner/Engineer Directed Work	1	LS	$ 150,000.00	$ 150,000.00
B. SEVEN MILE ADIT GATE STRUCTURE - **CONTRACT 2A**					**B. 7 Mile Adit Gate Structure - Contract 2A**	
	BB-11	Site Civil Work	1	LS	$ 175,000.00	$ 175,000.00
	BB-12	Maintenance of Traffic (MOT)	1	LS	$ 300,000.00	$ 300,000.00
	BB-13	Temporary Earth Retention System (TERS), Complete	1	LS	$ 2,500,000.00	$ 2,500,000.00
	BB-14	Flap gate, Furnish and Install, Complete	1	LS	$ 125,000.00	$ 125,000.00
	BB-15	Seven Mile Adit Gate Structure, Complete	1	LS	$ 1,000,000.00	$ 1,000,000.00
C. Existing PC-663 Gate Structure Modification - **CONTRACT 2A**					**C. Ex. PC-663 Gate Str. Mod. - Contract 2A**	
	BB-16	Site Civil Work	1	LS	$ 325,000.00	$ 325,000.00
	BB-17	Maintenance of Traffic (MOT)	1	LS	$ 150,000.00	$ 150,000.00
	BB-18	Temporary Earth Retention System (TERS), Complete	1	LS	$ 835,000.00	$ 835,000.00
	BB-19	Existing Bulkhead gate Dismantling and Disposal, Complete	1	LS	$ 125,000.00	$ 125,000.00
	BB-20	New Bulkhead Gate and Sluice Gates, Furnish and Install, Complete	1	LS	$ 300,000.00	$ 300,000.00
	BB-21	Underground Power and Control Conduits including Road Crossing and Conduit Structures (Jack and Bore)	1	LS	$ 170,000.00	$ 170,000.00
	BB-22	Gate Automation (Electrical, Process, Instrumentation)	1	LS	$ 200,000.00	$ 200,000.00
	BB-23	Allowance for SCADA Integration, Ovation, and Related Communication Work	1	LS	$ 150,000.00	$ 150,000.00
	BB-24	PC-663 Interior Concrete Surface Coating with Coal Tar Epoxy	3000	SF	$ 13.00	$ 39,000.00
	BB-25	PC-663 Gate Structure Modification, Complete	1	LS	$ 300,000.00	$ 300,000.00
D. INTERCEPTOR REPAIRS: PCI-18 AND PCI-19 - **CONTRACT 2A**					**D. Interceptor Repairs: PCI-18/19 - Contract 2A**	
	BB-26	Chemical Grouting for Leak Repairs	1200	GAL	$ 143.00	$ 171,600.00
	BB-27	Cementitious Grouting				
	BB-27a	Cementitious Grout of Areas with Potential Voids Surrounding the Interceptor	900	CF	$ 117.00	$ 105,300.00
	BB-27b	Installation of Grout Packers Needed for Cementitious Grouting of Areas with Potential Voids Surrounding the Interceptor	90	Ea	$ 95.00	$ 8,550.00
	BB-28	Localized Crack/Fracture Repairs Using Epoxy Grouting (As Directed by Engineer)	100	LF	$ 440.00	$ 44,000.00

Total Contract 2A:	**$ 9,488,650.00**

NI-EA OMID CONTRACT NO. 2
PCI-18 & PCI-19 REHABILITATION
Base Bid Tabulation (Contract 2B)

Item No.		Description	Quantity	Unit	Unit Price	Amount
E. GENERAL CONDITIONS - **CONTRACT 2B**					**General Conditions - Contract 2B**	
	BB-29	Mobilization	1	LS	$ 155,000.00	$ 155,000.00
	BB-30	Estimated Permit Fees Allowance	1	LS	$ 10,000.00	$ 10,000.00
	BB-31	Pre and Post Construcion Ground Surface Videos	1	LS	$ 15,000.00	$ 15,000.00
	BB-32	Ventilation and Odor Control for Interceptor				
	BB-32a	Interceptor Ventilation	1	LS	$ 10,000.00	$ 10,000.00
	BB-32b	Odor Control Unit	1	Ea	$ 10,000.00	$ 10,000.00
	BB-32c	Odor Control Filter Media Replacement	1	Ea	$ 100.00	$ 100.00
	BB-33	Removal and Disposal of Additional Sludge, Debris, and Sediments from Areas within PCI-19 Interceptor Lining Area	50	TONS	$ 2,220.00	$ 111,000.00
	BB-34	Coordination of Work with other OMIDDD, WRC, MID, DWSD and GLWA contractors	1	LS	$ 265,000.00	$ 265,000.00
	BB-35	Manhole Steps, Cone, and Cover Replacement: PCI-19	1	LS	$ 50,000.00	$ 50,000.00
	BB-36	Maintenance of Traffic (MoT)	1	LS	$ 900,000.00	$ 900,000.00

						Interceptor Lining - Contract 2B	
F. INTERCEPTOR LINING - **CONTRACT 2B**							
	BB-37	Segment #1 Lining Material & Installation, Complete (Geotree)	200	LF	Geotree	$ 2,006.00	$ 401,200.00
	BB-38	Segment #2 Lining Material & Installation, Complete (Permacast)	200	LF	Permacast	$ 2,196.00	$ 439,200.00
	BB-39	Segment #3 Lining Material & Installation, Complete (Sauereisen)	200	LF	Madewell	$ 1,730.00	$ 346,000.00
	BB-40	Segment #4 Lining Material & Installation, Complete (Warren)	200	LF	Saurisen	$ 1,922.00	$ 384,400.00

					Interceptor Repairs: PCI-19 - Contract 2B	
G. INTERCEPTOR REPAIRS: PCI-19 - **CONTRACT 2B**						
	BB-41	Additional Chemical Grouting for Leak Repairs	150	GAL	$ 75.00	$ 11,250.00

Total Contract 2B:	**$ 3,108,150.00**
Total 2A Plus 2B	**$ 12,596,800.00**

NORTH INTERCEPTOR - EAST ARM (NI-EA) Contract No. 2
PCI-18 & PCI-19 REHABILITATION – Cost Sharing Proposal

Bid Details

Lowest Bidder – Z Contractors, Inc.
Lowest Base Bid Value (Contract 2A and 2B) - $ 12,596,800.00

Contract 2A Lowest Base Bid Value - $9,488,650 (2 Control Structures and Interceptor repairs; Bid details and cost split below*)

Name	General Conditions, $	7 Mile Adit Structure, $	PC-663 Gate, $	Interceptor Repairs, $	Total, $
Lowest Bid, $	$2,465,200	$4,100,000	$2,594,000	$329,450	$9,488,650
GLWA, $	$1,060,036	$1,763,000	$1,115,420	$141,663.5	**$4,080,119.5**
GLWA Share (%)	43%	43%	43%	43%	43%
OMIDDD, $	$1,405,164	$2,337,000	$1,478,580	$187,786.5	**$5,408,530.5**
OMIDDD Share (%)	57%	57%	57%	57%	57%

* Following the contract agreement 57/43 percentage split between OMIDDD and GLWA (Article III. 3.1.a)

Contract 2B Lowest Base Bid Value - $3,108,150 (800 lft. of lining, cleaning, and debris removal; Bid details and cost split below **)

Name	General Conditions, $	Interceptor Lining, $	Interceptor Repairs, $	Total, $
Lowest Bid, $	$1,526,100	$1,570,800	$11,250	$3,108,150
GLWA, $	$451,660.84	$464,890.14	$3,329.52	**$919,880.50**
GLWA Share (%)	29.6%	29.6%	29.6%	29.6%
OMIDDD, $	$1,074,439.16	$1,105,909.86	$7,920.48	**$2,188,269.50**
OMIDDD Share (%)	70.4%	70.4%	70.4%	70.4%

* Following the contract agreement 70.4/29.6 percentage split between OMIDDD and GLWA (Article III. 3.1.b)

Cost Split Summary

OMIDDD's share for Contract 2A - $5,408,530.5
OMIDDD's share for Contract 2B - $2,188,269.5
OMIDDD's Total Share – $7,596,800

GLWA's share for Contract 2A - $4,080,119.5
GLWA's share for Contract 2B - $919,880.5
GLWA's Total Share – $5,000,000

EXHIBIT B

Project Design Map

NORTH INTERCEPTOR – EAST ARM (NI-EA)
NI-EA OMID CONTRACT No. 2 PCI-18 AND PCI-19 REHABILITATION

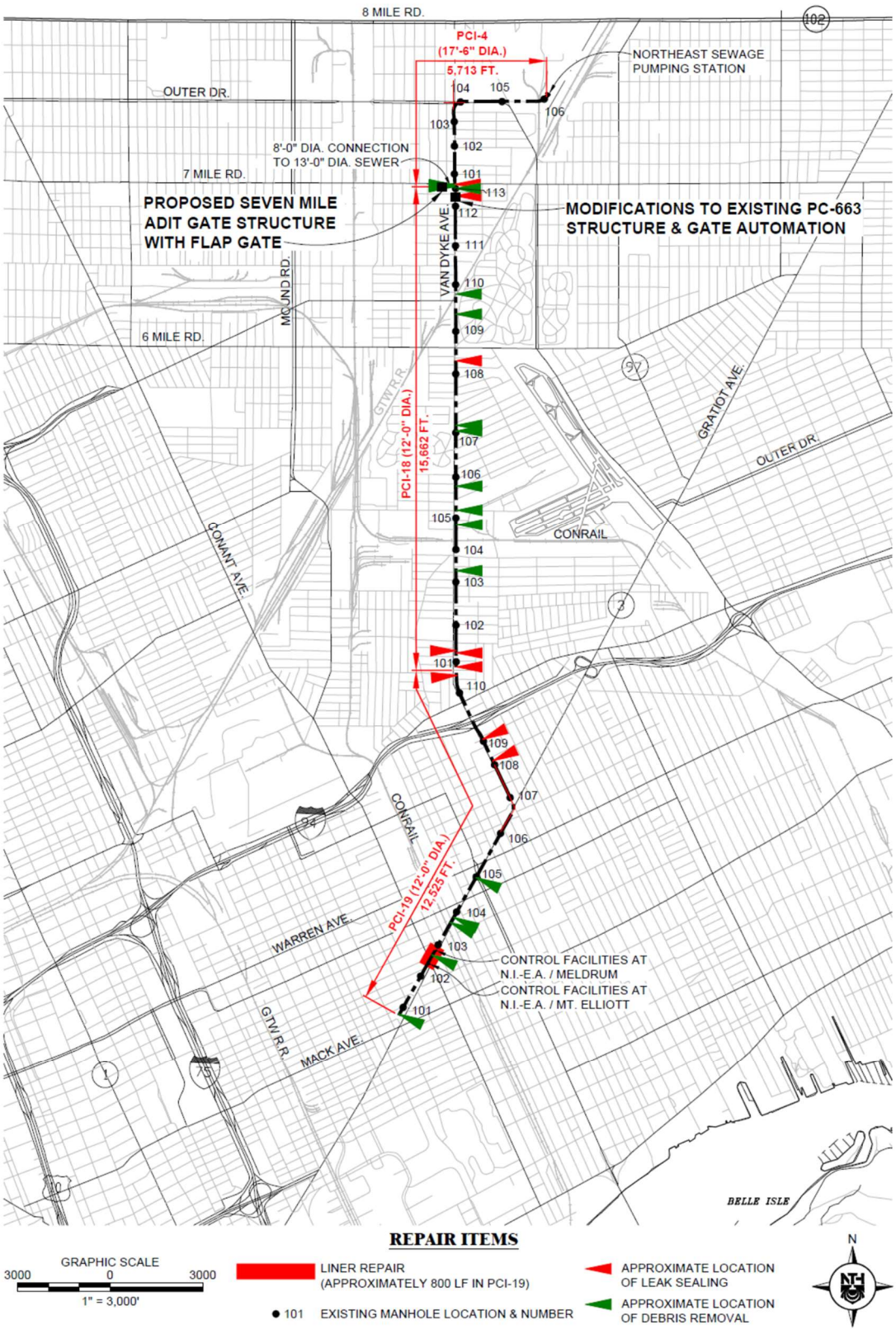


EXHIBIT C

Hydraulic Report for North Interceptor
East Arm, PCI-18 and PCI-19 Rehabilitation Program

North Interceptor-East Arm (NIEA)
PCI-18 and PCI-19 Rehabilitation Program

DRAFT Hydraulic Report

April 16, 2021

Applied Science, Inc.
300 River Place Suite 5400 Detroit, MI 48207
Phone: (313) 567-3990 Fax: (313) 567-3750
www.asi-detroit.com

Introduction

Work is being proposed by the Oakland-Macomb Interceptor Drain Drainage District (OMIDDD) that includes rehabilitation of the PC-663 gate structure and cleaning, spray-on coating, and spot repairs in the PCI-18 and PCI-19 reaches of the North Interceptor-East Arm (NIEA). The extent of the spray-on coating is approximately 797 lineal feet of interceptor between Manholes 102 and 103 of PCI-19.

The NIEA interceptor runs from the Northeast Sewage Pumping Station (NESPS) to the wet well of Pump Station 2 (PS-2) at the Great Lakes Water Authority (GLWA) Water Resource Recovery Facility (WRRF) and is shown on Figure 1 along with the proposed extent and locations of the rehabilitation. Figure 2 presents a profile of the NIEA.

Wastewater is discharged to the NIEA at the following four locations:

1. The discharge chamber of the NESPS,
2. A drop connection with remote gate VR-13 from the First-Hamilton sewer,
3. A drop connection with remote gate VR-15 from the Conant-Mt. Elliott sewer, and
4. A drop connection with remote gate VR-16 from the Meldrum sewer.

The gated drop connections are operated by GLWA and discharge dry weather and low wet weather flow rates from the GLWA sewers to the NIEA via remotely operable gates. When these remote gates are closed, the wastewater continues downstream to the Detroit River Interceptor (DRI) of the GLWA system.

The Clinton-Oakland Sewage Disposal System (COSDS) and the Macomb Interceptor Drain Drainage District are tributary to the OMIDDD which discharges wastewater into the NESPS. The Evergreen-Farmington Sewage Disposal System (EFSDS) discharges wastewater into the First-Hamilton sewer. The Southeast Oakland County Sewage Disposal System (SEOSDS) discharges wastewater into the Conant-Mt. Elliot sewer.

The rehabilitation work of the PC-663 stop gate includes replacing the cable operator with a new operating system. This also includes the removal of an existing bulkhead on the 8-foot diameter adit tunnel and the installation of a new flap gate structure. These items will allow the closure of the rehabilitated gate to divert all flow into the Seven Mile Relief Sewer. The NIEA adit sewer connects to the Seven Mile Relief Sewer just west of a high point at Van Dyke Avenue and flows to the Conner Creek Sewer east of the high point and to the Conant-Mt. Elliott Sewer west of the high point. An existing 2.85-foot-high diversion dam also exists near the high point to provide some additional directing of flows towards the Conant-Mt. Elliott sewer.

Flow control and hydraulic calculations are presented in this report for the proposed rehabilitation work. Figures 3 through 6 present marked-up record drawings showing the recommended modifications to the existing structures to accommodate any hydraulic considerations.

Flow Control for Rehabilitation of the PC-663 Gate

While the PC-663 gate is being rehabilitated, flows may be stored in the upstream OMID and MID systems using the existing flow control structures and discharges at the NESPS can be temporarily stopped. Figure 7 presents an overview map of the MID and OMID control structures (CS). Control Structure No. 5, 6, 7, and 8 (CS-5, 6, 7 and 8) are in the OMID interceptor system. CS-3 is in the MID interceptor system. There is an existing CS-9 shaft in the OMID interceptor system downstream of the CS-5 shaft and is also shown on Figure 7. A stop gate with hydraulically operated sluice gates is proposed to be added to the CS-9 shaft under a separate construction contract prior to the start of this project.

The control structures were designed so that wastewater can be stored in the upstream interceptor system by remotely closing hydraulically operated sluice gates that are tied to a SCADA system. The sluice gates are mounted on a larger stop gate or bulkhead gate. At the end of the storage period, the sluice gates are gradually opened to release the stored wastewater in a controlled and coordinated manner. Upon release, the stored wastewater will be discharged to the NESPS and pumped into the NIEA and will result in elevated flow rates that may be about two to three times the normal dry weather flow rates.

In addition to the control structures, a wastewater flow rate of about 15.5-cfs can be diverted from the COSDS at the Perry Street Pump Station (PSPS). The PSPS discharges wastewater to the Clinton River WRRF. Diverting wastewater in dry weather at the PSPS significantly reduces the wastewater flow rates in the OMID interceptor system and increases the storage times at the downstream OMID control structures. Therefore, diversions at the PSPS are recommended to be utilized for any flow control plans.

Also, the Clintondale Pump Station (CPS) in the MID also can also be turned off so that wastewater is stored in the upstream Lakeshore Interceptor. This provides additional storage time at CS-3.

Rehabilitation work in the Romeo Arm Interceptor (RAI) is proposed to occur from about August 2020 to August 2022. The time frame for this project is from about October 2020 to October 2022. Coordination of the flow control measures between these two projects is required. During the RAI rehabilitation work the use of the new CS-9 gates is proposed to be used for flow control instead of the CS-5 gates.

The available storage times in the interceptors upstream of the NESPS vary daily, seasonally, and with preceding rainfall and snowmelt events. The lowest dry weather flow rates are typically in the late summer and fall and the highest dry weather flow rates are in the springtime. When work is planned for consecutive days, the storage times range between 9 and 11 hours if storage is occurring at all possible control structures, the PSPS is diverting wastewater, and the CPS is turned off. When work is planned for alternating days under the same conditions, the storage

times will increase to 12 to 14 hours if work is also being performed in the RAI and 15 to 20 hours if no work is being performed in the RAI.

Flow Control for Coating and Spot Repairs in the PCI-18 and PCI-19 Reaches

While performing spot repairs and applying the spray-on coating to the PCI-18 and PCI-19 reaches of the NIEA downstream of the PC-663 gate, it is proposed that the rehabilitated PC-663 stop gate structure be closed and wastewater to be entirely diverted from the NIEA into the Seven Mile Relief Sewer. This will allow complete isolation of the NIEA downstream of the PC-663 gate and continuous diversion so long as dry weather conditions persist.

Work at the downstream end of PCI-19 will be impacted by the wastewater flow rates from the drop connections at Meldrum and Conant-Mt. Elliott. The VR-15 and VR-16 must be closed by GLWA when work is occurring to allow these flows to continue to the DRI. Work at the downstream end of PCI-19 will also be affected by backwater conditions from the wet well at PS-2 of the GLWA WRRF. In dry weather, the PS-2 wet well level may vary between 75 and 80 ft-Detroit Datum.

Flow must be reestablished in the NIEA before wet weather occurs. The stop gate will be opened in advance of wet weather and must be reopened in a slow and controlled manner. The VR-13, 15, and 16 gates may be opened by GLWA.

Hydraulic Considerations

Diverting flow from the NIEA to the Seven Mile Relief Sewer requires the following additional modifications to provide satisfactory hydraulic conditions. A Transient Analysis Program (TAP) hydraulic model of the NIEA and Seven Mile Relief Sewer was developed and run to determine these modifications.

1. Stop Gate Wall Elevation at PC-663 Gate Structure

The top of the stop gate wall at the existing PC-663 gate structure is currently at 125 feet. While the stop gate is closed and all flow is being diverted to the Seven Mile Relief Sewer, this elevation is predicted to be overtopped by discharges at the NESPS should the NESPS discharge its contract capacity of 423 cfs. Raising the height of the top of wall at the existing PC-663 gate structure by four feet to 129 feet will allow diversion of flow rates up to and including the NESPS maximum contract capacity of 423 cfs without overtopping the stop gate wall.

2. Temporary Flashboards in Seven Mile Relief Sewer

Diverting flow into the Seven Mile Relief Sewer will result in the flow splitting east towards the Conner Creek Sewer and west towards the Conant-Mt. Elliott Sewer. GLWA has requested that all flow be diverted to the Conant-Mt. Elliott Sewer. The model was run using a range of flow rates loaded at the NIEA adit sewer connection to determine necessary height at the existing dam

versus the diverted flow rate. Figure 8 presents the results of this analysis. From this it was determined that a 2-foot extension on the existing diversion dam will divert all flow up to the peak hourly dry weather flow rate at the NESPS of 180 cfs. With this extension, the total dam height will become about 4.85-feet in the 13-foot diameter sewer. The temporary flashboards are hydraulically acceptable because:

1. The dam is close to the highpoint at Van Dyke Road and the peak flow rates in the Seven Mile Relief Sewer are expected to be minimal at this location;
2. The Seven Mile and Seven Mile Relief Sewers have numerous interconnections on either side of the highpoint to convey wet weather flow rates around the diversion dam as shown on Figure 9; and
3. Only about 34% of the flow area of the 13-feet diameter sewer will be blocked by the higher diversion dam and the additional head loss across the dam would be minimal even with a high wastewater flow rate.

3. Partial-Height Bulkhead with Flap Gate at the Downstream End of PCI-19 Reach

To protect against backwater conditions from PS-2 of the GLWA WRRF, a partial-height bulkhead is proposed to be designed, furnished, and installed by the contractor in Manhole PCI-19-102 downstream of the section of the NIEA to be lined with a spray-on coating. A flap gate will be installed in the partial-height bulkhead to allow wastewater to drain by gravity if downstream levels are low. If backwater occurs from the PS-2 wet well, temporary dewatering pumps may be required to fully drain the upstream NIEA.

Figure 10 presents a detail of the partial-height bulkhead with flap gate. The flow control necessary for installing this gate would include diverting flows using the rehabilitated PC-663 gate, closing gates VR-15 and VR-16, and a drawdown of the PS-2 wet well level to an elevation below 75-feet.

The partial-height bulkhead with flap gate may be left in-place during wet weather. The cross-sectional area of the 12-foot diameter NIEA interceptor is 113.1 feet^2. The open area of the bulkhead with flap gate is about 90.8 feet^2. The expected additional head loss at a peak flow rate of 800-cfs is about 0.2-feet and not significant. Upon completion of the rehabilitation work, the partial height bulkhead shall be removed.

4. NESPS Operations During Diversions to the Seven Mile Relief Sewer

The Seven Mile Relief Sewer is at a higher elevation than the NIEA. Therefore, for flow to enter the Seven Mile Relief Sewer, the NIEA upstream of the PC-663 gate structure must become surcharged. This surcharging will reach the discharge chamber at the NESPS and can affect pump operation depending on the flow rate being discharged by the NESPS. Each pump

discharges into a header with a crossover discharge pipe. If the hydraulic grade line (HGL) elevations at the discharge header get too high, reverse flow and recirculation can occur through the crossover discharge pipe between an idle and in-service pump.

Table 1 below presents the expected pumping capacities at the NESPS. Future Pump 3 and existing Pump 4 have lower crossover discharge pipe invert elevations of 121.22-feet. Pumps 1, 2, 5, and 6 have higher crossover discharge pipe invert elevations of 132.22-feet.

Table 1. Expected Pumping Capacities at the Northeast Sanitary Pump Station

Pump	Type	Discharge (cfs)	
		Wet Well = 525 ft-NAVD88	Wet Well = 529 ft-NAVD88
#1	CS	163.9	169.7
#2 (93% Speed)	VFD	134.8	144.0
#2 (100% Speed)	VFD	173.2	180.9
#4 (80% Speed)	VFD	28.5	38.2
#4 (100% Speed)	VFD	97.6	101.6
#5	CS	121.6	127.3
#6	CS	163.9	169.7

CS = Constant Speed
VFD = Variable Frequency Drive

The model was run with a range of dry weather flow rates to predict the HGL elevations at the NESPS discharge header when the Seven Mile Relief Sewer interconnection is being used. The model results are shown on Figure 11. The predicted HGL is about equal to the Pump 4 crossover pipe invert elevation with a flow rate of 110-cfs from the NESPS into the NIEA and Seven Mile Relief Sewer.

The average daily dry weather flow rates at the NESPS are expected to vary from about 92 to 118-cfs and the peak hour dry weather flow rate is expected to be about 180-cfs. Therefore, it is recommended that Pump 4 (and future Pump 3) be turned off, isolated, and taken out-of-service by closing the suction side knife gate valve whenever the Seven Mile Relief Sewer interconnection is being used to convey dry weather flow rates from the NIEA.

The remaining pumps at the NESPS will have a firm capacity of about 483-cfs with future Pump 3 and existing Pump 4 out-of-service. This firm capacity is more than enough for the expected range of dry weather flow rates at the NESPS.

Hydraulic Impact of Spray-on Coating

The proposed spray-on coating will reduce the interior diameter of the interceptor from 12’-0” to 11’-8”. A hydraulic model of the NIEA was created using the TAP and ran with the contract

capacity of the NESPS loaded at the discharge point of the NESPS. The predicted hydraulic grade line at Manhole 103 was 84.12 ft-Detroit Datum under existing conditions and 84.17 ft-Detroit Datum with the proposed spray-on coating in place. Both predicted HGLs are within the interceptor pipe of the NIEA and this predicted increase of 0.05 feet to the depth is considered acceptable and will not impact operations of the NESPS or the NEIA.

Figure 1. NIEA Plan View Map with Flow Inputs and Rehabilitation Work Extents

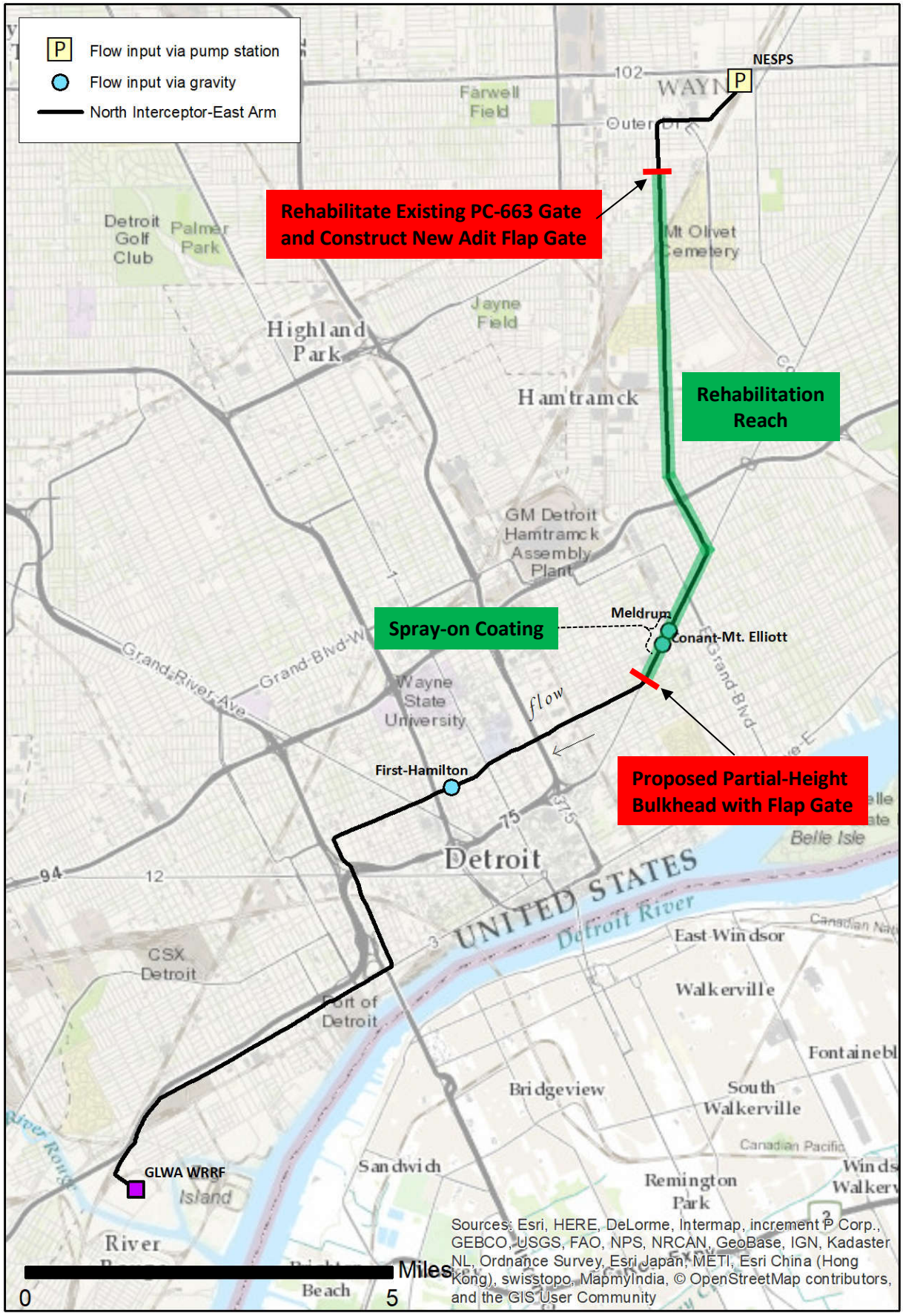


Figure 2. Profile of the North Interceptor-East Arm

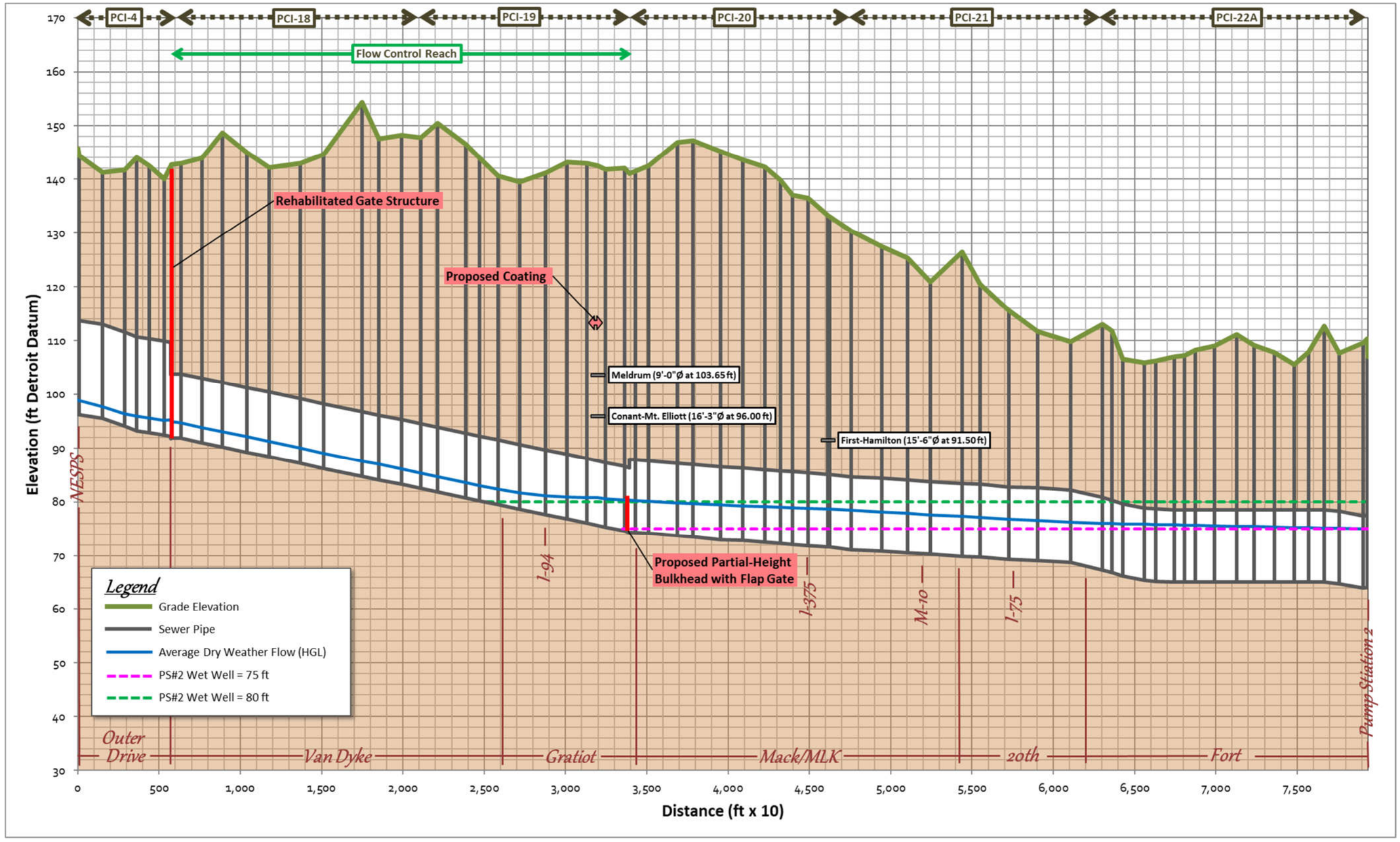


Figure 3. Location of Structures to be Rehabilitated or Modified

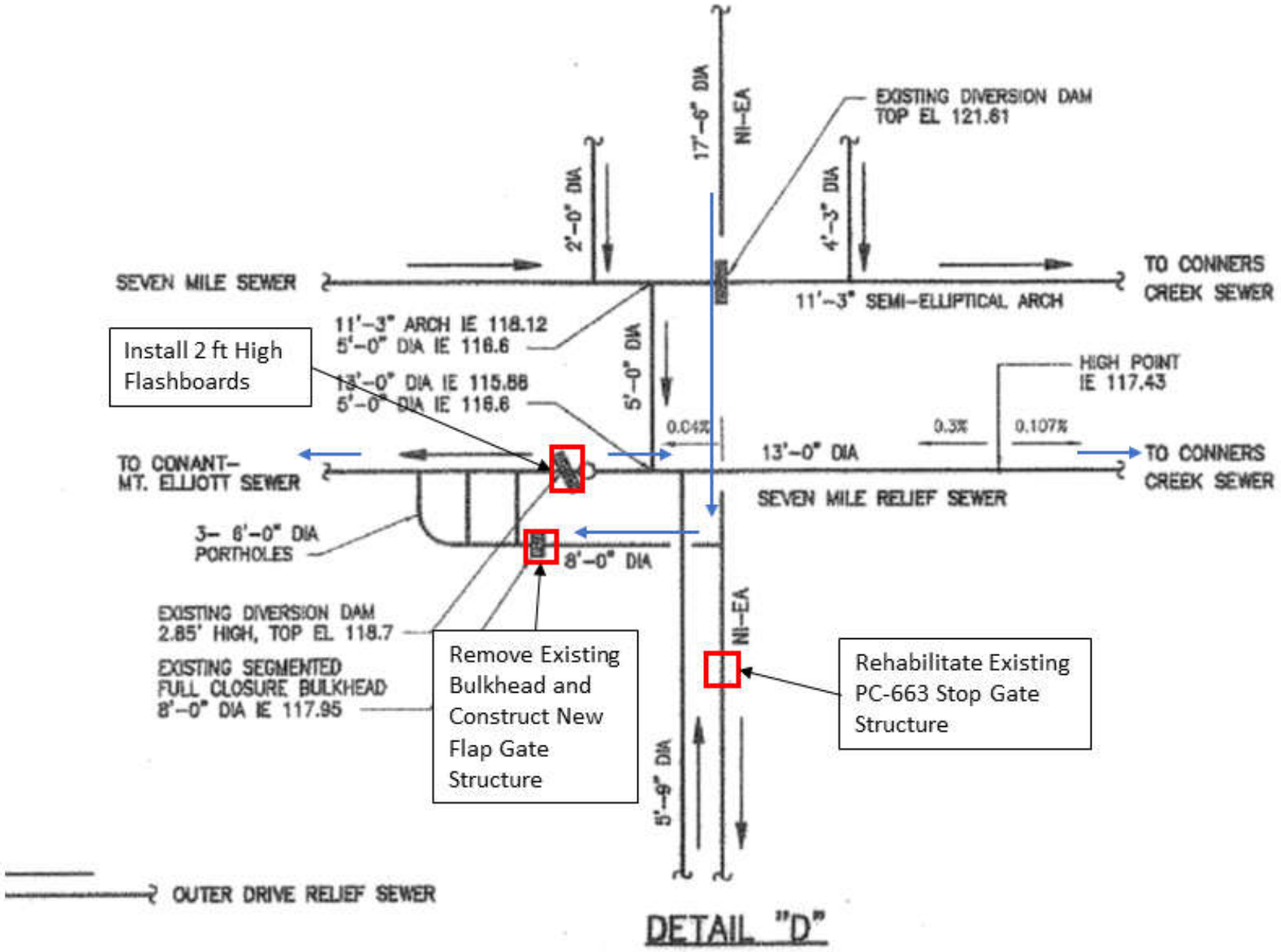


Figure 4. Existing PC-663 Control Gate Structure – Cross Section

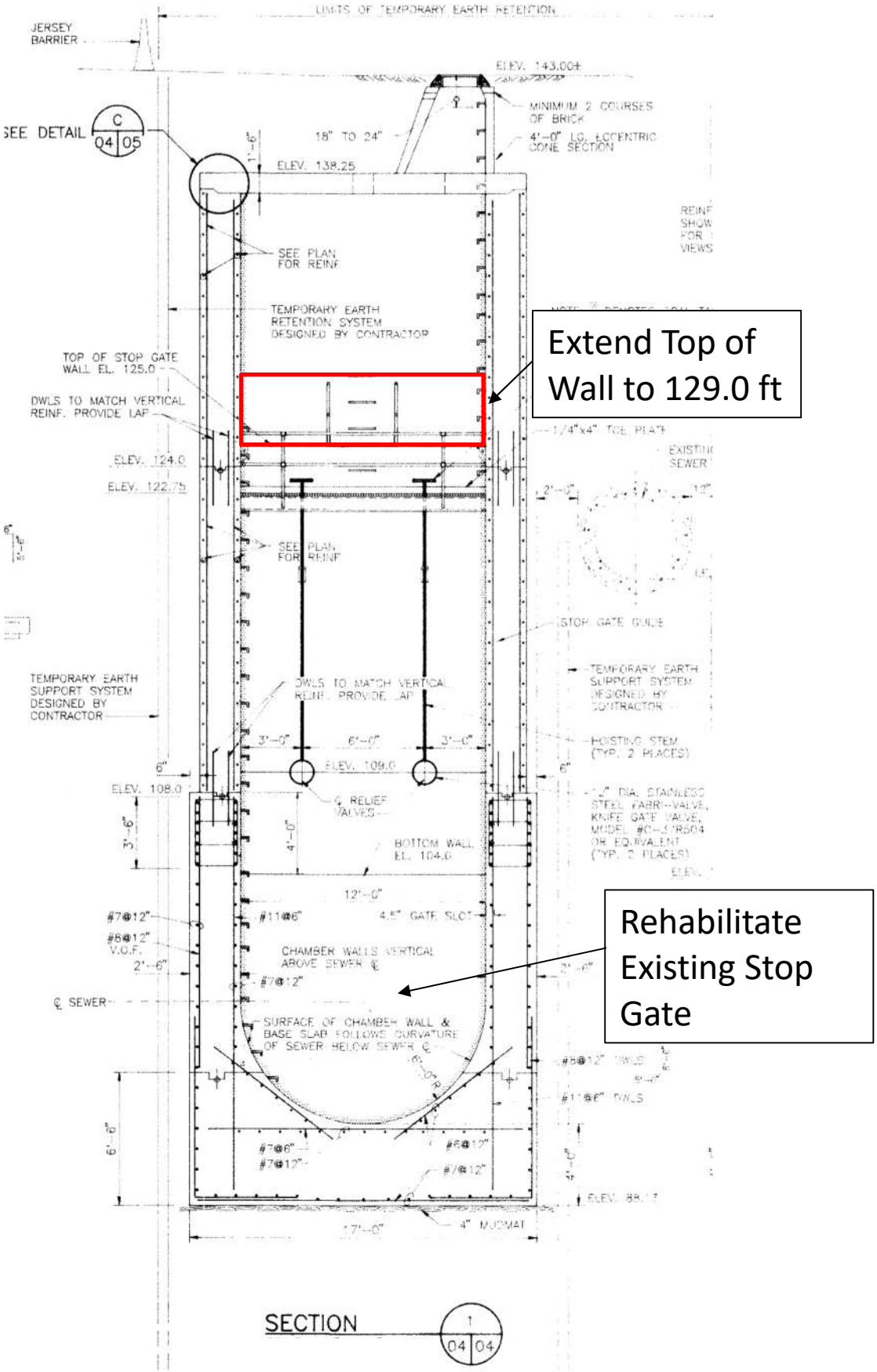


Figure 5. Existing PC-663 Control Gate – Profile View

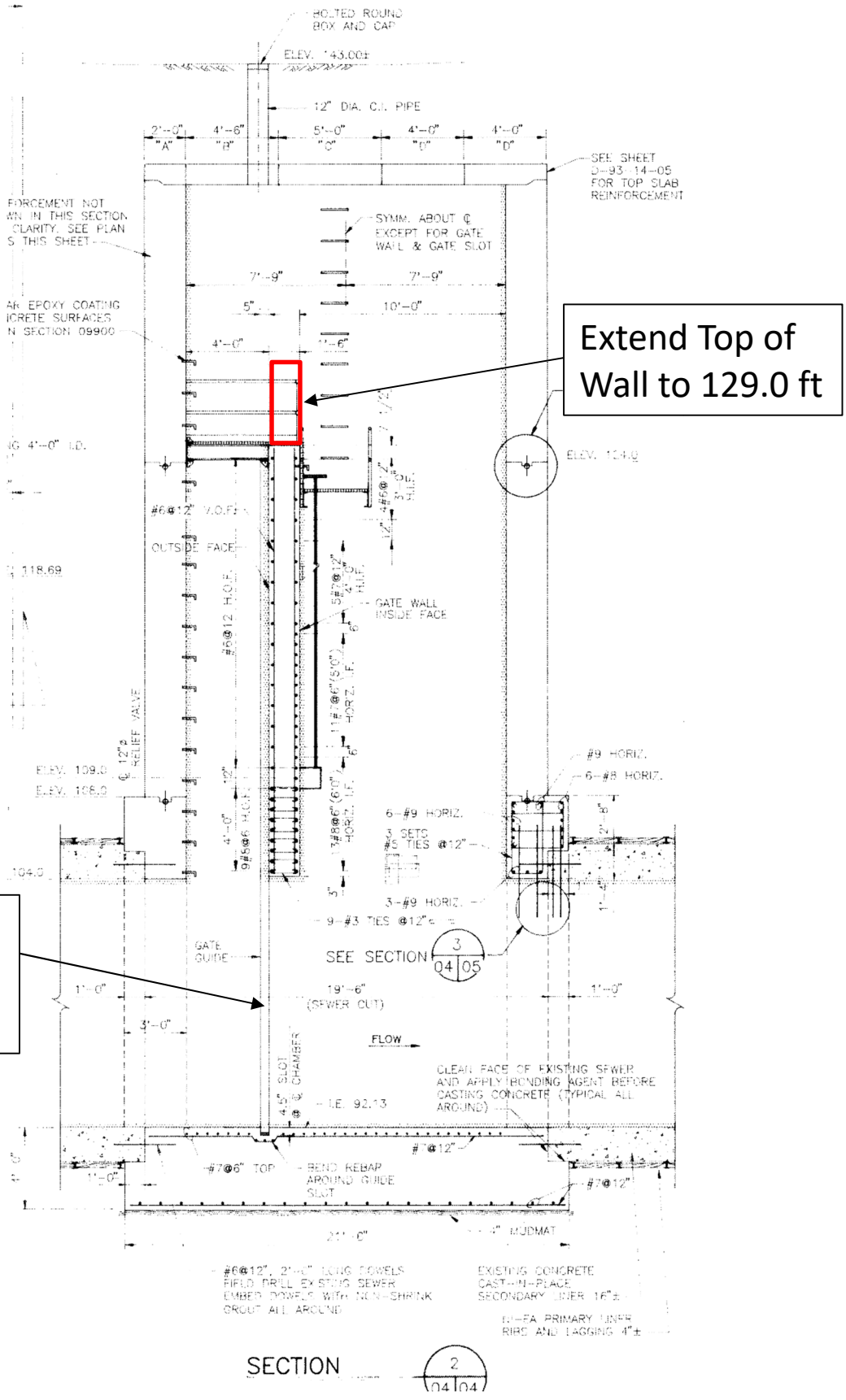


Figure 6. Proposed Seven Mile Adit Flap Gate Chamber

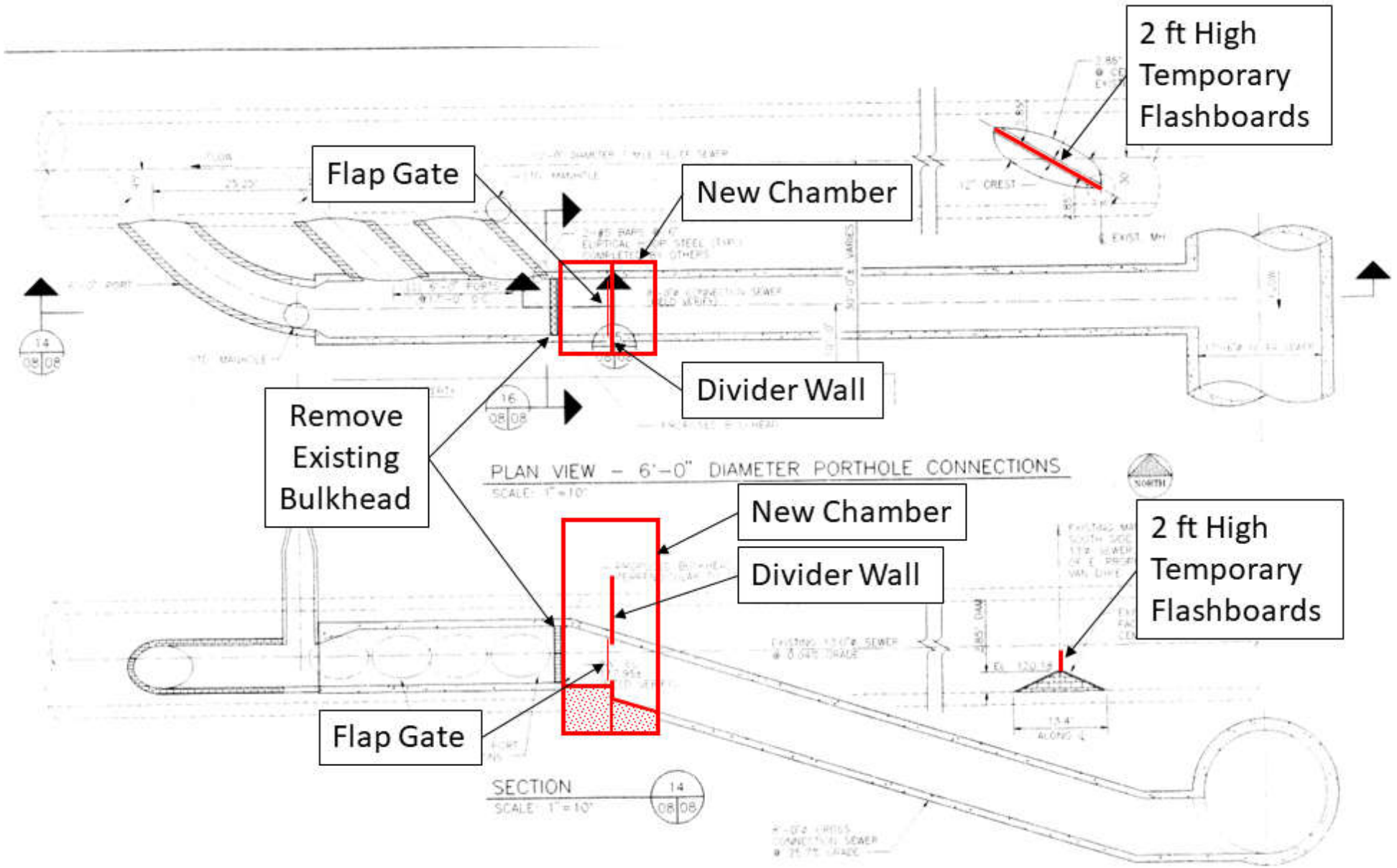


Figure 7. OMID and MID Control Structures

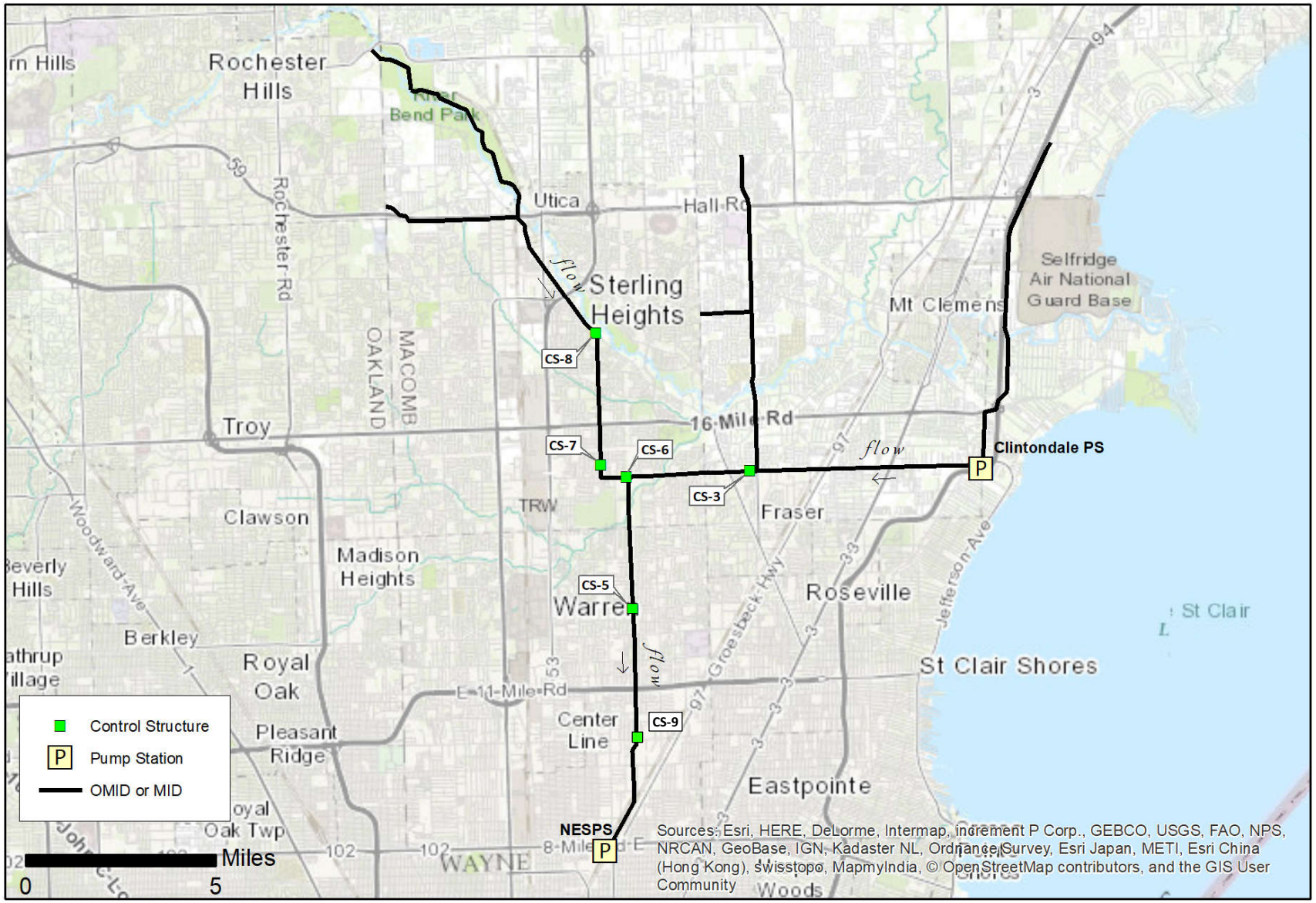


Figure 8. Seven Mile Relief Sewer NESPS Discharge Flow Rate Versus Diversion Dam Height

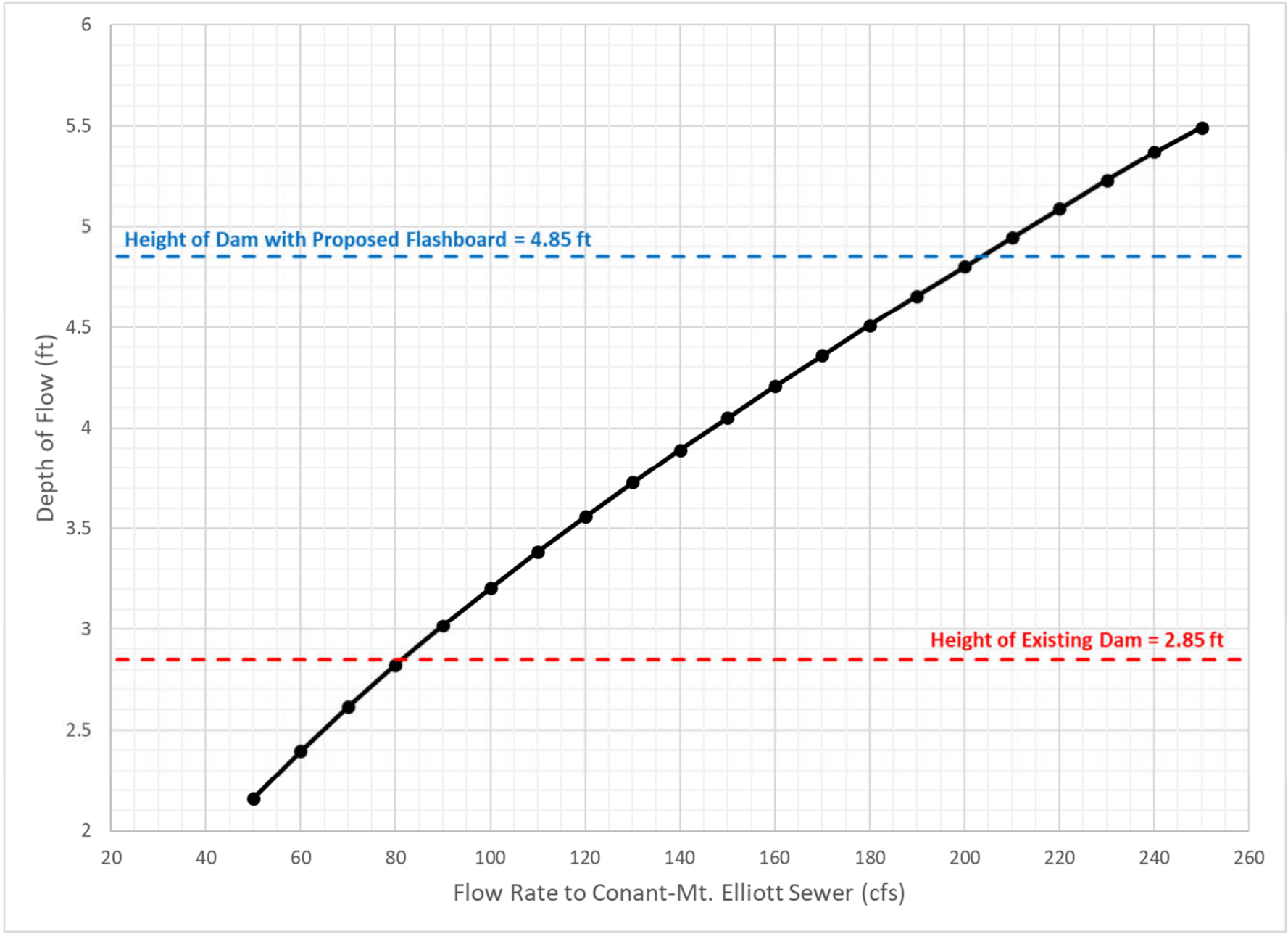
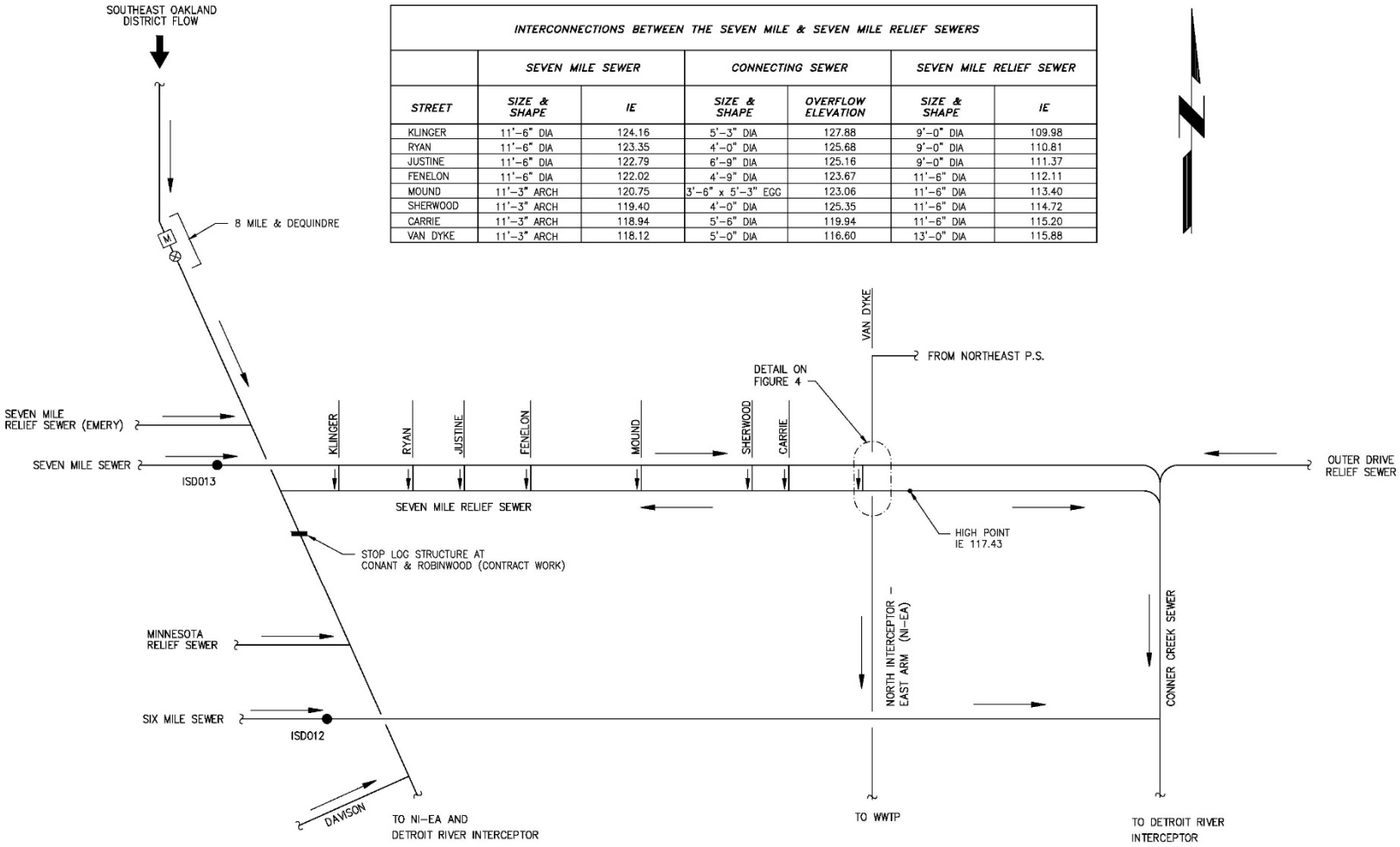


Figure 9. Seven Mile and Seven Mile Relief Sewer Interconnections



INTERCONNECTIONS BETWEEN THE SEVEN MILE & SEVEN MILE RELIEF SEWERS						
	SEVEN MILE SEWER		CONNECTING SEWER		SEVEN MILE RELIEF SEWER	
STREET	SIZE & SHAPE	IE	SIZE & SHAPE	OVERFLOW ELEVATION	SIZE & SHAPE	IE
KLINGER	11'-6" DIA	124.16	5'-3" DIA	127.88	9'-0" DIA	109.98
RYAN	11'-6" DIA	123.35	4'-0" DIA	125.68	9'-0" DIA	110.81
JUSTINE	11'-6" DIA	122.79	6'-9" DIA	125.16	9'-0" DIA	111.37
FENELON	11'-6" DIA	122.02	4'-9" DIA	123.67	11'-6" DIA	112.11
MOUND	11'-3" ARCH	120.75	3'-6" x 5'-3" EGG	123.06	11'-6" DIA	113.40
SHERWOOD	11'-3" ARCH	119.40	4'-0" DIA	125.35	11'-6" DIA	114.72
CARRIE	11'-3" ARCH	118.94	5'-6" DIA	119.94	11'-6" DIA	115.20
VAN DYKE	11'-3" ARCH	118.12	5'-0" DIA	116.60	13'-0" DIA	115.88

Figure 10. Proposed Partial Height Bulkhead

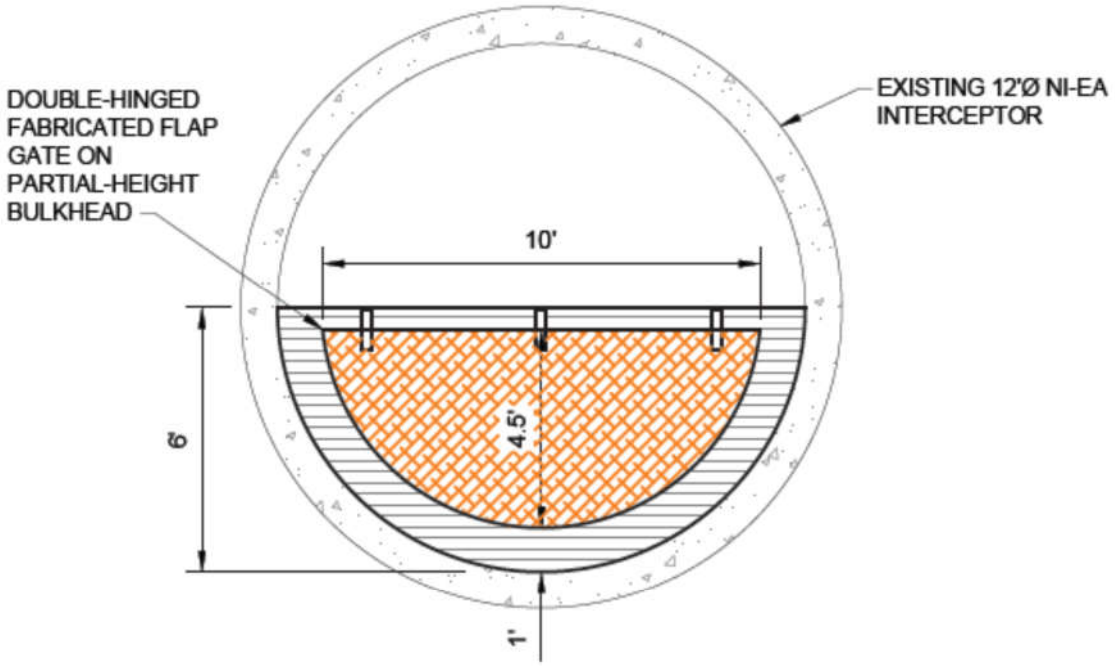


Figure 11. Hydraulic Grade Line versus NESPS Discharge Flow Rate

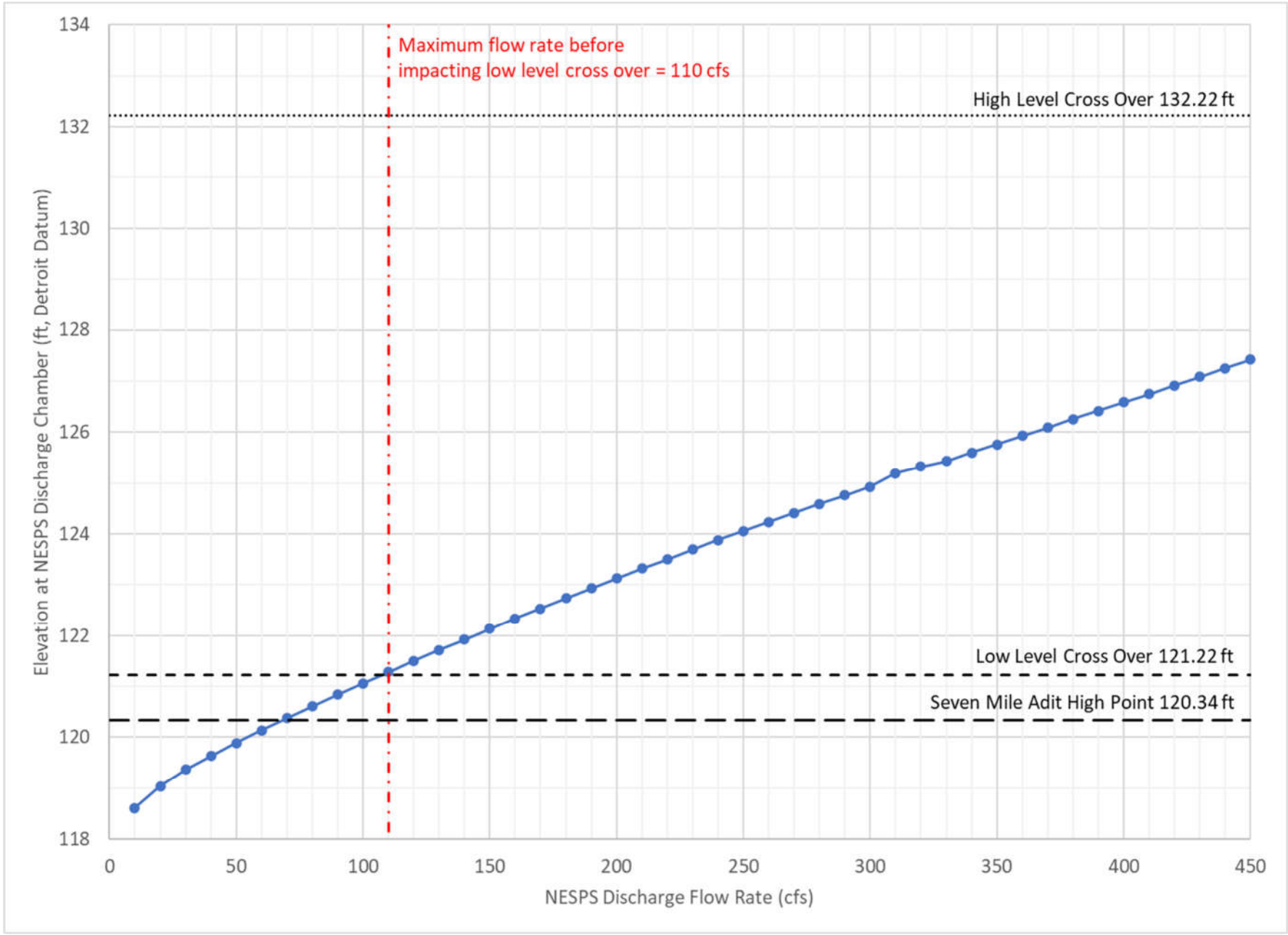


EXHIBIT D

Lining Pilot Study Inspection and Monitoring Protocols

Applied Science, Inc.

M E M O R A N D U M

To: OMIDDD

From: John Michalski, P.E., ASI

Project: NIEA Repairs Contract 2

Subject: PC-663 Control Gate Structure Operating Protocols

Date: November 29, 2021

The purpose of this memorandum is to establish protocols and control logic for the sequence of operations of the reconstructed control gate at the PC-663 structure location. This gate structure is to be operated by GLWA for OMIDDD use during repair and inspection work in the North Interceptor-East Arm (NIEA), proposed to be conducted under OMIDDD NIEA Contracts 2A and 2B. The use of this gate will divert all of the Northeast Sanitary Pump Station (NESPS) flow out of the NIEA to the Seven Mile Relief Sewer. This operation will create a surcharged condition in the upper end of the NIEA back to the NESPS and therefore, operation of the gate must be coordinated with operations of the pump and valves at the NESPS and within the OMIDDD system. Details of the gate configurations, layout, electrical, and I/O details are made part of the NIEA Repairs Contracts 2A and 2B Contract Documents. The information below is part of the Contract 2A and 2B. These protocols and control logic for the sequence of operations of the reconstructed control gate at the PC-663 will need to be adhered to in the future by GLWA operations for any operation that involves use of the PC-663 Gate.

CONTROL STRUCTURES – PC 663
GATE OPEARTION - CONTROL STRATEGY

- **REFERENCE DRAWING:** E- 300 thru E-318
- **DESCRIPTION:** The proposed rehabilitation of the existing Control Structure (PC-663) over the existing North Interceptor Sewer- East Arm at Vandyke includes following gates and level sensor to control the diversion and dewatering of the flow.

  PC-663 Structure – Three (3) Slide gates and one level sensor

  - One (1) – Control Gate – on the bulkhead
  - Two (2) - High Level Gates – on the divider wall

  Each gate is controlled by an electric actuator equipped with the remote position control capabilities. Each control structure is provided with Radar Level Sensor/Transmitter to continuously monitor the sewer level upstream of the gate(s).

  The gate operator controls are located remote from the structures at a Local Control Panel (LCP). The Control panel is provided with Control Logix- PLC to enable Local control and remote interface with the OVATION System by GLWA Cellular Network link.

Under normal operation, the system is set on “REMOTE” mode of operation and the Gates at PC-663 Control Structures shall be maintained in the following status:

- Control Gate – Full “Open”
- High Level Gates – Full “Closed”

The gates can be operated either at the Local or at the Remote mode as below:

- **LOCAL CONTROLS:** Local control for each Gate operator is located at the Control Panel remote from the Gate structures. When the LOCAL/OFF/REMOTE selector switch at the Local Control Panel is switched to the LOCAL mode, the Gate can be opened or closed by the operator from the Control panel.

- **LOCAL AUTOMATIC CONTROL MODE:** There is no Local Automatic Control mode for the Gate operation.

- **OVATION MANUAL CONTROL MODE:** When the LOCAL/OFF/REMOTE switch for each Gate is placed in REMOTE mode at the Control Panel, the OVATION system receives an IN REMOTE status input from the Local Control Panel for indication at the System Control Center – Ovation HMI. The Gate can be manually controlled by SCC Operator from the Ovation System by toggling the OPEN/CLOSE/HOLD switch at the HMI.

- **OVATION AUTOMATIC CONTROL MODE:** There is no Automatic Control mode at the Ovation System for the Gate operation.

- **SEQUENCE OF OPERATION:** The Gate operation shall satisfy the following sequence operation for the various operational conditions.

  A. Flow Diversion To 7-Mile Sewer

  The following permissive interlocks shall be satisfied prior to executing the operation of the Control Gate:

  The knife gate valve at the suction side of Sanitary Pumps No.3 and No. 4 (NESPS) shall be in “closed” position and these pumps shall not be operational.

  The upstream level at PC-663 structures shall be lower than 8’ in depth (ELV-100)

  These permissive interlocks will be programmed in the OVATION System and in the PLC at the Control Panel. The interlock at PLC will be activated under both Local and Remote operation modes.

  Upon satisfying these permissive, the Control Gate can be operated to CLOSE.

  B. Dewatering

  During the dewatering, the following sequence shall be followed to operate the two (2) high level gates:

- If the Upstream water level is between 112’-0”and 127’-0” open the two high level gates
- Once the upstream level reaches 112’-0” open the Control Gate to 3 inches and Hold
- Once the upstream level reaches 111’-0” open the Control Gate to 6 inches and Hold
- Once the upstream level reaches 110’-0” open the Control Gate to 12 inches and Hold
- Once the upstream level reaches 107’-0” open the Control Gate to 15 inches and Hold
- Once the upstream level reaches 104’-0” open the Control Gate to 18 inches and Hold
- Once the upstream level reaches 100’-0” open the Control Gate to 24 inches and Hold
- Once the upstream level reaches 98’-0” open the Control Gate to 36 inches
- Once the upstream level reaches 97’-0” open the Control Gate fully.

The Gate operators are designed to hold last position upon power or signal loss.

ALARMS:

High Level Alarm at upstream elevation of 128 ft.

Oakland Macomb Interceptor Drain
NIEA Contract 2 Design Memo

MEMORANDUM

To:	OMID Design Team	DATE: April 10, 2023
FROM:	B. Kelly, F. Klingler, S. Sachidanandan	
SUBJECT:	Lining Pilot Study Inspection and Monitoring Protocol	

The purpose of this memorandum is to provide a summary of the proposed protocols for monitoring, inspection, and evaluation of different spray-on lining products that will be installed as part of a pilot study conducted under NI-EA OMID Contract No. 2 PCI-18 and 19 Rehabilitation Project. This effort is to be paired with an inspection, monitoring, and evaluation effort in PCI-4, which is currently under contract to be slip-lined with glass-reinforced plastic (GRP) in a rehabilitation effort scheduled for completion in 2023.

It should be noted that this memorandum provides the basis and a general summary of the proposed pilot study. Modifications may be made to the final study as field conditions warrant.

1.0 PROJECT BACKGROUND

The Oakland Macomb Interceptor Drain Drainage District (OMIDDD) is currently developing a rehabilitation design for 800 feet of the NI-EA PCI-19 Interceptor, between the Mt. Elliot and Meldrum connections. This reach of sewer has experienced excessive corrosion compared to other system reaches of similar size, function, and construction. Specifically, a coal-tar epoxy corrosion liner has been confirmed to be fully deteriorated, with corrosion of the exposed underlying concrete surface ongoing.

As such, OMIDDD intends to use this rehabilitation project as a pilot study to evaluate multiple spray-on lining materials in a highly corrosive environment subject to elevated levels of gaseous hydrogen sulfide (H_2S)—a known contributor to microbially induced corrosion (MIC). Flows in PCI-19, as modeled in VR-15 at the Mt. Elliott control facility, range from up to 500 cfs for a 10-year event (with 125 cfs being a minimum during dry weather). This volume of flow makes PCI-19 a critical component of the regional sewer system.

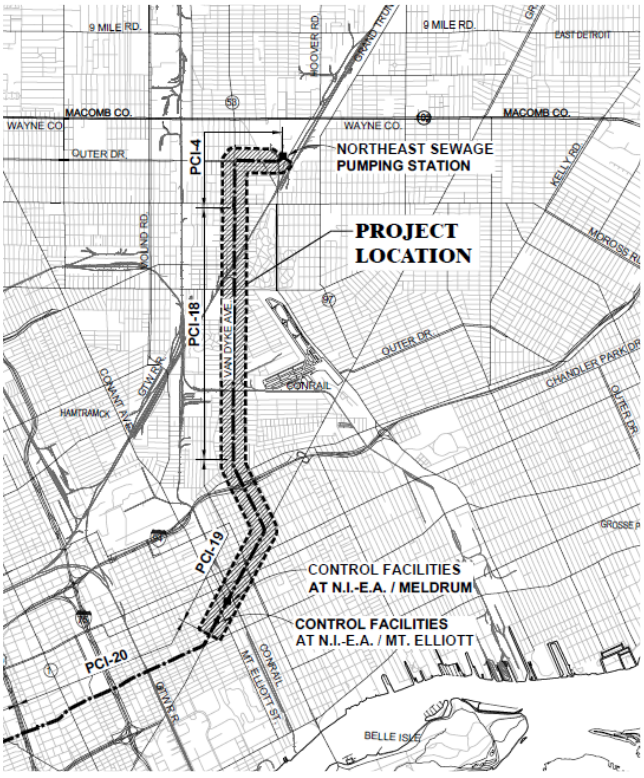


Figure 1: NI-EA Overview – PCI-4, PCI-18 & PCI-19

Additionally, the sewer designated as PCI-4 (shown in Figure 1) was lined in 2017 using a spray-applied cementitious mortar. Since that time, the lining has

deteriorated rapidly (as shown in Figures 4 and 5 and discussed in Section 2.0), which has been attributed to MIC. The majority of degradation in PCI-4 took place prior to the implementation of the NESPS BioTrickling Filter. This biotrickling filter extracts odorous air from the NESPS discharge chamber and wet well and treats that air to reduce H_2S. Wastewater flows discharge into PCI-4, which can affect air flow rates that are extracted and treated according to operational protocols. This facility was put into service on April 21, 2020 and since that time, H_2S levels in downstream sewer reaches have been field verified, with somewhat reduced levels measured downstream in PCI-4, with lesser impacts on PCI-18 and PCI-19.

Further evaluations of the relatively new NESPS BioTrickling Filter may be conducted. In any case, the location of measurement, and scheduled inspections included in the Lining Pilot Study discussed herein should be strategically planned to facilitate evaluation of interceptor system impacts by the BioTrickling Filter.

1.1 Pilot study

The proposed pilot study for lining materials will include two epoxy-based spray-applied liners and two geopolymer mortar-based spray-applied liners, each applied in adjacent 200 foot sections at the downstream end of PCI-19 (see Figures 1 and 2), which corresponds to 800 feet total. In addition to providing much needed rehabilitation of the sewer reach, the performance of these liners will factor into the design of future rehabilitation efforts throughout the system. Recent sampling following completion of the BioTrickling Filter indicates that high levels of H2S remain only near the discharge structure and rapidly decline further downstream (approaching PCI-19). Elevated levels are also known to exist in the vicinity of the Meldrum and Mt. Elliott inputs into the NI-EA, which is the area proposed to be lined. Baseline sampling will provide a necessary datapoint as turbulence at the Meldrum and Mt. Elliot control facilities could contribute to elevated H_2S levels.

To optimize the value of this pilot study and provide the most useful insights for future design efforts, OMIDDD has requested that we develop a plan for monitoring corrosion of this 800-foot reach (PCI-19) once lining has taken place. Monitoring of effective factors and corrosion in PCI-4 will provide data to determine the effectiveness of both the lining efforts currently underway and the BioTrickling Filter. Further, upstream (PCI-4) and downstream (PCI-19) monitoring will aid in determining the BioTrickling Filter's range of influence.

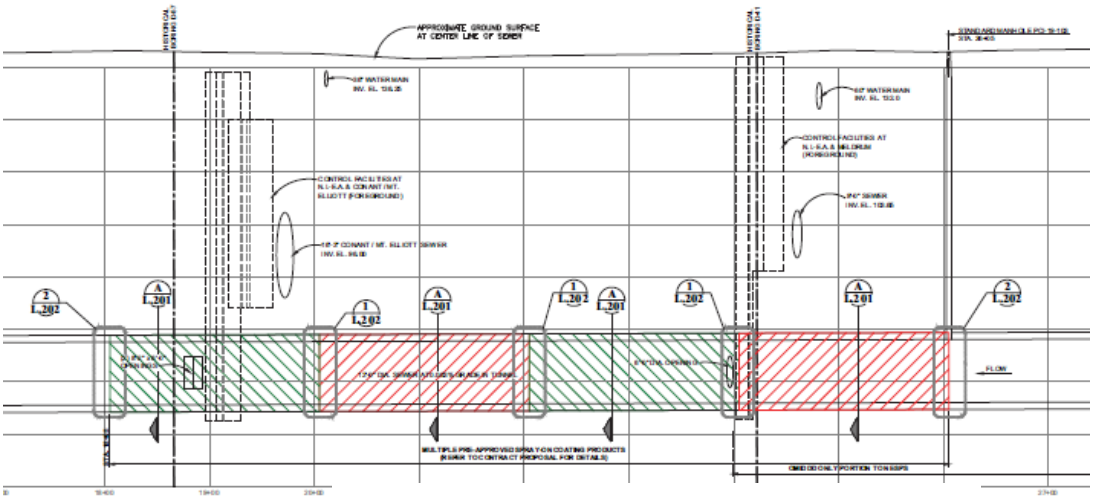


Figure 2: Profile of proposed PCI-19 lining

Figure 3: Stills from PCI-4 inspections (previously rehabilitated section)

Figure 4: Stills from PCI-18 inspection in 2019, showing typical conditions

Figure 5: Stills from PCI-19 inspection in 2019, showing typical conditions

2.0 CORRODED IN PCI-4

The primary contributor to past deterioration in this reach is believed to be H_2S, through a process as shown in Figure 7.

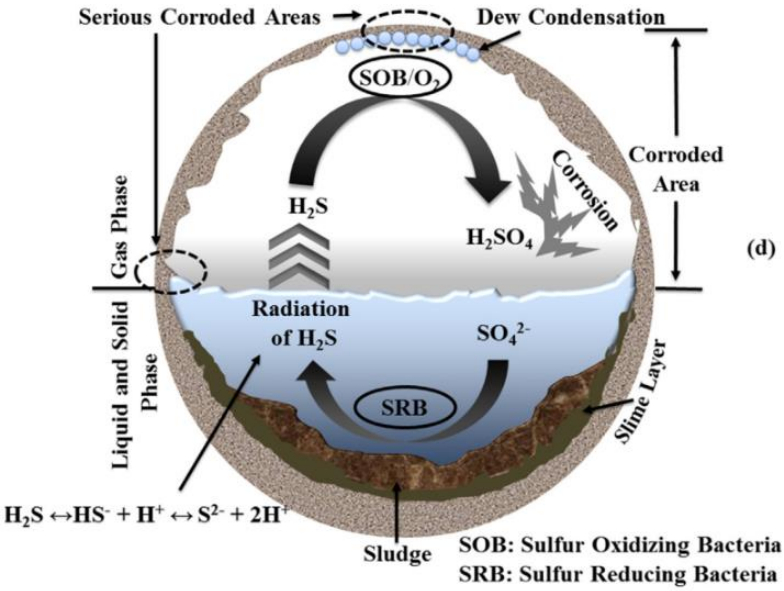


Figure 6: H_2S corrosion process in sewer

In summary, species of sulfate-reducing bacteria (typically strains of thiobacillus) in influent wastewater or the biofilm (slime) layer convert sulfates in wastewater into aqueous H_2S. Aqueous H_2S radiates as gaseous H_2S into the freeboard air above the flow line (a process accelerated by turbulence in the flow). On contact with the porous concrete surfaces of the sewer, sulfur-oxidizing bacteria convert this gaseous H_2S into sulfuric acid. The sulfuric acid chemical degrades the exposed surfaces of the pipe. When this outer layer of concrete is sufficiently degraded to slough free, the process continues on deeper layers of concrete, leading to exposed aggregate, then section loss, then exposed reinforcing steel, and so forth.

While H_2S is the primary contributor to MIC, other environmental factors can accelerate the growth of sulfur-oxidizing bacteria and thus the rate of concrete deterioration. Research[1] indicates that humidity, temperature, and pH levels are all effective factors in MIC. In summary, an environment where flows rich in H_2S are disturbed, where temperature and humidity are high, and where pH levels are low (acidic), creates ideal growing conditions for corrosive microbes. Conceivably, an environment with neutral or high pH, low temperatures, and low humidity would experience dramatically reduced MIC relative to an environment with ideal conditions for microbial growth. These effective factors can be monitored with devices currently available on the market.

Figure 7: Side by side comparison of unaffected concrete and concrete undergoing H_2S corrosion

The repair for the first 110 feet downstream of NESPS using a 3-inch thick EcoCast (geopolymer) liner was performed on an emergency basis as part of OMID NI-EA Rehabilitation Project in 2017. However, an inspection in 2021 February revealed excessive deterioration of the relined section (See Figure No. 3). This section has since been relined (again) as part of the currently ongoing work under OMIDDD NI-EA Contract No. 1.

3.0 MONITORING EFFECTIVE FACTORS OF MICROBIAL GROWTH

The levels of H_2S and most of the effective factors outlined above can hypothetically be measured on an ongoing basis with fixed sensors installed within the sewer. However, due to high levels of corrosive H_2S, fixed sensors have been deemed unsuitable within the NIEA. The following sections discuss measurements of each effective factor of microbial growth, with the intervals and overall plan detailed in Section 5.

3.1 H_2S measurement

For the purposes of this study, personnel would enter the NIEA at regular intervals (see Section 5 for further details on the inspection and monitoring plan) and take H_2S readings using portable sensors. For a fair comparison between lining products, an H_2S reading will be taken within each 200-foot liner section. H_2S measurements would also be taken in PCI-4

3.2 Humidity and Temperature measurement

For the purposes of this study, personnel would enter the NIEA at regular intervals (see Section 5 for further details on the inspection and monitoring plan) and take humidity and temperature readings using portable sensors. For a fair comparison between lining products, readings will be taken within each 200-foot liner section and within PCI-4.

3.3 pH measurement

While there are a number of commercially available sensors for monitoring aqueous pH, of primary interest for tracking effective factors is the pH level at the concrete or lining surface. Fresh concrete has a pH as high as 13, which can decrease due to chloride ingress, carbonation, and acid attack. While multiple factors contribute to the durability of concrete and lining materials, a reduced pH of material (water, slime, etc) on concrete or lining surfaces is indicative of ongoing corrosion (MIC). Concrete and lining materials will have differing baseline pH levels, due to the alkalinity of concrete. This study should coordinate with lining manufacturers to determine the anticipated pH level of their material relative to concrete.

For the purposes of this study, inspectors could conduct pH testing on samples from the surface of lining materials at regular intervals (see the table in Section 5.0) along each lining reach in PCI-19 and within PCI-4.

4.0 LINING DEGRADATION MONITORING

For the purpose of systematic evaluation of the performance of the four lining systems applied for this pilot study, it will be necessary to conduct a regular inspection and testing cycle for the subject area. In addition to monitoring of effective factors as described in Section 3, the following section will discuss observations and measurements associated with lining degradation to track the operational performance of each lining alternative.

4.1 Man-Entry Inspections

Due to the large sewer size, relatively easy access to the pilot-study area of the sewer, and available flow controls, man-entry inspection is the obvious choice for regular inspection of the study area. Such man-entry inspections could include both non-destructive testing and monitoring, and destructive testing. All necessary tests could be conducted from a ladder, with no requirement to erect scaffolding.

In either case, the testing should be designed to monitor for the typical failure mechanisms of the subject lining types. Typical failure mechanisms for polymer mortar lining are delamination of the spray applied lining from the host pipe, or between layers of applied product; or through hydrogen sulfide corrosion, as discussed above. Abrasion may also be observed and documented using standardized abrasion measures provided by the International Concrete Repair Institute (ICRI). Epoxy coat linings are typically not significantly impacted by MIC, with the typical failure mechanism related to delamination (bond failure) from the host pipe and sometimes damage to the lining or reduction in liner thickness due to abrasion. Approaches for monitoring for these types of failure are summarized as follows:

4.1.1 Pins (geopolymer-based and/or epoxy-based spray-applied liner sections)

The straight-forward "low-tech" means of monitoring corrosion or section loss within polymer mortar lined areas would include the placement of an array of 316 L stainless steel pins within the proposed lining areas. Pins of this nature are a conventional inspection strategy for verifying adequate spray-applied lining thickness during installation, and only minor modifications would be required for use in corrosion monitoring. Once in place, inspectors entering to monitor corrosion would take measurements of the protruding pin, giving an accurate measurement of section loss local to the pin.

Figure 8: Spray application of a geopolymer lining

For the purposes of corrosion monitoring, the stainless steel pins should be embedded three inches into the concrete host pipe with one inch protruding from the newly-applied liner. They should be placed at the crown, springline, and upper and lower quarter points, with these sets spaced at 50 feet on center along the sewer reach. This test is considered entirely non-destructive.

4.1.2 Tabs (epoxy-based spray-applied liner sections)

As discussed above, epoxy-based linings do not typically degrade under acid-attack, with the typical failure mechanism involving delamination (i.e., bonding failure) from the host pipe. Similar to the stainless steel pins discussed above, epoxy-based lining operations often use pull-tabs to provide an inspection check on the integrity of the lining-to-host-pipe bond. Once in place, inspectors entering to monitor corrosion would pull on the tabs and document the measured force required to remove the tab (approximate psi of pull to fail). A relatively easy removal of a tab would be indicative of reduced bonding of the lining material to the host pipe. Also, the test allows for confirmation of failure through the concrete, and not at the epoxy-concrete interface, as would occur if there were a bond failure.

For the purposes of corrosion monitoring, the tabs should be placed through the entire thickness of the lining. They should be placed at the crown, springline, and upper and lower quarter points, with these sets

space at 25 feet on center along the sewer reach. The interval of the pull-testing could be six months to a year, depending on their status during the first follow-up entry. Pull-test tabs would be placed (glued) immediately prior to the test, and tested areas would be immediately repaired (re-coated with epoxy) to prevent future peeling of the test area. If performed and repaired properly, the pull-tab test is considered only moderately destructive.

4.1.3 Hardness Testing (geopolymer-based spray-applied liner sections)

This approach would use an ASTM-standardized Swiss (Rebound) Hammer test of surface hardness within each lining section. The Swiss Hammer measures the rebound of a spring-loaded mass impacting against the surface of concrete or other materials.

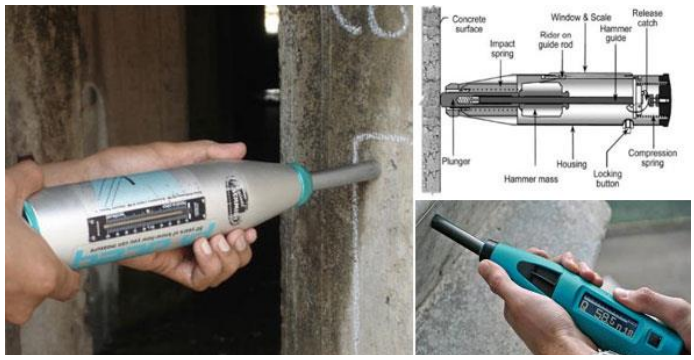


Figure 9: Swiss or Rebound Hammer testing for surface hardness

For the purposes of corrosion monitoring, inspectors would perform Swiss Hammer testing and documentation at springline, upper and lower quarter points, and crown at 50foot intervals within a given lining reach. Additionally, Swiss Hammer testing would be conducted in any area that exhibits elevated corrosion relative to the rest of the lining section. The Swiss Hammer testing conducted on polymer mortar surfaces may result in a small chip at the surface, but is essentially non-destructive.

4.1.4 Abrasion

During manned-entry inspection, personnel would document abrasion in multiple locations within each lining segment of PCI-19 as well as PCI-4. For continuity and consistency, inspectors would evaluate areas of lining based on the International Concrete Repair Institutes standards for abrasion, which includes 10 levels of surface roughness and provides visual examples in the form of molded rubber comparator chips. The expected surface roughness of lining at application would be provided by the manufacturer.

4.1.5 Coring (polymer mortar-based spray-applied lining and epoxy linings that include mortar base)

Non-destructive methods of measuring corrosion will, in general, provided limited insight into the subsurface integrity of the materials under study. For a comprehensive picture of the status of a lining material, core samples should be taken of polymer mortar spray-applied lining sections (including epoxy coatings that require application of a mortar base) five years after lining operations or earlier, if any indication of delamination failure through sounding of the lining during regular inspections. These samples would indicate the depth to the delamination, and determine if there were delamination between the host pipe and first application of spray lining, or between spray-lining layers. Cores could also be subjected to petrographic and other suitable analyses to determine the degree of corrosion and chemical changes through the thickness of the lining.

For the purposes of corrosion monitoring, cores would be taken at a limited number of locations in each geopolymer-lined section during year 5 of the study, with a focus on those areas exhibiting the most severe corrosion. The core would be performed to the surface of the host pipe and the hole filled with “like” material following recommendations of the liner manufacturer.

4.2 Profiling and Measuring Technology

Several forms of profiling and measurements are available to monitor the linings, all of which are considered non-destructive.

4.2.1 Laser or Direct Measurements

Simple lining diameter measurements at regular intervals (using either a tape or laser) may be the most simple means of measuring lining loss, but is limited, in that it is difficult to measure at the exact same spot each time.

4.2.2 LiDAR profiling

Initial research did not identify any suitable 3D LiDAR-scan units for a fixed-in-place application; however, mobile 3D laser scan units have been used for periodic mapping of pipe surfaces throughout the OMID system. Despite some reliability concerns over the accuracy and fidelity of LiDAR scan data, conducting repeated scans would likely provide useful insights into corrosion patterns from scan to scan. Of note, 3D laser scans cannot provide reliable profile data below flow. Additionally, confined space LiDAR scans are expensive relative to manned-entry inspections using less specialized equipment.

4.2.3 Sonar profiling

Sonar scanning technology, mounted to floats or crawlers, can be used to derive sewer profiles comparable to LiDAR scanning. One advantage to sonar scanning is that it can provide data about conditions below the flow surface.

5.0 PILOT STUDY

In consideration of available technologies and methods, we propose a multi-pronged approach to monitor both environmental conditions and ongoing corrosion rate. The following table provides an overview of a five-year study to monitor corrosion and effective factors. Such a study can be extended beyond five years, depending on the results.

Date	Corrosion Monitoring	Effective Factor Monitoring
0 months	Pins and tabs installed during lining. Initial LiDAR/Sonar scan and Swiss Hammer hardness testing, video documentation*	Establish baseline H_2S, pH, humidity, and temperature.
6 months	Enter to perform pull test on tabs or document monitoring pins. Document abrasion to ICRI standards. Video documentation, hardness testing, sounding, and other measurements*	Enter to document H_2S, pH, humidity, and temperature.
12 months	Enter to perform pull test on tabs or document monitoring pins. Document abrasion to ICRI standards. Video	Enter to document H_2S, pH, humidity, and temperature.

	documentation, hardness testing, sounding, LiDAR/sonar scan*	
18 months	Enter to perform pull test on tabs or document monitoring pins. Document abrasion to ICRI standards. Video documentation, hardness testing, sounding, and other measurements*	Enter to document H_2S, pH, humidity, and temperature.
24 months	Enter to perform pull test on tabs or document monitoring pins. Document abrasion to ICRI standards. Video documentation, hardness testing, sounding, LiDAR/sonar scan*	Enter to document H_2S, pH, humidity, and temperature.
30 months	Enter to perform pull test on tabs or document monitoring pins. Document abrasion to ICRI standards. Video documentation, hardness testing, sounding, and other measurements*	Enter to document H_2S, pH, humidity, and temperature.
36 months	Enter to monitor pins/tabs, video documentation, hardness testing, standard measurements, hardness testing, sounding, LiDAR/sonar scan*	Enter to document H_2S, pH, humidity, and temperature.
42 months	Enter to monitor pins/tabs, video documentation, hardness testing, sounding, measurements*	Enter to document H_2S, pH, humidity, and temperature.
48 months	Enter to monitor pins/tabs, video documentation, hardness testing, standard measurements, sounding, LiDAR/sonar scan*	Enter to document H_2S, pH, humidity, and temperature.
54 months	Enter to monitor pins/tabs, video documentation, sounding, measurements*	Enter to document H_2S, pH, humidity, and temperature.
60 months	Enter to monitor pins/tabs, video documentation, hardness testing, standard measurements, sounding, LiDAR/sonar scan, core	Enter to document H_2S, pH, humidity, and temperature.

	samples for delamination and petrographic analysis*	

*During each entry, measure extent (SF) of delaminated areas through sounding and consider coring to determine depth of delamination, if present

5.1 Final Reporting

The final report would document the extent and progress of deterioration for each of the lining types, and compare overall performance. Differences in measured environmental factors, such as humidity, pH, and hydrogen sulfide concentrations would be considered in evaluation of performance.

References:

1. **Concrete & the Challenge of Microbial Induced Corrosion** by Situ Biosciences. https://www.situbiosciences.com/2012/08/07/concrete-microbial-induced-corrosion/

2. **A practical methodology to assess corrosion in concrete sewer pipes** by Shima Taheri, Martin Ams, et al. *Matec Web of Conferences.* 2018 https://www.matec-conferences.org/articles/matecconf/pdf/2018/58/matecconf_iccrrr2018_06010.pdf

3. **Recent Advances in Sensing and Assessment of Corrosion in Sewage Pipelines** Sahar Foorginezhada et al, Process Safety An Environmental Protection, September 2020

Exhibit E

Project Insurance Requirements

Contractor Insurance: OMIDDD shall require all contractors engaged for the Project to provide commercial general liability, automobile liability, umbrella or excess liability, workers' compensation, and when applicable, professional liability and unmanned aerial vehicle liability insurance with required limits of liability not less than the following:

Coverage	Project Required Limit	Required from Contractor	Required from Subcontractor	Provided by the Owner/OCIP
Workers Compensation				
Coverage A – Compensation	Statutory	Statutory	Statutory	Not Provided (NP)
Coverage B – Employer's Liability (each accident)	$100,000	$1,000,000	$500,000	NP
Employer's Liability (disease policy limit)	$500,000	$1,000,000	$500,000	NP
Employer's Liability (disease – each employee)	$100,000	$1,000,000	$500,000	NP
Commercial General Liability				
General Aggregate	$5,000,000	$2,000,000	$1,000,000	$4,000,000
Products-Completed/Ops Aggregate	$5,000,000	$2,000,000	$1,000,000	$4,000,000
Personal & Advertising Injury	$1,000,000	$2,000,000	$1,000,000	$2,000,000
Each Occurrence	$1,000,000	$2,000,000	$1,000,000	$2,000,000
Fire Damage	$50,000	$50,000	$50,000	$100,000
Medical Expenses	$5,000	$5,000	$5,000	-
Comprehensive Automobile Liability				
Combined Single Limit	$1,000,000	$2,000,000	$1,000,000	NP
Owner's Protective				
Each Occurrence	$2,000,000	Not Required – Provided by Owner/OCIP		$10,000,000
General Aggregate	$5,000,000			$10,000,000
Builder's Risk				
Policy Limit	Construction Value	Not Required – Provided by Owner/OCIP		Construction Value
Property In-Transit	$5,000,000			$5,000,000
Temporary Off-Site Storage	$5,000,000			$5,000,000
Delay in Opening	$15,190,400*			$15,190,400*
Flood	$25,000,000			$25,000,000
Earth Movement	$25,000,000			$25,000,000
Valuation	Replacement Cost			Replacement Cost
Excess Liability				
Each Occurrence	$5,000,000	$10,000,000	$2,000,000	$50,000,000
Aggregate	$5,000,000	$10,000,000	$2,000,000	$50,000,000

*To be adjusted upon completion of OMIDD NESPS and NIEA Contract #1

Contractors Pollution Liability				
Each Loss	$10,000,000	Not Required – Provided by Owner/OCIP		$10,000,000
Aggregate	$10,000,000			$10,000,000
Contractors Professional Liability (If Applicable)				
Each Claim	$1,000,000	$1,000,000	$1,000,000	NP
Aggregate	$2,000,000	$2,000,000	$2,000,000	NP
Unmanned Aerial Vehicle Liability (If Applicable)				
Each Occurrence	$1,000,000	$1,000,000	$1,000,000	NP
Aggregate	$2,000,000	$2,000,000	$2,000,000	NP

OMIDDD shall require the contractors to name or provide an endorsement naming the following parties as additional insureds under the required insurance:

- Oakland-Macomb Interceptor Drain Drainage District
  - One Public Works Drive, Building 95 West, Waterford, MI 48328
- Office of Macomb County Public Works Commissioner
  - 21777 Dunham Road, Clinton Township, Michigan 48036
- Office of the Oakland County Water Resources Commissioner
  - One Public Works Drive, Building 95 West, Waterford, Michigan 48328
- Macomb County Department of Roads
  - 117 S. Groesbeck, Mount Clemens, Michigan 48043
- Road Commission of Oakland County
  - 2420 Pontiac Lake Road, Waterford, Michigan 48328
- Great Lakes Water Authority
  - 735 Randolph, Suite 1900, Detroit, Michigan 48226
- City of Detroit
  - 2 Woodward Avenue, Detroit, Michigan 48226
- NTH Consultants, Ltd.
  - 41780 Six Mile Road, Suite 200, Northville, Michigan 48168
- FK Engineering Associates
  - 30425 Stephenson Highway, Madison Heights, Michigan 48071
- Applied Science, Inc.
  - 300 River Place Dr. #5400, Detroit, Michigan 48207
- METCO
  - 535 Griswold Street #540, Detroit, Michigan 48207
- State of Michigan
- County of Macomb
- County of Oakland
- Macomb Interceptor Drainage District (MIDDD)
- Consolidated Rail Corporation (Conrail)
  - 1717 Arch Street, 13th Floor, Philadelphia, PA 19103
- International Transmission Company
  - 27175 Energy Way, Novi, Michigan 48377
- City of Warren
  - One City Square, Warren, MI 48093
- Anderson, Eckstein and Westrick

    - 51301 Schoenherr Road, Shelby Township, MI 48315
- Michigan Department of Agriculture and Rural Development
- Michigan Department of Transportation
- Detroit Water and Sewerage Department, and their respective elected officials, officers and employees

In lieu of requiring contractor provided insurance, OMIDDD is authorized to utilize an Owners' Controlled Insurance Program ("OCIP"), or other project specific insurance that provides the insurance coverage set forth herein. Any increase in cost of insurance that results from delays by either party shall be borne, to the extent of each party's fault for the delay, by that respective party.

EXHIBIT F

PC-663 Control Gate Structure Operating Protocols

Applied Science, Inc.

M E M O R A N D U M

To: OMIDDD

From: John Michalski, P.E., ASI

Project: NIEA Repairs Contract 2

Subject: PC-663 Control Gate Structure Operating Protocols

Date: November 29, 2021

The purpose of this memorandum is to establish protocols and control logic for the sequence of operations of the reconstructed control gate at the PC-663 structure location. This gate structure is to be operated by GLWA for OMIDDD use during repair and inspection work in the North Interceptor-East Arm (NIEA), proposed to be conducted under OMIDDD NIEA Contracts 2A and 2B. The use of this gate will divert all of the Northeast Sanitary Pump Station (NESPS) flow out of the NIEA to the Seven Mile Relief Sewer. This operation will create a surcharged condition in the upper end of the NIEA back to the NESPS and therefore, operation of the gate must be coordinated with operations of the pump and valves at the NESPS and within the OMIDDD system. Details of the gate configurations, layout, electrical, and I/O details are made part of the NIEA Repairs Contracts 2A and 2B Contract Documents. The information below is part of the Contract 2A and 2B. These protocols and control logic for the sequence of operations of the reconstructed control gate at the PC-663 will need to be adhered to in the future by GLWA operations for any operation that involves use of the PC-663 Gate.

CONTROL STRUCTURES – PC 663
GATE OPEARTION - CONTROL STRATEGY

- **REFERENCE DRAWING:** E- 300 thru E-318
- **DESCRIPTION:** The proposed rehabilitation of the existing Control Structure (PC-663) over the existing North Interceptor Sewer- East Arm at Vandyke includes following gates and level sensor to control the diversion and dewatering of the flow.

  PC-663 Structure – Three (3) Slide gates and one level sensor

  - One (1) – Control Gate – on the bulkhead
  - Two (2) - High Level Gates – on the divider wall

  Each gate is controlled by an electric actuator equipped with the remote position control capabilities. Each control structure is provided with Radar Level Sensor/Transmitter to continuously monitor the sewer level upstream of the gate(s).

  The gate operator controls are located remote from the structures at a Local Control Panel (LCP). The Control panel is provided with Control Logix- PLC to enable Local control and remote interface with the OVATION System by GLWA Cellular Network link.

Under normal operation, the system is set on “REMOTE” mode of operation and the Gates at PC-663 Control Structures shall be maintained in the following status:

- Control Gate – Full “Open”
- High Level Gates – Full “Closed”

The gates can be operated either at the Local or at the Remote mode as below:

- **LOCAL CONTROLS:** Local control for each Gate operator is located at the Control Panel remote from the Gate structures. When the LOCAL/OFF/REMOTE selector switch at the Local Control Panel is switched to the LOCAL mode, the Gate can be opened or closed by the operator from the Control panel.

- **LOCAL AUTOMATIC CONTROL MODE:** There is no Local Automatic Control mode for the Gate operation.

- **OVATION MANUAL CONTROL MODE:** When the LOCAL/OFF/REMOTE switch for each Gate is placed in REMOTE mode at the Control Panel, the OVATION system receives an IN REMOTE status input from the Local Control Panel for indication at the System Control Center – Ovation HMI. The Gate can be manually controlled by SCC Operator from the Ovation System by toggling the OPEN/CLOSE/HOLD switch at the HMI.

- **OVATION AUTOMATIC CONTROL MODE:** There is no Automatic Control mode at the Ovation System for the Gate operation.

- **SEQUENCE OF OPERATION:** The Gate operation shall satisfy the following sequence operation for the various operational conditions.

  A. Flow Diversion To 7-Mile Sewer

  The following permissive interlocks shall be satisfied prior to executing the operation of the Control Gate:

  The knife gate valve at the suction side of Sanitary Pumps No.3 and No. 4 (NESPS) shall be in “closed” position and these pumps shall not be operational.

  The upstream level at PC-663 structures shall be lower than 8’ in depth (ELV-100)

  These permissive interlocks will be programmed in the OVATION System and in the PLC at the Control Panel. The interlock at PLC will be activated under both Local and Remote operation modes.

  Upon satisfying these permissive, the Control Gate can be operated to CLOSE.

  B. Dewatering

  During the dewatering, the following sequence shall be followed to operate the two (2) high level gates:

- If the Upstream water level is between 112’-0”and 127’-0” open the two high level gates
- Once the upstream level reaches 112’-0” open the Control Gate to 3 inches and Hold
- Once the upstream level reaches 111’-0” open the Control Gate to 6 inches and Hold
- Once the upstream level reaches 110’-0” open the Control Gate to 12 inches and Hold
- Once the upstream level reaches 107’-0” open the Control Gate to 15 inches and Hold
- Once the upstream level reaches 104’-0” open the Control Gate to 18 inches and Hold
- Once the upstream level reaches 100’-0” open the Control Gate to 24 inches and Hold
- Once the upstream level reaches 98’-0” open the Control Gate to 36 inches
- Once the upstream level reaches 97’-0” open the Control Gate fully.

The Gate operators are designed to hold last position upon power or signal loss.

ALARMS:

High Level Alarm at upstream elevation of 128 ft.

EXHIBIT G
REIMBURSEMENT REQUEST FORM

Request Date: _____
Requestor Name: _____
Requestor Email: _____
Requestor Contact Phone Number: _____

Request #: _____ **Reimbursement Amount Requested:** _____
(round to the nearest dollar)

Request Detail (list each invoice attached as support to this request):

Invoice #	Vendor Name	Invoice Total	Date Paid	Check #

Submission Total: $X,XXX,XXX *(must tie to reimbursement amount above)*

OMIDDD Approval:
Signature: _____

Name: _____

Title: _____

Agenda Item No. 6

Engineering Work Orders

Oakland-Macomb Interceptor Drain Drainage District

TO: **Michael Gregg, Chairperson**
Oakland-Macomb Interceptor Drain Drainage Board

FROM: **Joel Brown, P.E. Oakland County Water Resources Commissioner's Office**
Stephen Downing, Macomb County Public Works Commissioner's Office

SUBJECT: **Approval of ASI EWO for NESPS Pumping and Electrical Upgrades Project Additional Overall Construction Contract Administration Services**

DATE: **May 17, 2023**

As the OMIDDD Board has previously been made aware, the Northeast Sewage Pumping Station Pumping and Electrical Upgrades Project has been delayed for several reasons, most notably the arc flash incident that occurred on August 23, 2022. The current anticipated revised Substantial Completion date per Walsh's April 2023 schedule is May 23, 2024, which is over 14 months beyond the original Substantial Completion date of March 28, 2023 established by the Guaranteed Maximum Price. Applied Science's construction contract administration (CCA) budget will be nearly exhausted by the end of May 2023. As the cause of the delay is not due to ASI, they have generated the attached May 8, 2023 proposal to request additional funds to continue providing CCA services, including effort from subconsultants METCO, FK Engineering and NTH Consultants Ltd., through August 19, 2024, which is the current anticipated Final Completion date of the project.

Please note that the prime contractor, Walsh, has been notified of the assessment of liquid damages as a result of the overall delay and our costs associated with the arc flash issue are being submitted to the insurance carrier for reimbursement. Collectively these measures are being undertaken to offset this substantial increase in administration costs.

An Engineering Work Order has been created to include the additional CCA scope or work and associated fees to ASI's existing contract #5470 per the following breakdown:

Applied Science, Inc.:	**$584,361**
NTH Consultants:	**$517,000**
METCO Services, Inc.:	**$285,140**
FK Engineering:	**$126,800**
Total:	**$1,513,301**

In addition, ASI's contract has been extended 18 months to ensure complete closeout of the project. ASI and its subconsultants are prepared to continue to provide CCA services uninterrupted upon approval of the EWO.

Requested Action: Approve the attached engineering work order to increase ASI's contract #5470 by an amount not to exceed $1,513,301 for additional CCA services due to construction delay related to the NESPS Pumping and Electrical Upgrades Project. In addition, extend ASI's contract another 18 months to December 26, 2024

Jim Nash Oakland County Water Resources Commissioner
Oakland-Macomb Interceptor Drain Drainage District
For the
OMID NESPS Pumping and Electrical Upgrades Project
Wayne County, Michigan

Engineering Work Order No. 6 **Date: 5/5/2023**

To: Applied Science Inc. (ASI)

For: Amendment to Contract #5470 For Design and CCA Services Due to Project Delay

DESCRIPTION

This Engineering Work Order (EWO) is required to define specific additional tasks and compensation related to the OMID NESPS Pumping and Electrical Upgrades Project that falls under Section A-Engineering Services and Section C Compensation for Engineering Services, Item No. 6 Additional Special Services and Exhibit C – Engineer's Proposal of contract #5470. This EWO serves as your approval for compensation to provide the following construction contract administration (CCA) and design services needed over the approximately 14-month delay in the Final Completion Date of the Project, currently anticipated to be through August 2024, according to your attached May 8, 2023 proposal:

ASI/FKE/METCO tasks:

- Review of technical submittals.
- Provide responses to Request For Information (RFIs).
- Provide engineering design changes or additional details as required.
- Attend weekly and monthly progress meetings.
- Provide assistance in Contract Administrative duties.
- Provide assistance in QA/QC.
- Conduct site visits and inspection by the design team.
- Attend witness testing of major equipment.
- Assist in start-up testing and certifications.
- Review and coordination of O&M Manuals.
- Assist in O&M Training.
- Produce Record Drawings.
- Provide monthly updates to the OMIDDD Board for all active Contracts (FKE)

NTH Consultants Ltd. Tasks:

- Provide overall Construction Contract Administration oversight (Larry Gilbert)
- Provide Document Management Services, including input into NEXGEN (Abdulnasser Almadhoun)
- Provide claim and change order review on behalf of the Owner
- Provide coordination between active OMIDDD contracts
- Provide progress payment review
- Provide baseline and monthly update schedule review.

The associated fee breakdown by firm to perform the above tasks are as follows:

Applied Science, Inc.:	**$584,361**
NTH Consultants:	**$517,000**
METCO Services, Inc.:	**$285,140**
FK Engineering:	**$126,800**
Total:	**$1,513,301**

In addition, ASI's contract shall be extended another 18 months to December 26, 2024 to ensure proper closeout the project.

Fees for this Engineering Work Order shall be billed on a time and material basis according to the rate schedules included with the proposal. Subconsultants and expenses are allotted a markup of 5%. The total amount of the Engineering Services Agreement is to be increased by a not to exceed amount of $1,513,301. This amount is not to be exceeded without written authorization from the Oakland-Macomb Interceptor Drain Drainage District (OMIDDD) Board.

RECOMMENDED	**DATE:** 5/12/2023	**ACCEPTED**	**DATE:**
By:		By:	
Joel Brown, P.E. Chief Engineer OCWRC		John Michalski, P.E. Vice President Applied Science, Inc.	
APPROVED	**DATE:** 5/12/2023	**APPROVED**	**DATE:**
By:	Stephen Downing	By:	
Stephen Downing Construction and Maintenance Manager MCPWO		Sid Lockhart, P.E. Special Projects Manager OCWRC	
Approved by the Drainage District Board on:			

Department No.:	6010101	Account No.:	SC730639
Fund No:	FND84917	Program No.:	PRG149015
Project No:	PRJ-13309	Project Activity:	1-ENG_CONSULT
Contract No:	PS5470-WDCON8420	Contract Exp:	6/26/2025

Oakland-Macomb Interceptor Drain Drainage District

TO: **Michael Gregg, Chairperson**
Oakland-Macomb Interceptor Drain Drainage Board

FROM: **Joel Brown, P.E. Oakland County Water Resources Commissioner's Office**
Stephen Downing, P.E. Macomb County Public Works Commissioner's Office

SUBJECT: **PMA Consultant's Engineering Work Order for Additional Scheduling Support Services on the NESPS Pumping and Electrical Upgrades Project and NI-EA Rehabilitation Projects**

DATE: **May 17, 2023**

As the OMIDDD Board has previously been made aware, the Northeast Sewage Pumping Station Pumping and Electrical Upgrades Project (NESPS Project) has been delayed for several reasons, most notably the arc flash incident that occurred on August 23, 2022. The current anticipated revised Substantial Completion date per Walsh's April 2023 schedule is May 23, 2024, which is approximately 14 months beyond the original Substantial Completion date of March 28, 2023 established by the Guaranteed Maximum Price. PMA Consultant's (PMA) scheduling support services budget will be nearly exhausted by the end of May 2023. Due to the complexity of the current claims on the NESPS project, and additional scheduling needed to mitigate delay, supplementary scheduling support services are needed.

In addition, the NI-EA Contract No. 1 PCI-4 Rehabilitation Project is still ongoing and is also experiencing delays that will need to be addressed with the contractor, Marra Services. Finally, construction of the NI-EA Contract No. 2 PCI-18 & PCI-19 Rehabilitation is set to commence in July 2023 and continue through June 2025. The project has sufficient construction complexity with the shaft and lining work that will require a thorough schedule review.

For the above reasons, we recommend that PMA continue to be retained to provide scheduling support services associated with the NESPS and NI-EA projects. They have generated the appended May 8, 2023 proposal to continue to provide the following services through June 2025.

- Detailed review of the project baseline schedules.
- Participation in project progress meetings.
- Review and comments on monthly contractor schedule updates for all projects.
- Assistance with schedule extension claims by the contractors on any of the projects.
- Other scheduling tasks, as applicable.

An Engineering Work Order (EWO) has been created for the above scope of work for a not-to-exceed amount of $430,000. In addition, PMA's contract is set to expire on May 29, 2023. Accordingly, we have requested their contract be extended 30 months to November 29, 2025, through completion of the NI-EA Contract No. 2 PCI-18 & PCI-19 Project closeout. PMA is prepared to continue to provide these services upon execution of the EWO.

Please note that both Walsh Construction Company and Marra Services Inc. have been notified of the assessment of liquid damages because of the overall delay and our costs associated with the arc flash issue on the NESPS project is being submitted to the insurance carrier for reimbursement. Collectively these measures are being undertaken to offset this substantial increase in administration costs.

RECOMMENDED ACTION: Approve the attached Engineering Work Order for PMA Consultants to continue to provide scheduling support services on an as-needed basis for the NESPS and NI-EA Rehabilitation Projects for a not-to-exceed amount of $430,000. In addition, extend PMA's contract until November 29, 2025.

Jim Nash Oakland County Water Resources Commissioner
Oakland-Macomb Interceptor Drain Drainage District
For the
OMID NESPS Pumping and Electrical Upgrades Project,
NI-EA Contract No.1 PCI-4 Rehabilitation and NI-EA Contract No. 2 PCI-18 & PCI-19 Rehabilitation
Wayne County, Michigan

Engineering Work Order No. 1 **Date: 5/5/2023**

To: PMA Consultants (PMA)

For: Amendment to Contract #WDCON8858 For Additional Scheduling Support Services

DESCRIPTION

This Engineering Work Order (EWO) No. 1 is required to define specific additional tasks and compensation related to the OMID NESPS Pumping and Electrical Upgrades Project, NI-EA Contract No.1 PCI-4 Rehabilitation and NI-EA Contract No. 2 PCI-18 & PCI-19 Rehabilitation that falls under Section 3-Scope of Consultant's Services and Exhibit 1-Contractor's Proposal of Contract # WDCON8858. This EWO serves as your approval for compensation to provide the following professional scheduling services needed through the duration of these projects, currently scheduled through June 2025 according to your attached May 8, 2023 proposal:

- Detailed review of the project baseline schedules.
- Participation in project progress meetings.
- Review and comments on monthly contractor schedule updates for all projects.
- Assistance with schedule extension claims by the contractors on any of the projects.
- Other scheduling tasks, as applicable.

The associated fee for the above scope of services is $430,000 and will be divided amongst the three projects as applicable.

In addition, PMA's contract shall be extended another 30 months to November 29, 2025 to ensure proper closeout of all projects.

Fees for this Engineering Work Order shall be billed on a time and material basis according to the rate schedules included with the proposal. The total amount of the Engineering Services Agreement is to be increased by a not to exceed amount of $430,000. This amount is not to be exceeded without written authorization from the Oakland-Macomb Interceptor Drain Drainage District (OMIDDD) Board.

RECOMMENDED	**DATE:** 5/12/2023	**ACCEPTED**	**DATE:** 5/12/23
By:		By:	John Zann
Joel Brown, P.E. Chief Engineer OCWRC		John Zann, P.E., LEED AP Managing Director PMA Consultants	
APPROVED	**DATE:** 5-12-2023	**APPROVED**	**DATE:**
By:	Stephen Downing	By:	
Stephen Downing Construction and Maintenance Manager MCPWO		Sid Lockhart, P.E. Special Projects Manager OCWRC	
Approved by the Drainage District Board on:			

Department No.:	6010101	Account No.:	SC731458
Fund No:	FND84917	Program No.:	PRG149015
Project No:	PRJ-13309	Project Activity:	1-ENG_CONSULT
Contract No:	PS6096-WDCON8858	Contract Exp:	6/29/2025

Agenda Item No. 7

Change Orders

CHANGE ORDER NO. 5

Oakland-Macomb Interceptor Drain Drainage District Board
For Construction of the OMID Immediate Repairs
Various Locations in Macomb County, MI

Authorization for Extras To & Changes In Contract

Department No.:	6010101	Account No. :	731472
Fund No.:	84917	Program No. :	149015
Project No.:	1-3015	Project Activity:	FAC

Contractor:
Doetsch Industrial Services, Inc.
21221 Mullin
Warren, MI 48089

Contract No. : 5928
Date of Contract: 1/8/2020
Completion Date: 7/24/2020
Extended to: 3/31/2022

Auth No.	Location-Description-Reason	Unit Used	Est. Qty.	Unit Price	Amount Increase	Amount Decrease
5-A	**LOCATION:** OMID System - PCI- 11A **DESCRIPTION (Extra/Add):** Removal of 15' long, 48" diameter CIPP liner and CCTV of area after removal between MH-PCI-11 A 106 to MH-PCI-11A-105. **REASON:** Upon routine CCTV inspection of PCI-11A between MH-PCI-11 A 106 to MH-PCI-11A-105, it was apparent the installed CIPP liner had delaminated from the wall of the sewer pipe and was causing debris and fats, oils and grease (FOG) to collect in the area. This debris was affecting the hydraulics of the sewer, requiring the delaminated section to be removed. The existing host pipe was in good condition within the removed section and thus did not require relining. This Work was not in Doetsch's original contract to perform.	LS	1.0	$4,970.00	$4,970.00	---

Auth No.	Location-Description-Reason	Unit Used	Est. Qty.	Unit Price	Amount Increase	Amount Decrease
5-B	**LOCATION:** OMID System - 11A **DESCRIPTION:** City of Sterling Heights Right of Way (ROW) permit fees for CIPP removal **REASON:** The City of Sterling Heights required a Right of Way permit to complete the work to remove the CIPP liner.	LS	1.0	$3,050.00	$3,050.00	---
5-C	**LOCATION:** Entire Project **DESCRIPTION:** Adjust the Contract Times to reflect the final date of Substantial and Final Completion. Notice to Proceed Date: January 8, 2020. Revised Substantial Completion Date November 12, 2022. Revised Final Completion Date: March 31, 2023. **REASON:** The increase in Contract Times reflects the additional time required to complete the step removal of the manholes that were modified for the Emergency Bypass Pumping Plan as well as completion of the PCI-11A CIPP liner removal. This work was done concurrently with the CCTV inspection of the manholes and sewer line as part of the 6-year inspection cycle. The lack of flow control availability and the additional CIPP liner removal scope, both Owner driven, ultimately caused the need for an extension of time. There is no additional cost for this extension of time.					
				Totals	$8,020.00	$0.00
				Net Increase	$8,020.00	---

Contract Status Summary
Change Order No. 5

Contractor: Doetsch Environmental Servies

Notice to Proceed Date:		January 8, 2020
Contract Substantial Completion Date:		April 10, 2021
Contract Final Completion Date:		July 31, 2022
Original Contract Value:	$	1,352,801.00
Previous C.O. Values:	$	228,830.00
Change Order Value, C.O. # 5		$8,020.00
Adjusted Contract Value	**$**	**1,589,651.00**

CHANGE ORDER NO. 5

Oakland-Macomb Interceptor Drain Drainage District Board
For Construction of the OMID Immediate Repairs
Various Locations in Macomb County, MI

Prepared by: Evagelos Bantios Date: 5/5/2023
Evagelos Bantios, P.E. - WRC Assistant Chief Engineer

Recommended by: _____ Date: _____
Joel Schanne, P.E - NTH Consultants, Ltd.

Approved by: _____ Date: _____
Stephen Downing - Const. & Maint. Manager, MCOPWC

Approved by: _____ Date: _____
Sid Lockhart, P.E. - Special Projects Manager, OCWRC

The Contractor agrees to do the work described above and agrees to accept payment in full on the basis indicated.

Accepted by: _____ Date: _____
Joseph Schotthoeffer, IV - Vice President
Doetsch Industrial Services, Inc.

Approved by: _____ Date: _____
Steven Korth, P.E. - WRC Manager

The Contractor is hereby authorized and instructed to do the work described above in accordance with the terms of the Contract.

This Change Order No. 5 was approved by the Drain board on:

CHANGE ORDER NO. THIRTY-TWO

Oakland Macomb Interceptor Drain, Drainage District (OMIDDD)

For Construction of the Pump and Electrical Upgrades Project

Northeast Sewage Pumping Station (NESPS)

Located in the City of Detroit, Wayne County, Michigan

CONSTRUCTION MANAGER,
AT RISK (CMAR)
Walsh Construction Co. II, LLC

Authorization for:

1.) Knife Gate # 4 Drain Valve Replacement; 2.) Provide abrasive blast cleaning for the Sewage Pump # 4 exterior surfaces of the steel intake piping in the dry well pipe gallery; 3.) Reimburse the subcontractor for delays due to NESPS air quality restrictions; 4.) Concrete Paving subcontract for the NESPS Site Paving Improvements

****

Address: Walsh Construction Co. II LLC
3031 West Grand Blvd., Suite 640
Detroit, MI 48202

Change Order No. 32 Date: May 05, 2023

	Location-Description-Reason	Unit	Est. Qty.	Unit Price	Amount Increase	Amount Decrease
	LOCATION: The Northeast Sewage Pumping Station; Detroit, Wayne County, Michigan					
32 -1	**DESCRIPTION (Change/ Add):** Remove and replace the Pump # 4 Knife Gate 6" dia. Drain valve (KGDV 4) and associated pipe and fittings. **REASON:** In the process of installing the new knife gate drain line for the main sewage pumps, it was determined that the KGDV # 4 was inoperable. Upon removal and servicing, it was determined that the valve was deteriorated and beyond possible refurbishment. An interim blind flange was installed as a temporary measure while a replacement knife gate valve with associated	LS	1 ea.	$54,114.39	$54,114.39	-0-

	Location-Description-Reason	Unit	Est. Qty.	Unit Price	Amount Increase	Amount Decrease
32 -1	pipe and fittings was procured and installed. Attachment: Walsh Construction Co. PCI # 970178					
32 -2	**DESCRIPTION: (Change/ Add):** Provide abrasive blast cleaning services for the exposed portions of the Sewage Pump # 4 steel intake line in the drywell pipe gallery prior to the application of new paint coating systems. **REASON:** The Sewage Pump # 4 intake piping was scheduled for re-painting under the Contract provisions however, preparatory blast cleaning was originally considered unnecessary due to the relatively recent installation during the OMID Contract 3 project. However, upon close inspection, the degree of corrosion that existed on the pipe surface and on the flanged access manhole would interfere with the long term service life of the new coating, and abrasive cleaning to "bare metal" was required. This task also required erection of work scaffolds, negative pressure containment enclosures, and legal disposal of the spent abrasive blast waste materials. Attachment: Walsh Construction Co. PCI No.970179	LS	1 ea.	$9,729.00	$9,729.00	-0-
32 -3	**DESCRIPTION (Extra Add):** Provide partial reimbursement for material loss and reduced available crew work-hours due to air quality issues in the NESPS interior. **REASON:** Work in progress within the Gatehouse Discharge chamber created a condition where the Bio-Trickling Filter air quality facility required a short term shutdown of the system. This activity created a condition where the levels of	LS	1 ea.	$ 2,775.94	$2,775.94	-0-

	Location-Description-Reason	Unit	Est. Qty.	Unit Price	Amount Increase	Amount Decrease
32 -3	H2S in the NESPS dry well interior rose to higher than normal concentrations. While still within the permissible exposure levels, the Construction Manager acted to re-direct all sub-contractor personnel in the building to other work areas remote from the higher H2S concentrations. The sole exception to this action involved the painting subcontractor (Signature Services) who was working at the Pump Level (Floor 6) where the concentrations became highest. In this case, the subcontractor was required to demobilize his work crew and also discard a quantity of the specialized two component epoxy coating materials prepared for the day's operation. Also required will be a re-coating of the work that was partially completed prior to the ordered shutdown. Attachment: Walsh Construction CO. PCI # 970181					
32 -4	**DESCRIPTION (Extra/ Add):** Provide compensation for the concrete site paving improvements to the NESPS roadways, drives, walkways, and related paved surfaces. **REASON:** An overall rehabilitation of the existing NESPS paved surface areas has been conceptually planned since the beginning of the OMIDD management responsibility for the NESPS facility. The existing concrete pavement was constructed during the original station construction (early 1970's) and has experienced significant deterioration due to age, heavy traffic, and the current extensive construction activity. A condition evaluation of the existing pavement suggests that while minor segments might be isolated for limited continued use, the overall long term projection indicates a full replacement is appropriate. The Construction Manager at Risk (CMAR) solicited quotations from a number of regional firms identified as potential candidates for responding to Proposal Requests, and two separate mandatory Pre-Bid Site Visits were	LS	1 ea.	$1,271,115.00	$1,271,115.00	-0-

	Location-Description-Reason	Unit	Est. Qty.	Unit Price	Amount Increase	Amount Decrease
32 -4	organized to acquaint the Bidders with the physical conditions on site. As a result, three competitive Bids were received for the proposed work. Following an evaluation of the Bids, the Project Owner, the Engineering Team, and the CMAR Team determined that the lowest, responsive, responsible Bidder was the **Major Contracting Group, Inc**. of Detroit, MI.("Major"). Major is recognized as a specialized concrete paving contractor with an established positive reputation, and has extensive experience working with public agencies in the Detroit area. The Bid Documents also included a provision for alternate pricing that addressed the use of "Fiber Reinforced Concrete" for the pavement concrete in lieu of the conventional mix designs. This enhancement to the concrete mix involves the use of fine synthetic fibers that are added to the concrete during the initial batching and mixing process, and provides significant reinforcing to resist the various undesirable tensile forces that develop during the initial cure of the concrete as well as improving the overall life span durability. This additional investment is now widely adopted by other municipal agencies as a long term cost saving measure, and is included in the design for the NESPS pavements. Accordingly, the Project Team recommends award of the NESPS Concrete Pavement Rehabilitation Bid Package to **Major Contracting Group, Inc.**, and a copy of the Bid Proposal is attached to this Change Order. Attachment: Major Contracting Group, Inc. Quotation ********** End of Change Order No. 32 Line Items					

	Location-Description-Reason	Unit	Est. Qty.	Unit Price	Amount Increase	Amount Decrease
					Amount Increase	Amount Decrease
				Totals	$1,337,734.33	-0-
				Net Changes (Increase)	$1,337,734.33	---------

Prepared By: Lawrence T. Gilbert Date: 5-12-2023
Lawrence T. Gilbert, P.E.
NTH Consultants, Ltd.

Recommended By: Date: 5/12/2023
John Michalski, P.E.
Engineer of Design, Applied Science, Inc.

Approved By: Date:
Joel Brown, P.E.
Chief Engineer,
Construction Projects
Unit, WRC

Approved By: Stephen Downing Date: 5/12/2023
Stephen Downing
Construction and Maintenance Manager, Macomb County Public Works

Approved By: Date:
Sid Lockhart, P.E.
Manager of Special Projects, WRC

Approved by: Date:
Steve Korth, P.E.
Chief Manager, WRC

All of the Construction Manager's contractual obligations remain in place and are applicable to all work and payments identified herein. No adjustment to contract time or price shall be made for these issues except as set out in this, or by a subsequent related Change Order.

The Construction Manager agrees to do the work described above and agrees to accept Contract time adjustments in full on the basis indicated.

Accepted by: Date
Title

of: Walsh Construction Co. II, Inc.

The Construction Manager is hereby authorized and instructed to do the Work described above in accordance with the terms of the Contract, as amended.

This Change Order No. 32 was approved by the Drainage Board on: Date:

Attachment No. 1 to Change Order No. Thirty-Two

The Engineer has reviewed the items included in this Change Order and confirms that these adjustments to the Contract are reasonable and in accordance with industry standards and the requirements of the Contract.

Contract Status Summary
Change Order No. Thirty-Two
OMID NESPS Pump & Electrical Upgrades Project

Construction Manager at Risk: Walsh Construction Co. II

Project Award Date (Pre-Construction Services)	December 16, 2019
Notice to Proceed Date (Construction Phase)	October 23, 2020
Contract Substantial Completion Date (Original)	March 28, 2023
Contract Final Completion Date (Original)	June 22, 2023
Total GMP Contract Value (Including Control Structure 9) (Reconciled for separation of Pre-Construction Costs)	$ 42,933,381.88
C.O. Values, # 7, 8, 9, 10, 11, 12, 13, 14, 15,16, 17,18, 19, 20, 21,22, 23, 24, 25,26,27, 28, 29, 30,31 and also including CS-9 C.O. # 1,2,3,4	$ 4,581,795.01
This Change Order # 32	$ 1,337,734.33
***Adjusted GMP* Contract Value, Pump & Electrical Upgrades and CS-9 Projects (Including C.O. # 32)**	**$ 48,852,911.22**

CHANGE ORDER NO. 2

Oakland-Macomb Interceptor Drain Drainage District Board
For NESPS Watermain Upgrades (Under Contract #6007)
Located in Wayne County, MI

CONTRACTOR: D'Angelo Brothers, Inc. (D'Angelo)
Address: PO Box 531330
Livonia, MI 48153

Authorization for Changes In and Extras to Contract

Change Order No: 2 Date: 5/8/2023

Auth No.	Location-Description-Reason	Unit Used	Est. Qty.	Unit Price	Amount Increase	Amount Decrease
	LOCATION:					
2-1	Northeast Sewage Pumping Station (NESPS)					
	DESCRIPTION:					
	(Extra/Add):					
2-1	Replacement of approximately 476 lft of 8-inch water main, demolition of existing loading bay driveway, install 4 new gate valve and wells, relocate onsite fire hydrants, stop boxes and perform miscellaneous connections and abandonment as required according to the attached plans and specifications, dated 4-28-2023 and submitted D'Angelo Bros. Proposal dated 5-11-2023 for a not-to-exceed amount of $210,124.	NTE	1	$210,124.00	$210,124.00	-
	REASON:					
2-1	The NESPS Pumping and Electrical Project is anticipating paving the majority of the driveways and parking lot starting in mid-July 2023. There are portions of existing 1970s era 8-inch water main line that currently lie beneath the proposed pavement locations in which the pavement has already been removed by the project. This provides an opportunity to replace this aged line at an economical cost while minimizing the potential to have to remove new pavement due to a break in the old line. In addition, more reliable gate valves and wells will be installed to easily isolate the station and the onsite fire hydrants during repairs.					
				Item A Total	$210,124.00	$0.00
				Total	$210,124.00	

CHANGE ORDER NO. 2

Oakland-Macomb Interceptor Drain Drainage District Board
For NESPS Watermain Upgrades (Under Contract #6007)

Prepared by: _____ Date: 5/12/2023
WRC: Joel Brown, P.E., Chief Engineer

Approved by: Stephen Downing Date: 5/12/2023
MCPWO Manager: Stephen Downing (Construction & Maintenance Manager)

Approved by: _____ Date: _____
WRC Manager: Sid Lockhart, P.E. (Special Projects Manager)

Approved by: _____ Date: _____
WRC Chief Manager – Steven Korth, P.E.

The Contractor agrees to do the work described above and agrees to accept payment in full on the basis indicated.

Accepted by: Vince D'Angelo Date: 5/12/23
Title

of: D'Angelo Brothers., Inc.

The Contractor is hereby authorized and instructed to do the work described above in accordance with the terms of the Contract.

This Change Order No. 2 was approved by the Drainage Board on: Date: _____

Agenda Item No. 8

Construction Estimates

OAKLAND MACOMB INTERCEPTOR DRAIN DRAINAGE BOARD
Northeast Sewage Pumping Station- Pumping and Electrical Systems Upgrades Project
Located in the City of Detroit, Wayne County, Michigan

Regular Construction Estimate No. Thirty-One April 01, 2023 through April 30, 2023
Page One of Two

Department No.:	6010101	Account No.:	731472
Fund No.:	84917	Program No.:	149015
OMID Project No.:	514629	Activity:	FAC

Construction Manager at Risk: Vendor # 23191 LI 43331; exp. 12/16/22

Walsh Construction Co. Date of Contract: Dec. 16, 2019

3031 West Grand Boulevard, Suite 640 (Adjusted Final Completion Date: July 28, 2023

Detroit, MI 48202 Contract No. 5977

Orig. GMP amount for Pump & Elec. Upgrades Project, and including CS-9			$44,107,745.19
Pre-Construction Payment (Separate Accounting)			($1,244,560.00)
NESPS Pump & Elec. Upgrades Original Contract Budget			$42,863,185.19
Change Orders, This Estimate: C.O. # 31- Accounting Reconcilition			$63,734.54
Previous C.O.s: (Numbers 7 through No. 30 and CS-9 # 1 through # 4)			$4,518,060.47
Note: C.O. # 30 includes the budget transfer of $70,196.70 from Pre-Con to GMP budget)			$70,196.70
Adjusted Contract Amount including CS-9 values			$47,515,176.90
Sub-Total To Date		$	36,093,272.39
Less Deductions:	None	$	-
Gross Estimate: (Work in Place - Amount Complete =75.96 %)		$	36,093,272.39
Less Amount Reserved (max. 10% of 50% of total CV, including CS-9 value)		$	2,375,758.85
Total Amount Allowed To Date:			$33,717,513.54
Less Previous Estimates:			$33,170,553.34
Payment Due			$546,960.20
Reserve Pay to Contractor:			$0.00
Balance to Finish: $ 11,421,904.51	Accounting Auditor:		
Amount to be Reserved			2,375,758.85
Less Previous Transfer to Reserve			2,375,758.85
Amount of Current Transfer			$0.00

Prepared by: Lawrence T. Gilbert

Lawrence T. Gilbert, P.E.; NTH Consultants Ltd.

Date: 5-5-23

Recommended by: _____

John Michalski, P.E., ASI

Date: _____

Recommended by: _____

Joel Brown, P.E. Oakland County WRC

Date: _____

Recommended by: _____

Stephen Downing; Macomb County OPWC

Date: _____

Approved for Payment by: _____

Sid Lockhart, P.E.; Special Projects Manager, Oakland County WRC

Date: _____

Regular Construction Estimate No. 31; April, 2023
NESPS Pump & Electrical Upgrades Project

Approved By Board On: _____

OAKLAND MACOMB INTERCEPTOR DRAIN DRAINAGE BOARD
For Construction of the NI-EA OMID Contract 1 - PCI 4 Rehabilitation
Located in the City of Detroit, Wayne, Michigan
Project ID 1-00000003308

Regular Construction Estimate No. 26 — Period: 4/01/23 through 4/30/23

Department No.:	6010101	Account No.:	731472
Fund No.:	84917	Program No.:	149015
Project No.:	100000003308	Activity:	FAC

Contractor:
Marra Services, Inc.
700 E. 73 rd. Street
Cleveland, OH 44103

Vendor # 29656 Contract # 6323
LI # 44838 exp. 1/20/23

Date of Contract:	January 21, 2021
Final Completion Date:	September 9, 2022
Adj. Final Completion:	May 12,2023

Original Construction Contract Amount		$14,732,510.00
Previous Change Orders: No. One, Two, Three, Four, and Five		$1,287,656.61
Change Orders This Estimate: None		$0.00
Total Net Change Orders:		$1,287,656.61
Adjusted Contract Amount:		$16,020,166.61
Sub-Total To Date		$13,446,321.37
Less Deductions: None		$0.00
Gross Estimate, Work in Place	83.93% Complete	$13,446,321.37
Less Amount Reserved (Max. at 10% of 50% of adjusted C.V.)		$801,008.33
Total Amount Allowed To Date:		$12,645,313.04
Less Previous Estimates		$11,927,899.01
Net Payment Request To Be Paid To Contractor:		$717,414.03
Reserve Payment to Contractor:		$0.00
Balance to Finish: $ 2,573,845.24	Accounting Auditor:	
Amount to be Reserved from Above		$801,008.33
Less Previous Transfers To Reserve:		$801,008.33
Amount of Current Transfer		$0.00

Prepared by: _____ Date: 5-12-2023
Lawrence T. Gilbert, P.E., NTH Consultants Ltd.

Recommended by: _____ Date: 5-12-2023
Saju Sachidanandan, P. E., NTH Consultants Ltd.

Recommended by: _____ Date: _____
Joel Brown, P.E. Oakland County WRC

Recommended by: Stephen Downing Date: 5-12-2023
Stephen Downing; Macomb County OPWC

Approved for Payment by: _____ Date: _____
Sid Lockhart, P.E.; Special Projects Manager, Oakland County WRC

Regular Pay Estimate No 26; April, 2023

Approved By Board On: _____

Agenda Item No. 9

Report/Update – Status of OMID Project, Segments 1 through 4, NESPS, NI-EA

Oakland Macomb Interceptor Drain (OMID) Repairs
Project Progress Update

Prepared by:
F. Klingler, P.E., B. Kelly, P.E., FK Engineering Assoc.
S. Sachidanandan, P.E., L. Gilbert, P.E., NTH Consultants, Ltd.
J. Michalski, P.E., Applied Science, Inc.; T. Moore, Metco Services, Inc.
J. Matteo, P.E., Jacobs Consultants Inc.

May 17, 2023 OMIDDD Board Meeting

The following provides a status update as of the writing of this report (May 8, 2023) for the work completed for the Oakland-Macomb Interceptor Drain Repair Program (SRF Segments 1-4; Contract 7 PCI-4 repairs; Maintenance Repairs in PCI-5 through PCI-11A; Control Structure Modifications; NIEA Repairs; NESPS Upgrades; Odor/ Corrosion Control System, and other related work):

SRF Segment 1 Status:

Contracts 1&2: Complete

System-wide Odor/Corrosion Study: Complete

Odor and Corrosion Control Design

- Project Budget: $963,223.90
- Total Spent (approximate; through April 21, 2023): $631,540.06
- Effort is currently on time in accordance with Jacobs' latest design schedule

Status of Major Project Tasks:

- Jacobs is nearing completion of the Task 2: Basis of Design Report, which will establish the design criteria and technical requirements for the Design Phase of the project.
- Jacobs is on track to deliver the 30% Design package on or about May 19, 2023. The 30% Design will include the Dodge Park Road/Utica Road (ST-S-1/CS-8) and Sorrento Boulevard/Dodge Park Road (ST-S-3) sites. The 30% Design will include further developed demolition, civil/site, and process plans.
- The design of the 15 Mile Road/ITC Corridor (CS-6) odor/corrosion control system is currently on hold until the terms for grant funding of the adjacent Sterling Heights parcel (east of the ITC Corridor) are clarified with the National Park Service (grant originator). If the Sterling Heights parcel is used, then Jacobs will work with OMIDDD and MIDDD to consider a complimentary beautification project (e.g., vegetative screening, "micro" park, Baumgartner Park upgrades, etc.) near the new odor/corrosion control facility, as requested by Sterling Heights.
- Jacobs established the required footprint of the replica house that will contain the odor control equipment at the Sorrento Boulevard/Dodge Park Road (Meter ST-S-3) site in Sterling Heights (concept presented at the January 2023 Board meeting). Jacobs drafted the rear yard setback variance request for OMIDDD/MIDDD review for this facility and submitted to the City of Sterling Heights Zoning Board of Appeals on April 10, 2023. The variance is on the Zoning Board of Appeals agenda for their May 23, 2023 meeting. The request includes all necessary property information, a description of the system, as well as preliminary site plan, landscaping, and structural/architectural drawings.

SRF Segment 2 Status:

Contract 3 (Base Contract & C.O. 2E-2J): Complete

SRF Segment 3 Status:

Contract 4: Complete

SRF Segment 4 Status:

Contract 5A/5B: Complete

- City of Utica Use Agreement for access paths is pending; awaiting final authorization.

Contract 6: Complete

Contract 7 (NIEA 110 feet of Emergency Rehab): Complete

NESPS Odor/Corrosion Control System (No Segment or Contract No.):

Construction Complete

- Warranty period through December 2022. Final warranty inspection/walk-through to be scheduled in spring 2023.

NESPS & OMID Maintenance, Operations & Upgrades Status:

Status of Emergency Contingency Plan for pumping during total power loss or other catastrophic system failure:

- Mersino Dewatering is under contract for standby emergency bypass pumping.
- The OMIDDD Project Team has finalized design for keeping the 15 Mile Road bypass pumping arrangement (initially constructed in summer 2021) intact and buried below grade, pending final agreement with ITC and other easement owners. Currently under review by ITC, Sterling Heights, and coordinating with other easement holders.
- Remaining items in the final emergency plan include punch-list and optimization steps for electrification, modifications at the 15 Mile Road Site, and overall optimization of the Emergency Plan per above. Final plan document will be revised after final installation of the emergency pumping conveyance conduit.

Additional work being performed under Metco Maintenance Contract for NESPS:

- Flow control operations related to OMID/MID/NIEA sewer repair and upgrade projects have been slightly impacted by recent wet weather. As of the writing of this report, flow control to resumed May 2, 2023.
- Mechanical and Electrical corrective/preventative maintenance schedules continue.
- Coordination between OMIDDD, GLWA, MIDDD, NESPS, and Pump/Electrical Upgrade Project is ongoing and has not impacted station operations or ability to meet demand.

- The wet well elevator remains disabled. Final completion is projected for 2024.
- Next quarterly wet well sediment inspection and bar screen cleaning was completed April 22, 2023. Minimal sediment changes noted and minimal bar screen debris observed.
- New wet well level sensors continue to perform well.
- Quarterly OMIDD-GLWA Coordination Meeting was held April 26, 2023. The purpose of these meetings is to ensure that all parties are up to date on system status and project schedules.
- 25 Ton crane back in service repair report is on file.

Overall NESPS Station Performance Report by METCO:

- Mechanical: No changes from previous report. Sanitary Pumps #2 #4, #5, and #6 ready for duty. Total pump capacity equals 500-cfs. Contract capacity is 423-cfs. The wet well dewatering pump is also ready for duty.
- Sanitary #2 and Sanitary #4 continue to share primary duty. Pumps #5 and Pump #6 share backup roles. This strategy has proven results in meeting dry and wet weather demands.
- NESPS/GLWA LOTO final forms complete. All personnel required to fill out forms before sewer entry.
- The primary switchgear in the existing station is double ended with two (2) sources of utility power being Transformer #3 and Transformer #4. Generator back-up is available if needed to power pumps P4, P5 and P6 and the existing unit substation.
- Dry well submersible sump pump #2 has been repaired, installed on April 14, 2023
- Specific data logging software has been installed within the Sanitary Pump #2 VFD drive PLC. This software was instrumental in detecting the VFD faults experienced November 14, 2022, which disabled the pump.
- Rotor integrated the existing Eaton Power Expert (Quality Power Monitoring Meter) located on the VFD Sanitary Pump #4 switchgear into the OMID SCADA system. Occasional faults, voltage sags, and spikes were reported and are being investigated. Incoming power data is collected daily with the data kept on file.
- CMMS: NEXGEN asset management in use. Monthly status meetings are being held with OMID. Contractors are fulfilling their requirements with no outstanding issues to report.
- HVAC: Gas detection in use. Rounds are conducted daily. Unit filters restocked and changed as required.
- Bio Filter performance good. No odor issues or complaints.
- Overall General Housekeeping tasks in order. Minor maintenance activities have all been addressed in a timely manner.

Control Structures Performance Report (CS-5, CS-6, CS-7, CS-8):

- Daily flow control operations support MID/OMID/NIEA repair and improvement projects. (Weather permitting)
- Preventative Maintenance is scheduled for the week of June 5th.
- All LOTO protocols are in place.
- ASI and HESCO are looking into erroneous feedback from a level sensor on the upstream side at CS-9. This signal caused unusual gate movements during auto release operations. HESCO entered the structure Tuesday May 2, 2023 in preparation to install new sensor and inspect for any unknown issues.

- A plan has been developed between Walsh and HESCO to address the replacement and repair to both Level Sensor and Gate Drift at CS-9. Both issues are under warranty. ASI and MCET are also looking into providing protective measures to counter false/erroneous signals in the future.
- Conditions closely monitored.
- System-wide communications are good.
- CS-6 gate has been restored and is currently operational with limited abilities. A limit switch and position indicator must be installed to fully complete restoration. Parts received. Waiting to schedule. CS-7 in stand-by mode ready for service.
- CS-8 in stand-by mode ready for service.
- CS-5 in stand-by mode ready for service.
- CS-9 in stand-by mode ready for service. Warranty-related issues are being addressed through. Walsh.
- Routine daily rounds and inspections made with no major maintenance issues to report.

Other System Operation Issues

- O&M Manual is currently being revised to include new structures, recently modified structures, new monitoring equipment, and recent inspection and repair status.
- EGLE has informally agreed to consent to use of all flow control structures for long term flow control. Request for formal consent is promised but not yet received.

OMID Control Structure Upgrades Status:

- ASI is now contracted for design of major upgrades to control structures that considers long-term operability.
- Initial inspections and planning complete.
- Basis of Design complete and under review.
- Design projected to be complete in Spring 2023.

OMID System 3-Year Spot Repairs Status: Complete; final as-builts under review

OMID System 6-Year Inspection Status:

- Tunnel reach inspections (95 total) were completed on February 25, 2023. Remaining manhole inspections were completed April 26, 2023. Data is being collated for final report.

NIEA Repairs (Design/Construction)

Contract 1 (PCI-4 Rehabilitation): In Construction

Amt Invoiced: Construction cost to date is $13,446,321.37 , representing 83.9% of the adjusted Contract value.

Schedule Status: The previous adjusted Substantial Completion date was January 8,2023, now adjusted by Change Order No. 5 to April 12, 2023. The Contractor is operating approximately 22 weeks behind the adjusted schedule, with the recent wet weather further delaying progress. The Contractor anticipates making up at least some of this time with productive lining and extended length grouting work. The Contractor has been formally advised that beginning April 13, 2023, an accounting of Liquidated Damages will be included with each application for payment until substantial completion is achieved. This value will show as a debit against the retention account; however, funds will not be withheld until a final reconciliation of the schedule is completed.

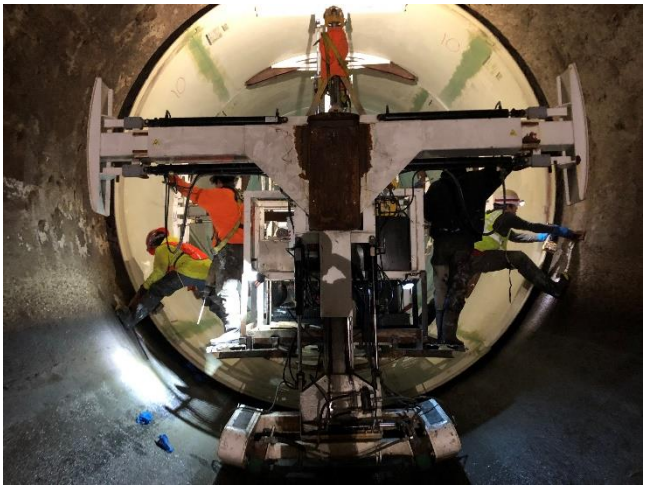
Contract 1 (PCI-4 Rehabilitation) Construction Status:

- Approximately 1,334.5 linear feet of Channeline lining has been installed out of a contract total of 1,340 feet (one section was damaged and changed to Rockhard), including Change Order One. All of the Channeline liner is now fully grouted with minor punch-list work in progress.
- 100% of the Quakewrap and Rockhard SCP segments are now on site.
- Installation of the Quakewrap liner is begun.
- Geotechnical monitoring of construction activities at the access shaft location indicate continuing stable conditions.

Bulkhead at lining segment P#1

Channeline grouting in progress

Channeline grouting in progress



Homing lining segment P#10

Delivery of QuakeWrap

Gasket installation on lining segment P#08

Contract 2 (PCI-18/19 Rehab): Design Complete, Bidding Complete

Amt Invoiced: $2,369,086 out of currently projected study/design budget of $2,400,570.
Schedule Status: Contract 2: Bid award in development.

Contract 2 (PCI -18/19 Rehabilitation) Design Status:

- Design complete, bids received on March 1, 2023. Four (4) contractors submitted proposals for the project; “as -read” low bidder was Z Contractors, Inc at $12,596,800.
- The Engineer and the Owner met with Z Contractor to discuss the overall project scope in advance of a final recommendation for award.
- Currently working on a notice of intent to award. Plan to issue the letter to Z Contractor by mid-May, 2023.
- Working with GLWA to develop cost sharing agreement; Draft agreement is being negotiated.
- The **draft** line item schedule and budgets for OMID NIEA Contracts 1 and 2 are summarized:

Work Item/ Milestone	Estimated Budget Expenditure (Engineering)	Estimated Budget Expenditure (Contractor)	Estimated Delivery Date
Lining Study Final Report	**$126,744**		**10/30/2019**
90%, 100% Design Package			**3/20/2020 and 4/28/2020 (Contract 1) 4/16/2021 and 10/1/22 (Contract 2)**
Issued for Bid			**6/10/2020 (Contract 1) 11/4/22 (Contract 2)**
Bid Opening			**9/30/2020 (Contract 1) 3/1/23(Contract 2)**
Contract Award and NTP			**12/16/2020 and 1/04/2021 (Contract 1) 6/20/23 and 7/20/23 (Contract 2)**
Subtotal - Design	**$2,400,570**		
Substantial Completion of Construction	**$3,500,000**	**$30,000,000**	**456 cal. days for C-2A plus 210 cal days for C-2B. (Contract 1, projected). Contract 2A& B, est. 10/28/24 and 6/25/25.**

NESPS Pump and Electrical Upgrades Project

Budget Status: $1,280,139 billed out of current Design Budget of $1,382,430; $968,018 out of the current CCA Budget of $2,443,262. The total construction amount invoiced as of February 28 , 2023, is $35,071,974.23 out of $47,451,442.16 (including the now completed and operational Control Structure 9 Bulkhead Gate facility and adjusted for stored material inclusion in major work activities), representing 74% of the Pump & Electrical Upgrades Project.

Schedule Status: Work is currently delayed due to supply chain issues and electrical issues that occurred in the motor control cabinetry on Aug 23, 2022 as discussed in prior Reports. Contractor is working on an enhanced schedule to make up time but will be unable to meet the scheduled completion date, with an estimated delay of 15.7 months. Negotiations ongoing.

The following Design Team and Construction Services Effort is active:

- Construction Phase services (RFIs, Submittals) are ongoing, and the engineering team is reviewing and responding.
- The new Sewage Pump #1 and #3 and Motor are substantially installed. In-place testing and replacement of incompatible motor exciter components is incomplete, due to the event of August 23, 2023 effectively delaying final re-testing and acceptance.
- The concrete encased underground conduit for the new Fiber Optics communication line is complete from the NESPS to the GLWA Chemical Building termination. Work on the cable installation and tie-ins is complete and the line is operational.
- A review of alternative energy saving methods and pump sequence remains ongoing, incorporating GLWA SCC comments.
- Small diameter conduit runs and wiring are being installed in the existing NESPS building with favorable progress, now approaching substantial completion for this activity.
- Steel discharge piping for Pump 6 has now received final coating and has been shipped to the jobsite. All of the discharge piping is now inventoried at the jobsite.
- The August 23, 2022 Arc-Flash incident remains under investigation. The Construction Manager has filed a claim on the OCIP Builder's Risk insurance coverage for this event.
- Schedule adjustments are currently under discussion. The Contractor has revised the sequence of rehabilitation for the existing Pump Knife Gate Valves, removed KGV # 2, installed a temporary "spool piece filler" and, sent the valve out for rehab. Current reports indicate KGV

#2 is in better condition than the KGV # 1, and refurbishment is proceeding ahead of schedule. Project Team members recently visited the restoration facility to inspect the condition of the disassembled KGV # 5 and reported favorable progress. The valve is now being re-coated to allow re-assembly to begin.

- Work on the alternate discharge piping installation for the Dewatering Pump is near completion with the arrival of the knife gate valves and subsequent installation.

The **draft** line item schedule and budget are summarized:

Work Item/ Milestone		Design/CCA Budget	Const Budget	Estimated Delivery Date
2	Final Basis of Design			5/31/2019
7	MDEQ Submittal (Part 41 Permit)			4/8/2020 (initial pkg)
8	90% Design Submittal			6/30/20
9	Final Package Development			8/14/2020
	Subtotal	$3,826,000	$44,100,000	
10	Substantial Completion	$2,500,000 (est.)	$44,100,000 (est.)	9/22/2023 (late)
11	Final Completion			12/21/2023 (late)

NESPS Refurbishment
Project Location

Contractor preparing gatehouse riser cover

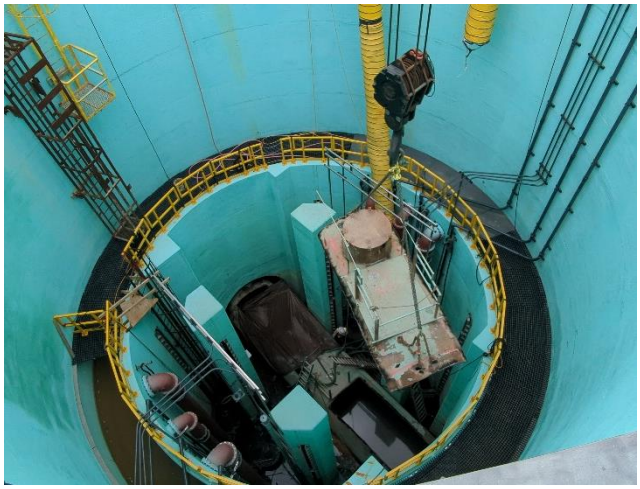
Contractor installing new ceiling lights in new electrical building area

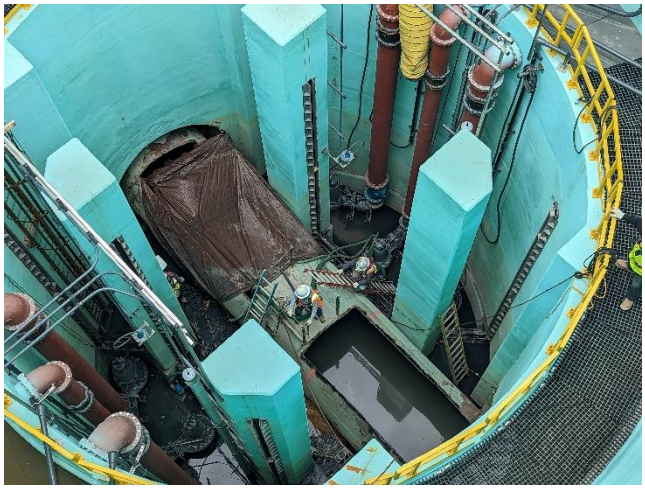
New sliding gate and gate operator

CS-9 Gate Installation Complete

OMID Improvements at CS-6 Site

Work continues to advance the CS-12 Pumping Station and control facility, which will allow for lining the OMIDDD Pipe between CS-12 and CS-4. Pumps have completed initial testing. Flume removal began May 5, 2023 and will continue through the month of May 2023.



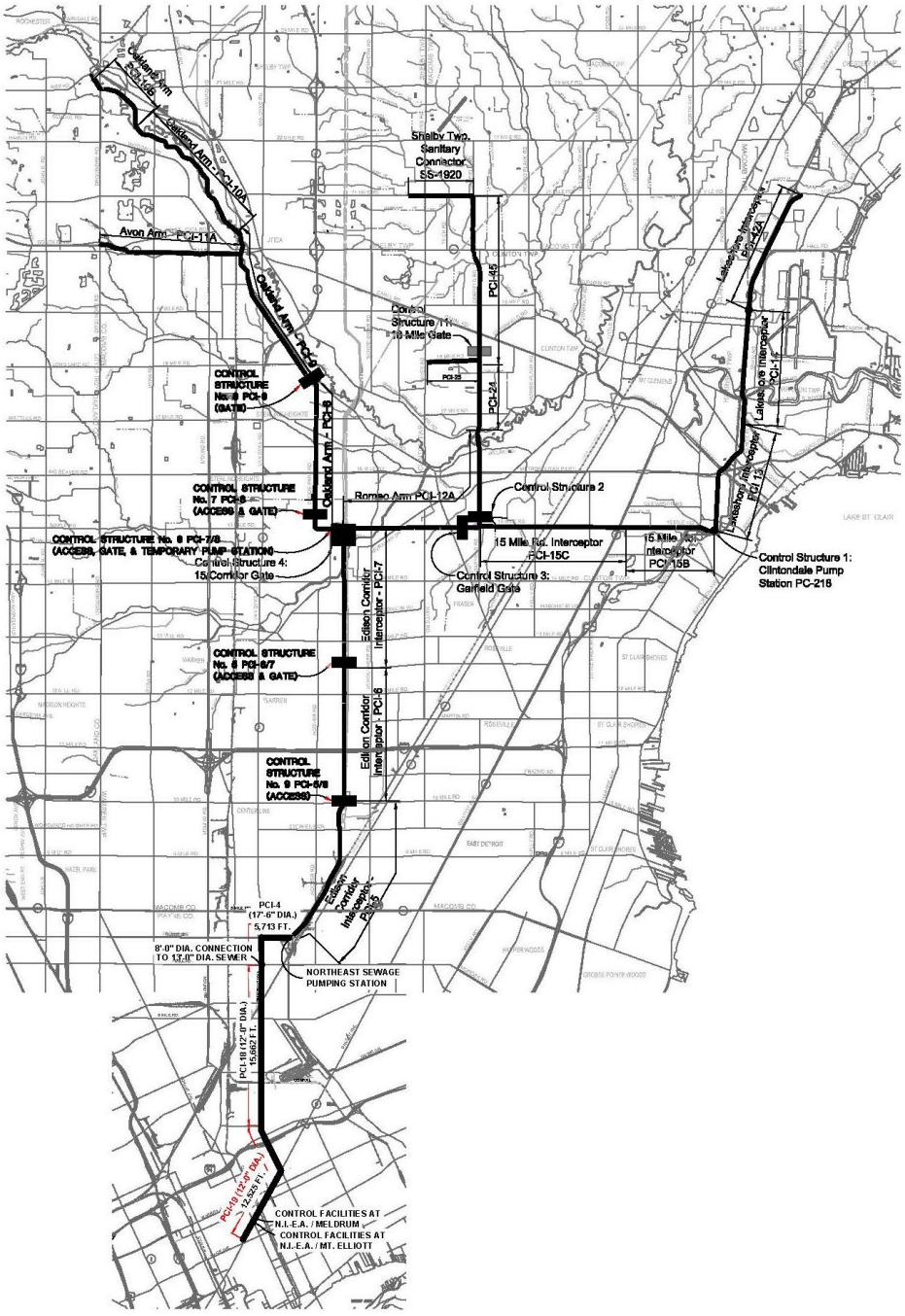


Current status of control structure

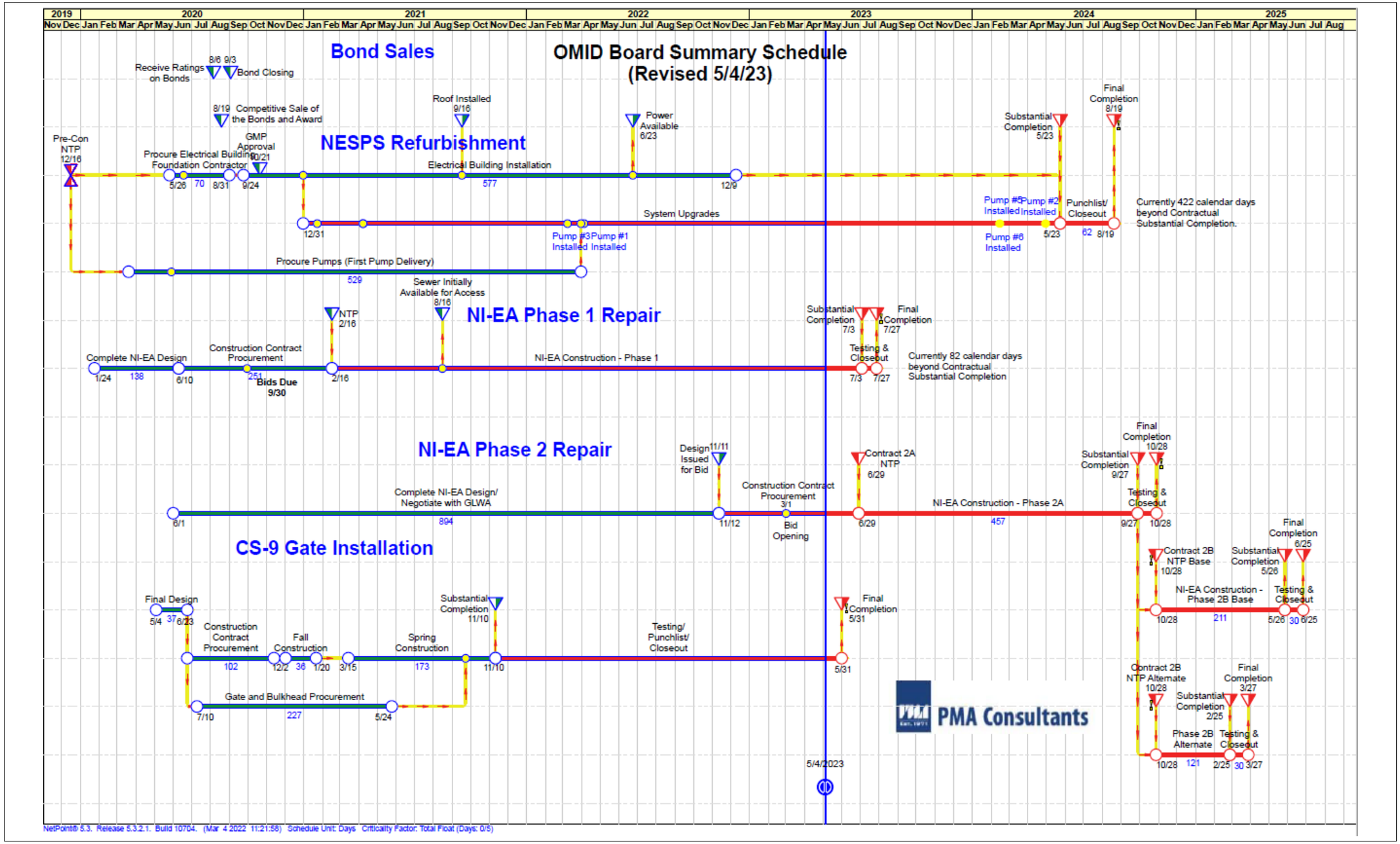
Summary of OMID Design and Construction Status:

Work In Construction Since 2009							
Seg. No	Contract No. (Description)	Contractor	Const. Comp?	As-Builts Final?	Balancing Change Order?	Contractor Closed Out?	Easements Settled?
1	Contract 1 (CS-9, 5, 3)	Ric-Man	Y	Y	Y	Y	Y
1	Contract 2 (CS-6, 7, 8)	Ric-Man	Y	Y	Y	Y	Y
2	Contract 3-2E (Gatehouse)	IWPC (Weiss)	Y	Y	Y	Y	N/A
2	Contract 3 (Grouting PCI-5 thru 8)	IWPC	Y	Y	Y	Y	Y
3	Contract 4 (Lining PCI-5 thru 8)	Jay Dee Cont.	Y	Y	Y	Y	Y
4	Contract 5 (Lining PCI-9, 10A/B)	Lanzo	Y	Y	Y	Y	N
4	Contract 6 (Lining PCI-11A)	Lanzo	Y	Y	Y	Y	Y
N/A	Contract 7 (Lining 110' of NIEA)	IWPC	Y	Y	Y	Y	N/A
N/A	Odor/Corrosion Control System	CSM	Y	Y	Y	Y	N/A
N/A	Control Structure Modifications	CSM/Hesco/MCE	Y/Y/Y	Y/Y/N	Y/Y/N	Y/Y/N	N/A
N/A	OMID Maintenance Repairs	Doetsch	Y	N	N	N	N/A
N/A	CS-9 Gate Modifications	Walsh as CMR	Y	Y	N	N	Y
N/A	NESPS Pump & Electrical Upgrade	ASI;Walsh as CMAR	N	N	N	N	Y
N/A	NIEA-OMIDDD Contract 1 (PCI-4)	Marra	N	N	N	N	N
N/A	NIEA-OMIDDD Cont 2 (PCI-18/19)	Z Cont.	N	N	N	N	N

Work Currently in Design/Study/Engineering		
Description	Design Consultant	Status
System-wide Odor/Corrosion Design	Jacobs	Study Complete, Design Ongoing
NESPS & OMID Maintenance & Repairs	Metco	Engineering/Maintenance Ongoing
NIEA-OMIDDD Contract 2 (PCI-18/19)	NTH	Design Complete; currently in bid-phase; pursuing cost
Emergency Pumping Plan	ASI/NTH/FKE	Draft Plan to be modified following ITC bypass pumping modifications



Overview of OMID System in Oakland, Macomb, and Wayne County



OMID Project Schedule Summary

MID/OMID Construction Schedule

Project	Work Location	Owner	Lead Engineer	Contractor	2023								2024												MID/OMID Control Devices Required to Store Flow										Concurrent Work Notes
					M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	CS-2	CS-3	CS-5	CS-6	CS-6 PS	CS-7	CS-8	CS-9	CS-12	CPS	
MID Grouting Garfield Interceptor	Lakeshore Interceptor (LSI)	MID	AEW	Doetsch																					-	-	-	-	-	-	-	-	*n/a*	**N**	**Work is Random** - If other work requires CS-3 closure, then LSI work will be concurrent. CPS can not be used for storage. Schedule duration is TBD based on grout takes. Present work in in the Garfield.
MID Inspection	Routine Inspection of MID Manholes & Interceptors	MID	Fishbeck	Doetsch																					-	-	-	-	-	-	-	-	*n/a*	-	Work may require breief flow control to inspect certain reaches. Work will be coordinated around active construction.
Segment 6 Lining	15 Mile upstream of Garfield (15 Mile Interceptor)	MID	FKE	Ric-Man																					-	-	-	-	-	-	-	-	-	Y	Flow control on pause but upcoming. May work concurrent with Segment 5 or NIEA rehabilitation. Schedule is estimated.
	15 Mile upstream of Garfield & between CS-2/CS-3 (Romeo Arm)	MID	FKE	Ric-Man																					Y	Y	N	-	-	-	-	-	Y	Y	May work concurrent with Segment 5 or NIEA rehabilitation. Flow control conditions at the CS gates is similar with the exception of utilizing CS-2. Schedule is estimatedy.
Segment 5 Lining*	15 Mile between ITC Corridor & Eberlein	MID	FKE	ORC																					-	Y	N	Y	-	Y	Y	-	Y	*H*	If work is concurrent with NIEA rehabilitation; CS-9 is required. Flow control dates may change depending on sediment removal means and methods. Current projected finish is 8 months late.
NIEA Rehabilitation (Downstream of NESPS)	PCI-4 Shaft & Lining (Contract 1)	OMID	NTH	MARRA																					-	Y	N	Y	-	Y	Y	Y	-	*H*	If work is concurrent with Segments 5 & 6 Lining; CS-9 is required.
	PCI-18/19 Flow Control Structures (Contract 2A)	OMID	NTH	TBD																					-	Y	N	Y	-	Y	Y	Y	-	*H*	Shaft construction. MID/OMID flow control may be required depending on 7-Mile Relief Inter-Connection and PC-663 Gate status. Coordination with GLWA and downstream system when flow is diverted to 7 Mile Relief.
	PCI-18/19 Spot Repairs and Linings (Contract 2B)	OMID	NTH	TBD																					-	-	-	-	-	-	-	-	-	-	PC-663 Gate closure will divert flow to 7 Mile Relief Sewer. Coordination with GLWA and downstream system when flow is diverted to 7 Mile Relief. NESPS should operate normally to pass DWF rates. (10/2024 to 5/2025)
OMID CCTV Inspection	Throughout System	OMID	NTH	Doetsch																					-	Y	Y	Y	-	Y	Y	-	*n/a*	*H*	Present work is in upstream manholes so limited flow control necessary. Flow control will be required within certain reaches to facilitate.
CS-9 Gate Level Sensor Work	CS-9	OMID	NTH	Walsh																					-	Y	Y	Y	-	Y	Y	Y	*n/a*	*H*	Level Sensor replacement
NESPS Improvements	NESPS Pump Replacement	OMID	ASI	Walsh																					-	Y	-	Y	-	Y	Y	Y	-	*H*	Will require brief flow control for pump installation, gate installation, and electrical work.
DB-226 DRI Repairs (Reach 2A - 3B)	GLWA - DRI	GLWA	FKE	Jay Dee																					-	-	-	-	-	-	-	-	-	-	Can be effected by flows rerouted from the NIEA to the DRI. Project status changes in late 2024 following completion of Reach 3B after which flow control for NIEA C2B is not impacted..
Rigid Seal Study	NESPS Discharge Chamber	OMID	NTH	TBD																					-	Y	Y	Y	-	Y	Y	Y	*n/a*	*H*	Schedule to be confirmed. Reuires 2-3 Days
Inspection and Repair of Discharge Chamber Riser	NESPS Discharge Chamber	OMID	NTH	TBD																					-	Y	Y	Y	-	Y	Y	Y	*n/a*	*H*	Schedule to be confirmed.
Flow Control Structure Rehabilitation	CS-5, CS-6, CS-7, CS-8	OMID	ASI	TBD																					**N**	**N**	-	-	-	-	-	**N**	**N**	**N**	Work will take CS Structures out of Service during Gate and Operator modifications.
PSPS / COSDS Work (PSPS Shutdown)	PSPS	WRC	n/a	n/a																					-	-	-	-	-	-	-	-	-	-	Diversion to PSPS is 5MGD (May increase to 10MGD this Fall). Scheduled shut down of PSPS in September; no flow diversion to Pontiac WWTP (CRWRRF). Will significantly impact storage capabilities on the Oakland Arm CS gates.

Table updated on 5/1/2023. Estimates to be updated as necessary.

* Flow control will be required for sewer cleaning, currently estimated in 2022. Flow control requirements are TBD based on contractor means & methods, not reflected in "Control Devices Required to Store Flow" section.
* Flow control will be required for sewer lining (Schedule TBD). Flow control CS requirements are defined in the "Control Devices Required to Store Flow" section.
PSPS and ELPS operations can significantly impact storage times upstream of CS-6, 7 & 8 and subsequently downstream control structures. Coordination & alerting for ELPS, PSPS, WRC Meters 1222/1223 & 1000 required.

Y = Required to store
N = Required to not store
H = Helpful to extend work times. *If available when not required for concurrent work.*
- = Irrelevant

Estimated Project Window
Flow Control Required
Flow Control May Be Required

Summary of OMID Flow Control Requirements for Ongoing and Future Projects

Agenda Item No. 10

Financial Reports – General Financial Report and Status of State Revolving Fund Financing and Other Financing

County of Oakland
OMIDD Maintenance Fund
Statement of Net Position
March 31, 2023

ASSETS		
Current assets:		
Cash	$	23,414,602.30
Accrued interest receivable		119,258.27
Due from municipalities		4,364,430.08
Due from other funds		500.00
Prepaid Expenses		838,158.35
Total assets	$	28,736,949.00
LIABILITIES		
Current liabilities:		
Vouchers payable	$	6,236,103.07
Accounts Payable		531,268.02
Due To Municipalities		6,010,007.41
Deposits		4,250.00
Total liabilities	$	12,781,628.50
NET POSITION		
FB Major Maint Reserve		3,414,021.10
FB Emergency Maint Reserve		3,336,128.28
FB Capital Improvement Reserve		2,310,662.45
FB Restricted Programs		6,894,508.67
Total net position	$	15,955,320.50

County of Oakland
Oakland Macomb InterceptorCh21 Fund
Statement of Revenues, Expenses, and Changes in Net Position
For the Six Months Ended March 31, 2023
50% of The Year Complete

	Amended Budget	Actual	(Unfavorable) Variance	TYD % of Budget
Operating revenues				
Sewage Disposal Services	$ 76,966,550.00	$ 38,483,275.02	$ (38,483,274.98)	50.00%
Inspection Fees	400.00	0.00	(400.00)	0.00%
Plan Review Fees	250.00	0.00	(250.00)	0.00%
Total operating revenue:	$ 76,967,200.00	$ 38,483,275.02	$ (38,483,924.98)	50.00%
Operating expenses				
Salaries	$ -	$ -	$ -	No Budget
Fringe benefits	$ -	$ -	$ -	No Budget
Contractual services				
Contracted Services	$ 12,142,170.00	$ 114,987.20	$ 12,027,182.80	0.95%
Electrical Service	917,890.00	490,469.77	427,420.23	53.43%
Engineering Services-Other	5,000.00	485,513.78	(480,513.78)	9710.28%
Equipment Maintenance	790,000.00	302,958.60	487,041.40	38.35%
Equipment Repair	504,720.00	89,714.28	415,005.72	17.78%
Inspection	0.00	1,050.00	(1,050.00)	No Budget
Insurance	1,200,000.00	568,849.22	631,150.78	47.40%
Legal Services	51,990.00	6,214.20	45,775.80	11.95%
Licenses and Permits	1,010.00	0.00	1,010.00	0.00%
Membership Dues	0.00	709.03	(709.03)	No Budget
Natural Gas	30,000.00	21,230.80	8,769.20	70.77%
Prior Year Expense	0.00	410,627.08	(410,627.08)	No Budget
Professional Services	0.00	24,608.59	(24,608.59)	No Budget
Public Services	120,000.00	62,514.08	57,485.92	52.10%
Right of Way	0.00	153.00	(153.00)	No Budget
Sewage Disposal Services	70,562,400.00	35,281,200.00	35,281,200.00	50.00%
Water and Sewage Charges	143,320.00	79,195.17	64,124.83	55.26%
Workshops and Meeting	1,500.00	890.79	609.21	59.39%
Total contractual services	$ 86,470,000.00	$ 37,940,885.59	$ 48,529,114.41	43.88%
Commodities				
Material and Supplies	$ 4,040.00	$ -	$ 4,040.00	0.00%
Total commodities	$ 4,040.00	$ -	$ 4,040.00	0.00%
Internal services				
Drain Equip Materials	$ 730.00		$ 730.00	0.00%
Drain Equip Labor	81,010.00	$ 46,867.61	34,142.39	57.85%
Drain Equipment	3,330.00	1,761.34	1,568.66	52.89%
Total internal services	$ 85,070.00	$ 48,628.95	$ 36,441.05	57.16%
Total operating expense	$ 86,559,110.00	$ 37,989,514.54	$ 48,569,595.46	43.89%
Operating income (loss)	$ (9,591,910.00)	$ 493,760.48	$ 10,085,670.48	-5.15%
Nonoperating revenues (expenses)				
Income from investments	$ 209,410.00	$ 144,142.83	$ (65,267.17)	68.83%
Total nonoperating revenues (expenses)	$ 209,410.00	$ 144,142.83	$ (65,267.17)	68.83%
Income (loss) before transfer	$ (9,382,500.00)	$ 637,903.31	$ 10,020,403.31	68.83%
Transfers in	0.00	0.00	0.00	No Budget
Transfers out	0.00	0.00	0.00	No Budget
Change in net position	$ (9,382,500.00)	$ 637,903.31	$ 10,020,403.31	-6.80%
Net Position - beginning		15,317,417.19		
Net Position - ending		$ 15,955,320.50		

YTD Trial Balance Fund: 84917 Oakland Macomb InterceptorSeg5 As of Fiscal Period: Month 7, 2023		OMID SEGMENT 5 BOND ISSUE PRJ-13252	OMID NI-EA CONSTRUCTION PRJ-13308	NESPS MECH-ELEC CONSTRUCTION PRJ-13309	YTD Balance
100100	Cash - Operating	1,837,223.58	8,758,431.34	18,053,576.01	**28,649,230.93**
101500	Undeposited Cash				**0.00**
104100	Accrued Interest on Investment	(140,256.07)			**(140,256.07)**
143100	PrepaidExpemses		31,249.99	51,255.00	**82,504.99**
151000	Restricted Cash				**0.00**
	ASSETS	**1,696,967.51**	**8,789,681.33**	**18,104,831.01**	**28,591,479.85**
201210	Vouchers Payable AP Cont				**0.00**
222300	Unearned Revenues	576,414.65	(2,407,672.79)	(4,956,470.90)	**(6,787,729.04)**
230852	Accounts Payable				**0.00**
272600	Unavailable Revenue - Other				**0.00**
	LIABILITIES	**576,414.65**	**(2,407,672.79)**	**(4,956,470.90)**	**(6,787,729.04)**
605000	Special Assessments Revenue				**0.00**
655000	Income From Investments	(1,658,602.37)			**(1,658,602.37)**
670000	Other Revenues				**0.00**
	REVENUES	**(1,658,602.37)**	**0.00**	**0.00**	**(1,658,602.37)**
730000	Contractual Services		2,948,780.18	3,554,559.79	**6,503,339.97**
770000	Internal Support Expenditures		38,303.61	65,386.98	**103,690.59**
	EXPENSES	**0.00**	**2,987,083.79**	**3,619,946.77**	**6,607,030.56**
381315	FB Restricted Debt	(47,288,433.00)			**(47,288,433.00)**
382100	FB Committed for Capital Proj	46,673,653.21	(9,369,092.33)	(16,768,306.88)	**20,536,254.00**
	Fund Balance	**(614,779.79)**	**(9,369,092.33)**	**(16,768,306.88)**	**(26,752,179.00)**
		0.00	**0.00**	**(0.00)**	**(0.00)**

Cash as of 04/30/2023 $ 28,649,230.93

Invoices/Reimbursements for NIEA Construction on Current Agenda impacting Cash Balance (104,158.24)

Invoices/Reimbursements for NESPS Mech / Electrical Construction on Current Agenda impacting Cash Balance (117,336.02)

Total Net Cash Balance $ 28,427,736.67

OCM Project Work In Progress

Company	Oakland County
Projects and Project Hierarchies	PRJ-13252 OMID Segment 5
Budget Structure	Project Task
Period	FY2023 - Apr

Project	Final Budget	Actuals MTD	Actuals YTD	Total Spend	Actuals LTD
Project Expenses	0.00	0.00	0.00	0.00	757,136.57
1 > Administration	0.00	0.00	0.00	0.00	242,201.57
1 > Legal and Financial	0.00	0.00	0.00	0.00	514,935.00
1 > Standard	0.00	0.00	0.00	0.00	0.00
Project Revenues	0.00	51,873.79	1,658,602.37	(1,658,602.37)	3,030,518.73
RC605572 - Special Assessments Revenue	0.00	0.00	0.00	0.00	894,060.05
RC655077 - Accrued Interest Adjustments	0.00	(28,200.07)	90,377.26	(90,377.26)	(53,532.03)
RC655385 - Income from Investments	0.00	80,073.86	176,598.50	(176,598.50)	1,103,903.38
RC655462 - Increase Market Value Investment	0.00	0.00	1,391,626.61	(1,391,626.61)	1,084.24
RC670513 - Prior Years Revenue	0.00	0.00	0.00	0.00	0.00
RC697219 - Premiums on Bonds Sold	0.00	0.00	0.00	0.00	7,672,724.75
RC697551 - Issuance of Bonds	0.00	0.00	0.00	0.00	(6,587,721.66)
Revenue Over/ (Under) Expenses					**2,273,382.16**

OCM Project Work In Progress

Company Oakland County
Projects and Project Hierarchies PRJ-13308 OMID NI-EA CONSTRUCTION
Budget Structure Project Task
Period FY2023 - Apr

Project	Final Budget	Actuals MTD	Commitments	Actuals YTD	Total Spend	Actuals LTD	Variance
Project Expenses	28,395,600.00	(137,221.78)	56,599.83	2,987,083.79	3,043,683.62	19,605,918.67	8,789,681.33
1 > Administration	584,000.00	0.00	0.00	0.00	0.00	175,749.40	408,250.60
1 > Contingency	2,581,000.00	0.00	0.00	0.00	0.00	0.00	2,581,000.00
1 > Engineering	478,000.00	4,244.05	0.00	36,085.34	36,085.34	160,020.93	317,979.07
1 > Engineering Consultants	4,913,000.00	(147,088.22)	56,450.63	829,259.19	885,709.82	3,900,311.60	1,012,688.40
1 > Facility Acquisition	17,983,600.00	0.00	0.00	1,926,781.36	1,926,781.36	14,892,019.71	3,091,580.29
1 > Inspection	260,000.00	0.00	0.00	0.00	0.00	0.00	260,000.00
1 > Legal and Financial	1,259,000.00	(5,149.20)	149.20	106,963.89	107,113.09	231,187.39	1,027,812.61
1 > Right of Way	265,000.00	354.92	0.00	2,218.27	2,218.27	78,714.29	186,285.71
1 > Standard	40,000.00	10,416.67	0.00	85,775.74	85,775.74	167,915.35	(127,915.35)
1 > Survey	32,000.00	0.00	0.00	0.00	0.00	0.00	32,000.00
Project Revenues	0.00	0.00	0.00	0.00	0.00	25,987,927.21	
RC605572 - Special Assessments Revenue	0.00	0.00	0.00	0.00	0.00	4,022,827.56	
RC697551 - Issuance of Bonds	0.00	0.00	0.00	0.00	0.00	21,965,099.65	
Revenue Over/ (Under) Expenses						**6,382,008.54**	

OCM Project Work In Progress

Company Oakland County
Projects and Project Hierarchies PRJ-13309 NESPS MECH-ELEC CONSTRUCTION
Budget Structure Project Task
Period FY2023 - Apr

Project	Final Budget	Actuals MTD	Commitments	Actuals YTD	Total Spend	Actuals LTD	Variance
Project Expenses	54,086,000.00	(63,214.27)	5,429.41	3,619,946.77	3,625,376.18	35,981,168.99	18,104,831.01
1 > Administration	620,000.00	0.00	0.00	(51,255.00)	(51,255.00)	44,200.00	575,800.00
1 > Contingency	4,917,000.00	0.00	0.00	0.00	0.00	0.00	4,917,000.00
1 > Engineering	446,000.00	5,746.34	0.00	43,112.04	43,112.04	234,370.44	211,629.56
1 > Engineering Consultants	3,987,000.00	(128,117.92)	5,429.41	(36,897.04)	(31,467.63)	2,593,914.71	1,393,085.29
1 > Facility Acquisition	40,857,000.00	(3,186.75)	0.00	3,513,749.12	3,513,749.12	31,791,814.33	9,065,185.67
1 > Inspection	285,000.00	3,848.96	0.00	21,906.98	21,906.98	363,214.43	(78,214.43)
1 > Legal and Financial	2,417,000.00	54,940.39	0.00	54,940.39	54,940.39	234,740.39	2,182,259.61
1 > Right of Way	393,000.00	0.00	0.00	0.00	0.00	0.00	393,000.00
1 > Standard	130,000.00	3,186.75	0.00	74,022.32	74,022.32	718,546.73	(588,546.73)
1 > Survey	34,000.00	367.96	0.00	367.96	367.96	367.96	33,632.04
Project Revenues	0.00	0.00	0.00	0.00	0.00	49,129,529.10	
RC605572 - Special	0.00	0.00	0.00	0.00	0.00	7,291,907.09	
RC697551 - Issuance of Bonds	0.00	0.00	0.00	0.00	0.00	41,837,622.01	
Revenue Over/ (Under) Expenses						**13,148,360.11**	

Oakland County - Water Resources Commissioner's Office
Fund Equity: Schedule of Reserves and Dedicated Funds
As of Date: April 30, 2023

Fund	Description	Major Maintenance	Emergency Maintenance Reserve	Capital Improvement	Undesignated	Committed for Capital Projects	Total Equity
82912	OMIDD Maintenance Fund	3,607,110.57	3,377,794.95	2,462,485.24	8,371,198.36		17,818,589.12
84917	OMIDD Seg 5						
	- Project 1-3252 Interceptor Seg 5					2,273,382.16	
	- Project 1-3308 NI - EA Construction					6,382,008.54	
	- Project 1-3309 NESPS Construction					13,148,360.11	21,803,750.81
Total Equity in Maintenance and Construction Funds							39,622,339.93

NOTE: This report presents pre-closing figures and as such are subject to change

OAKLAND MACOMB INTERCEPTOR DRAINAGE BOARD - APPROVAL OF INVOICES/REIMBURSEMENTS

OMIDD Meeting Date 05/17/2023

		84917	84917	82912	
		1-3308	1-3309		
Payable To	**Invoice #**	**Segment 5 NIEA Construction**	**Segment 5 NESPS Mech / Electric Construction**	**Operations & Maintenance**	**Total**
Oakland County *	WRC Labor/Fringes/Non-direct Labor (08/27/2022 - 09/23/2022)	4,472.39	9,579.63		14,052.02
Oakland County *	WRC Equipment (08/27/2022 - 09/23/2022)	126.58	383.63		510.21
Applied Science, Inc	Invoice # 50 (ASI Inv. #8421) Services 4/2/23 to 4/29/23		117,336.02	1,361.00	118,697.02
Clark Hill PLC	Invoice # 1301636 Matter 404547 NIEA Improvements Services Through 03/31/2023	675.00			675.00
CSM Mechanical, LLC	Invoice # 23-275 NESPS Service Go no Go System 4/19/2023			853.50	853.50
CSM Mechanical, LLC	Invoice # 22OMIDDD-001 NESPS CS Cabinet Door Welding 4/17/2023			2,160.00	2,160.00
HESCO	Invoice # 231450 CS-9 Upsteam Level Sensot 04/28/2023			2,602.50	2,602.50
Jacobs Consultants, Inc.	Invoice # C6A19900-08 OMIDD Odor & Corrosion Facilities 03/11/2023 - 04/28/2023			88,487.69	88,487.69
Kennedy Industries	Invoice # 635464 - NESPS Field Service 02/15/2023			1,639.00	1,639.00
Kennedy Industries	Invoice # 635928 - NESPS Field Service 03/17/2023			431.00	431.00
Kennedy Industries	Invoice # 636006 - NESPS Field Service 03/27/2023			909.00	909.00
Kennedy Industries	Invoice # 636166 - NESPS Field Service 04/14/2023			3,467.44	3,467.44
Kone	Invoice # 962443836 NESPS Passenger Elevator Maintenance 2/1/23 - 4/30/23			730.08	$730.08
METCO	Invoice # 1811-51 02/27/2023 Through 04/03/2023			94,613.68	$94,613.68
METCO	Invoice # 1811-52 04/03/2023 Through 04/30/2023			80,698.58	$80,698.58
Motor City Electric Technologies	Invoice # 95127 NESP SCADA T&M Service Date 04/10/2023			90.00	90.00
Motor City Electric Technologies	Invoice # 95128 NESP SCADA T&M Service Date 05/03/2023			342.00	342.00
Motor City Electric Technologies	Invoice # 95129 NESP SCADA T&M Service Date 04/05/2023			180.00	180.00
NTH Consultants	Invoice # 632668 NIEA Design for PCI-4 3/25/2023 - 04/21/2023	13,437.85			13,437.85
NTH Consultants	Invoice # 632669 (D-425) Engineering Services 3/25/2023 - 04/21/2023	90,045.39			90,045.39
NTH Consultants	Invoice # 632672 OMIDD System Inspection 03/25/2023 Through 04/21/2023			733.04	733.04
NTH Consultants	Invoice # 632673 Close-Out & Maintenanc Tasks 03/25/2023 - 4/21/2023			2,996.08	2,996.08
PM Technologies	Invoice # 76648827 NESPS Generator 1 Service Call Date 03/01/2023			773.89	773.89
York	Invoice # MRI-13903 Rebuild Submersable Pump 2/9/2023			5,450.00	5,450.00
	Total Invoices/Reimbursements for Approval	$108,757.21	$127,299.28	$288,518.48	524,574.97
	* Less WRC Charges already paid from OMI Fund	(4,598.97)	(9,963.26)		(14,562.23)
Total Invoices/Reimbursements that will impact Cash Balance listed on Current Trial Balance submitted to OMI Drain Board		$104,158.24	$117,336.02	$288,518.48	$510,012.74

Agenda Item No. 11

Invoices

OMI Segment 5 NESP Mech - Elect Construction Project - WRC Labor/Fringes/Non-Direct Labor Factor for Trans Dates - 3/25/23 - 4/21/23									
WOID	**Date Entered**	**Date Worked**	**Name/Description**	**Hours/Units**	Cost	**Cost Category**	**Assign Equipment**	**Project**	**Activity**
1094849	03/29/23	02/27/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	03/29/23	02/27/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	03/29/23	02/27/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	03/29/23	03/02/23	BROWN, JOEL	3.00	1.20	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	03/29/23	03/02/23	BROWN, JOEL	3.00	7.02	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	03/29/23	03/02/23	BROWN, JOEL	3.00	0.75	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	03/29/23	03/03/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	03/29/23	03/03/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	03/29/23	03/03/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	03/29/23	03/06/23	BROWN, JOEL	2.00	0.80	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	03/29/23	03/06/23	BROWN, JOEL	2.00	4.68	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	03/29/23	03/06/23	BROWN, JOEL	2.00	0.50	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	03/29/23	03/07/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	03/29/23	03/07/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	03/29/23	03/07/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	03/29/23	03/09/23	BROWN, JOEL	4.00	1.60	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	03/29/23	03/09/23	BROWN, JOEL	4.00	9.36	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	03/29/23	03/09/23	BROWN, JOEL	4.00	1.00	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	03/29/23	03/10/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	03/29/23	03/10/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	03/29/23	03/10/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	03/29/23	03/13/23	BROWN, JOEL	0.50	0.20	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	03/29/23	03/13/23	BROWN, JOEL	0.50	1.17	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	03/29/23	03/13/23	BROWN, JOEL	0.50	0.13	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	03/29/23	03/20/23	BROWN, JOEL	1.50	0.60	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	03/29/23	03/20/23	BROWN, JOEL	1.50	3.51	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	03/29/23	03/20/23	BROWN, JOEL	1.50	0.38	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	03/29/23	03/21/23	BROWN, JOEL	2.00	0.80	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	03/29/23	03/21/23	BROWN, JOEL	2.00	4.68	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	03/29/23	03/21/23	BROWN, JOEL	2.00	0.50	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	03/29/23	03/23/23	BROWN, JOEL	4.00	1.60	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	03/29/23	03/23/23	BROWN, JOEL	4.00	9.36	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	03/29/23	03/23/23	BROWN, JOEL	4.00	1.00	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	04/17/23	03/27/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	04/17/23	03/27/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	04/17/23	03/27/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	04/17/23	03/30/23	BROWN, JOEL	4.00	1.60	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	04/17/23	03/30/23	BROWN, JOEL	4.00	9.36	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	04/17/23	03/30/23	BROWN, JOEL	4.00	1.00	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	04/17/23	03/31/23	BROWN, JOEL	1.50	0.60	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	04/17/23	03/31/23	BROWN, JOEL	1.50	3.51	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	04/17/23	03/31/23	BROWN, JOEL	1.50	0.38	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	04/17/23	04/03/23	BROWN, JOEL	2.00	0.80	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	04/17/23	04/03/23	BROWN, JOEL	2.00	4.68	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	04/17/23	04/03/23	BROWN, JOEL	2.00	0.50	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	04/17/23	04/04/23	BROWN, JOEL	2.00	0.80	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	04/17/23	04/04/23	BROWN, JOEL	2.00	4.68	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	04/17/23	04/04/23	BROWN, JOEL	2.00	0.50	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	04/17/23	04/05/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	04/17/23	04/05/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	04/17/23	04/05/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	04/17/23	04/06/23	BROWN, JOEL	3.00	1.20	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	04/17/23	04/06/23	BROWN, JOEL	3.00	7.02	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	04/17/23	04/06/23	BROWN, JOEL	3.00	0.75	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
1094849	04/17/23	04/07/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1094849	04/17/23	04/07/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1094849	04/17/23	04/07/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13309	ENGINEERING
			BROWN, JOEL Total		**109.15**				
1094845	04/05/23	03/28/23	POUSHO, ROBERT	8.00	3.20	ASSIGNED	Cell Phone	PRJ-13309	INSPECTION
1094845	04/05/23	03/28/23	POUSHO, ROBERT	8.00	18.72	ASSIGNED	PC/Computer	PRJ-13309	INSPECTION
1094845	04/05/23	03/30/23	POUSHO, ROBERT	8.00	3.20	ASSIGNED	Cell Phone	PRJ-13309	INSPECTION
1094845	04/05/23	03/30/23	POUSHO, ROBERT	8.00	18.72	ASSIGNED	PC/Computer	PRJ-13309	INSPECTION
1094845	04/05/23	04/04/23	POUSHO, ROBERT	8.00	3.20	ASSIGNED	Cell Phone	PRJ-13309	INSPECTION
1094845	04/05/23	04/04/23	POUSHO, ROBERT	8.00	18.72	ASSIGNED	PC/Computer	PRJ-13309	INSPECTION
1094845	04/05/23	04/06/23	POUSHO, ROBERT	8.00	3.20	ASSIGNED	Cell Phone	PRJ-13309	INSPECTION
1094845	04/05/23	04/06/23	POUSHO, ROBERT	8.00	18.72	ASSIGNED	PC/Computer	PRJ-13309	INSPECTION
1094845	04/19/23	04/11/23	POUSHO, ROBERT	8.00	3.20	ASSIGNED	Cell Phone	PRJ-13309	INSPECTION
1094845	04/19/23	04/11/23	POUSHO, ROBERT	8.00	18.72	ASSIGNED	PC/Computer	PRJ-13309	INSPECTION
1094845	04/19/23	04/13/23	POUSHO, ROBERT	8.00	3.20	ASSIGNED	Cell Phone	PRJ-13309	INSPECTION
1094845	04/19/23	04/13/23	POUSHO, ROBERT	8.00	18.72	ASSIGNED	PC/Computer	PRJ-13309	INSPECTION
1094845	04/19/23	04/18/23	POUSHO, ROBERT	8.00	3.20	ASSIGNED	Cell Phone	PRJ-13309	INSPECTION
1094845	04/19/23	04/18/23	POUSHO, ROBERT	8.00	18.72	ASSIGNED	PC/Computer	PRJ-13309	INSPECTION
1094845	04/19/23	04/20/23	POUSHO, ROBERT	8.00	3.20	ASSIGNED	Cell Phone	PRJ-13309	INSPECTION
1094845	04/19/23	04/20/23	POUSHO, ROBERT	8.00	18.72	ASSIGNED	PC/Computer	PRJ-13309	INSPECTION
			POUSHO, ROBERT Total		**175.36**				
1131289	03/29/23	03/13/23	PUSCAS, JACK J	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING

1131289	03/29/23	03/13/23	PUSCAS, JACK J	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1131289	03/29/23	03/20/23	PUSCAS, JACK J	5.00	2.00	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1131289	03/29/23	03/20/23	PUSCAS, JACK J	5.00	11.70	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1131289	04/12/23	03/27/23	PUSCAS, JACK J	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1131289	04/12/23	03/27/23	PUSCAS, JACK J	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
1131289	04/12/23	04/03/23	PUSCAS, JACK J	3.00	1.20	ASSIGNED	Cell Phone	PRJ-13309	ENGINEERING
1131289	04/12/23	04/03/23	PUSCAS, JACK J	3.00	7.02	ASSIGNED	PC/Computer	PRJ-13309	ENGINEERING
			PUSCAS, JACK J Total		**27.40**				
1170500	04/14/23	04/14/23	ROBINSON, RYAN	4.00	22.76	ASSIGNED	3/4 Ton Pick-up	PRJ-13309	SURVEY
1170500	04/14/23	04/14/23	ROBINSON, RYAN	4.00	1.60	ASSIGNED	Cell Phone	PRJ-13309	SURVEY
1170500	04/14/23	04/14/23	ROBINSON, RYAN	4.00	9.36	ASSIGNED	PC/Computer	PRJ-13309	SURVEY
			ROBINSON, RYAN Total		**33.72**				
1170500	04/14/23	04/14/23	CDM Leica TS15P R400	4	38.00	UNASSIGNED		PRJ-13309	SURVEY
			CDM Leica TS15P R400 Total		**38.00**				
			Grand Total		**383.63**				

OMI Segment 5 NESP Mech - Elect Construction Project - WRC Labor/Fringes/Non-Direct Labor Factor for Trans Dates - 3/25/23 - 4/21/23									
WOID	**Date Entered**	**Date Worked**	**Name/Description**	**Hours/Units**	**Cost**	**Cost Category**	**Assign Equipment**	**Project**	**Activity**
1094849	03/29/23	02/27/23	BROWN, JOEL	1	131.55	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	03/29/23	03/02/23	BROWN, JOEL	3	394.65	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	03/29/23	03/03/23	BROWN, JOEL	1	131.55	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	03/29/23	03/06/23	BROWN, JOEL	2	263.10	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	03/29/23	03/07/23	BROWN, JOEL	1	131.55	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	03/29/23	03/09/23	BROWN, JOEL	4	526.20	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	03/29/23	03/10/23	BROWN, JOEL	1	131.55	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	03/29/23	03/13/23	BROWN, JOEL	0.5	65.78	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	03/29/23	03/20/23	BROWN, JOEL	1.5	197.33	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	03/29/23	03/21/23	BROWN, JOEL	2	263.10	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	03/29/23	03/23/23	BROWN, JOEL	4	526.20	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	04/17/23	03/27/23	BROWN, JOEL	1	131.55	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	04/17/23	03/30/23	BROWN, JOEL	4	526.20	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	04/17/23	03/31/23	BROWN, JOEL	1.5	197.33	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	04/17/23	04/03/23	BROWN, JOEL	2	263.10	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	04/17/23	04/04/23	BROWN, JOEL	2	263.10	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	04/17/23	04/05/23	BROWN, JOEL	1	131.55	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	04/17/23	04/06/23	BROWN, JOEL	3	394.65	REGULAR	WRCCON	PRJ-13309	ENGINEERING
1094849	04/17/23	04/07/23	BROWN, JOEL	1	131.55	REGULAR	WRCCON	PRJ-13309	ENGINEERING
			BROWN, JOEL Total		**4,801.59**				
1094845	04/05/23	03/28/23	POUSHO, ROBERT	8	459.20	REGULAR	WRCCON	PRJ-13309	INSPECTION
1094845	04/05/23	03/30/23	POUSHO, ROBERT	8	459.20	REGULAR	WRCCON	PRJ-13309	INSPECTION
1094845	04/05/23	04/04/23	POUSHO, ROBERT	8	459.20	REGULAR	WRCCON	PRJ-13309	INSPECTION
1094845	04/05/23	04/06/23	POUSHO, ROBERT	8	459.20	REGULAR	WRCCON	PRJ-13309	INSPECTION
1094845	04/19/23	04/11/23	POUSHO, ROBERT	8	459.20	REGULAR	WRCCON	PRJ-13309	INSPECTION
1094845	04/19/23	04/13/23	POUSHO, ROBERT	8	459.20	REGULAR	WRCCON	PRJ-13309	INSPECTION
1094845	04/19/23	04/18/23	POUSHO, ROBERT	8	459.20	REGULAR	WRCCON	PRJ-13309	INSPECTION
1094845	04/19/23	04/20/23	POUSHO, ROBERT	8	459.20	REGULAR	WRCCON	PRJ-13309	INSPECTION
			POUSHO, ROBERT Total		**3,673.60**				
1131289	03/29/23	03/13/23	PUSCAS, JACK J	1	80.82	REGULAR	WRCADM	PRJ-13309	ENGINEERING
1131289	03/29/23	03/20/23	PUSCAS, JACK J	5	404.10	REGULAR	WRCADM	PRJ-13309	ENGINEERING
1131289	04/12/23	03/27/23	PUSCAS, JACK J	1	80.82	REGULAR	WRCADM	PRJ-13309	ENGINEERING
1131289	04/12/23	04/03/23	PUSCAS, JACK J	3	242.46	REGULAR	WRCADM	PRJ-13309	ENGINEERING
			PUSCAS, JACK J Total		**808.20**				
1170500	04/14/23	04/14/23	ROBINSON, RYAN	4	296.24	REGULAR	WRCCDM	PRJ-13309	SURVEY
			ROBINSON, RYAN Total		**296.24**				
			Grand Total		**9,579.63**				

OMI Segment 5 NI-EA Construction Project - WRC Labor/Fringes/Non-Direct Labor Factor for Trans Dates - 3/25/23 - 4/21/23									
WOID	**Date Entered**	**Date Worked**	**Name/Description**	**Hours/Units**	Cost	**Cost Category**	**Assign Equipment**	**Project**	**Activity**
1094815	3/29/23	3/1/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	3/29/23	3/1/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	3/29/23	3/1/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	3/29/23	3/3/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	3/29/23	3/3/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	3/29/23	3/3/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	3/29/23	3/6/23	BROWN, JOEL	2.00	0.80	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	3/29/23	3/6/23	BROWN, JOEL	2.00	4.68	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	3/29/23	3/6/23	BROWN, JOEL	2.00	0.50	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	3/29/23	3/7/23	BROWN, JOEL	0.50	0.20	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	3/29/23	3/7/23	BROWN, JOEL	0.50	1.17	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	3/29/23	3/7/23	BROWN, JOEL	0.50	0.13	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	3/29/23	3/10/23	BROWN, JOEL	2.00	0.80	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	3/29/23	3/10/23	BROWN, JOEL	2.00	4.68	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	3/29/23	3/10/23	BROWN, JOEL	2.00	0.50	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	3/29/23	3/20/23	BROWN, JOEL	1.50	0.60	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	3/29/23	3/20/23	BROWN, JOEL	1.50	3.51	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	3/29/23	3/20/23	BROWN, JOEL	1.50	0.38	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	3/29/23	3/21/23	BROWN, JOEL	2.00	0.80	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	3/29/23	3/21/23	BROWN, JOEL	2.00	4.68	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	3/29/23	3/21/23	BROWN, JOEL	2.00	0.50	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	3/29/23	3/24/23	BROWN, JOEL	3.00	1.20	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	3/29/23	3/24/23	BROWN, JOEL	3.00	7.02	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	3/29/23	3/24/23	BROWN, JOEL	3.00	0.75	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	4/17/23	3/28/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	4/17/23	3/28/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	4/17/23	3/28/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	4/17/23	3/29/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	4/17/23	3/29/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	4/17/23	3/29/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	4/17/23	4/3/23	BROWN, JOEL	2.00	0.80	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	4/17/23	4/3/23	BROWN, JOEL	2.00	4.68	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	4/17/23	4/3/23	BROWN, JOEL	2.00	0.50	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	4/17/23	4/4/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	4/17/23	4/4/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	4/17/23	4/4/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	4/17/23	4/7/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	4/17/23	4/7/23	BROWN, JOEL	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	4/17/23	4/7/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	4/17/23	4/7/23	BROWN, JOEL	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	4/17/23	4/7/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	4/17/23	4/7/23	BROWN, JOEL	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
			BROWN, JOEL Total		**59.81**				
1164853	4/3/23	3/1/23	COOK, JENNIFER	1.50	0.60	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1164853	4/3/23	3/1/23	COOK, JENNIFER	1.50	3.51	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1164853	4/3/23	3/2/23	COOK, JENNIFER	3.00	1.20	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1164853	4/3/23	3/2/23	COOK, JENNIFER	3.00	7.02	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1164853	4/3/23	3/6/23	COOK, JENNIFER	0.50	0.20	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1164853	4/3/23	3/6/23	COOK, JENNIFER	0.50	1.17	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1164853	4/3/23	3/9/23	COOK, JENNIFER	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1164853	4/3/23	3/9/23	COOK, JENNIFER	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1164853	4/3/23	3/15/23	COOK, JENNIFER	0.50	0.20	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1164853	4/3/23	3/15/23	COOK, JENNIFER	0.50	1.17	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1164853	4/3/23	3/16/23	COOK, JENNIFER	0.50	0.20	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1164853	4/3/23	3/16/23	COOK, JENNIFER	0.50	1.17	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1164853	4/3/23	3/20/23	COOK, JENNIFER	0.50	0.20	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1164853	4/3/23	3/20/23	COOK, JENNIFER	0.50	1.17	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
			COOK, JENNIFER Total		**20.55**				
1094815	4/10/23	3/28/23	LOCKHART, SIDNEY	1.00	5.69	ASSIGNED	Blazer/Suburbans	PRJ-13308	ENGINEERING
1094815	4/10/23	3/28/23	LOCKHART, SIDNEY	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	4/10/23	3/28/23	LOCKHART, SIDNEY	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	4/10/23	3/28/23	LOCKHART, SIDNEY	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	4/10/23	3/29/23	LOCKHART, SIDNEY	1.00	5.69	ASSIGNED	Blazer/Suburbans	PRJ-13308	ENGINEERING
1094815	4/10/23	3/29/23	LOCKHART, SIDNEY	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	4/10/23	3/29/23	LOCKHART, SIDNEY	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	4/10/23	3/29/23	LOCKHART, SIDNEY	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
1094815	4/10/23	3/30/23	LOCKHART, SIDNEY	1.00	5.69	ASSIGNED	Blazer/Suburbans	PRJ-13308	ENGINEERING
1094815	4/10/23	3/30/23	LOCKHART, SIDNEY	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1094815	4/10/23	3/30/23	LOCKHART, SIDNEY	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1094815	4/10/23	3/30/23	LOCKHART, SIDNEY	1.00	0.25	ASSIGNED	Tablet/iPad	PRJ-13308	ENGINEERING
			LOCKHART, SIDNEY Total		**26.04**				
1094816	4/13/23	3/27/23	PARROTT, JEFFREY	2.00	0.80	ASSIGNED	Cell Phone	PRJ-13308	ROW
1094816	4/13/23	3/27/23	PARROTT, JEFFREY	2.00	4.68	ASSIGNED	PC/Computer	PRJ-13308	ROW
1094816	4/13/23	3/27/23	PARROTT, JEFFREY	2.00	0.50	ASSIGNED	Tablet/iPad	PRJ-13308	ROW
1094816	4/13/23	3/31/23	PARROTT, JEFFREY	2.00	0.80	ASSIGNED	Cell Phone	PRJ-13308	ROW

1094816	4/13/23	3/31/23	PARROTT, JEFFREY	2.00	4.68	ASSIGNED	PC/Computer	PRJ-13308	ROW
1094816	4/13/23	3/31/23	PARROTT, JEFFREY	2.00	0.50	ASSIGNED	Tablet/iPad	PRJ-13308	ROW
			PARROTT, JEFFREY Total		**11.96**				
1131284	3/29/23	3/14/23	PUSCAS, JACK J	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1131284	3/29/23	3/14/23	PUSCAS, JACK J	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1131284	4/12/23	3/28/23	PUSCAS, JACK J	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1131284	4/12/23	3/28/23	PUSCAS, JACK J	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
1131284	4/12/23	4/4/23	PUSCAS, JACK J	1.00	0.40	ASSIGNED	Cell Phone	PRJ-13308	ENGINEERING
1131284	4/12/23	4/4/23	PUSCAS, JACK J	1.00	2.34	ASSIGNED	PC/Computer	PRJ-13308	ENGINEERING
			PUSCAS, JACK J Total		**8.22**				
			Grand Total		**126.58**				

OMI Segment 5 NI-EA Construction Project - WRC Labor/Fringes/Non-Direct Labor Factor for Trans Dates - 3/25/23 - 4/21/23									
WOID	**Date Entered**	**Date Worked**	**Name/Description**	**Hours/Units**	**Cost**	**Cost Category**	**Assign Equipment**	**Project**	**Activity**
1094815	3/29/23	3/1/23	BROWN, JOEL	1.00	131.55	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	3/29/23	3/3/23	BROWN, JOEL	1.00	131.55	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	3/29/23	3/6/23	BROWN, JOEL	2.00	263.10	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	3/29/23	3/7/23	BROWN, JOEL	0.50	65.78	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	3/29/23	3/10/23	BROWN, JOEL	2.00	263.10	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	3/29/23	3/20/23	BROWN, JOEL	1.50	197.33	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	3/29/23	3/21/23	BROWN, JOEL	2.00	263.10	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	3/29/23	3/24/23	BROWN, JOEL	3.00	394.65	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	4/17/23	3/28/23	BROWN, JOEL	1.00	131.55	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	4/17/23	3/29/23	BROWN, JOEL	1.00	131.55	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	4/17/23	4/3/23	BROWN, JOEL	2.00	263.10	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	4/17/23	4/4/23	BROWN, JOEL	1.00	131.55	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	4/17/23	4/7/23	BROWN, JOEL	1.00	131.55	REGULAR	WRCCON	PRJ-13308	ENGINEERING
1094815	4/17/23	4/7/23	BROWN, JOEL	1.00	131.55	REGULAR	WRCCON	PRJ-13308	ENGINEERING
			BROWN, JOEL Total		**2,631.01**				
1164853	4/3/23	3/1/23	COOK, JENNIFER	1.50	165.38	REGULAR	WRCADM	PRJ-13308	ENGINEERING
1164853	4/3/23	3/2/23	COOK, JENNIFER	3.00	330.75	REGULAR	WRCADM	PRJ-13308	ENGINEERING
1164853	4/3/23	3/6/23	COOK, JENNIFER	0.50	55.13	REGULAR	WRCADM	PRJ-13308	ENGINEERING
1164853	4/3/23	3/9/23	COOK, JENNIFER	1.00	110.25	REGULAR	WRCADM	PRJ-13308	ENGINEERING
1164853	4/3/23	3/15/23	COOK, JENNIFER	0.50	55.13	REGULAR	WRCADM	PRJ-13308	ENGINEERING
1164853	4/3/23	3/16/23	COOK, JENNIFER	0.50	55.13	REGULAR	WRCADM	PRJ-13308	ENGINEERING
1164853	4/3/23	3/20/23	COOK, JENNIFER	0.50	55.13	REGULAR	WRCADM	PRJ-13308	ENGINEERING
			COOK, JENNIFER Total		**826.90**				
1094815	4/10/23	3/28/23	LOCKHART, SIDNEY	1.00	143.02	REGULAR	WRCADM	PRJ-13308	ENGINEERING
1094815	4/10/23	3/29/23	LOCKHART, SIDNEY	1.00	143.02	REGULAR	WRCADM	PRJ-13308	ENGINEERING
1094815	4/10/23	3/30/23	LOCKHART, SIDNEY	1.00	143.02	REGULAR	WRCADM	PRJ-13308	ENGINEERING
			LOCKHART, SIDNEY Total		**429.06**				
1094816	4/13/23	3/27/23	PARROTT, JEFFREY	2.00	171.48	REGULAR	WRCROW	PRJ-13308	ROW
1094816	4/13/23	3/31/23	PARROTT, JEFFREY	2.00	171.48	REGULAR	WRCROW	PRJ-13308	ROW
			PARROTT, JEFFREY Total		**342.96**				
1131284	3/29/23	3/14/23	PUSCAS, JACK J	1.00	80.82	REGULAR	WRCADM	PRJ-13308	ENGINEERING
1131284	4/12/23	3/28/23	PUSCAS, JACK J	1.00	80.82	REGULAR	WRCADM	PRJ-13308	ENGINEERING
1131284	4/12/23	4/4/23	PUSCAS, JACK J	1.00	80.82	REGULAR	WRCADM	PRJ-13308	ENGINEERING
			PUSCAS, JACK J Total		**242.46**				
			Grand Total		**4,472.39**				

Applied Science, Inc.
21455 Melrose Ave. Bldg R Suite 12 Southfield, MI 48075
Phone: (313) 567-3990 Fax: (313) 567-3750
www.asi-detroit.com

May 3, 2023

Project Invoice # 50 (ASI Inv. 8421)

Joel Brown, P.E.
Civil Engineer III
Oakland County Water Resources Commissioner's Office
One Public Works Drive, Building 95 West
Waterford, MI 48328

Re: Northeast Sanitary Pump Station
Contract #5470
(ASI Job No. 1815)

Invoice Period: 4/2/23-4/29/23

li# 41133 v#352

Task No.	Task Description	Total This Invoice
1	**Transition & Basis of Design**	
	Total:	$ -
	Subconsultants:	
	FK Engineering:	$ -
	ASI Markup 5%:	$ -
	Total:	**$ -**
	Previous Amount Invoiced:	
	Total Invoiced To-Date	
	Contract Task Total:	
	Amount Remaining:	

Task No.	Task Description	Total This Invoice
2	**Design Services for Pump & Electrical Upgrades**	
	Total:	$ -
	Subconsultants:	
	Metco Services	$ -
	FK Engineering:	$ -
	NTH Consultants	$ -
	AEW	$ -
	ASI Markup 5%:	$ -
	Total Due This Invoice:	**$ -**

Task No.	Task Description	Total This Invoice
3	**Additional Special Services**	
	Total:	**$ -**
	Subconsultants:	
	NTH Consultants	
	FK Engineering:	$ -
	ASI Markup 5%:	$ -
	Total Due This Invoice:	**$ -**

Task No.	Task Description	Total This Invoice
5	**Construction Services**	
	Total:	$ 29,924.50
	Subconsultants:	
	NTH Consultants	$ 26,185.84
	Metco Services	$ 51,836.00
	FK Engineering:	$ 4,760.00
	ASI Markup 5%:	$ 4,139.09
	Direct Expenses:	$ 490.59
	Total Due This Invoice:	**$ 117,336.02**
	Previous Amount Invoiced:	

84917-149015-730639-1-3309
engcon

Task No.	Task Description	Total This Invoice
6	**Control Structure Rehab**	
	Total:	$ 1,361.00
	Subconsultants:	
	NTH Consultants	$ -
	Metco Services	$ -
	ASI Markup 5%:	$ -
	Direct Expenses:	$ -
	Total Due This Invoice:	**$ 1,361.00**

82912-149667-730639-
PRJ-17060 engcon

Summary

Total Due This Invoice-All Tasks:	**$ 118,697.02**
Previous Amount Invoiced:	$ 4,112,223.07
Amount Invoiced for MCC Incident (separate invoice):	$ 929.36
Total Invoiced To-Date	$ 4,231,849.45
Original Contract Task Total:	$ 4,198,380.00
Additional Budget-Task 5:	$ 284,076.60
Additional Budget-Task 6:	$ 220,326.00
Current Contract Task Total:	$ 4,702,782.60
Amount Remaining:	$ 470,933.15

Applied Science, Inc.
21455 Melrose Ave. Bldg R Suite 12 Southfield, MI 48075
Phone: (313) 567-3990 Fax: (313) 567-3750
www.asi-detroit.com

Maya 3, 2023

Project Invoice #50a (ASI Inv. 8422)

Joel Brown, P.E.
Civil Engineer III
Oakland County Water Resources Commissioner's Office
One Public Works Drive, Building 95 West
Waterford, MI 48328

Re: Northeast Sanitary Pump Station
Contract #5470
(ASI Job No. 1815)

84917-149015-730520-
1-3309 engcon **li# 41133 v#352**

Task - MCC Incident

Invoice Period: 4/2/23-4/29/23

5/12/2023

Employee	Job Classification	MCC Incident	Total Hours	Direct Labor Rate	Total
Total Labor:		$ -			$ -
Subconsultant:NTH		$ 885.10			$ 885.10
Subconsultant:METCO		$ -			$ - $25,050
		$ 885.10			~~$ 885.10~~ $25,935.10
ASI Markup 5%		$ 44.26			~~$ 44.26~~ $1,296.76
Direct Expenses (receipts attached):		$ -			$ -
Total This Invoice:		$ 929.36			~~**$ 929.36**~~ $27,231.86
Previous Amount Invoiced:		$ 56,313.33			~~$ 56,313.33~~
Total Invoiced To Date:		$ 57,242.69			~~$ 57,242.69~~

SR

Clark Hill

Oakland-Macomb Interceptor Drain Drainage District
Attn: Megan Koss, Esq.
1 Public Works Drive
Waterford, MI 48328
WRClegalinvoices@oakgov.com

Invoice: 1301636
Date: 04/11/2023
Client: 58434
Matter: 404547

84917-6010101-149015-731073-2603- 1-3308-LEGAL- Ch. 21
v#4716 - li#24138 - exp. 12/31/23

Matter Name: Northeast Interceptor East Arm Improvements

LEGAL SERVICES RENDERED AND COSTS ADVANCED THROUGH MARCH 31, 2023

Total Fees:	$	675.00
Total Due This Invoice:	**$**	**675.00**

CSM Mechanical, LLC

1235 Holden Ave.
Milford, MI 48381

Invoice

Date	Invoice #
4/17/2023	22OMIDDD-001

Bill To	Ship To
OMIDD One Public Works Drive Building 95 West Waterford, MI 48328	OMIDD 11010 E. State Fair St. Detroit, MI

82912 - 6010101 -149090- 730660 -
5817 - Ch. 21- V#15750 li#44348 exp.

P.O. Number	Terms	Due Date
794	Net 60	5/17/2023

Description	Amount
Control Structure Cabinet Door Welding	2,160.00

TM-5-1-23

Total	$2.160.00
Payments/Credits	$0.00
Balance Due	$2.160.00

WE ACCEPT MASTER CARD, VISA, AND DISCOVER CARD

"Relentlessly Helping Our Customers Achieve Success by Being an Integral, Caring and Innovative Mechanical Solutions Provider."

CSM Mechanical, LLC
1235 Holden Ave.
Milford, MI 48381
Phone # (248) 302-2078
Fax # (248) 856-2370

Invoice

Date	Invoice #
4/19/2023	23-275

Bill To	Ship To
OMIDD One Public Works Drive Building 95 West Waterford, MI 48328	OMIDD 11010 E. State Fair St. Detroit, MI

82912-6010101-149090-730660-5817- Ch. 21- v#15750 - li#44348

P.O. Number	Terms	Due Date
00870	Net 60	6/18/2023

Description	Amount
Service Go No Go System	
Subcontract costs - Green Building Automation	643.50
Labor	210.00

TM- 5-1-23

Total	**$853.50**
Payments/Credits	$0.00
Balance Due	**$853.50**

WE ACCEPT MASTER CARD, VISA, AND DISCOVER CARD

HESCO
Knowledgeable • Professional • Attentive • Likeable
29770 Hudson Drive Novi, MI 48377
Phone: (586) 978-7200
hesco-mi.com

Invoice No. 231450

Date: 04/28/2023

Billed To: OMID Drainage District
1 Public Works Drive
Waterford MI 48328

Contract ID: 5819
HESCO Project: 2019807S OMID Flow Control Structures

Contact: Terry Moore **P.O.#** WO#917 CS-9 **Salesperson:** Kevin Livingston **Due Date:** 05/28/2023

Description	Unit	Qty	Rate	Amount
4/10/23 - CS-9 Upstream Level sensor check and cleanup				
Senior Tech	Hrs	5.50	195.00	1,072.50
Tech II	Hrs	4.25	185.00	786.25
Tech I	Hrs	4.25	175.00	743.75

Notes:

TM-5-1-23

Non-Taxable Amount:	2,602.50
Taxable Amount:	0.00
Sales Tax:	0.00
Total Invoice	2,602.50
Payments/Credits:	0.00
Amount Due	**2,602.50**

Invoice

Jacobs

Jacobs Consultants, Inc.

Invoice No.:	C6A19900-08
Invoice Date:	5/3/2023
Jacobs Project No.:	C6A19900
Services From:	3/11/2023
Services Through:	4/28/2023

Oakland-Macomb Interceptor Drain Drainage District
c/o Oakland County Water Resources Commissioner's Office
One Public Works Drive
Bldg. 95 West
Waterford, Michigan 48328

Attn: Mr. Joel Brown, P.E.
Project Description: OMID Odor and Corrosion Control Facilities

Task Number	Task Description	Budget Total	Previously Invoiced	Current Invoice	Project to Date	Remaining Budget
Task 1	Additional Investigation/Modeling	$ 226,151.90	$ 226,489.81	$ -	$ 226,489.81	$ (337.91)
Task 2	Basis of Design	$ 122,605.02	$ 122,303.64	$ -	$ 122,303.64	$ 301.38
Task 3	ST-S-3 Vapor-Phase Treatment System - Subtask 3.1 - Design	$ 276,371.04	$ 65,440.52	$ 84,858.79	$ 150,299.31	$ 126,071.73
	ST-S-3 Vapor-Phase Treatment System - Subtask 3.2 - Bidding	$ 17,154.74	$ -	$ -	$ -	$ 17,154.74
Task 4	CS-6 Pump Station Vapor-Phase System - Subtask 4.1 - Design	$ 191,218.29	$ 62,755.54	$ 3,628.90	$ 66,384.44	$ 124,833.85
	CS-6 Pump Station - Vapor-Phase System Subtask 4.2 - Bidding	$ 15,612.91	$ -	$ -	$ -	$ 15,612.91
Task 5	CS-8 and ST-S-1 Local Odor Control - Subtask 5.1 - Design	$ 80,199.91	$ 66,566.58	$ -	$ 66,566.58	$ 13,633.33
	CS-8 and ST-S-1 Local Odor Control - Subtask 5.2 - Bidding	$ 12,829.09	$ -	$ -	$ -	$ 12,829.09
Task 6	Design Emergency Relief Valves for CS-9 High Pressures	$ 21,081.00	$ -	$ -	$ -	$ 21,081.00
	Total	**$ 963,223.90**	**$ 543,556.09**	**$ 88,487.69**	**$ 632,043.78**	**$ 331,180.12**

Previously Invoiced	**$543,556.09**
Total This Invoice:	**$88,487.69**
Total Invoiced To Date:	**$632,043.78**
Budget Amount:	**$963,223.90**
Remaining Amount USD:	**$331,180.12**

Outstanding Invoices

Date	Invoice No.	Invoiced Amount	Paid Date	Paid Amount	Amount Outstanding
3/22/2023	C6A19900-07	$57,767.99		$0.00	$57,767.99

Signed Jason A. Matteo

Jason Matteo
Project Manager

Please remit payment electronically to:
Beneficiary Bank: Bank of America
Account Name: Jacobs Consultants, Inc.
Transit for ACH: 111000012
Transit for Wires: 026009593
Account No (USD): 4451457732

Invoice

Jacobs

Jacobs Consultants, Inc.

Invoice No.: C6A19900-08
Invoice Date: 5/3/2023
Jacobs Project No.: C6A19900

Project Description: OMID Odor and Corrosion Control Facilities
Project Manager: Jason Matteo

Task Description
Task 3 ST-S-3 Vapor-Phase Treatment System - Subtask 3.1 - Design

Employee Name	Project Role	Hours	Rate	Amount
Berry, Melissa	WATs Technician	8.50	$ 136.03	$ 1,156.27
Brosnan, John	Project Engineer	1.00	$ 276.90	$ 276.90
Corbett, Douglas	Project Engineer	7.00	$ 148.23	$ 1,037.64
Dahl, Christopher	CAD Designer/As-Builts	54.90	$ 117.25	$ 6,437.19
Desing, Bill	Senior Odor Control Technologist	30.70	$ 320.39	$ 9,836.05
Emory, Thomas	Project Engineer	3.00	$ 85.51	$ 256.54
Frausto, Sandra	Specifications	0.25	$ 89.46	$ 22.37
Galardi, Ken	Project Engineer	37.75	$ 215.45	$ 8,133.19
Gallert, Lela	Project Engineer	15.00	$ 230.46	$ 3,456.96
Graziano, Steven	Lead Project Engineer	129.00	$ 162.50	$ 20,962.68
Hammons, Ian	Project Enginer	2.00	$ 219.19	$ 438.38
Karaban, Pawel	Project Engineer	2.50	$ 116.34	$ 290.84
Lange, Del	Project Engineer	6.50	$ 213.31	$ 1,386.49
Matteo, Jason	Project Manager	9.50	$ 313.71	$ 2,980.28
Milewski, Vincent	Project Architect	4.00	$ 205.90	$ 823.60
Michalek, Daniel	Project Engineer	19.90	$ 99.94	$ 1,988.81
Schlagbaum, Tamara	Project Engineer	9.00	$ 210.91	$ 1,898.20
Schrank, Andrew	Design Manager	48.00	$ 256.94	$ 12,333.03
Wood, Roberts	Project Engineer	4.50	$ 206.98	$ 931.41
Wrobel, Brendan	Project Engineer	40.00	$ 122.88	$ 4,915.38
Xhaferllari, Smerald	Project Engineer	19.75	$ 156.37	$ 3,088.32
Yakel, Jeff	Project Engineer	6.00	$ 190.98	$ 1,145.91
Zhang, Jason	Project Engineer	3.50	$ 159.61	$ 558.63
		462.25		**$ 84,355.07**

Expenses	Invoice Amount	6% Mark Up	Amount
City of Sterling Heights Variance Form	**$ 503.72**		**$ 503.72**

Total Amount This Task : $ 84,858.79

KENNEDY INDUSTRIES
INNOVATE
SOLVE
MONITOR
REPAIR

INVOICE		
DATE	NUMBER	PAGE
4/18/2023	636166	1 of 1

BILL TO
OMI100
OAKLAND MACOMB INTERCEPTOR DRA
1 PUBLIC WORKS DR.
SUBMIT INVOICES TO NEXGEN
WATERFORD, MI 48328

SHIP TO
NORTH EAST PUMPING STATION
11001 E. STATE FAIR AVE
DETROIT, MI 48234

82912-6010101-149090-730660-5825-
ch.21- v#239 exp. 6/30/25

ATTENTION:
TERRY MOORE 247-858-7942 TMOORE@METCOSERVICES.COM

CUSTOMER REF/PO #	JOB #	JOB TITLE	SLP	SHIPPING TYPE	TERMS
	0119838 P.O. 921	GREAT LAKES WATER AUTHORITY, NEPS, EBARA,PUMP,80DLFMU650.54, CLEAN WATER	KES/CJK	FIELD SERVICE	NET 30

QUANTITY B/O	QUANTITY Ship	DESCRIPTION	UNIT PRICE	EXTENDED
0.00	1.00	EBARA,PUMP,80DLFMU650.54 S/N: C7535/1/1 REPAIRED IN OUR FACILITY LABOR: MECHANIC/MACHINIST $125/HR 6 HRS X 125 = $750.00 MATERIALS + 15% $1,029.95 + 15% = $1,184.44	$1,934.44	$1,934.44
0.00	1.00	GLWA, NORTHEAST PUMP STATION KENNEDY INDUSTRIES PROVIDED (2) TECHINIANS ONSITE ON 4/14/2023. PLEASE SEE ATTACHED SERVICE REPORT. LABOR: FIELD TECHNICIAN $146/HR 10.5 HRS X 146 = $1,533.00	$1,533.00	$1,533.00

TM- 5-1-23

PLEASE REMIT TO:
KENNEDY INDUSTRIES, INC.
P.O. BOX 930079
WIXOM, MI 48393

***TERMS OF PAYMENT ARE NET 30 DAYS FROM DATE OF INVOICE *A 7% PER ANNUM SERVICE CHARGE SHALL BE APPLIED TO ANY BALANCE *CREDIT CARD PAYMENTS ARE SUBJECT TO AN ADDITIONAL 3% CHARGE**

SUBTOTAL:	$ 3,467.44
TAX:	$ 0.00
TOTAL:	$ 3,467.44

KENNEDY INDUSTRIES

INNOVATE
SOLVE
MONITOR
REPAIR

INVOICE		
DATE	NUMBER	PAGE
3/9/2023	635464	1 of 1

BILL TO
OMI100
OAKLAND MACOMB INTERCEPTOR DRA
1 PUBLIC WORKS DR.
SUBMIT INVOICES TO NEXGEN
WATERFORD, MI 48328

SHIP TO
NORTH EAST PUMPING STATION
11001 E. STATE FAIR AVE
DETROIT, MI 48234

82912-6010101-149090-730660-5825-
ch.21- v#239 exp. 6/30/25

ATTENTION:
TERRY MOORE 313-8297207 TMOORE@METCOSERVICES.COM

CUSTOMER REF/PO #	JOB #	JOB TITLE	SLP	SHIPPING TYPE	TERMS
5825	0118330	GREAT LAKES WATER AUTHORITY, NORTHEAST PUMPING STATION, FIELD SERVICE, SANITARY	KES/KTT	FIELD SERVICE	NET 60

QUANTITY B/O	QUANTITY Ship	PART NO.	DESCRIPTION	UNIT PRICE	EXTENDED
0.00	1.00	GRE550NORTHEASTPS	GLWA, NORTHEAST PUMP STATION KENNEDY INDUSTRIES PROVIDED (2) FIELD SERVICE TECHNICIAN(S) ONSITE ON 02/15/2023. PLEASE SEE THE ATTACHED SERVICE REPORT. THIS INVOICE REFLECTS: (11) HOURS OF LABOR. MILEAGE: $33.00	$1,639.00	$1,639.00

TM-5-1-23

PLEASE REMIT TO:
KENNEDY INDUSTRIES, INC.
P.O. BOX 930079
WIXOM, MI 48393

***TERMS OF PAYMENT ARE NET 30 DAYS FROM DATE OF INVOICE *A 7% PER ANNUM SERVICE CHARGE SHALL BE APPLIED TO ANY BALANCE *CREDIT CARD PAYMENTS ARE SUBJECT TO AN ADDITIONAL 3% CHARGE**

SUBTOTAL:	$1,639.00
TAX:	$0.00
TOTAL:	$1,639.00

KENNEDY INDUSTRIES

INNOVATE
SOLVE
MONITOR
REPAIR

INVOICE		
DATE	NUMBER	PAGE
3/31/2023	635928	1 of 1

BILL TO
OMI100
OAKLAND MACOMB INTERCEPTOR DRA
1 PUBLIC WORKS DR.
SUBMIT INVOICES TO NEXGEN
WATERFORD, MI 48328

SHIP TO
NORTH EAST PUMPING STATION
11001 E. STATE FAIR AVE
DETROIT, MI 48234

82912-6010101-149090-730660-5825-
ch.21- v#239 exp. 6/30/25

ATTENTION:
TERRY MOORE 313-8297207 TMOORE@METCOSERVICES.COM

CUSTOMER REF/PO #	JOB #	JOB TITLE	SLP	SHIPPING TYPE	TERMS
00889	0119520	GREAT LAKES WATER AUTHORITY, NEPS, FIELD SERVICE, SANITARY	KES/KTT	FIELD SERVICE	NET 60

QUANTITY B/O	QUANTITY Ship	PART NO.	DESCRIPTION	UNIT PRICE	EXTENDED
0.00	1.00	GRE550NORTHEASTPS	GLWA, NORTHEAST PUMP STATION KENNEDY INDUSTRIES PROVIDED (1) FIELD SERVICE TECHNICIAN(S) ONSITE ON 03/07/2023. PLEASE SEE THE ATTACHED SERVICE REPORT. TOTAL REFLECTS THE BELOW: (2.5) HOURS OF LABOR MILEAGE: $66.00	$431.00	$431.00

TM-5-1-23

PLEASE REMIT TO:
KENNEDY INDUSTRIES, INC.
P.O. BOX 930079
WIXOM, MI 48393

***TERMS OF PAYMENT ARE NET 30 DAYS FROM DATE OF INVOICE *A 7% PER ANNUM SERVICE CHARGE SHALL BE APPLIED TO ANY BALANCE *CREDIT CARD PAYMENTS ARE SUBJECT TO AN ADDITIONAL 3% CHARGE**

SUBTOTAL:	$431.00
TAX:	$0.00
TOTAL:	$431.00

KENNEDY INDUSTRIES
INNOVATE
SOLVE
MONITOR
REPAIR

INVOICE		
DATE	NUMBER	PAGE
4/5/2023	636006	1 of 1

BILL TO
OMI100
OAKLAND MACOMB INTERCEPTOR DRA
1 PUBLIC WORKS DR.
SUBMIT INVOICES TO NEXGEN
WATERFORD, MI 48328

82912-6010101-149090-730660-5825-
ch.21- v#239 exp. 6/30/25

SHIP TO
NORTH EAST PUMPING STATION
11001 E. STATE FAIR AVE
DETROIT, MI 48234

ATTENTION:
TERRY MOORE 313-8297207 TMOORE@METCOSERVICES.COM

CUSTOMER REF/PO #	JOB #	JOB TITLE	SLP	SHIPPING TYPE	TERMS
5825	0118330	GREAT LAKES WATER AUTHORITY, NORTHEAST PUMPING STATION, FIELD SERVICE, SANITARY	KES/KTT	FIELD SERVICE	NET 60

QUANTITY B/O	QUANTITY Ship	PART NO.	DESCRIPTION	UNIT PRICE	EXTENDED
0.00	1.00	GRE550NORTHEASTPS	GLWA, NORTHEAST PUMP STATION KENNEDY INDUSTRIES PROVIDED (1) FIELD SERVICE TECHNICIAN(S) ONSITE ON 03/27/2023. PLEASE SEE THE ATTACHED SERVICE REPORT. THIS INVOICE REFLECTS: (6) HOURS OF LABOR. MILEAGE: $33.00	$909.00	$909.00

W.O. # 911

TM-5-1-23

PLEASE REMIT TO:
KENNEDY INDUSTRIES, INC.
P.O. BOX 930079
WIXOM, MI 48393

***TERMS OF PAYMENT ARE NET 30 DAYS FROM DATE OF INVOICE *A 7% PER ANNUM SERVICE CHARGE SHALL BE APPLIED TO ANY BALANCE *CREDIT CARD PAYMENTS ARE SUBJECT TO AN ADDITIONAL 3% CHARGE**

SUBTOTAL:	$909.00
TAX:	$0.00
TOTAL:	$909.00

Maintenance Invoice

One KONE Court
Moline, IL 61265
Please do not send payments to this address

Invoice Date: 02/01/2023
Invoice Number: 962443836
Contract Number: 42174525
Purchase Order:

Customer Number: 13827636

Customer Billing Address:

OAKLAND MACOMB INTERCEPTOR DRAIN
DRAINAGE DISTRICT
1 PUBLIC WORKS DR BLDG 95 W
WATERFORD MI 48328

OAKLAND MACOMB INTERCEPTOR DRAIN
DRAINAGE DISTRICT
1 PUBLIC WORKS DR BLDG 95 W
WATERFORD MI 48328

82912-6010101-149090-730660-9724-Ch. 21 - exp 8/1/23

	Total
Maintenance Period: 02/01/2023 - 04/30/2023	
NORTHEAST SANITARY SEWER PUMP, STATION, 11001 EAST STATE FAIR AVE, DETROIT, MI, 48234	
Total	**$ 730.08**

TM- 4-12-23

Thank you for your business.

TO VIEW AND PAY ONLINE GO TO	https://kone.billtrust.com
USE THIS ENROLLMENT TOKEN	VDF MGW GLX
KONE eInvoice Account Number	13827636

Payment Terms: Net 30 Please Pay Before: 03/03/2023 Late Payment Interest: 1.5%

Payment Options - please reference this invoice number

ACH
Bank Name: CitiBank
ABA Routing: 021000089
Account Number: 30915201
Account Name: KONE Inc.

Make Payments Online

Mail Check
KONE
P.O. BOX 734874
CHICAGO, IL 60673-4874

KONE DETROIT U190
11864 BELDEN CT
LIVONIA, MI 48150-1459
Please do not send payments to this address

Telephone: +1 734-513-6944
www.KONE.us/billing

KONE Inc. TAX ID 36-2357423

METCO CONSULTING ENGINEERS
12835 Stephens Road · Warren · Michigan· 48089 · (586) 920-2620 · Fax (586) 510-4433

INVOICE NO. 1811-51 DATE: April 3, 2023

METCO PROJECT NO. 1811 INVOICE PERIOD: 02/27 thru 04/02/2023

Contract ID 00000000000000000000005517

Vendor ID 0000020486

TO: OMIDD
Water Resources Commissioner
One Public Works Drive
Waterford, MI 48328

Attn: Mr. Sid Lockhart, PE
Deputy Chief Engineer/Special Projects Manager

TITLE: OMID & NESPS Operation and Maintenance

Operational Plan

OMID Operations - Fund 82912, Program 149130, Account 730373 (3.1-3.4A & 3.4B)

Name	Title	Hrs.	Rate/Hr.	Amount
Raj Vijayendran, PE	Principal Engineer	0.0	$ 215.00	$ -
Terry Moore	Operations Manager	50.0	$ 145.00	$ 7,250.00
Terry Moore	Operations Manager (Overtime)	3.0	$ 195.00	$ 585.00
Darrin Green	Staff Engineer	40.0	$ 90.00	$ 3,600.00
Darrin Green	Staff Engineer-(Overtime)	1.0	$ 135.00	$ 135.00
Anthony Vozza	Staff Engineer	83.0	$ 90.00	$ 7,470.00
Anthony Vozza	Staff Engineer-(Overtime)	5.0	$ 135.00	$ 675.00
Rosana Santos	Administrative Assoc.		$ 73.79	$ -
			Subtotal OMID Operatons:	**$ 19,715.00**

NEPS Operations - Fund 82912, Program 149090, Account 730373 (3.1-3.4A & 3.4B)

Name	Title	Hrs.	Rate/Hr.	Amount
Raj Vijayendran, PE	Principal Engineer	8.0	$ 215.00	$ 1,720.00
Terry Moore	Operations Manager	50.0	$ 145.00	$ 7,250.00
Terry Moore	Operations Manager (Overtime)	24.0	$ 195.00	$ 4,680.00
Darrin Green	Staff Engineer	52.0	$ 90.00	$ 4,680.00
Darrin Green	Staff Engineer-(Overtime)	6.0	$ 135.00	$ 810.00
Anthony Vozza	Staff Engineer	0.0	$ 90.00	$ -
Anthony Vozza	Staff Engineer-(Overtime)	0.0	$ 135.00	$ -
Rosana Santos	Administrative Assoc.	4.0	$ 73.79	$ 295.16
			Subtotal NEPS Operations	**$ 19,435.16**
			Subtotal Operations	**$ 39,150.16**

Maintenance & Asset Management

OMID Maintenance – Fund 82912, Program 149130, Account 730646 (3.2-3.3-3.4C & ALLOWANCE)

Name	Title	Hrs.	Rate/Hr.	Amount
Terry Moore	Operations Manager	50.0	$ 145.00	$ 7,250.00
Terry Moore	Operations Manager (Overtime)	0.0	$ 195.00	$ -
Anthony Vozza	Staff Engineer	0.0	$ 90.00	$ -
Darrin Green	Staff Engineer	0.0	$ 90.00	$ -
			Subtotal OMID Maintenance:	**$ 7,250.00**

NEPS Maintenance – Fund 82912, Program 149090, Account 730646 (3.2-3.3-3.4C & ALLOWANCE)

Name	Title	Hrs.	Rate/Hr.	Amount
Raj Vijayendran, PE	Principal Engineer	8.0	$ 215.00	$ 1,720.00
Terry Moore	Operations Manager	50.0	$ 145.00	$ 7,250.00
Terry Moore	Operations Manager (Overtime)	6.0	$ 195.00	$ 1,170.00
Daniel Martel	Sr. Project Coordinator	0.0	$ 145.00	$ -
Sean Grant	Sr. Project Engineer	0.0	$ 145.00	$ -
Travis Ford	Sr. Project Engineer	41.5	$ 145.00	$ 6,017.50
Shailesh Patel	Sr. Project Engineer	0.0	$ 145.00	$ -
Darrin Green	Staff Engineer	78.0	$ 90.00	$ 7,020.00

Darrin Green	Staff Engineer-(Overtime)	3.0	$ 135.00	$	405.00
Anthony Vozza	Staff Engineer	83.0	$ 90.00	$	7,470.00
Anthony Vozza	Staff Engineer-(Overtime)	0.0	$ 135.00	$	-
Brandon Brochue	Designer/Drafter	0.0	$ 85.00	$	-
			Subtotal:	**$**	**31,052.50**
			Maintenance Services (see attached invoices):	**$**	**1,521.02**
			Subtotal NEPS Maintenance:	**$**	**32,573.52**
			Subtotal Maintenance:	**$**	**39,823.52**

NEXGEN Asset Management Implementation Services – Fund 82912, Program 149090, Account 730646

Name	Title	Hrs.	Rate/Hr.		Amount
Raj Vijayendran, PE	Principal Engineer	0.0	$ 215.00	$	-
Terry Moore	Operations Manager	0.0	$ 145.00	$	-
Terry Moore	Operations Manager (Overtime)	0.0	$ 195.00	$	-
Sean Grant	Sr. Project Engineer	16.0	$ 145.00	$	2,320.00
Darrin Green	Staff Engineer	0.0	$ 90.00	$	-
Darrin Green	Staff Engineer-(Overtime)	0.0	$ 135.00	$	-
Anthony Vozza	Staff Engineer	0.0	$ 90.00	$	-
Abhishek Shah	Staff Engineer	148.0	$ 90.00	$	13,320.00
Brandon Brochue	Designer/Drafter		$ 85.00	$	-
			Subtotal Maintenance:	**$**	**15,640.00**

Task 12.0 - As-Needed Services

Additional General/Excess Liability Insurance Fee:	**$**	**37,811.86**
Subtotal 12.0:	**$**	**-**
TOTAL AMOUNT DUE THIS INVOICE:	**$**	**94,613.68**

METCO CONSULTING ENGINEERS
12835 Stephens Road · Warren · Michigan· 48089 · (586) 920-2620 · Fax (586) 510-4433

INVOICE NO. 1811-52 DATE: May 2, 2023

METCO PROJECT NO. 1811 INVOICE PERIOD: 4/3 thru 4/30/2023

Contract ID 00000000000000000000005517

Vendor ID 0000020486

TO: OMIDD
Water Resources Commissioner
One Public Works Drive
Waterford, MI 48328

Attn: Mr. Sid Lockhart, PE
Deputy Chief Engineer/Special Projects Manager

TITLE: OMID & NESPS Operation and Maintenance

Operational Plan

OMID Operations - Fund 82912, Program 149130, Account 730373 (3.1-3.4A & 3.4B)

Name	Title	Hrs.	Rate/Hr.	Amount
Raj Vijayendran, PE	Principal Engineer	0.0	$ 215.00	$ -
Terry Moore	Operations Manager	38.0	$ 145.00	$ 5,510.00
Terry Moore	Operations Manager (Overtime)	7.0	$ 195.00	$ 1,365.00
Darrin Green	Staff Engineer	34.0	$ 90.00	$ 3,060.00
Darrin Green	Staff Engineer-(Overtime)	7.0	$ 135.00	$ 945.00
Anthony Vozza	Staff Engineer	67.0	$ 90.00	$ 6,030.00
Anthony Vozza	Staff Engineer-(Overtime)	5.0	$ 135.00	$ 675.00
Rosana Santos	Administrative Assoc.	0.0	$ 73.79	$ -
		Subtotal OMID Operatons:		**$ 17,585.00**

NEPS Operations - Fund 82912, Program 149090, Account 730373 (3.1-3.4A & 3.4B)

Name	Title	Hrs.	Rate/Hr.	Amount
Raj Vijayendran, PE	Principal Engineer	8.0	$ 215.00	$ 1,720.00
Terry Moore	Operations Manager	38.0	$ 145.00	$ 5,510.00
Terry Moore	Operations Manager (Overtime)	18.0	$ 195.00	$ 3,510.00
Darrin Green	Staff Engineer	42.0	$ 90.00	$ 3,780.00
Darrin Green	Staff Engineer-(Overtime)	0.0	$ 135.00	$ -
Anthony Vozza	Staff Engineer	0.0	$ 90.00	$ -
Anthony Vozza	Staff Engineer-(Overtime)	0.0	$ 135.00	$ -
Rosana Santos	Administrative Assoc.	4.0	$ 73.79	$ 295.16
		Subtotal NEPS Operations		**$ 14,815.16**
		Subtotal Operations		**$ 32,400.16**

Maintenance & Asset Management

OMID Maintenance – Fund 82912, Program 149130, Account 730646 (3.2-3.3-3.4C & ALLOWANCE)

Name	Title	Hrs.	Rate/Hr.	Amount
Terry Moore	Operations Manager	38.0	$ 145.00	$ 5,510.00
Terry Moore	Operations Manager (Overtime)	0.0	$ 195.00	$ -
Anthony Vozza	Staff Engineer	0.0	$ 90.00	$ -
Darrin Green	Staff Engineer	0.0	$ 90.00	$ -
		Subtotal OMID Maintenance:		**$ 5,510.00**

NEPS Maintenance – Fund 82912, Program 149090, Account 730646 (3.2-3.3-3.4C & ALLOWANCE)

Name	Title	Hrs.	Rate/Hr.	Amount
Raj Vijayendran, PE	Principal Engineer	8.0	$ 215.00	$ 1,720.00
Terry Moore	Operations Manager	38.0	$ 145.00	$ 5,510.00
Terry Moore	Operations Manager (Overtime)	0.0	$ 195.00	$ -
Daniel Martel	Sr. Project Coordinator	0.0	$ 145.00	$ -
Sean Grant	Sr. Project Engineer	0.0	$ 145.00	$ -
Travis Ford	Sr. Project Engineer	39.0	$ 145.00	$ 5,655.00
Shailesh Patel	Sr. Project Engineer	0.0	$ 145.00	$ -
Darrin Green	Staff Engineer	46.0	$ 90.00	$ 4,140.00

Darrin Green	Staff Engineer-(Overtime)	10.0	$ 135.00	$	1,350.00
Anthony Vozza	Staff Engineer	67.0	$ 90.00	$	6,030.00
Anthony Vozza	Staff Engineer-(Overtime)	5.0	$ 135.00	$	675.00
Brandon Brochue	Designer/Drafter	0.0	$ 85.00	$	-
			Subtotal:	**$**	**25,080.00**
			Maintenance Services (see attached invoices):	**$**	**4,238.42**
			Subtotal NEPS Maintenance:	**$**	**29,318.42**
			Subtotal Maintenance:	**$**	**34,828.42**

NEXGEN Asset Management Implementation Services – Fund 82912, Program 149090, Account 730646

Name	Title	Hrs.	Rate/Hr.		Amount
Raj Vijayendran, PE	Principal Engineer	0.0	$ 215.00	$	-
Terry Moore	Operations Manager	0.0	$ 145.00	$	-
Terry Moore	Operations Manager (Overtime)	0.0	$ 195.00	$	-
Sean Grant	Sr. Project Engineer	15.0	$ 145.00	$	2,175.00
Darrin Green	Staff Engineer	0.0	$ 90.00	$	-
Darrin Green	Staff Engineer-(Overtime)	0.0	$ 135.00	$	-
Anthony Vozza	Staff Engineer	0.0	$ 90.00	$	-
Abhishek Shah	Staff Engineer	125.5	$ 90.00	$	11,295.00
Brandon Brochue	Designer/Drafter		$ 85.00	$	-
			Subtotal Maintenance:	**$**	**13,470.00**

Task 12.0 - As-Needed Services

Additional General/Excess Liability Insurance Fee:	**$**	**-**
Subtotal 12.0:	**$**	**-**
TOTAL AMOUNT DUE THIS INVOICE:	**$**	**80,698.58**

MOTOR CITY ELECTRIC TECHNOLOGIES INC.
AUTOMATION AND CONTROLS SOLUTIONS
9440 GRINNELL
DETROIT, MI 48213-1151
PHONE (313) 921-5300 FAX (313) 921-5310
"AN EQUAL OPPORTUNITY EMPLOYER"

INVOICE

OMID
ONE PUBLIC WORKS DRIVE, BUILDING 95
WATERFORD, MI 48328-

SID LOCKHART

Customer PO Number	Job Number	Sub Job	Contract Number	Date Performed	Application Date	Application Number
5469	923567	0	001	4/10/2023	5/3/2023	95127

Item No	Description of Work	Contract Amount	Previous Billings	Current Amount	To Date Complete & Stored	Balance To Finish	Current Retainage
001	T&MNESP SCADA	$90.00	-	$90.00	$90.00	-	-
	Totals:	**$90.00**		**$90.00**	**$90.00**		
	Less Retained:			-			
	Invoice Total:			**$90.00**			

AS NEEDEDELECTRICAL AND ENGINEERING SERVICE

82912-6010101-149130-730660-5469-Ch.21- v#7755 - li#41132- exp 12/31/23

SEE ATTACHED INVOICE SUMMARY AND FIELD REPORT

TM-5-3-23

WORK ORDER NO. 00918

WORK COMPLETED 4/10/2023

complete electrical construction

"We herby certify that the articles and services covered by this invoice were produced and performed in compliance with all applicable requirements of Section 6, 7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof."

MOTOR CITY ELECTRIC TECHNOLOGIES INC.
AUTOMATION AND CONTROLS SOLUTIONS
9440 GRINNELL
DETROIT, MI 48213-1151
PHONE (313) 921-5300 FAX (313) 921-5310
"AN EQUAL OPPORTUNITY EMPLOYER"

INVOICE

OMID
ONE PUBLIC WORKS DRIVE, BUILDING 95
WATERFORD, MI 48328-

SID LOCKHART

Customer PO Number
5469

Job Number	Sub Job	Contract Number	Date Performed	Application Date	Application Number
923567	0	001	3/24/2023	5/3/2023	95128

Item No	Description of Work	Contract Amount	Previous Billings	Current Amount	To Date Complete & Stored	Balance To Finish	Current Retainage
001	T&MNESP SCADA	$342.00	-	$342.00	$342.00	-	-
	Totals:	**$342.00**		**$342.00**	**$342.00**		
	Less Retained:			-			
	Invoice Total:			**$342.00**			

AS NEEDED ELECTRICAL AND ENGINEERING SERVICE

SEE ATTACHED INVOICE SUMMARY AND FIELD REPORT

82912-6010101-149090-730660-5469-Ch.21- v#7755 - li#41132- exp 12/31/23

4/18/2023
TM-5-3-23

WORK ORDER NO. 00899

WORK PERFORMED 3/24/2023 AND 3/28/2023

complete electrical construction

"We herby certify that the articles and services covered by this invoice were produced and performed in compliance with all applicable requirements of Section 6, 7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof."

MOTOR CITY ELECTRIC TECHNOLOGIES INC.
AUTOMATION AND CONTROLS SOLUTIONS
9440 GRINNELL
DETROIT, MI 48213-1151
PHONE (313) 921-5300 FAX (313) 921-5310
"AN EQUAL OPPORTUNITY EMPLOYER"

INVOICE

OMID
ONE PUBLIC WORKS DRIVE, BUILDING 95
WATERFORD, MI 48328-

Customer PO Number
5469

Job Number	Sub Job	Contract Number	Date Performed	Application Date	Application Number
923567	0	001	4/5/2023	5/3/2023	95129

SID LOCKHART

Item No	Description of Work	Contract Amount	Previous Billings	Current Amount	To Date Complete & Stored	Balance To Finish	Current Retainage
001	T&MNESP SCADA	$180.00	-	$180.00	$180.00	-	-
	Totals:	**$180.00**		**$180.00**	**$180.00**		
	Less Retained:			-			
	Invoice Total:			**$180.00**			

AS NEEDED ELECTRICAL AND ENGINEERING SERVICE

SEE ATTACHED INVOICE SUMMARY AND FIELD REPORT

82912-6010101-149130-730660-5469-Ch.21- v#7755 - li#41132- exp 12/31/23

TM- 5-3-23

WORK ORDER NO. 00902

WORK COMPLETED 4/5/2023

complete electrical construction

"We herby certify that the articles and services covered by this invoice were produced and performed in compliance with all applicable requirements of Section 6, 7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof."

NTH Consultants, Ltd.
Infrastructure Engineering
and Environmental Services

84917 - 6010101 - 149015 - 730639 - 2603 - 1-3308 - Ch.21 v#4716 - li#24138 - exp. 12/31/23

OMI Drain Drainage District
One Public Works Drive
Building 95 West
Waterford, MI 48328

Invoice # : 632668
Project : 61-190078
Invoice Group : NI-EA
Invoice Date : 5/3/2023

Attention: Sid Lockhart

For Professional Services Rendered from **3/25/2023** - **4/21/2023**

Engineering Design Services for Rehabilitation of NI-EA Sections PCI-4

Task 01	**Project Management**	**$276,159.00**
Task 02	**Condition Assessment**	**$241,609.00**
Task 03	**Subsurface Utility Engineering**	**$65,579.00**
Task 04	**Basemap Survey**	**$89,327.00**
Task 05	**Geotechnical Investigation**	**$134,797.00**
Task 05A	**7-Mile Utility Exploration/Design**	**$0.00**
Task 05B	**Additional Geotech for PCI-4 Shaft**	**$0.00**
Task 06	**Environmental Study**	**$60,642.00**
Task 07	**Basis of Design**	**$379,785.00**
Task 08	**Rehabilitation Design**	**$282,099.00**
Task 09	**Contract Drawings**	**$235,070.00**
Task 10	**Contract Specifications**	**$188,178.00**
Task 11	**Construction Costs**	**$27,761.00**
Task 12	**Permits & Coordination**	**$25,655.00**
Task 13	**Bidding Assistance**	**$198,402.00**
Task 14	**Gate Automation**	**$68,770.00**
Task 15	**Odor & Air Flow Study**	**$103,470.00**
	Preliminary Budget Amount	**$2,377,303.00**
	Percent Complete:	98.60%

Analysis of Costs		**This Invoice**	**Cumulative**
Direct Salaries		$ 3,820.78	$ 344,486.49
Overhead %	188.00	7,183.07	647,634.63
Total Regular Labor Expense		11,003.85	992,121.12
Total Direct Labor		11,003.85	990,499.95
Profit / Fixed Fee %	12.00	1,320.46	119,054.51
Direct Expenses Charge		225.69	30,633.17
Expense Multiplier %	5.00	11.29	1,531.70
Direct Subcontractor Charge		826.94	1,132,722.90
Subcontractor/Subconsultant Multiplier %	6.00	49.62	67,963.51
Total Other Direct Charges Reimbursables		1,113.54	1,232,851.28
Total Costs:		**13,437.85**	**2,344,026.91**
Total Due This Invoice		**$ 13,437.85**	**$ 2,344,026.91**

NTH Consultants, Ltd.
Infrastructure Engineering
and Environmental Services

84917- 6010101 - 149015 - 731444 - 2603 - 1-3308- ch 21 - engcon v#4716 - li#24138 - exp. 12/31/23

OMI Drain Drainage District
One Public Works Drive
Building 95 West
Waterford, MI 48328

Invoice # : 632669
Project : 61-200186
Invoice Group : **
Invoice Date : 5/3/2023

Attentior Sid Lockhart

For Professional Services Rendered from **3/25/2023 - 4/21/2023**

Provide Engineering Services for OMID NI-EA Contract No.1 PCI-4 Rehabilitation Project and CS-9 Gate Installation Project D-425

Task 01	**NI-EA OMID Contract No. 1 CCA**	**$2,262,847.00**
Task 02	**OMID CS-9 Gate CCA**	**$217,468.00**
	Preliminary Budget Amount	**$2,480,315.00**
	Percent Complete:	95.23%

Analysis of Costs		**This Invoice**	**Cumulative**
Direct Salaries		$ 25,376.44	$ 530,389.18
Overhead %	188.00	47,707.71	997,131.67
Total Regular Labor Expense		73,084.15	1,527,520.85
Total Direct Labor		73,084.15	1,527,520.85
Profit / Fixed Fee %	12.00	8,770.10	183,302.53
Direct Expenses Charge		3,738.99	43,171.91
Expense Multiplier %	5.00	186.95	2,158.58
Direct Subcontractor Charge		4,023.78	571,531.15
Subcontractor/Subconsultant Multiplier %	6.00	241.42	34,291.94
Direct Unit Rate Charge		0.00	0.00
Total Other Direct Charges Reimbursables		8,191.14	651,153.58
Total Costs:		**90,045.39**	**2,361,976.96**
Total Due This Invoice		**$ 90,045.39**	**$ 2,361,976.96**

NTH Consultants, Ltd.
Infrastructure Engineering
and Environmental Services

82912 - 6010101 - 149662 - 731458- 2603 - Ch. 21 - v#238 - li#24138 - exp. 12/31/23

OMI Drain Drainage District
One Public Works Drive
Building 95 West
Waterford, MI 48328

Invoice # : 632672
Project : 61210124
Invoice Group : **
Invoice Date : 5/3/2023

Attention: Sid Lockhart

For Professional Services Rendered from **3/25/2023 - 4/21/2023**

Consulting Services Regarding 2021 OMID System Inspection

Task 01 Inspection and Reporting **$526,974.00**
Preliminary Budget Amount **$526,974.00**
Percent Complete: 55.49%

Analysis of Costs		**This Invoice**	**Cumulative**
Direct Salaries		$ 0.00	$ 17,282.55
Overhead %	188.00	0.00	32,491.18
Total Regular Labor Expense		0.00	49,773.73
Total Direct Labor		**0.00**	0.00
Profit / Fixed Fee %	12.00	**0.00**	5,972.85
Direct Expenses Charge		0.00	855.92
Expense Multiplier %	5.00	0.00	42.82
Direct Subcontractor Charge		691.55	222,417.95
Subcontractor/Subconsultant Multiplier %	6.00	41.49	13,345.08
Direct Unit Rate Charge		0.00	0.00
Total Other Direct Charges Reimbursables		**733.04**	236,661.77
Total Costs:		**733.04**	**292,408.35**
Total Due This Invoice		**$ 733.04**	**$ 292,408.35**

NTH Consultants, Ltd.
Infrastructure Engineering
and Environmental Services

82912 - 149090 - 730639 - 2603 - Ch 21 - v#4716 exp. 12/31/23
li#24138

OMI Drain Drainage District
One Public Works Drive
Building 95 West
Waterford, MI 48328

Invoice # : 632673
Project : 61-210313
Invoice Group : **
Invoice Date : 5/3/2023

Attention Sid Lockhart

For Professional Services Rendered from **3/25/2023 - 4/21/2023**

Consulting Services Regarding Additional OMID Rehabilitation Program 2021 Closeout Services and As-Needed NESPS Maintenance Tasks

Task 01	**Contract 3 NESPS Rehab Closeout**	**$9,563.00**
Task 02	**PCI-4 Liner Deterioration Closeout**	**$10,939.00**
Task 03	**Discharge Pipe Coating Rehabilitation**	**$27,930.00**
Task 04	**NESPS Wet Well Sediment Survey**	**$19,639.00**
	Preliminary Budget Amount	**$68,071.00**
	Percent Complete:	75.30%

Analysis of Costs		**This Invoice**	**Cumulative**
Direct Salaries		$ 887.75	$ 9,637.11
Overhead %	188.00	1,668.97	18,117.75
Total Regular Labor Expense		2,556.72	27,754.86
Total Direct Labor		**2,556.72**	27,754.86
Profit / Fixed Fee %	12.00	**306.81**	3,330.58
Direct Expenses Charge		126.24	126.24
Expense Multiplier %	5.00	6.31	6.31
Direct Subcontractor Charge		0.00	19,087.24
Subcontractor/Subconsultant Multiplier %	5.00	0.00	954.38
Total Other Direct Charges Reimbursables		**132.55**	**20,174.17**
Total Costs:		**2,996.08**	**51,259.61**
Total Due This Invoice		**$ 2,996.08**	**$ 51,259.61**

PM TECHNOLOGIES

PM Technologies
28294 Beck Road, Wixom, Michigan 48393 United States
(248) 374-6405

BILL TO
County Of Oakland
A Michigan Constitional Corp
Detroit, MI 48234 USA

82912-6010101-149090-730660-5821 - CH. 21

INVOICE	INVOICE DATE
76648827	Mar 28, 2023

JOB ADDRESS
Northeast Sewage Pumping Station - Generator 1
11001 East State Fair Avenue
Detroit, MI 48234 USA

Completed Date: 3/1/2023
Customer PO: 00876
Payment Term: NET 10 DAYS
Due Date: 4/7/2023

TASK	DESCRIPTION	QTY	PRICE	TOTAL
Comm Service Call	Commercial Service Call	1.00	$205.00	$205.00
CAT/KATO A269500000 13669-05				
CLAB	Commercial Labor	4.41	$129.00	$568.89
CAT/KATO A269500000 13669-05				

TM-4-12-23

SUB-TOTAL	$773.89
TOTAL DUE	$773.89
BALANCE DUE	$773.89

Thank you for choosing PM Technologies

Invoice

YORK 50 1971-2021
611 Andre Street
Bay City, MI 48706
989-684-7460
www.yorkrepair.com
www.repairzone.com

Customer Number	Invoice Number
OCW985	MRI-13903

Contact	Order Date	Shipped Date	Invoice Date
Terry Moore	2/9/2023	3/28/2023	3/29/2023

Bill To

Oakland County Water Resources
Attn: Accounts Payable
155 N Opdyke Road
PONTIAC, MI 48342

Ship To

Kennedy Industry
4925 Holtz Drive
WIXOM, MI 48393

Ship Via	Terms	Received By	Customer PO	Original Order #
York Driver	Net 30	Steve Bell	Contract 9230	A4101

ID	M15051	Model	80DLFMU650.54	Job Type	Pump
Make	Ebara	Serial #	C7535/1/1		

	Qty	Ship	Description	Sales Price		Total
			AC Motor Recondition: Pickup by our truck, disassemble & inspect, detailed mechanical inspection, clean parts, bake & reinsulate windings, dynamic balance, paint parts, install new bearings, surge test, re-assemble and run test, paint, Weld, Clean / sand blast parts, Replace seals, Rebuild pump assembly			5,450.00

REBUILD SUBMERSIBLE PUMP USING OEM PARTS
- Price Includes New Cord Assembly

Reason for Repair

Repair pump
Submersible 7.5hp 460v 10.8amps

Tech/Follow-Up	Shipper #
SU	0118976

82912-149090-730660-vid# 14371
Cont #6527-Exp 11/15/26

4/18/2023

TM - 4-6-23

PLEASE NOTE: Remittance advice should be emailed to accountsreceivable@yorkrepair.com to ensure payment is posted accurately. Send invoice inquiries to accountsreceivable@yorkrepair.com or call 989-684-7460

	Subtotal:	5,450.00
	Freight:	0.00
	Other:	0.00
0.0000 %	Sales Tax 1:	0.00
0.0000 %	Sales Tax 2:	0.00
	Total:	5,450.00

Thank You!

Our Tax ID: 38-2185614

Your Tax ID:

Sales Tax Code 1: No Sales Tax on Sales

Agenda Item No. 12

Other Business

Agenda Item No. 13

Adjourn