Structural Inspection & Structural Improvements Photo Submitted by: Kashmira Patel of Wastewater Operating Services



# FY2025-2029

CIP

PROPOSED CAPITAL IMPROVEMENT PLAN

Updated January 12, 2024

Appendix C: Centralized Services Business Case Evaluation (BCE)

> **96-Inch Water Transmission Main Relocation and Isolation Valve Installations** Photo Submitted by: Corey Brecht of Water and Field Services



Project Status: Project Execution - Design CIP Type: Program Class Lvl 1: Centralized Services Class Lvl 2: Programs Class Lvl 3: Programs Project New to CIP Useful Life > 20 Yrs Multiple Phases	<ul> <li>Innovation</li> <li>WW Master Plan</li> <li>Water Master Plan Right Sizing</li> <li>Wet Weather Resiliency</li> <li>Redundancy</li> <li>Predecessor Project(s)</li> <li>Linear Assets Outside of Facilities</li> <li>CSO</li> <li>Pumps</li> <li>Storage</li> <li>Treatment</li> </ul>	Great Lakes Water Authority
Project Manager: Peter Fromm Director: Tim Kuhns Managing Dept.: Water Eng	Date Original Business Case Prepared: 9/30/2006 Year Project Added to CIP: 2006 CIP Budget: Water	Project Jurisdiction: Multiple Counties Lookup Location: System-wide Funds and Cost Center: Water - 5519-882411 (Field Engineering)
From Program? Program Number: Delivery Method: DBB (Design-Bid-Build) Delivery Method Details:	☐ Is a Predecessor Project? Successor Projects: Predecessor Projects:	Collaboration Opportunities: No Partners: Collaboration Entity:





#### **Problem Statement:**

GLWA engineering and operations needed a contract mechanism to obtain professional engineering services in a timely manner to investigate environmental, geotechnical and specialized engineering problems that occur on a regular basis throughout the system.

#### Scope of Work/Project Alternatives:

This engineering/technical services contract involves as-needed engineering and technical services related to geotechnical investigations, related geotechnical engineering, construction materials sampling and testing, environmental media sampling and testing, soils sampling and testing, land surveying, corrosion testing and inspection, computer-aided design, and construction inspection. This contract includes design, construction services, and resident project representation for the follow transmission main projects:

- 1. Park-Merriman 24-inch Water Main
- 2. Wick Road 48-inch Transmission Main
- 3. Schoolcraft Road 48-inch Transmission Main

#### **Other Important Info:**

N/A

#### Primary Driver: Varies

#### **Driver Explanation:**

Due to the nature, size and complexity of the GLWA water system, this CIP provides timely access to specialized engineering Services needed.





# Scoring

Project Manager Weighted Score:	0		
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score:	0	
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	





Phase Budget:       Start Date:       1/1/2023         Phase Status:       End Date:       6/15/2023         Phase Comments/Description:       Cost Est. Class:       Cost Est. Source:         Cost Est. Class:       Cost Est. Source:       Cost Est. Prenared By:	Phase: GLWA Salaries Phase Title: GLWA Salaries			
Phase Status:     End Date:     6/15/2023       Phase Comments/Description:     Cost Est. Class:     Cost Est. Source:       Cost Est. Class:     Cost Est. Source:       Cost Est. Date:     Cost Est. Prepared By:	Phase Budget:	Start Date:	1/1/2023	
Phase Comments/Description:         Cost Est. Class:       Cost Est. Source:         Cost Est. Date:       Cost Est. Prenared By:	Phase Status:	End Date:	6/15/2023	
Cost Est. Class: Cost Est. Source: Cost Est. Date: Cost Est. Prepared By:	Phase Comments/Description:			
Cost Est Date: Cost Est Prenared By:	Cost Est. Class:	Cost Est. Source:		
	Cost Est. Date:	Cost Est. Prepared By:		

# Phase Total Expenses By FY (All figures are in \$1,000's)

"Total Costs" include costs outside of the 10 year planning window

## \*Design & Construction costs are inclusive of salaries where salaries are not defined

	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Salaries											

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	1/1/2023	6/15/2023
Capital Delivery Salary (Fringes)	1/1/2023	6/15/2023
Other Capital Improvement Costs	1/1/2023	6/15/2023
Capitalized Interest	1/1/2023	6/15/2023





Phase: Professional Services			
Phase Title: Professional Services			
Phase Budget:	Start Date:	1/1/2023	
Phase Status:	End Date:	6/15/2023	
Phase Comments/Description:			
Cost Est. Class:	Cost Est. Source:		
Cost Est. Date:	Cost Est. Prepared By:		

## Phase Total Expenses By FY (All figures are in \$1,000's)

"Total Costs" include costs outside of the 10 year planning window

\*Design & Construction costs are inclusive of salaries where salaries are not defined

	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
Professional	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Services											

Activity Name	Start Date	End Date
Contractual Professional Services	1/1/2023	6/15/2023





Phase:       Construction (Build) # 1 (CS-259)         Phase Title:       Construction (Build) # 1 (CS-259)									
Phase Budget:	Water	Start Date:	1/1/2023						
Phase Status:	Future Planned Start	End Date:	6/15/2023						
Phase Comments Engineering Servic	/Description: es Contract CS-259, Somat	Engineering (active)							
Cost Est. Class: C	Cost Est. Class: Class 1 Cost Est. Source: Somat's-Executed Contract								
Cost Est. Date: 10/1/2018 Cost Est. Prepared By: Somat									

## Phase Total Expenses By FY (All figures are in \$1,000's)

"Total Costs" include costs outside of the 10 year planning window

## \*Design & Construction costs are inclusive of salaries where salaries are not defined

	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
Construction (Build) # 1 (CS-259)	\$11	\$0	\$0	\$11	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Activity Name	Start Date	End Date
Design/Engineering	1/1/2023	6/15/2023
Construction (net-zero cost account to be archived)	1/1/2023	6/15/2023





## Current Expenses (All figures are in \$1,000's)

## "Total Costs" include costs outside of the 10 year planning window

#### \*Design & Construction costs are inclusive of salaries where salaries are not defined

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Build) # 1 (CS-259)	\$11	\$0	\$0	\$11	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$10	\$0	\$0	\$11	\$0	\$0	\$0	\$0	\$0	\$0	\$0

#### Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2018	\$1,906	\$650	\$907	\$333	\$333	\$333	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,556
2019	\$1,669	\$230	\$238	\$477	\$477	\$477	\$238	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,137
2020	\$0	\$0	\$0	\$620	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$620
2021	\$715	\$0	\$0	\$0	\$1,415	\$715	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,130
2022	\$456	\$0	\$0	\$0	\$771	\$904	\$456	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,131
2023	\$0	\$0	\$0	\$0	\$0	\$0	\$602	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$602
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11	\$0	\$0	\$0	\$0	\$0	\$0	\$11

#### Reporting Period 61: Ending FY24 M04 Oct

Total Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
\$10,820	\$0	\$10,820	\$0	\$0	\$0	\$0	\$0	\$0	\$0

#### **Description of CIP Changes:**

Updated this CIP to reflect the work being conducted under its associated engineering contract, CS-259 (formerly CS-1488) PF 8/9/2019





Project Status: Active - Pre-Procurement - Design CIP Type: Program Class Lvl 1: Centralized Services Class Lvl 2: Programs Class Lvl 3: Programs □ Project New to CIP ☑ Useful Life > 20 Yrs □ Multiple Phases Project Score 0	<ul> <li>Innovation</li> <li>WW Master Plan</li> <li>Water Master Plan Right Sizing</li> <li>Wet Weather Resiliency</li> <li>Redundancy</li> <li>Predecessor Project(s)</li> <li>Linear Assets Outside of Facilities</li> <li>CSO</li> <li>Pumps</li> <li>Storage</li> <li>Treatment</li> </ul>	
Project Manager: Eric Griffin Director: John Norton Managing Dept.: Energy Management	Date Original Business Case Prepared: 8/18/2016 Year Project Added to CIP: 2016 CIP Budget: Water	Project Jurisdiction: Multiple CountiesLookup Location: System-wideFunds and Cost Center: Water - 5519-882111(Water Treatment Plants (WTP))
From Program? Program Number: Delivery Method: DBB (Design-Bid-Build) Delivery Method Details:	Is a Predecessor Project? Successor Projects: Predecessor Projects:	Collaboration Opportunities: No Partners: Collaboration Entity:





#### **Problem Statement:**

This includes advanced meters for measuring power usage in real-time to reduce the electrical demands and further optimize load management practices,

GLWA experienced a lot of power outages at facilities. The installation of the New Power Monitors provide real wave form data to determine the cause of the outages and the time period of sagging or swelling voltage which effects the integrity of the equipment. MFG 7/25/2019

#### Scope of Work/Project Alternatives:

This program will increase the number of electric meters at pumping stations and treatment facilities to facilitate active demand management to reduce electricity rates. The meters can be tied to the existing data management system for data archival and use. The installation of the New Power Monitors will provide real wave form data to determine the cause of outages and the time period of sagging or swelling voltage which effects the integrity of equipment. MFG 07/25/2019

#### **Other Important Info:**

Project History: Project will find high demand (kW) sites i.e all the water treatment plants (Phase 1) We would like to change the project to design build and move up on the CIP. The outages are affecting the pressures resulting in water main breaks and boil water advisories, This will help to better communicate DTE problems that occur and lead to solutions to improve the process or equipment. MFG 7/25/2019

#### Primary Driver: 2 - Performance

#### **Driver Explanation:**

The outages were affecting our pressures resulting in water main breaks and boil water advisories, This will help communicate DTE problems that occur and lead to solutions to improve the process or equipment.





# Scoring

Project Manager Weighted Score:	0		
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score:	0	
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	





Phase: GLWA Salaries Phase Title: GLWA Salaries									
Phase Budget: Phase Status:	Water Future Planned Start	Start Date: End Date:	3/31/2025 6/30/2031						
Phase Comments/E	Description:								
Cost Est. Class: Cost Est. Date:		Cost Est. Source: Cost Est. Prepared By:							

## Phase Total Expenses By FY (All figures are in \$1,000's)

"Total Costs" include costs outside of the 10 year planning window

## \*Design & Construction costs are inclusive of salaries where salaries are not defined

	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA	\$125	\$0	\$0	\$0	\$5	\$20	\$20	\$20	\$20	\$85	\$40
Salaries											

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	3/31/2025	6/30/2031
Capital Delivery Salary (Fringes)	3/31/2025	6/30/2031





Phase:       Design/Engineering         Phase Title:       Design/Engineering									
Phase Budget:	Water	Start Date:	3/31/2025						
Phase Status:	Future Planned Start	End Date:	0/30/2031						
Phase Comments/E	Description:								
Cost Est. Class: Class 1 Cost Est. Date:		Cost Est. Source: Cost Est. Prepared By:							

## Phase Total Expenses By FY (All figures are in \$1,000's)

"Total Costs" include costs outside of the 10 year planning window

\*Design & Construction costs are inclusive of salaries where salaries are not defined

	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
	\$5,000	\$0	\$0	\$0	\$0	\$0	\$999	\$1,002	\$999	\$3,001	\$1,999
Design/Engine											
ering											

Activity Name	Start Date	End Date
Design/Engineering	12/1/2025	6/30/2026
Construction (DB)	3/31/2025	6/30/2031





#### Current Expenses (All figures are in \$1,000's)

#### "Total Costs" include costs outside of the 10 year planning window

#### \*Design & Construction costs are inclusive of salaries where salaries are not defined

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	\$125	\$0	\$0	\$0	\$5	\$20	\$20	\$20	\$20	\$85	\$40
Design/Engineering	\$5,000	\$0	\$0	\$0	\$0	\$0	\$999	\$1,002	\$999	\$3,001	\$1,999
Totals	\$5,125	\$0	\$0	\$0	\$5	\$20	\$1,020	\$1,022	\$1,020	\$3,086	\$2,039

## Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2018	\$5,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,000
2019	\$1,628	\$0	\$0	\$0	\$120	\$120	\$510	\$878	\$4,372	\$0	\$0	\$0	\$0	\$0	\$6,000
2020	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000	\$0	\$0	\$0	\$0	\$5,000
2021	\$3,880	\$0	\$0	\$0	\$86	\$446	\$1,540	\$1,337	\$112	\$445	\$2,904	\$0	\$0	\$0	\$6,870
2022	\$1,379	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$27	\$223	\$1,129	\$1,153	\$92	\$0	\$2,624
2023	\$2,623	\$0	\$0	\$0	\$0	\$0	\$0	\$567	\$1,298	\$759	\$0	\$0	\$0	\$0	\$2,623
2024	\$2,468	\$0	\$0	\$0	\$0	\$0	\$0	\$155	\$680	\$1,022	\$768	\$0	\$0	\$0	\$2,623

#### Reporting Period 61: Ending FY24 M04 Oct

Total Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
\$5,125,444	\$0	\$0	\$5,055	\$20,056	\$1,019,508	\$1,022,302	\$1,019,508	\$3,086,428	\$2,039,016

#### **Description of CIP Changes:**

Other initiatives are presenting themselves. Wastewater and water deferred this project to 2025. Standard installation of electric meters in WW CIP programs. Better understanding of Snyder electrical monitoring system and Aquasight projects. The need for this project has changed due to DTE power outages. The outages we are having are affecting our preassuers that are causing water main breaks and boil water advisories, We need this to better communicate DTE problems that we are faced with and come up with solutions to improve the process or equipment. MFG 7/25/2019

The program will be utilized for water powering electric metering only. The change will remove Wastewater from scope of program unless determined in the future the need. EG 8/25/2020.





<ul> <li>Project Status: Future Planned - Within Five Year Plan</li> <li>CIP Type: Program</li> <li>Class Lvl 1: Centralized Services</li> <li>Class Lvl 2: General Purpose</li> <li>Class Lvl 3: General Purpose</li> <li>Project New to CIP</li> <li>Useful Life &gt; 20 Yrs</li> <li>Multiple Phases</li> <li>Project Score</li> </ul>	<ul> <li>Innovation</li> <li>WW Master Plan</li> <li>Water Master Plan Right Sizing</li> <li>Wet Weather Resiliency</li> <li>Redundancy</li> <li>Predecessor Project(s)</li> <li>Linear Assets Outside of Facilities</li> <li>CSO</li> <li>Pumps</li> <li>Storage</li> <li>Treatment</li> </ul>	Great Lakes Water Authority
0		
Project Manager: Douglas Atkinson Director: Paula Anderson Managing Dept.: Fleet and Facilities	Date Original Business Case Prepared: 9/30/2020 Year Project Added to CIP: 2020 CIP Budget: Water	<ul> <li>Project Jurisdiction: Multiple Counties</li> <li>Lookup Location: Multiple Counties</li> <li>Funds and Cost Center: Water - 5519-882111 (Water Treatment Plants (WTP))</li> </ul>
From Program? Program Number:	Is a Predecessor Project? Successor Projects:	Collaboration Opportunities: No Partners:
Delivery Method Details:	Predecessor Projects:	Collaboration Entity:





#### **Problem Statement:**

Cracks and deterioration have been identified in masonry walls, exterior concrete, retaining walls, concrete decks and floor repair or replacement causing safety concerns. Repair or replacement is needed to address this deterioration

#### Scope of Work/Project Alternatives:

For NE WTP: Analyze the movement and moisture penetration problem, rebuild portions of masonry and concrete walls, floors, roof parapets and deck elements. For SW WTP: Assess the panels and support structure, replace panels, repair or restore rusted steel

members. For Imlay City: Remove or rebuild retaining walls to withstand soils pressure.

#### Other Important Info:

Three sites have been identified for this project all have some failing concrete. 1)Northeast WTP 2)Southwest WTP 3) Imlay City Pumping Station

Primary Driver: 1 - Condition

#### **Driver Explanation:**

Poor condition.





# Scoring

Project Manager Weighted Score:	0		
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

<b>Review Committee Weighted Score:</b>	0	
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	





Phase: GLWA Salaries Phase Title: GLWA Salaries										
Phase Budget: Phase Status:	Water Future Planned Start	Start Date: End Date:	7/1/2033 6/30/2037							
Phase Comments/E	Description:									
Cost Est. Class: Cost Est. Date:		Cost Est. Source: Cost Est. Prepared By:								

Phase Total Expenses By FY (All figures are in \$1,000's)

"Total Costs" include costs outside of the 10 year planning window

\*Design & Construction costs are inclusive of salaries where salaries are not defined

	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA	\$230	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$57
Salaries											

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2033	6/30/2037





Phase: TBD/Unallocated Phase Title: TBD/Unallocated										
Phase Budget: Phase Status:	Water Future Planned Start	Start Date: End Date:	7/1/2027 6/30/2037							
Phase Comments/I	Description:									
Cost Est. Class: Cost Est. Date:		Cost Est. Source: Cost Est. Prepared By:								

## Phase Total Expenses By FY (All figures are in \$1,000's)

"Total Costs" include costs outside of the 10 year planning window

\*Design & Construction costs are inclusive of salaries where salaries are not defined

	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
	\$24,770	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,188
TBD/Unallocat											
ed											

Activity Name	Start Date	End Date
TBD/Unallocated	7/1/2027	6/30/2037





#### Current Expenses (All figures are in \$1,000's)

#### "Total Costs" include costs outside of the 10 year planning window

#### \*Design & Construction costs are inclusive of salaries where salaries are not defined

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	\$230	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$57
TBD/Unallocated	\$24,770	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,188
Totals	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,246

# Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2023	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,997	\$5,011	\$25,000
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000

## Reporting Period 61: Ending FY24 M04 Oct

Total Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
\$25,000,001	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,245,723

#### **Description of CIP Changes:**

This program is new to the CIP. DA 9/1/20.