



08

APPENDIX B: WASTEWATER BUSINESS CASE EVALUATION

FY 2026-2030
December 3, 2024



Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF PS No. 2 Pumping Improvements - Phase 1

Project Manager: Vinod Sharma

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 4/30/2003

Year Project Added to CIP: 2003

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Problem Statement:

Correct drifting issues of pumps and meet long term wet weather capacity needs

Scope of Work/Project Alternatives:

This project involves evaluating and recommending alternatives for providing more reliable pumping capacity at Pump Station No. 2 for Pumps Nos. 11 and 14.

Other Important Info:

Challenges: Unable to improve the drift issues experienced at pump station 2.

Primary Driver: N/A - Active

Driver Explanation:

N/A - Active

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

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	

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 8/11/2010

Phase Status: Project Execution

End Date: 7/1/2025

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source:

Cost Est. Date: 9/17/2018

Cost Est. Prepared By: P. Kora

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$346	\$346	\$346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	8/11/2010	7/1/2025
Capital Delivery Salary (Fringes)	8/11/2010	7/1/2025

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: Design & Construction Assistance # 1 (CS-255)

Phase Title: Design & Construction Assistance # 1 (CS-255)

Phase Budget: Wastewater

Start Date: 8/11/2010

Phase Status: Closed Out

End Date: 6/19/2020

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: Arcadis

Cost Est. Date: 10/2/2017

Cost Est. Prepared By: Ali Khraizat

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design & Construction Assistance # 1 (CS-255)	\$157	\$157	\$157	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-255)	8/11/2010	6/19/2020

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: Design/Engineering (CS-1444)

Phase Title: Design/Engineering (CS-1444)

Phase Budget: Wastewater

Start Date: 7/1/2015

Phase Status: Closed Out

End Date: 6/29/2018

Phase Comments/Description:

old

Cost Est. Class: Class 1

Cost Est. Source: MMP

Cost Est. Date: 6/8/2023

Cost Est. Prepared By: MMP

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-1444)	\$64	\$64	\$64	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1444)	7/1/2015	6/29/2018

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: Design/Engineering (MISC)

Phase Title: Design/Engineering (MISC)

Phase Budget: Wastewater

Start Date: 8/11/2010

Phase Status: Cancelled

End Date: 7/9/2019

Phase Comments/Description:

Invalid delete - not in C&S sheet no N3. I dont know what this is.. please remove

Cost Est. Class: Class 1

Cost Est. Source: MMP

Cost Est. Date: 6/8/2023

Cost Est. Prepared By: MMP

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (MISC)	\$20	\$20	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (MISC)	8/11/2010	7/9/2019

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: Design/Engineering (1900318)**Phase Title:** Design/Engineering (1900318)

Phase Budget: Wastewater**Start Date:** 10/4/2021**Phase Status:** Project Execution**End Date:** 11/30/2024

Phase Comments/Description:

Amendment #2 This amendment request for the extension of the TOES 20T completion time by 92 calendar days from May 31, 2023 to August 31, 2023. The original task was issued to Arcadis for reviewing the submittal for the Pump #14 performance test. It was decided to get Arcadis' assistance while the corrective action plan is implemented by the contractor. Executed 05/15/23

Cost Est. Class: Class 1**Cost Est. Source:** Arcadis of Michigan, LLC**Cost Est. Date:** 5/8/2023**Cost Est. Prepared By:** Arcadis of Michigan, LLC

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (1900318)	\$140	\$125	\$125	\$15	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	10/4/2021	11/30/2024

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: Construction (Build) # 1 (PC-795)

Phase Title: Construction (Build) # 1 (PC-795)

Phase Budget: Wastewater **Start Date:** 10/17/2016

Phase Status: Project Execution **End Date:** 7/1/2025

Phase Comments/Description:

no changes to cost or schedule; all item align for PC-795 in current state.

Cost Est. Class: Class 1

Cost Est. Source: Contract

Cost Est. Date: 7/31/2019

Cost Est. Prepared By: PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1 (PC-795)	\$3,275	\$2,044	\$2,044	\$1,227	\$4	\$0	\$0	\$0	\$0	\$4	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (PC-795)	10/17/2016	7/1/2025

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$346	\$346	\$346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design & Construction Assistance # 1 (CS-255)	\$157	\$157	\$157	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-1444)	\$64	\$64	\$64	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (MISC)	\$20	\$20	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (1900318)	\$140	\$125	\$125	\$15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Build) # 1 (PC-795)	\$3,275	\$2,044	\$2,044	\$1,227	\$4	\$0	\$0	\$0	\$0	\$4	\$0
Totals	\$4,002	\$2,755	\$2,756	\$1,242	\$4	\$0	\$0	\$0	\$0	\$4	\$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	\$1,920	\$1,157	\$1,304	\$616	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,533
2019	\$3,075	\$109	\$599	\$2,454	\$621	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,783
2020	\$1,222	\$0	\$322	\$2,268	\$1,222	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,812
2021	\$0	\$0	\$0	\$1,912	\$1,860	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,772
2022	\$0	\$0	\$215	\$1,589	\$210	\$1,326	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,340
2023	\$0	\$80	\$215	\$1,589	\$102	\$504	\$946	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,463
2024	\$164	\$80	\$215	\$1,589	\$102	\$504	\$117	\$863	\$164	\$0	\$0	\$0	\$0	\$0	\$3,662
2025	\$0	\$80	\$215	\$1,589	\$102	\$504	\$117	\$21	\$1,020	\$0	\$0	\$0	\$0	\$0	\$3,674

Reporting Period 72: Ending FY25 M03 Sep

Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$4,002,287	\$2,755,678	\$1,242,113	\$4,495	\$0	\$0	\$0	\$0	\$4,495	\$0

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Description of CIP Changes:

The project is delayed because of the field performance issues associated with new pump # 11.

2024 - Project is delayed further due to Pump 14 performance issues and pump 14 failure & necessary rehabilitation.

Project Title: WRRF PS No. 2 Improvements Phase II

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
77.4

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF PS No. 2 Improvements Phase II

Project Manager: Andy Kinel

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/27/2016

Year Project Added to CIP: 2014

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: WRRF PS No. 2 Improvements Phase II**Problem Statement:**

This project will improve the pump reliability of PS-2 to meet NPDES permit flow capacity requirements in terms of flow measurement, VFD controls, and future pump rehabilitation.

Scope of Work/Project Alternatives:

The primary phase of this project is: to provide basis of design (study) report for rehabilitation/rebuilding plan for existing pump station no. 2 and its control and any associated equipment. The study will evaluate the addition of VFDs to the three constant speed pumps and will not be limited to increasing the capacity of existing pumps to meet the long-term goal for wet weather capacity. Provide engineering design for rehabilitation/rebuilding of the pumps, replacement of HVAC System, I&C Improvements (i.e. automation, etc.), structural, architectural and electrical improvement and design for recommendations made by the study report. The services during construction will include construction assistance, such as reviewing shop drawings, responding to RFIs and attending progress meetings. Construction will follow after the completion of design.

This project has 2 other phases in it. Phase 2 is to replace the VFD's for the stormwater pumps for PS#2 and make necessary electrical improvements to facilitate future primary phase pump rehabilitation work - In design currently.

Phase 3 is to replace the Mag Meters for PS#2 - in construction currently.

Other Important Info:

Challenges: Shutdown of the pumps to be rehabilitated will require co-ordination with operations and careful planning to meet NPDES permit requirements for the flow capacity during the construction phase.

Project History: Pump Station No. 2 was built in 1994. Seven out of eight pumps are running since 1994. These pumps never attained the design capacity due to an unidentified drifting problem. The eighth pump (Pump No. 10) was installed under PC-740 with a modified suction elbow that provided better pumping capacity. The VFDs for five (5) pumps were also replaced in 2005 under PC-744 contract.

A new impeller was installed on Pump No. 9 and a rebuilt impeller was installed on Pump No. 16 in 2008, which provided sufficient improvements in pumping capacity. DWSD initiated a CS-1444/PC-795 PS-2 Pumping Improvements project to rehabilitate Pump No. 11 and Pump No. 14 to solidify the long-term wet weather capacity of 1700 MGD.

It was recommended to rehabilitate the remaining pumps with energy efficient, and more reliable control systems that require less maintenance.

Primary Driver: 1 - Condition

Driver Explanation:

The advantage of rehabilitating Pump Station No. 2 is to increase the long-term rated capacity, operational efficiency, and reliability of the pumping system. Replacement of the existing VFDs and adding new VFDs to constant speed pumps would also provide benefit.

Project Title: WRRF PS No. 2 Improvements Phase II

Scoring

Project Manager Weighted Score: 77.4			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	
Performance (Service Level/Reliability)	4	E. Not doing the project frequent and repetitive service interruption and/or reliability issues†	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,, C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total >=20%original value, E. Reduction (25% to 49%) in reactive maintenance	
Health and Safety	4	C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	
Public Benefit	3	F. Canceling project moderate chance of moderate neg. publicity	
Financial	2	C. Low positive impact on resource capacity	
Efficiency and Innovation	2	D. Little to no time and cost saving	

Review Committee Weighted Score: 77.4		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: WRRF PS No. 2 Improvements Phase II

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 12/3/2021

Phase Status: Project Execution

End Date: 6/3/2040

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$704	\$18	\$7	\$44	\$44	\$44	\$44	\$44	\$44	\$219	\$219

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	12/3/2021	6/3/2040
Capital Delivery Salary (Fringes)	12/3/2021	6/3/2040

Project Title: WRRF PS No. 2 Improvements Phase II

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 9/23/2019

Phase Status: Closed Out

End Date: 5/19/2025

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 2/1/2022

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$113	\$113	\$113	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72007B.01 / 72014A.01 / 72029A.05 / 72029A.06)	9/23/2019	5/19/2025

Project Title: WRRF PS No. 2 Improvements Phase II

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 12/2/2030

Phase Status: Future Planned Start

End Date: 6/3/2040

Phase Comments/Description:

Phase 1 - Pump Station 2 Rehabilitation

Cost Est. Class: Class 3

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$9,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,484

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	12/2/2030	6/3/2040

Project Title: WRRF PS No. 2 Improvements Phase II**Phase:** Design/Engineering (Phase #2)**Phase Title:** Design/Engineering (Phase #2)**Phase Budget:** Wastewater**Start Date:** 12/3/2021**Phase Status:** Project Execution**End Date:** 8/31/2028**Phase Comments/Description:**

Concerns with progress and notice to cure was issued to HDR. Change Order in Process + \$287,000 Use 210338 contract number vs. primary 1900318 to differentiate for this TO. Attached the cost estimate to documents. GLWA TOES Contract No. 1900318-4 (4000696) Task Order 22T (2103338) Pump Station 2 VFD Replacements HDR Michigan, Inc.

Cost Est. Class: Class 1**Cost Est. Source:** HDR**Cost Est. Date:** 3/15/2023**Cost Est. Prepared By:** HDR**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (Phase #2)	\$1,038	\$815	\$433	\$420	\$58	\$58	\$59	\$10	\$0	\$185	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (Phase #2 - 1900318)	12/3/2021	8/31/2028
Construction (1900318)	2/1/2024	8/31/2028

Project Title: WRRF PS No. 2 Improvements Phase II**Phase:** Design/Engineering (Phase #3)**Phase Title:** Design/Engineering (Phase #3)**Phase Budget:** Wastewater**Start Date:** 2/20/2022**Phase Status:** Cancelled**End Date:** 12/31/2023**Phase Comments/Description:**

There was no design, it was bid out as a replace in kind through Job Order Contract.

Cost Est. Class: Class 1**Cost Est. Source:** N/A**Cost Est. Date:** 5/3/2024**Cost Est. Prepared By:** N/A**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (Phase #3)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (Phase #3)	2/20/2022	12/31/2023

Project Title: WRRF PS No. 2 Improvements Phase II

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 12/4/2033

Phase Status: Future Planned Start

End Date: 6/3/2040

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$60,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$14,507

Phase Dates

Activity Name	Start Date	End Date
Construction (Ph 1)	12/4/2033	6/3/2040

Project Title: WRRF PS No. 2 Improvements Phase II

Phase: Pump Station #2 VFD Replacement

Phase Title: Pump Station #2 VFD Replacement

Phase Budget: Wastewater

Start Date: 8/1/2025

Phase Status: Active - Pre-Procurement

End Date: 8/31/2028

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: HDR

Cost Est. Date: 2/1/2023

Cost Est. Prepared By: HDR

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Pump Station #2 VFD Replacement	\$14,200	\$0	\$0	\$0	\$1,679	\$6,932	\$4,958	\$631	\$0	\$14,200	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Ph 2)	8/1/2025	8/31/2028

Project Title: WRRF PS No. 2 Improvements Phase II

Phase: Pump Station #2 Mag Meter Replacement for Raw Sewage Pumps

Phase Title: Pump Station #2 Mag Meter Replacement for Raw Sewage Pumps

Phase Budget: Wastewater

Start Date: 9/6/2023

Phase Status: Project Execution

End Date: 11/30/2024

Phase Comments/Description:

2104082 - LGC Contract awarded on 11/4/2023

Cost Est. Class: Class 1

Cost Est. Source: LGC

Cost Est. Date: 11/4/2023

Cost Est. Prepared By: LGC

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Pump Station #2 Mag Meter Replacement for Raw Sewage Pumps	\$979	\$5	\$5	\$974	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Ph 3) (2100330)	9/6/2023	11/30/2024

Project Title: WRRF PS No. 2 Improvements Phase II

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$704	\$18	\$7	\$44	\$44	\$44	\$44	\$44	\$44	\$219	\$219
Professional Services	\$113	\$113	\$113	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$9,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,484
Design/Engineering (Phase #2)	\$1,038	\$815	\$433	\$420	\$58	\$58	\$59	\$10	\$0	\$185	\$0
Design/Engineering (Phase #3)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Build) #1	\$60,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$14,507
Pump Station #2 VFD Replacement	\$14,200	\$0	\$0	\$0	\$1,679	\$6,932	\$4,958	\$631	\$0	\$14,200	\$0
Pump Station #2 Mag Meter Replacement for Raw Sewage Pumps	\$979	\$5	\$5	\$974	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$86,034	\$951	\$558	\$1,438	\$1,782	\$7,034	\$5,060	\$685	\$44	\$14,604	\$22,210

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	\$10,800	\$0	\$600	\$1,700	\$4,800	\$3,700	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,800
2019	\$19,025	\$0	\$7	\$0	\$515	\$115	\$9,294	\$9,101	\$3,055	\$0	\$0	\$0	\$0	\$0	\$22,087
2020	\$10,674	\$0	\$0	\$0	\$0	\$684	\$711	\$611	\$8,668	\$10,925	\$0	\$0	\$0	\$0	\$21,599
2021	\$3,665	\$0	\$0	\$1	\$0	\$0	\$0	\$471	\$2,245	\$949	\$30,384	\$0	\$0	\$0	\$34,050
2022	\$923	\$0	\$0	\$1	(\$1)	\$10	\$0	\$0	\$0	\$461	\$461	\$2,545	\$2,544	\$2,538	\$13,797
2023	\$7,000	\$0	\$0	\$0	\$0	\$2	\$0	\$0	\$2,333	\$2,333	\$2,333	\$0	\$2,000	\$11,611	\$67,002
2024	\$8,378	\$0	\$0	\$0	\$0	\$2	\$13	\$433	\$1,643	\$4,193	\$2,458	\$42	\$43	\$42	\$78,291
2025	\$13,379	\$0	\$0	\$0	\$0	\$2	\$13	\$365	\$403	\$2,419	\$6,758	\$4,110	\$45	\$45	\$83,609

Project Title: WRRF PS No. 2 Improvements Phase II

Reporting Period 72: Ending FY25 M03 Sep

Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$86,034,446	\$557,611	\$1,438,219	\$1,781,606	\$7,033,696	\$5,060,131	\$684,923	\$43,739	\$14,604,098	\$22,209,550

Description of CIP Changes:

Added additional detail and re-scored project

2024 - Updated phase info.

Project Title: WRRF PS No. 1 Improvements

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
78.6

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF PS No. 1 Improvements

Project Manager: Kashmira Patel

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 4/13/2017

Year Project Added to CIP: 2016

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: WRRF PS No. 1 Improvements

Problem Statement:

Condition assessment and rehabilitation of all pumps at Pump Station No. 1 to increase efficiency and reliability. Rehabilitate the pump station to extend useful life.

Scope of Work/Project Alternatives:

The scope of services includes addressing all PS-1 modifications which include but are not limited to, rehabilitation of all eight (8) sewage pumps, replacement of associated pump starters and electrical motor control centers, rehabilitation of inlet gates, discharge gates, valves, actuators, HVAC system, electrical and lighting distribution panels, wirings, pull boxes, interior and exterior lightings, etc. The extent of this project includes all ancillary and auxiliary equipment and services (e.g. lubrication system, ventilation, cooling system, pump health monitoring systems, etc.) and associated controls necessary to provide complete and functioning pumping systems. To maintain operations to the existing pumping station, while improving the new electrical system for the rehabilitated station, this project also includes the construction of a new electrical building with all new equipment, replacement of wiring from PS-1 to Electrical Building 2 (EB-2), replacement of electrical equipment in EB-2, repairs on architectural features as well as paving and landscaping improvements.

Other Important Info:

Challenges: Adequate pumping capacity during construction.

Project History: Raw wastewater (influent) from the collection system flows to this Influent Pumping Station through the Detroit River Interceptor (16'D), Oakwood Interceptor (12.5'D) and North Interceptor East Arm (NIEA). Pumping Station No. 1 (PS-1) was constructed in the 1930s and has eight constant speed pumps of various capacities (six were installed in the 1940s and two more were added in 1956) and has a Firm Capacity (largest pump out of service) of 1,225 MGD during wet weather event. Influent Pumping Station No. 2 (PS-2) has eight raw sewage pumps with a Firm Capacity of 805 MGD during wet weather event.

The pumps at PS-1 were rehabilitated in 2004 and 2005.

Primary Driver: 1 - Condition

Driver Explanation:

The station has exceeded its service life and should be rehabilitated. The station plays a key role in plant operations and if left untouched would decrease the ability for the plant to process wastewater.

Project Title: WRRF PS No. 1 Improvements

Scoring

Project Manager Weighted Score: 79.2			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life, C. High risk of breakdown or imminent failure with serious impact on performance, D. Immediate replacement or rehabilitation required, F. Replace. or major rehab needed immediately	
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements, D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*, E. Not doing the project frequent and repetitive service interruption and/or reliability issues†	
Regulatory (Environmental/Legal)	4	B. Project not part of mandated or enforceable program, but directly related to know expected future requirements; will increase compliance, C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	
Health and Safety	4	C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	
Financial	3	B. Securing of grants or other external funding that cover 1-10% of project costs.	Trying to get SRF funding
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings, B. Moderate positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	

Review Committee Weighted Score: 78.6		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: WRRF PS No. 1 Improvements

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 5/7/2019

Phase Status: Project Execution

End Date: 5/8/2031

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA

Cost Est. Date: 7/29/2022

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$828	\$239	\$212	\$94	\$89	\$89	\$89	\$89	\$89	\$446	\$76

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	5/7/2019	5/8/2031
Capital Delivery Salary (Fringes)	5/7/2019	5/8/2031

Project Title: WRRF PS No. 1 Improvements

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 9/23/2019

Phase Status: Project Execution

End Date: 5/19/2026

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: n/a

Cost Est. Date: 7/29/2022

Cost Est. Prepared By: n/a

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$179	\$141	\$141	\$17	\$21	\$0	\$0	\$0	\$0	\$21	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72007A.02 / 72007B.02 / 72007B.07 / 72021A.01 / 72029A.01)	9/23/2019	5/19/2026

Project Title: WRRF PS No. 1 Improvements**Phase:** Professional Services (2202942)**Phase Title:** Professional Services (2202942)**Phase Budget:** Wastewater**Start Date:** 4/17/2023**Phase Status:** Project Execution**End Date:** 8/8/2030**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** PMA**Cost Est. Date:** 2/7/2023**Cost Est. Prepared By:** PMA**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (2202942)	\$550	\$165	\$155	\$59	\$66	\$66	\$66	\$66	\$66	\$329	\$7

Phase Dates

Activity Name	Start Date	End Date
Professional Services (2202942)	4/17/2023	8/8/2030
Design/Engineering (2202942) (net-zero cost account to be archived)	4/17/2023	8/8/2030

Project Title: WRRF PS No. 1 Improvements

Phase: Design/Engineering (CS-102)

Phase Title: Design/Engineering (CS-102)

Phase Budget: Wastewater

Start Date: 5/7/2019

Phase Status: Project Execution

End Date: 5/8/2031

Phase Comments/Description:

A future Amendment for CS-102 will be processed to extend the time and for an additional cost to provide continuous construction management efforts until the current final construction completion date of 2103350 per issued Change Order No.1 - kp 4/29/24

Cost Est. Class: Class 1

Cost Est. Source: Engineer

Cost Est. Date: 8/25/2022

Cost Est. Prepared By: Engineer

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-102)	\$15,552	\$7,719	\$7,262	\$1,614	\$1,548	\$1,548	\$935	\$926	\$926	\$5,883	\$792

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-102)	5/7/2019	5/8/2031

Project Title: WRRF PS No. 1 Improvements

Phase: Design/Engineering (1900318)

Phase Title: Design/Engineering (1900318)

Phase Budget: Wastewater

Start Date: 2/17/2020

Phase Status: Cancelled

End Date: 10/14/2021

Phase Comments/Description:

1900318 (2001397) Task 6T - was reclassified to 211011. See attached supported communication. 211006.N2.301DGsb - note on C&S sheet with CA&FR exchange for 6T (211006: Design - Project Execution (1900318))

Cost Est. Class: Class 3

Cost Est. Source: Chris Nastally

Cost Est. Date: 4/13/2023

Cost Est. Prepared By: Melissa Phelan/Tina Gilley /Chris Nastally

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (1900318)	\$47	\$47	\$47	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	2/17/2020	10/14/2021

Project Title: WRRF PS No. 1 Improvements

Phase: Design/Engineering (2202942)**Phase Title:** Design/Engineering (2202942)

Phase Budget:**Start Date:** 4/17/2023**Phase Status:****End Date:** 8/8/2030

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (2202942)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (2202942) (net-zero cost account to be archived)	4/17/2023	8/8/2030

Project Title: WRRF PS No. 1 Improvements

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 2/7/2023

Phase Status: Project Execution

End Date: 5/8/2031

Phase Comments/Description:

Contract execution followed by AM-001 for SRF requirements

Cost Est. Class: Class 1

Cost Est. Source: Bidding and AM-001

Cost Est. Date: 4/28/2023

Cost Est. Prepared By: Bidding and AM-001

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$91,453	\$13,537	\$8,304	\$17,487	\$11,210	\$11,210	\$11,241	\$11,210	\$11,210	\$56,080	\$9,582

Phase Dates

Activity Name	Start Date	End Date
Construction (2103350)	2/7/2023	5/8/2031

Project Title: WRRF PS No. 1 Improvements

Phase: Equipment/Material Purchase # 1

Phase Title: Equipment/Material Purchase # 1

Phase Budget: Wastewater

Start Date: 1/1/2023

Phase Status: Project Execution

End Date: 2/6/2026

Phase Comments/Description:

This is for 7 MAUs. The total cost is \$1,109,000. The PO expires on 06/30/2027.

Cost Est. Class: Class 1

Cost Est. Source: Bidding

Cost Est. Date: 7/1/2022

Cost Est. Prepared By: Bidding

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Equipment/Material Purchase # 1	\$1,109	\$1,077	\$1,077	\$18	\$14	\$0	\$0	\$0	\$0	\$14	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction - Materials / Equipment Purchase #1 (HVAC) (2200373)	1/1/2023	2/6/2026

Project Title: WRRF PS No. 1 Improvements

Phase: Equipment/Material Purchase # 2

Phase Title: Equipment/Material Purchase # 2

Phase Budget: Wastewater

Start Date: 7/1/2022

Phase Status: Project Execution

End Date: 8/8/2030

Phase Comments/Description:

This is for 8 Discharge Gate valves with actuators. The total cost is \$3,377,123.00. Contract # is 2200368. The PO expires on 07/13/2027.

Cost Est. Class: Class 1

Cost Est. Source: Bidding

Cost Est. Date: 7/1/2022

Cost Est. Prepared By: Bidding

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Equipment/Material Purchase # 2	\$4,390	\$3,039	\$3,039	\$308	\$436	\$436	\$82	\$47	\$38	\$1,039	\$4

Phase Dates

Activity Name	Start Date	End Date
Construction - (Valves) (2200368)	7/1/2022	7/13/2027
Construction - Materials / Equipment Purchase #2 (Valves) (2200368)	1/1/2023	8/8/2030

Project Title: WRRF PS No. 1 Improvements

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$828	\$239	\$212	\$94	\$89	\$89	\$89	\$89	\$89	\$446	\$76
Professional Services	\$179	\$141	\$141	\$17	\$21	\$0	\$0	\$0	\$0	\$21	\$0
Professional Services (2202942)	\$550	\$165	\$155	\$59	\$66	\$66	\$66	\$66	\$66	\$329	\$7
Design/Engineering (CS-102)	\$15,552	\$7,719	\$7,262	\$1,614	\$1,548	\$1,548	\$935	\$926	\$926	\$5,883	\$792
Design/Engineering (1900318)	\$47	\$47	\$47	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (2202942)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Build) # 1	\$91,453	\$13,537	\$8,304	\$17,487	\$11,210	\$11,210	\$11,241	\$11,210	\$11,210	\$56,080	\$9,582
Equipment/Material Purchase # 1	\$1,109	\$1,077	\$1,077	\$18	\$14	\$0	\$0	\$0	\$0	\$14	\$0
Equipment/Material Purchase # 2	\$4,390	\$3,039	\$3,039	\$308	\$436	\$436	\$82	\$47	\$38	\$1,039	\$4
Totals	\$114,107	\$25,963	\$20,238	\$19,597	\$13,383	\$13,349	\$12,413	\$12,338	\$12,329	\$63,812	\$10,461

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	\$13,129	\$0	\$600	\$5,350	\$5,125	\$2,054	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$13,129
2019	\$23,401	\$0	\$0	\$500	\$1,800	\$2,462	\$9,394	\$9,245	\$719	\$0	\$0	\$0	\$0	\$0	\$24,120
2020	\$21,733	\$0	\$0	\$498	\$1,803	\$2,325	\$8,424	\$8,370	\$811	\$84	\$0	\$0	\$0	\$0	\$22,315
2021	\$25,841	\$0	\$0	\$6	\$929	\$645	\$551	\$8,532	\$12,772	\$3,341	\$0	\$0	\$0	\$0	\$26,776
2022	\$33,815	\$0	\$0	\$6	\$1,278	\$623	\$3,061	\$7,987	\$8,009	\$7,199	\$7,559	\$21,461	\$11,526	\$0	\$68,709
2023	\$48,646	\$0	\$0	\$6	\$1,278	\$2,207	\$600	\$8,100	\$10,136	\$10,136	\$10,136	\$10,136	\$10,136	\$7,168	\$70,042
2024	\$70,078	\$0	\$0	\$6	\$1,277	\$2,208	\$2,523	\$6,479	\$15,843	\$13,548	\$13,548	\$13,548	\$13,586	\$9,185	\$92,069
2025	\$74,034	\$0	\$0	\$6	\$1,277	\$2,208	\$2,523	\$5,397	\$13,202	\$15,064	\$15,062	\$15,009	\$14,493	\$14,405	\$110,960

Project Title: WRRF PS No. 1 Improvements

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$114,107,522	\$20,237,525	\$19,596,759	\$13,383,424	\$13,348,547	\$12,413,132	\$12,337,710	\$12,329,293	\$63,812,107	\$10,461,133

Description of CIP Changes:

A future Amendment for CS-102 will be processed to extend the time and for an additional cost to provide continuous construction management efforts until the current final construction completion date of 2103350 per issued Change Order No.1 - kp 4/29/24

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Project Status: Active - Procurement -
 Negotiation Phase - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
75.7

- ☒ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**


 WRRF PS #2 Bar Racks Replacements and Grit
 Collection System Improvements

Project Manager: Elizabeth Mann

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 10/12/2016

Year Project Added to CIP: 2016

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-
 892211

☐ **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:

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Problem Statement:

Replacement of all bar racks and associated equipment and addition of fine screens (1/4 inch) for more reliable and efficient screenings removal. Addition of screenings washing and compaction will reduce truck traffic and cost of disposal. Improvement of grit collection system with more efficient, grit collection and pumping system, and grit washing and classification will reduce truck traffic and cost of disposal. Improvements to the grit screenings and grit removal and handling systems will improve the performance of all downstream processes, reduce maintenance costs and extend life of downstream equipment.

Scope of Work/Project Alternatives:

The work consists of evaluation, design and construction of the replacement of the existing bar racks and ancillary equipment and gates, addition of new fine screens (1/4 inch) downstream of the bar racks, addition of screenings washing and compaction, inclusion of stacked tray grit removal or other technology within the aerated grit tank and grit washing and classification. Work also includes the upgrade and expansion of the existing building that houses the screens and the screenings and grit handling and load out, including all lighting, HVAC, plumbing, electrical, and architectural work. New instrumentation and controls for operations and monitoring will also be provided. System shall be designed to meet long-term wet weather capacity requirements at PS #2.

Other Important Info:

*Innovation note: Install new grit removal equipment rather than replacement in kind (cyclonic). Replacement of Bar Racks at Pump Station No. 2, Rehabilitation of Grit and Screening System at PS-2 and Rehabilitation of Sampling Sites at WWTP were combined into one project. The design of Rehabilitation of Sampling Sites is completed and was bid separately for construction. The previous design for Bar Rack System will not proceed for construction as designed. A new study, design and construction project through this CIP project will proceed.

Challenges: Maintaining the MDEQ-NPDES required capacity during the construction.

Project History: The Pump Station No. 2 Rack and Grit Collection system have been in service for almost twenty years and is near the end of its useful life. Transport of collected screenings has been an ongoing problem as rags and other floatable materials are not screened thoroughly.

HVAC system was found to be in good condition but needs some rehabilitation.

Modifications are needed to the existing Grit removal system because of the draining issues. Grit Chambers cannot be emptied due to clogged drains.

Grit carry over causes deterioration of the downstream process and equipment

Rehabilitation/Replacement of screening belt since and rehabilitation of Grit Channel Drain Gate stems is needed.

The bar screen foundations, screen frames, and conveyance chutes in PS-2 have been in service for approximately twenty years.

Primary Driver: 1 - Condition

Driver Explanation:

Plant operations report on the failure of shear pins and accelerated wearing and breaking of the bar racks causing downtime for the maintenance and violation of the permit

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Scoring

Project Manager Weighted Score: 77.8			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining, B. Equipment/process functions but requires high level of maintenance to remain operational	The existing screening system and grit removal system are at the end of their useful life. The conveyor that moves screenings for disposal has required increased maintenance. The grit removal bucket maintenance has also increased and is at risk for extended downtime.
Performance (Service Level/Reliability)	4	D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*	This project will upgrade the systems to current technologies that require less maintenance and operator intervention. The new rack system will use finer bars to decrease the volume of rags and floating debris sent to downstream equipment. Removing more debris reduces process upsets and maintenance costs. The new grit system will decrease the volume of abrasive solids sent downstream. These solids wear mechanical equipment such as pumps and valves, so maintenance costs will decrease.
Regulatory (Environmental/Legal)	4	B. Project not part of mandated or enforceable program, but directly related to know expected future requirements; will increase compliance	Screen and grit downtime is increasing. Extended downtime is increasing the risk of operational failure leading to NPDES violations.
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	Designs incorporated significant operability and maintenance improvements. Mechanical systems are more robust and require less manual material handling.

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	Screening and grit removal failure does not pose a direct health risk but would make treatment difficult in the short term. In the long term it would threaten treatment effectiveness.
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	Included in master plan, section 7.4.2.2
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA., B. Securing of grants or other external funding that cover 1-10% of project costs.	Reduces downstream maintenance costs by ~\$40M over life of the project. Seeking CWSRF funding, all EGLE required documents were updated for current funding round.
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	Improved grit removal is required for potential downstream improvements like a biosolids digester. Digesters cannot process current levels of grit remaining in biosolids.

Review Committee Weighted Score: 75.7

Criteria Name	Score	Comment
Condition	3	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 6/1/2020

Phase Status: Project Execution

End Date: 10/14/2033

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: GLWA CIP TEAM

Cost Est. Date: 6/1/2023

Cost Est. Prepared By: GLWA CIP TEAM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$848	\$105	\$97	\$70	\$82	\$82	\$82	\$82	\$82	\$411	\$270

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	6/1/2020	10/14/2033
Capital Delivery Salary (Fringes)	6/1/2020	10/14/2033

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 8/17/2020

Phase Status: Closed Out

End Date: 8/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 8/17/2020

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$103	\$103	\$103	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72021A.02)	8/17/2020	8/19/2023

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Phase: Design/Engineering (1904337)**Phase Title:** Design/Engineering (1904337)

Phase Budget: Wastewater**Start Date:** 10/20/2020**Phase Status:** Project Execution**End Date:** 8/14/2033

Phase Comments/Description:

current start/finish is correct most recent Amendment No. 1 TO. fully executed as of 5.30.23 costs reflected in CIP Portal are correct as well as start and finish dates.

Cost Est. Class: Class 1**Cost Est. Source:** Hazen**Cost Est. Date:** 3/3/2023**Cost Est. Prepared By:** Jason Williams

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (1904337)	\$17,190	\$8,730	\$8,730	\$1,027	\$1,373	\$1,373	\$1,377	\$1,373	\$1,184	\$6,679	\$754

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1904337)	10/20/2020	8/14/2033

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Phase: Construction (Build) # 1**Phase Title:** Construction (Build) # 1

Phase Budget: Wastewater **Start Date:** 10/15/2024**Phase Status:** Active - Procurement - Negotiation **End Date:** 10/14/2033
Phase

Phase Comments/Description:Bids came in on 4/9/2024. Bids are under evaluation.

Cost Est. Class: Class 1**Cost Est. Source:** CONTRACTOR**Cost Est. Date:** 4/9/2024**Cost Est. Prepared By:** CONTRACTOR

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$224,985	\$0	\$0	\$3,581	\$5,047	\$18,943	\$37,957	\$37,853	\$37,853	\$137,654	\$83,750

Phase Dates

Activity Name	Start Date	End Date
Construction	10/15/2024	10/14/2033

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$848	\$105	\$97	\$70	\$82	\$82	\$82	\$82	\$82	\$411	\$270
Professional Services	\$103	\$103	\$103	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (1904337)	\$17,190	\$8,730	\$8,730	\$1,027	\$1,373	\$1,373	\$1,377	\$1,373	\$1,184	\$6,679	\$754
Construction (Build) #1	\$224,985	\$0	\$0	\$3,581	\$5,047	\$18,943	\$37,957	\$37,853	\$37,853	\$137,654	\$83,750
Totals	\$243,125	\$8,938	\$8,930	\$4,678	\$6,502	\$20,398	\$39,416	\$39,308	\$39,119	\$144,743	\$84,774

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	\$9,667	\$0	\$650	\$2,900	\$3,300	\$2,817	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,667
2019	\$11,749	\$0	\$0	\$7	\$402	\$1,980	\$2,404	\$6,956	\$8,814	\$0	\$0	\$0	\$0	\$0	\$20,563
2020	\$17,781	\$0	\$0	\$6	\$269	\$1,329	\$2,039	\$6,306	\$7,838	\$49	\$0	\$0	\$0	\$0	\$17,836
2021	\$67,697	\$0	\$0	\$1	\$256	\$3,098	\$7,546	\$2,120	\$20,899	\$34,034	\$8,642	\$0	\$0	\$0	\$76,596
2022	\$60,637	\$0	\$0	\$1	\$5	\$2,323	\$2,303	\$6,987	\$18,173	\$18,123	\$15,052	\$13,263	\$0	\$0	\$76,229
2023	\$54,878	\$0	\$0	\$1	\$5	\$1,504	\$3,000	\$2,461	\$13,105	\$13,104	\$13,104	\$13,104	\$13,105	\$16,280	\$88,771
2024	\$62,552	\$0	\$0	\$1	\$5	\$1,504	\$3,809	\$2,234	\$4,815	\$14,424	\$14,424	\$14,424	\$14,465	\$14,424	\$94,250
2025	\$62,262	\$0	\$0	\$1	\$5	\$1,504	\$3,809	\$3,459	\$450	\$11,468	\$12,988	\$12,923	\$12,459	\$12,426	\$122,757

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$243,125,368	\$8,929,948	\$4,677,989	\$6,502,084	\$20,398,189	\$39,415,898	\$39,308,205	\$39,119,055	\$144,743,432	\$84,773,999

Description of CIP Changes:

The project costs were updated with low bid information. Construction bids are still in review. Added additional detail to scoring tab.

2024 - updated construction bid info.

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
78.3

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☒ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Project Manager: Reed Johnson

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Problem Statement:

The Ferric Chloride Systems at PS-1 is used to reduce phosphorus to the required permit levels. The system, which includes chemical storage tanks, secondary containment, valves, and piping is in need of rehabilitation. The Complex B sludge lines are clogged due to Struvite and need rehabilitation or replacement.

Scope of Work/Project Alternatives:

The scope of work will include study design and construction for the ferric chloride feed system at PS-1. Specifically it will include: a study to evaluate alternative locations for application of ferric chloride, a pilot study to test alternative application points, and inspection of the existing chemical feed systems. It will provide recommendations for system modifications and improvements, design of recommended system improvements, and construction of chemical feed system improvements. Evaluation and recommended design and construction of the sludge lines in Complex B is also included in the scope.

Other Important Info:

*Innovation note: Align sizing & design with U of M phosphorus & enhanced carbon capture studies, as well as improved mixing of the ferric with primary influent.

Challenges: Maintaining capacity of the existing feed system during construction and determining the simplest system that will meet current and future phosphorous limits for both primary and secondary effluent.

Project History: There are phosphorous effluent permit limits for both primary effluent (during wet weather) and for secondary effluent. Effluent limits for phosphorous were lowered in 2016 and now stand at 1.5 mg/l for primary effluent and 0.7 mg/l (October – March) and 0.6 mg/l (April – September) for secondary effluent. GLWA has historically been able to meet the phosphorous limits for both primary and secondary effluent by adding ferric chloride to the primary clarifier influent. The physical/chemical removal in the primary clarifiers lowered the phosphorous concentrations to meet the primary effluent limits. However, GLWA has begun to experience some difficulty with the settling of the secondary biomass in the final clarifiers. Preliminary investigations have indicated that this settling ability issue could be caused by low phosphorous concentrations in the secondary influent wastewater. This is because the biomass in the secondary system requires a certain ratio of carbon (CBOD), nitrogen, and phosphorous to reduce the pollutant concentrations and then settle in the final clarifiers. Therefore there also needs to be a study and possibly pilot test conducted to review the best location for ferric chloride addition to the wastewater.

Primary Driver: 1 - Condition

Driver Explanation:

The current chemical feed systems at PS-1 has deteriorated to the point where it needs to be rehabilitated.

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Scoring

Project Manager Weighted Score: 78.3			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	Project Manager current year score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions	Project Manager current year score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	Project Manager current year score carried over from previous year Project Manager score
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value	Project Manager current year score carried over from previous year Project Manager score
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	Project Manager current year score carried over from previous year Project Manager score
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	Project Manager current year score carried over from previous year Project Manager score
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	Project Manager current year score carried over from previous year Project Manager score
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	Project Manager current year score carried over from previous year Project Manager score

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Review Committee Weighted Score: 78.3		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	4	Committee score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	4	Committee score carried over from previous year Project Manager score
Operations and Maintenance	3	Committee score carried over from previous year Project Manager score
Health and Safety	4	Committee score carried over from previous year Project Manager score
Public Benefit	3	Committee score carried over from previous year Project Manager score
Financial	3	Committee score carried over from previous year Project Manager score
Efficiency and Innovation	4	Committee score carried over from previous year Project Manager score

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2018

Phase Status: Project Execution

End Date: 6/30/2025

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 10/1/2017

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$499	\$499	\$494	\$5	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2018	6/30/2025
Capital Delivery Salary (Fringes)	7/1/2018	6/30/2025

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 9/23/2019

Phase Status: Closed Out

End Date: 12/31/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 9/23/2019

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$165	\$165	\$165	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72021A.08 / 72007B.03 / 72007A.03)	9/23/2019	12/31/2023

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Design/Engineering (CS-166)

Phase Title: Design/Engineering (CS-166)

Phase Budget: Wastewater

Start Date: 7/1/2018

Phase Status: Closed Out

End Date: 6/30/2024

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: PMA

Cost Est. Date: 7/1/2018

Cost Est. Prepared By: PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-166)	\$281	\$276	\$244	\$38	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166)	7/1/2018	6/30/2024
Design/Engineering (CS-166)	7/1/2018	6/30/2024
Design/Engineering (2202942)	7/1/2018	6/30/2024

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Design/Engineering (1802543)

Phase Title: Design/Engineering (1802543)

Phase Budget: Wastewater

Start Date: 5/22/2019

Phase Status: Project Execution

End Date: 6/30/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Hazen

Cost Est. Date: 9/16/2019

Cost Est. Prepared By: Hazen

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (1802543)	\$2,222	\$2,121	\$2,115	\$107	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1802543)	5/22/2019	6/30/2025

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Design/Engineering (2203638/SCN-0000388)

Phase Title: Design/Engineering (2203638/SCN-0000388)

Phase Budget:	Start Date:	9/1/2024
Phase Status:	End Date:	9/30/2024

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (2203638/SCN-0000388)	\$1	\$1	\$0	\$1	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (2203638)	9/1/2024	9/30/2024

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Design/Engineering (MISC)

Phase Title: Design/Engineering (MISC)

Phase Budget: Wastewater

Start Date: 5/1/2020

Phase Status: Cancelled

End Date: 1/31/2021

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (MISC)	\$3	\$3	\$3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (MISC)	5/1/2020	1/31/2021

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Construction (Build) # 1 (2002190)

Phase Title: Construction (Build) # 1 (2002190)

Phase Budget: Wastewater

Start Date: 4/5/2021

Phase Status: Closed Out

End Date: 12/12/2024

Phase Comments/Description:

Rehabilitation of Ferric Chloride Feed Systems

Cost Est. Class: Class 1

Cost Est. Source: Weiss

Cost Est. Date: 4/5/2021

Cost Est. Prepared By: Weiss

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1 (2002190)	\$10,139	\$9,761	\$9,692	\$447	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (2002190)	4/5/2021	12/12/2024

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Construction (2204261)**Phase Title:** Construction (2204261)

Phase Budget: Wastewater**Start Date:** 5/1/2024**Phase Status:** Project Execution**End Date:** 11/30/2024

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA**Cost Est. Date:** 1/1/2024**Cost Est. Prepared By:** GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (2204261)	\$105	\$32	\$24	\$82	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (2204261)	5/1/2024	11/30/2024
Construction (2204261) (net-zero cost account to be archived)	5/1/2024	5/30/2024

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$499	\$499	\$494	\$5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services	\$165	\$165	\$165	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-166)	\$281	\$276	\$244	\$38	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (1802543)	\$2,222	\$2,121	\$2,115	\$107	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (2203638/SCN-0000388)	\$1	\$1	\$0	\$1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (MISC)	\$3	\$3	\$3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Build) # 1 (2002190)	\$10,139	\$9,761	\$9,692	\$447	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (2204261)	\$105	\$32	\$24	\$82	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$13,416	\$12,858	\$12,736	\$680	\$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	\$9,633	\$0	\$400	\$1,400	\$5,200	\$2,000	\$633	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,633
2019	\$9,650	\$0	\$0	\$7	\$115	\$1,259	\$2,732	\$5,537	\$2,363	\$0	\$0	\$0	\$0	\$0	\$12,013
2020	\$9,533	\$0	\$12	\$1,021	\$2,950	\$4,983	\$1,600	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,566
2021	\$9,408	\$0	\$0	\$178	\$1,239	\$5,522	\$3,886	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,825
2022	\$6,329	\$0	\$0	\$165	\$1,464	\$3,429	\$5,358	\$972	\$0	\$0	\$0	\$0	\$0	\$0	\$11,388
2023	\$2,507	\$0	\$12	\$188	\$1,430	\$240	\$8,267	\$2,507	\$0	\$0	\$0	\$0	\$0	\$0	\$12,643
2024	\$1,542	\$0	\$12	\$188	\$1,430	\$241	\$3,618	\$5,613	\$1,542	\$0	\$0	\$0	\$0	\$0	\$12,642
2025	\$0	\$0	\$12	\$188	\$1,430	\$241	\$3,618	\$4,991	\$2,605	\$0	\$0	\$0	\$0	\$0	\$13,083

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$13,416,110	\$12,736,431	\$679,680	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

4/29/24 PK: Construction activities of this project are completed ; the 30 day testing of the ferric chloride system was successfully completed and the new system is in operation now. Cleaning of the SCB 30 sludge line is successfully completed too. Currently the Contractor is working on the deficiency list items. Substantial completion certificate will be processed soon. The goal is to close out the Contract by the revised final completion date of June 2024.

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ **Project New to CIP**

☒ **Useful Life > 20 Yrs**

☐ **Multiple Phases**

Project Score

76.6

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared: 7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Problem Statement:

The circular clarifiers scum removal system is over 10 years old and needs to be rehabilitated. This will help protect the secondary treatment process by preventing scum from entering the aeration tanks.

Scope of Work/Project Alternatives:

This project will provide for the study, design, and construction of new scum equipment in the Scum Buildings for the circular primary clarifiers (PCs). The study will consist of an evaluation of the existing process and simplified alternative systems for scum removal including the scum removal from the buildings. Future alternatives for scum disposal, such as addition to an anaerobic digestion process, will be considered. All alternatives will be evaluated for energy efficiency (reduction of electrical usage). The scum removal system at the rectangular PCs will also be evaluated to determine which aspects can be applied to the circular Secondary Basins (SBs). Design and construction services will be included for the selected scum removal system.

This project will build on the previously cancelled project for the same. There was minimal work done on basis of design and some laser scanning work that will be carried forward when this contract is resumed.

Other Important Info:

*Innovation note: Evaluate alternatives for energy efficiency.

Project History: There are 12 rectangular PCs and 6 circular PCs at the WRRF. PCs remove TSS, BOD, and phosphorous through a chemically enhanced settling process in addition to fats, oils, and grease (FOG or scum) by skimming the surface of the clarifiers and transporting the scum to a SB where it can be concentrated. The SBs for the rectangular clarifiers were recently rehabilitated. The SBs for the circular clarifiers utilize a somewhat complex transport and concentration system. New SBs were installed for PCs 17 and 18 when they were constructed. Since their installation, the equipment in the circular clarifier SBs has been complicated to operate and difficult to maintain and is out of service for extended periods of time.

Challenges: Each of the scum removal facility serves two circular clarifiers, so two circular clarifiers at a time are out of services during rehabilitation.

Primary Driver: 1 - Condition

Driver Explanation:

The condition of the existing equipment is old.

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Scoring

Project Manager Weighted Score: 76.6			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining, C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	5	C. Project Will have major, measurable positive impact on service levels and/or system reliability; aligns w/ GLWA strategic goals*	
Regulatory (Environmental/Legal)	3	B. Project will have a moderate positive impact on reg. issues	
Operations and Maintenance	2	D. Project moderate to low positive impact on O&M, but no critical assets; alleviate very few ongoing O&M issues	
Health and Safety	2	B. Project limited positive impact on staff/public H&S±; No major staff or hazard issues or concerns addressed	
Public Benefit	2	D. Low impact on public/GLWA image, minor recognition, E. No media coverage, minor impact on comm./stakeholder relations	
Financial	3	B. Securing of grants or other external funding that cover 1-10% of project costs.	Trying to get SRF funding.
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings, B. Moderate positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	

Review Committee Weighted Score: 76.6		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	5	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	2	Scores carried over from previous year
Health and Safety	2	Scores carried over from previous year
Public Benefit	2	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 3/4/2022

Phase Status: Planned Inactivity

End Date: 3/3/2033

Phase Comments/Description:

Cost Est. Class: Class 4

Cost Est. Source: Ali Khraizat

Cost Est. Date: 10/1/2017

Cost Est. Prepared By: Ali Khraizat

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$351	\$15	\$15	\$0	\$0	\$3	\$20	\$6	\$83	\$112	\$223

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	3/4/2022	3/3/2033
Capital Delivery Salary (Fringes)	3/4/2022	3/3/2033

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 5/7/2020

Phase Status: Closed Out

End Date: 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 5/7/2020

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$63	\$63	\$63	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72014A.02 / 72021A.03)	5/7/2020	5/19/2023

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Phase: Design/Engineering #1

Phase Title: Design/Engineering #1

Phase Budget: Wastewater

Start Date: 3/4/2022

Phase Status: Cancelled

End Date: 4/28/2023

Phase Comments/Description:

This project is terminated. Final Amendment will be processed to close out this contract as soon as the pending deliverables are received from the consultant. - (\$1,768,509.00)

Cost Est. Class: Class 1

Cost Est. Source: Jason Williams

Cost Est. Date: 4/12/2023

Cost Est. Prepared By: Jason Williams

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering #1	\$472	\$472	\$472	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	3/4/2022	4/28/2023

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Phase: Design/Engineering #2

Phase Title: Design/Engineering #2

Phase Budget: Wastewater

Start Date: 3/4/2027

Phase Status: Future Planned Start

End Date: 3/3/2033

Phase Comments/Description:

Original Design Phase Canceled.

Cost Est. Class: Class 4

Cost Est. Source: GLWA Engineering

Cost Est. Date: 7/1/2022

Cost Est. Prepared By: GLWA Engineering

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering #2	\$2,055	\$0	\$0	\$0	\$0	\$212	\$1,312	\$240	\$79	\$1,843	\$211

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	3/4/2027	3/3/2033

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Phase: Design/Engineering (1900318)**Phase Title:** Design/Engineering (1900318)

Phase Budget: Wastewater**Start Date:** 6/1/2024**Phase Status:** Cancelled**End Date:** 6/30/2024

Phase Comments/Description:I have no idea what this is.

Cost Est. Class: Class 5**Cost Est. Source:** CIP Team**Cost Est. Date:** 1/1/2024**Cost Est. Prepared By:** CIP Team

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (1900318)	\$91	\$91	\$91	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	6/1/2024	6/30/2024

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 6/22/2029

Phase Status: Future Planned Start

End Date: 3/3/2033

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: TBD

Cost Est. Date: 9/1/2023

Cost Est. Prepared By: Engineer

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$20,200	\$0	\$0	\$0	\$0	\$0	\$0	\$135	\$5,457	\$5,592	\$14,608

Phase Dates

Activity Name	Start Date	End Date
Construction	6/22/2029	3/3/2033

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$351	\$15	\$15	\$0	\$0	\$3	\$20	\$6	\$83	\$112	\$223
Professional Services	\$63	\$63	\$63	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering #1	\$472	\$472	\$472	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering #2	\$2,055	\$0	\$0	\$0	\$0	\$212	\$1,312	\$240	\$79	\$1,843	\$211
Design/Engineering (1900318)	\$91	\$91	\$91	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Build) #1	\$20,200	\$0	\$0	\$0	\$0	\$0	\$0	\$135	\$5,457	\$5,592	\$14,608
Totals	\$23,230	\$640	\$640	\$0	\$0	\$215	\$1,332	\$380	\$5,620	\$7,547	\$15,043

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	\$7,801	\$0	\$266	\$324	\$1,870	\$2,671	\$2,670	\$2,679	\$0	\$0	\$0	\$0	\$0	\$0	\$10,480
2019	\$7,234	\$0	\$0	\$0	\$7	\$859	\$572	\$5,796	\$5,005	\$0	\$0	\$0	\$0	\$0	\$12,239
2020	\$11,359	\$0	\$0	\$0	\$0	\$778	\$619	\$5,237	\$4,725	\$35	\$0	\$0	\$0	\$0	\$11,394
2021	\$13,228	\$0	\$0	\$0	\$21	\$313	\$1,254	\$802	\$8,715	\$2,144	\$0	\$0	\$0	\$0	\$13,249
2022	\$12,762	\$0	\$0	\$0	\$3	\$243	\$476	\$2,740	\$5,619	\$3,927	\$0	\$0	\$0	\$0	\$13,008
2023	\$16,500	\$0	\$0	\$0	\$3	\$37	\$250	\$1,000	\$500	\$5,000	\$5,000	\$5,000	\$5,000	\$0	\$21,790
2024	\$1,514	\$0	\$0	\$0	\$3	\$37	\$162	\$392	\$0	\$0	\$0	\$1,075	\$439	\$7,711	\$22,729
2025	\$9,687	\$0	\$0	\$0	\$3	\$37	\$162	\$347	\$0	\$0	\$215	\$1,328	\$437	\$7,708	\$23,141

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$23,230,394	\$640,459	\$0	\$0	\$215,130	\$1,332,103	\$380,272	\$5,619,811	\$7,547,315	\$15,042,619

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Description of CIP Changes:

Minor changes to the timing of projected expenses. Updated cost to reflect changes in Scum Concentrator Building

2024 - no new updates. Previous design project was canceled and this project will be picked back up at a later date and re-advertised for study/design.

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ **Project New to CIP**
☐ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
89.7

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



Rehabilitation of Sludge Processing Complexes A and B

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 8/21/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Problem Statement:

Both Complex A and Complex B have reached the end of their design life. The majority of the equipment for the two processes are located below grade in areas prone to flooding. Tanks are located above grade and have little or no access around the perimeter. This limits and reduces cleaning effectiveness. Both the valves and the pumps used to transfer sludge to the Biosolids Drying Facility (BDF) are past their design life. Equipment breakage affects the plant ability to process sludge.

Scope of Work/Project Alternatives:

The work consists of evaluation, design and rehabilitation of both Complex A and Complex B with scope to include tank repair to improve tank access and extend life, building and process repair to including structural, mechanical, process, electrical, and instrumentation replacement. Scope should focus on relocating the sludge pumps from below grade to above grade which could include new above grade structures and cross connecting pumps to allow for additional flexibility in feeding the BDF process.

Other Important Info:

Maintaining the MDEQ-NPDES required capacity during the construction phase of the project.

Primary Driver: 5 - Public Health and Safety

Driver Explanation:

Equipment has exceeded its design life.

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Scoring

Project Manager Weighted Score: 89.7			
Criteria Name	Score	Score Criteria	Comment
Condition	2	D. Only minor renewal or rehab may be needed in the near term	
Performance (Service Level/Reliability)	2	B. Overall good performance; will likely meet future requirements, G. Moderate redundancy in the area to limit impacts.	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	5	B. Project will have a major & measurable positive impact on staff or public H&S+ including working conditions, use and exposure to hazardous materials, exposure to potential accidents	
Public Benefit	4	C. Significant additional revenue/savings for GLWA (\$500K-\$999K /yr); Better utilize existing & new infrastructure	
Financial	2	C. Low positive impact on resource capacity	
Efficiency and Innovation	2	D. Little to no time and cost saving	

Review Committee Weighted Score: 89.7		
Criteria Name	Score	Comment
Condition	2	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	5	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2027

Phase Status: Future Planned Start

End Date: 6/30/2033

Phase Comments/Description:

Cost Est. Class: Class 4

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$460	\$0	\$0	\$0	\$0	\$0	\$77	\$77	\$77	\$230	\$230

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2027	6/30/2033
Capital Delivery Salary (Fringes)	7/1/2027	6/30/2033

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 9/23/2019

Phase Status: Closed Out

End Date: 11/4/2022

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: AECOM

Cost Est. Date: 6/1/2022

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$94	\$94	\$94	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72014A.03 / 72007B.04 / 72007A.04)	9/23/2019	11/4/2022

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 7/1/2027

Phase Status: Future Planned Start

End Date: 6/30/2033

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: WWE

Cost Est. Date: 6/1/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$4,050	\$0	\$0	\$0	\$0	\$0	\$1,613	\$687	\$349	\$2,649	\$1,401

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2027	6/30/2033

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 10/1/2029

Phase Status: Future Planned Start

End Date: 6/30/2033

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: WWE

Cost Est. Date: 6/1/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$9,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,894	\$1,894	\$7,606

Phase Dates

Activity Name	Start Date	End Date
Construction	10/1/2029	6/30/2033

Project Title: Rehabilitation of Sludge Processing Complexes A and B

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$460	\$0	\$0	\$0	\$0	\$0	\$77	\$77	\$77	\$230	\$230
Professional Services	\$94	\$94	\$94	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$4,050	\$0	\$0	\$0	\$0	\$0	\$1,613	\$687	\$349	\$2,649	\$1,401
Construction (Build) #1	\$9,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,894	\$1,894	\$7,606
Totals	\$14,104	\$94	\$94	\$0	\$0	\$0	\$1,689	\$764	\$2,320	\$4,773	\$9,237

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

CIP	5 Year Total	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2021	\$926	\$0	\$0	\$0	\$0	\$178	\$748	\$13,113	\$0	\$0	\$0	\$14,039
2022	\$2,436	\$42	\$64	\$0	\$42	\$112	\$287	\$1,996	\$4,712	\$4,728	\$1,415	\$13,934
2023	\$1,840	\$42	\$52	\$0	\$0	\$0	\$0	\$920	\$920	\$4,832	\$4,372	\$19,895
2024	\$6,383	\$42	\$52	\$0	\$0	\$0	\$0	\$1,685	\$769	\$3,930	\$5,210	\$22,104
2025	\$2,453	\$42	\$52	\$0	\$0	\$0	\$0	\$0	\$0	\$1,690	\$764	\$14,104

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$14,104,222	\$94,337	\$0	\$0	\$0	\$1,689,431	\$763,934	\$2,320,003	\$4,773,368	\$9,236,518

Description of CIP Changes:

Updated timeline

checked costs/dates - 7/22

2024 - reviewed information, project is a future project. Costs may need escalation.

Project Title: PS 1 Rack and Grit HVAC System Upgrade

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ **Project New to CIP**
☐ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
77.5

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



PS 1 Rack and Grit HVAC System Upgrade

Project Manager: Partho Ghosh

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 8/7/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: PS 1 Rack and Grit HVAC System Upgrade

Problem Statement:

Addition of fine screens (1/4 inch) for more reliable and efficient screenings removal is needed. Addition of screenings washing and compaction to reduce truck traffic and cost of disposal. Improvement of grit collection system with more efficient, state-of-the-art, grit collection and pumping system, grit washing and classification to reduce truck traffic and cost of disposal. Improvements to the grit screenings and grit removal and handling systems will improve the performance of all downstream processes, reduce maintenance costs and increase life of downstream equipment.

Scope of Work/Project Alternatives:

The work consists of evaluation, design and construction of the addition of new fine screens (1/4 inch) downstream of the bar racks, addition of screenings washing and compaction, inclusion of stacked tray grit removal within the aerated grit tank and grit washing and/or classification. Work also includes the upgrade and expansion of the existing building that houses the screens and the screenings and grit handling and load out, including all lighting, HVAC, plumbing, electrical, and architectural work. New instrumentation and controls for operations and monitoring will also be provided. System should be designed to meet long-term wet weather capacity requirements at PS1.

Other Important Info:

Maintaining the MDEQ-NPDES required capacity during the construction phase of the project. Coordination with the CIP Number 211006

Primary Driver: 2 - Performance

Driver Explanation:

Grit and screen system is not capturing enough material in downstream processes.

Project Title: PS 1 Rack and Grit HVAC System Upgrade

Scoring

Project Manager Weighted Score: 77.5			
Criteria Name	Score	Score Criteria	Comment
Condition	4	B. Equipment/process functions but requires high level of maintenance to remain operational, C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems, B. Current performance unacceptable, does not meet current requirements/demands; equipment obsolete/extremely difficult to maintain or find spare parts/repair service; Asset/process OOS 50% or more of the time; Recurring, expected failures, C. Project Will have major, measurable positive impact on service levels and/or system reliability; aligns w/ GLWA strategic goals*, D. Canceling project significant, persistent, ongoing, continuous service interruption and/or reliability issues†	
Regulatory (Environmental/Legal)	2	E. Deferring/canceling project non-compliance risk in 4-6 yrs	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation, D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	
Health and Safety	2	B. Project limited positive impact on staff/public H&S‡; No major staff or hazard issues or concerns addressed	
Public Benefit	2	D. Low impact on public/GLWA image, minor recognition	
Financial	4	E. Canceling project significant financial consequences from revenue loss, repair /restoration/O&M cost, downtime, potential litigation, fines, damage, etc.; some budget implications requiring deferral or cutbacks in other areas.	
Efficiency and Innovation	3	B. Moderate positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	

Project Title: PS 1 Rack and Grit HVAC System Upgrade

Review Committee Weighted Score: 77.5		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	5	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	2	Scores carried over from previous year
Public Benefit	2	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: PS 1 Rack and Grit HVAC System Upgrade

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 8/21/2020

Phase Status: Project Execution

End Date: 4/30/2041

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$882	\$101	\$85	\$41	\$34	\$34	\$34	\$51	\$51	\$203	\$255

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	8/21/2020	4/30/2041
Capital Delivery Salary (Fringes)	7/1/2028	4/30/2041

Project Title: PS 1 Rack and Grit HVAC System Upgrade

Phase: Design & Construction Assistance # 1

Phase Title: Design & Construction Assistance # 1

Phase Budget: Wastewater

Start Date: 7/1/2028

Phase Status: Future Planned Start

End Date: 4/30/2041

Phase Comments/Description:

Addition of Fine Screens, New Grit Collection System

Cost Est. Class: Class 3

Cost Est. Source: WWE

Cost Est. Date: 6/18/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design & Construction Assistance # 1	\$21,000	\$0	\$0	\$0	\$0	\$0	\$0	\$1,799	\$1,799	\$3,599	\$11,326

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2028	4/30/2041

Project Title: PS 1 Rack and Grit HVAC System Upgrade**Phase:** Design & Construction Assistance # 2**Phase Title:** Design & Construction Assistance # 2**Phase Budget:** Wastewater**Start Date:** 8/21/2020**Phase Status:** Project Execution**End Date:** 9/6/2026**Phase Comments/Description:**

This was reclassified from 211006 - Summary of Amd. #2: attached to Smartsheet and portal docs
The replacement of the seven roof HVAC units with spin filters will address the issue of maintaining the required heat in the Rack and Grit building. The total amount of this Task Amendment is \$34,780, which makes the total Task 6T value \$210,310.00. Please see attached scope and cost data to complete this project.

Cost Est. Class: Class 1**Cost Est. Source:** HDR**Cost Est. Date:** 12/2/2021**Cost Est. Prepared By:** HDR**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design & Construction Assistance # 2	\$350	\$46	\$49	\$114	\$157	\$29	\$0	\$0	\$0	\$186	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering # 2 (1900318)	8/21/2020	9/6/2026
Construction (1900318) (net-zero cost account to be archived)	8/21/2020	9/6/2026

Project Title: PS 1 Rack and Grit HVAC System Upgrade

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 4/29/2032

Phase Status: Future Planned Start

End Date: 4/30/2041

Phase Comments/Description:

Addition of Fine Screens, New Grit Collection System

Cost Est. Class: Class 3

Cost Est. Source: WWE

Cost Est. Date: 6/18/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$280,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$56,035

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (net-zero cost account to be archived)	4/29/2032	4/30/2041
Construction	4/29/2032	4/30/2041

Project Title: PS 1 Rack and Grit HVAC System Upgrade

Phase: Construction (Build) # 2

Phase Title: Construction (Build) # 2

Phase Budget: Wastewater

Start Date: 3/1/2023

Phase Status: Project Execution

End Date: 9/6/2026

Phase Comments/Description:

Dates and Dollars are accurate attached materials to Smartsheet

Cost Est. Class: Class 1

Cost Est. Source: Clark Construction

Cost Est. Date: 2/17/2023

Cost Est. Prepared By: Jason Williams

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 2	\$5,500	\$3,380	\$3,267	\$933	\$1,096	\$204	\$0	\$0	\$0	\$1,300	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction # 2 (2201762)	3/1/2023	9/6/2026

Project Title: PS 1 Rack and Grit HVAC System Upgrade

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$882	\$101	\$85	\$41	\$34	\$34	\$34	\$51	\$51	\$203	\$255
Design & Construction Assistance # 1	\$21,000	\$0	\$0	\$0	\$0	\$0	\$0	\$1,799	\$1,799	\$3,599	\$11,326
Design & Construction Assistance # 2	\$350	\$46	\$49	\$114	\$157	\$29	\$0	\$0	\$0	\$186	\$0
Construction (Build) # 1	\$280,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$56,035
Construction (Build) # 2	\$5,500	\$3,380	\$3,267	\$933	\$1,096	\$204	\$0	\$0	\$0	\$1,300	\$0
Totals	\$307,732	\$3,526	\$3,401	\$1,088	\$1,287	\$267	\$34	\$1,850	\$1,850	\$5,289	\$67,616

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

CIP	5 Year Total	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2021	\$14	\$0	\$0	\$0	\$0	\$0	\$14	\$100,733	\$0	\$0	\$0	\$100,747
2022	\$175	\$0	\$0	\$0	\$0	\$0	\$42	\$132	\$3,639	\$15,446	\$27,329	\$93,303
2023	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,947	\$3,947	\$93,000
2024	\$5,431	\$0	\$0	\$0	\$311	\$1,638	\$1,634	\$601	\$50	\$1,509	\$1,506	\$97,882
2025	\$6,252	\$0	\$0	\$0	\$27	\$2,458	\$2,643	\$535	\$53	\$1,512	\$1,509	\$99,386

Reporting Period 72: Ending FY25 M03 Sep

Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$307,732,086	\$3,401,005	\$1,088,296	\$1,286,844	\$267,194	\$33,831	\$1,850,386	\$1,850,386	\$5,288,640	\$67,615,827

Description of CIP Changes:

Updated Scoring

2022 - Added phase 2 for design/construction of HVAC Improvements for PS1 Rack & Grit.

Title change: from "WRRF PS1 Screening and Grit Improvements" to "PS 1 Rack and Grit HVAC System Upgrade" per P.Ghosh request. CIP 06/14/24

Project Title: WRRF Aeration Improvements 1 and 2

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Secondary Treatment and Disinfection

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
76.3

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Aeration Improvements 1 and 2

Project Manager: Phillip Kora

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 9/14/2017

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**
Program Number:
Delivery Method: DB (Design-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: WRRF Aeration Improvements 1 and 2

Problem Statement:

The Intermediate Lift Pumps (ILPs) convey primary effluent to the secondary bioreactors (aeration decks). These pumps have reached the end of their useful life and are in need of replacement. The pump selection is integrally connected to improvements in the aeration decks related to the conversion to biological phosphorus removal, implementation of step feed and overall improved hydraulic control in the aeration decks and flow control through the secondary system. Implementation of biological phosphorus removal will reduce oxygen and chemical use resulting in a more sustainable treatment system, and implementation of step feed will improve high flow management through the secondary system increasing the volume of flow that can be treated through the secondary system thus minimizing the volume of flow discharged without secondary system. Hydraulic improvements ease operations and minimize the operator effort on the surface aerators.

Scope of Work/Project Alternatives:

The work consists of evaluation, design and construction of the replacement of ILPs 1 & 2, conversion of aeration decks 1 & 2 to incorporate biological phosphorus removal, (including replacement of mixers in Bays 1, 2 and 3), relocation of the oxygen feed, and installing a new purge blower. Incorporation of step feed includes modification of the influent conditions to allow primary effluent to be directed to Bay 1, as well as two other locations down the length of the tank. Weir length will be increased to reduce the variation in the hydraulic grade line across the tank to maintain adequate submergence of mixer/aerators and reduce the frequency of them tripping out on surge. Replacement of Mixer/aerators in Bays 4 through 10 will be evaluated and could be included as an add-alternate to the contract.

Other Important Info:

Opportunity for a common header system to allow for any ILP to supply any bioreactor. If feasible provide ILPs that can meet the regulatory and dry weather needs without the need for speed control.

Challenges: Maintaining the required wet weather secondary capacity of 930 MGD while operating efficiently during dry weather flows.

Project History: ILP Station No. 1 houses ILP Nos. 1 and 2. The pumps are vertical turbine type each with a maximum capacity of 365 MGD and a motor size of 2,500 hp. The pumps are equipped with variable frequency drives (VFDs) to vary the pump speed. ILP Nos. 1 and 2 can feed Aeration Deck Nos. 1 and 2.

ILP Station No. 2 houses ILP Nos. 3, 4, and 7. The pumps are vertical turbine pumps with a maximum rated design capacity of 350 MGD each and a motor size of 2,500 hp. The pumps are also equipped with VFDs. ILP Nos. 3 and 4 feed Aeration Deck Nos. 3 and 4, while ILP No. 7 is a swing pump and can be used to transfer wastewater to Aeration Deck Nos. 2, 3, or 4.

Primary Driver: 3 - Regulatory

Driver Explanation:

System is required to meet permit

Project Title: WRRF Aeration Improvements 1 and 2

Scoring

Project Manager Weighted Score: 76.3			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	Current year Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	Current year Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	Current year Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value	Current year Project Manager score carried over from previous year Project Manager score
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	Current year Project Manager score carried over from previous year Project Manager score
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	Current year Project Manager score carried over from previous year Project Manager score
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	Current year Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	Current year Project Manager score carried over from previous year Project Manager score

Project Title: WRRF Aeration Improvements 1 and 2

Review Committee Weighted Score: 76.3		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	3	Committee score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	4	Committee score carried over from previous year Project Manager score
Operations and Maintenance	3	Committee score carried over from previous year Project Manager score
Health and Safety	3	Committee score carried over from previous year Project Manager score
Public Benefit	3	Committee score carried over from previous year Project Manager score
Financial	3	Committee score carried over from previous year Project Manager score
Efficiency and Innovation	4	Committee score carried over from previous year Project Manager score

Project Title: WRRF Aeration Improvements 1 and 2

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 4/8/2024**Phase Status:** Project Execution**End Date:** 3/27/2032

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$1,337	\$154	\$123	\$149	\$158	\$158	\$158	\$158	\$158	\$790	\$275

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/8/2024	3/27/2032
Capital Delivery Salary (Fringes)	4/8/2024	3/27/2032

Project Title: WRRF Aeration Improvements 1 and 2

Phase: Professional Services #1

Phase Title: Professional Services #1

Phase Budget: Wastewater

Start Date: 6/15/2020

Phase Status: Project Execution

End Date: 5/1/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 6/15/2020

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services #1	\$1,801	\$1,249	\$1,239	\$562	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72016A.01 / 72021A.04 / 72007B.06 / 72007A.06)	6/15/2020	5/1/2025
Construction (CS-272) (net-zero cost account to be archived)	6/15/2020	5/1/2025

Project Title: WRRF Aeration Improvements 1 and 2

Phase: Professional Services #2**Phase Title:** Professional Services #2

Phase Budget: Wastewater**Start Date:** 1/12/2022**Phase Status:** Closed Out**End Date:** 1/30/2024

Phase Comments/Description:Helping to write the design build RFP

Cost Est. Class: Class 1**Cost Est. Source:** PMA**Cost Est. Date:** 1/12/2022**Cost Est. Prepared By:** PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services #2	\$120	\$102	\$102	\$18	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166)	1/12/2022	1/30/2024

Project Title: WRRF Aeration Improvements 1 and 2

Phase: Professional Services #3**Phase Title:** Professional Services #3

Phase Budget: Wastewater**Start Date:** 4/8/2024**Phase Status:** Project Execution**End Date:** 3/1/2032

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA**Cost Est. Date:** 1/1/2024**Cost Est. Prepared By:** GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services #3	\$606	\$32	\$0	\$90	\$77	\$77	\$77	\$77	\$77	\$387	\$129

Phase Dates

Activity Name	Start Date	End Date
Professional Services (2203638)	4/8/2024	3/1/2032
Design/Engineering (2203638) (net-zero cost account to be archived)	4/8/2024	3/1/2032

Project Title: WRRF Aeration Improvements 1 and 2

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 4/8/2026**Phase Status:** Cancelled**End Date:** 8/7/2034

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** TBD.**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** TBD.

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/8/2026	8/7/2034

Project Title: WRRF Aeration Improvements 1 and 2

Phase: Design-Build # 1**Phase Title:** Design-Build # 1

Phase Budget: Wastewater**Start Date:** 4/8/2024**Phase Status:** Project Execution**End Date:** 3/27/2032

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Bid**Cost Est. Date:** 1/31/2024**Cost Est. Prepared By:** Bid received from Kokosing Industrial, Inc.

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design-Build # 1	\$209,881	\$9,391	\$6,689	\$8,818	\$11,807	\$23,949	\$26,968	\$35,177	\$35,177	\$133,078	\$61,295

Phase Dates

Activity Name	Start Date	End Date
Construction	4/8/2024	3/27/2032

Project Title: WRRF Aeration Improvements 1 and 2

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$1,337	\$154	\$123	\$149	\$158	\$158	\$158	\$158	\$158	\$790	\$275
Professional Services #1	\$1,801	\$1,249	\$1,239	\$562	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services #2	\$120	\$102	\$102	\$18	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services #3	\$606	\$32	\$0	\$90	\$77	\$77	\$77	\$77	\$77	\$387	\$129
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design-Build # 1	\$209,881	\$9,391	\$6,689	\$8,818	\$11,807	\$23,949	\$26,968	\$35,177	\$35,177	\$133,078	\$61,295
Totals	\$213,744	\$10,928	\$8,153	\$9,637	\$12,042	\$24,184	\$27,204	\$35,412	\$35,412	\$134,255	\$61,700

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

CIP	5 Year Total	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2019	\$13,707	\$0	\$0	\$230	\$1,141	\$6,569	\$5,767	\$6,809	\$0	\$0	\$0	\$0	\$0	\$20,516
2020	\$14,022	\$0	\$0	\$229	\$500	\$656	\$6,727	\$5,910	\$6,811	\$0	\$0	\$0	\$0	\$20,833
2021	\$76,182	\$0	\$0	\$183	\$4,612	\$7,977	\$7,619	\$40,638	\$15,336	\$5,149	\$0	\$0	\$0	\$81,514
2022	\$65,328	\$0	\$0	\$16	\$2,264	\$2,566	\$5,391	\$19,423	\$19,370	\$18,576	\$14,323	\$0	\$0	\$81,931
2023	\$41,135	\$0	\$0	\$16	\$567	\$0	\$0	\$1,500	\$13,284	\$13,283	\$13,070	\$10,712	\$10,712	\$73,883
2024	\$54,294	\$0	\$0	\$16	\$567	\$386	\$2,378	\$10,878	\$10,847	\$10,847	\$10,847	\$10,878	\$10,847	\$77,581
2025	\$112,630	\$0	\$0	\$16	\$567	\$386	\$227	\$483	\$10,783	\$25,444	\$25,444	\$25,514	\$25,444	\$214,343

Reporting Period 72: Ending FY25 M03 Sep

Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$213,744,633	\$8,152,806	\$9,637,398	\$12,042,183	\$24,184,113	\$27,203,589	\$35,412,496	\$35,412,496	\$134,254,875	\$61,699,554

Project Title: WRRF Aeration Improvements 1 and 2

Description of CIP Changes:

4/25/24 PK: This Design-Build Contract 2102926 was awarded to Kokosing Industrial, Inc with a start work date of April 8, 2024. The required substantial completion date is September 25, 2029 and the required final completion date is March 27, 2030. The total contract value is \$209,880,500.00. This is an SRF funded project for \$175M and the SRF Loan Closing is scheduled for May 6, 2024 (FY 24 Quarter 2.5). EGLE Order of Approval was received on April 8, 2024 for \$175,000,000.

Project Title: WRRF Aeration Improvements 3 and 4

Project Status: Future Planned - Ten Year CIP

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Secondary Treatment and Disinfection

☐ **Project New to CIP**
☐ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
76.3

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☒ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Aeration Improvements 3 and 4

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 8/7/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: WRRF Aeration Improvements 3 and 4

Problem Statement:

The Intermediate Lift Pumps (ILPs) convey primary effluent to the secondary bioreactors (aeration decks). These pumps have reached the end of their useful life and are in need of replacement. The pump selection is integrally connected to improvements in the aeration decks related to the conversion to biological phosphorus removal, implementation of step feed and overall improved hydraulic control in the aeration decks and flow control through the secondary system. Implementation of biological phosphorus removal will reduce oxygen and chemical use resulting in a more sustainable treatment system, and implementation of step feed will improve high flow management through the secondary system increasing the volume of flow that can be treated through the secondary system thus minimizing the volume of flow discharged without secondary system. Hydraulic improvements will ease operations and minimize the operator effort on the surface aerators.

Scope of Work/Project Alternatives:

The work consists of evaluation, design and construction of the replacement of ILPs 3, 4 & 7, conversion of aeration decks 3 & 4 to incorporate biological phosphorus removal, including replacement of mixers in Bays 1 and 2, relocation of the oxygen feed, and installing a new purge blower. Incorporation of step feed includes modification of the influent conditions to allow primary effluent to be directed to Bay 1, as well as two other locations down the length of the tank. An assessment of reconfiguring decks 3 and 4 to four independent decks will also be evaluated. Weir length will be increased to reduce the variation in the hydraulic grade line across the tank to maintain adequate submergence of mixer/aerators and reduce the frequency of them tripping out on surge. Replacement of Mixer/aerators in Decks 3 through 8 will be evaluated and could be included as an add-alternate to the contract or included as a separate contract.

Other Important Info:

Maintaining the MDEQ-NPDES required capacity during the construction phase of the project.

Primary Driver: 3 - Regulatory

Driver Explanation:

System required to meet permit

Project Title: WRRF Aeration Improvements 3 and 4

Scoring

Project Manager Weighted Score: 76.3			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value, E. Reduction (25% to 49%) in reactive maintenance	
Health and Safety	3	C. Likely to address minor hazard issues or concerns	
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process, C. Significant positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	

Review Committee Weighted Score: 76.3		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: WRRF Aeration Improvements 3 and 4

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 5/2/2032**Phase Status:** Future Planned Start**End Date:** 6/29/2043

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$625	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$177

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	5/2/2032	6/29/2043
Capital Delivery Salary (Fringes)	5/2/2032	6/29/2043

Project Title: WRRF Aeration Improvements 3 and 4

Phase: Design & Construction Assistance # 1

Phase Title: Design & Construction Assistance # 1

Phase Budget: Wastewater

Start Date: 5/2/2032

Phase Status: Future Planned Start

End Date: 6/29/2043

Phase Comments/Description:

WRRF Rehabilitation of Intermediate Lift Pumps (ILPs) 3,4 and 7

Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design & Construction Assistance # 1	\$10,920	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,079

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	5/2/2032	6/29/2043

Project Title: WRRF Aeration Improvements 3 and 4

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 2/26/2035

Phase Status: Future Planned Start

End Date: 6/29/2043

Phase Comments/Description:

WRRF Rehabilitation of Intermediate Lift Pumps (ILPs) 3,4 and 7

Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$260,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,670

Phase Dates

Activity Name	Start Date	End Date
Construction	2/26/2035	6/29/2043

Project Title: WRRF Aeration Improvements 3 and 4

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$625	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$177
Design & Construction Assistance # 1	\$10,920	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,079
Construction (Build) # 1	\$260,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,670
Totals	\$271,545	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,926

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

CIP	5 Year Total	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2021	\$14	\$0	\$0	\$0	\$0	\$0	\$14	\$73,749	\$0	\$0	\$0	\$73,763
2022	\$1,291	\$0	\$0	\$0	\$0	\$0	\$52	\$1,238	\$2,960	\$11,861	\$20,800	\$73,589
2023	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$66,983
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$69,528
2025	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$69,528

Reporting Period 72: Ending FY25 M03 Sep

Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$271,545,226	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,925,691

Description of CIP Changes:

Updated project timing

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Secondary Treatment and Disinfection

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
89.7

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared: 8/7/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Problem Statement:

With the completion of the RRO Disinfection Project (CIP 212006), storage and feed of sodium hypochlorite to the primary effluent bypass with sodium bisulfite for dechlorination has been enabled. Elimination of the use of gaseous chlorine for disinfection of the secondary effluent and replacement with sodium hypochlorite will increase operator and public safety in and around the plant site.

Scope of Work/Project Alternatives:

The work consists of evaluation of sodium hypochlorite and sodium bisulfite usage over the first three years of operation of the new system to assess actual dosage required to achieve permit compliance and storage available within the existing system. The assessment will include preliminary design of modifications required to enable sodium hypochlorite feed to the secondary treatment effluent and an assessment of the storage requirements at varying sodium hypochlorite concentrations. The assessment will also include the interest for a chemical manufacturer to own and operate a sodium hypochlorite generation facility in close proximity to the facility that would allow piping of sodium hypochlorite to the site (in lieu of providing additional storage, if required, on-site).

Other Important Info:

None

Primary Driver: 5 - Public Health and Safety

Driver Explanation:

The existing system is hazardous to operate and maintain.

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Scoring

Project Manager Weighted Score: 89.7			
Criteria Name	Score	Score Criteria	Comment
Condition	2	A. Asset has <75% of its design service life remaining	
Performance (Service Level/Reliability)	2	A. Meets all design requirements under normal conditions; up to date	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	5	A. Catastrophic failure w/ safety/health/environmental impacts imminent (2 years or less) as supported by engineering reports, studies, inspections, historical evidence, etc.	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	
Financial	2	A. Low financial impact to GLWA; No grants/other external funding	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 89.7		
Criteria Name	Score	Comment
Condition	2	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	5	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2028

Phase Status: Future Planned Start

End Date: 12/31/2036

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$325	\$0	\$0	\$0	\$0	\$0	\$0	\$38	\$38	\$76	\$191

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2028	12/31/2036
Capital Delivery Salary (Fringes)	7/1/2028	12/31/2036

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Phase: Design & Construction Assistance # 1

Phase Title: Design & Construction Assistance # 1

Phase Budget: Wastewater

Start Date: 7/1/2028

Phase Status: Future Planned Start

End Date: 12/31/2036

Phase Comments/Description:

WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design & Construction Assistance # 1	\$1,398	\$0	\$0	\$0	\$0	\$0	\$0	\$403	\$403	\$806	\$463

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2028	12/31/2036

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 10/2/2031

Phase Status: Future Planned Start

End Date: 12/31/2036

Phase Comments/Description:

WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$4,509	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,346

Phase Dates

Activity Name	Start Date	End Date
Construction	10/2/2031	12/31/2036

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$325	\$0	\$0	\$0	\$0	\$0	\$0	\$38	\$38	\$76	\$191
Design & Construction Assistance # 1	\$1,398	\$0	\$0	\$0	\$0	\$0	\$0	\$403	\$403	\$806	\$463
Construction (Build) # 1	\$4,509	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,346
Totals	\$6,231	\$0	\$0	\$0	\$0	\$0	\$0	\$441	\$441	\$882	\$3,999

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

CIP	5 Year Total	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2021	\$14	\$0	\$0	\$0	\$0	\$0	\$14	\$5,972	\$0	\$0	\$0	\$5,986
2022	\$185	\$0	\$0	\$0	\$0	\$0	\$52	\$132	\$238	\$940	\$1,653	\$5,765
2023	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$315	\$5,456
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$441	\$6,232
2025	\$441	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$441	\$6,232

Reporting Period 72: Ending FY25 M03 Sep

Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$6,231,557	\$0	\$0	\$0	\$0	\$0	\$441,014	\$441,014	\$882,027	\$3,999,363

Description of CIP Changes:

Updates timing

2024 - updating timing

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Residuals Management

☐ **Project New to CIP**
☐ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
76.6

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Project Manager: Scott Worth

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/27/2016

Year Project Added to CIP: 2016

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Problem Statement:

Improvements to the sludge feed pumping (SFP) system will provide a wide range of operating options. Variable Frequency drive and Hydraulic drive units for SFP 1 and 2 are located below grade and the area has flooded. A single recycle valve for SFP 3 and 4 puts the plant at a higher risk for system outages.

Scope of Work/Project Alternatives:

The scope of work includes study, design, and construction for the replacement of sludge feed pumps SFP 1, 2, 3, 4, 5 and 6 and other modifications to the pumping system at the WRRF.

Other Important Info:

Challenges: Maintaining Plant Operational Capacity during construction.

Project History: Water Resource Recovery Facility (WRRF) has six (6) Sludge Storage Tanks (SST-1, 2, 3, 4, 5 & 6), which feed sludge to the dewatering facilities (i.e. belt filter presses complexes and complex II centrifuges.) Typically, sludge from Storage Tanks 1 & 2 supplies the centrifuges on dewatering complex II upper level; sludge from Storage Tanks 3 & 4 supplies the centrifuges on the lower level of Dewatering Complex II; and sludge from Storage Tanks 5 & 6 supplies the belt filter presses in Dewatering Complex I. However, control valves in the Dewatering Complex II basement allow sludge from any storage tanks to supply any Dewatering area. Under Contract PC-792, Storage Tanks SST-3 & 4 along with Sludge Feed Pumps SFP-3 & 4 are to be dedicated to the BDF Facility.

Primary Driver: 4 - O and M

Driver Explanation:

Location of pumps has proven to be problematic due to flooding.

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Scoring

Project Manager Weighted Score: 75.3			
Criteria Name	Score	Score Criteria	Comment
Condition	3	A. Asset has <50% of its design service life remaining	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	Project Manager score carried over from previous year Project Manager score
Health and Safety	2	A. Low chance of failure occurring; failure easily mitigated w/ no safety/health/env. impacts	Project Manager score carried over from previous year Project Manager score
Public Benefit	2	A. Low to moderate impact by supporting City/region/neighborhood growth	Project Manager score carried over from previous year Project Manager score
Financial	4	A. Project will generate significant increased revenue/savings	Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	Project Manager score carried over from previous year Project Manager score

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Review Committee Weighted Score: 76.6		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from previous year committee score
Performance (Service Level/Reliability)	3	Committee score carried over from previous year committee score
Regulatory (Environmental/Legal)	4	Committee score carried over from previous year committee score
Operations and Maintenance	5	Committee score carried over from previous year committee score
Health and Safety	2	Committee score carried over from previous year committee score
Public Benefit	2	Committee score carried over from previous year committee score
Financial	4	Committee score carried over from previous year committee score
Efficiency and Innovation	4	Committee score carried over from previous year committee score

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 4/14/2023**Phase Status:** Project Execution**End Date:** 6/13/2029

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$259	\$10	\$9	\$40	\$53	\$53	\$53	\$50	\$0	\$209	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/14/2023	6/13/2029
Capital Delivery Salary (Fringes)	4/14/2023	6/13/2029

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Phase: Professional Services (CS-272)

Phase Title: Professional Services (CS-272)

Phase Budget: Wastewater

Start Date: 9/23/2019

Phase Status: Cancelled

End Date: 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Cancel this

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Cancel this

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$398	\$398	\$377	\$21	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72014A.05 / 72021A.05 / 72007A.07 / 72029A.02)	9/23/2019	5/19/2023
Construction (CS-272) (net-zero cost account)	9/23/2019	5/19/2023

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Phase: Professional Services (2203638)

Phase Title: Professional Services (2203638)

Phase Budget: **Start Date:** 11/27/2023

Phase Status: Project Execution **End Date:** 11/26/2026

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA

Cost Est. Date: 4/1/2023

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (2203638)	\$58	\$58	\$27	\$31	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (2203638)	11/27/2023	11/26/2026
Design/Engineering (2203638) (net-zero cost account to be archived)	11/27/2023	11/26/2026

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/14/2023

Phase Status: Project Execution

End Date: 6/13/2029

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: CDM Smith

Cost Est. Date: 4/1/2023

Cost Est. Prepared By: CDM Smith

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$4,800	\$2,554	\$2,195	\$774	\$659	\$479	\$356	\$338	\$0	\$1,831	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/14/2023	6/13/2029

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 3/16/2026

Phase Status: Future Planned Start

End Date: 6/13/2029

Phase Comments/Description:

Improvements to Sludge Feed Pumps at Dewatering Facilities

Cost Est. Class: Class 3

Cost Est. Source: CDM Smith

Cost Est. Date: 4/1/2024

Cost Est. Prepared By: CDM Smith

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$16,000	\$0	\$0	\$0	\$292	\$4,023	\$7,439	\$4,247	\$0	\$16,000	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	3/16/2026	6/13/2029

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$259	\$10	\$9	\$40	\$53	\$53	\$53	\$50	\$0	\$209	\$0
Professional Services (CS-272)	\$398	\$398	\$377	\$21	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (2203638)	\$58	\$58	\$27	\$31	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$4,800	\$2,554	\$2,195	\$774	\$659	\$479	\$356	\$338	\$0	\$1,831	\$0
Construction (Build) #1	\$16,000	\$0	\$0	\$0	\$292	\$4,023	\$7,439	\$4,247	\$0	\$16,000	\$0
Totals	\$21,514	\$3,019	\$2,608	\$866	\$1,003	\$4,555	\$7,847	\$4,635	\$0	\$18,041	\$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	\$1,152	\$33	\$402	\$750	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,185
2019	\$3,853	\$4	\$0	\$0	\$57	\$275	\$2,391	\$1,130	\$0	\$0	\$0	\$0	\$0	\$0	\$3,857
2020	\$1,390	\$0	\$5	\$0	\$0	\$0	\$0	\$24	\$1,366	\$2,331	\$0	\$0	\$0	\$0	\$3,726
2021	\$4,646	\$0	\$0	\$5	\$0	\$174	\$385	\$3,371	\$716	\$0	\$0	\$0	\$0	\$0	\$4,651
2022	\$4,376	\$0	\$0	\$0	\$6	\$108	\$342	\$2,252	\$1,781	\$0	\$0	\$0	\$0	\$0	\$4,490
2023	\$6,500	\$3	\$0	\$0	\$1	\$189	\$400	\$750	\$2,417	\$1,667	\$1,667	\$0	\$0	\$0	\$7,094
2024	\$7,167	\$3	\$0	\$0	\$1	\$189	\$103	\$193	\$1,050	\$413	\$1,603	\$2,182	\$1,919	\$0	\$7,657
2025	\$14,899	\$3	\$0	\$0	\$1	\$189	\$103	\$449	\$2,293	\$64	\$5,417	\$7,410	\$2,009	\$0	\$17,939

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$21,514,422	\$2,607,667	\$866,001	\$1,003,032	\$4,555,084	\$7,847,360	\$4,635,275	\$0	\$18,040,753	\$0

Description of CIP Changes:

5/2/24 PK/SW: Updated Schedule and cost based on 30% design submittal.

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Residuals Management

☐ **Project New to CIP**
☐ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
96.2

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Project Manager: Reed Johnson

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2016

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Problem Statement:

GLWA have an ongoing study and design of sludge cake conveyance system improvements project as a result of a fire in March 2016 in the Complex –II Incinerators building. The construction of this project will provide a cleaner, fire resistant, reliable and safe sludge feed to the incinerators.

Scope of Work/Project Alternatives:

The restoration of sludge conveying capacity, which was lost due to the fire damage and to provide improved sludge conveyance from each dewatering facility to the incinerators. Replacement of 19 MCCs and Replacement of the Unit Substation EB-26 in Incineration Complex II is included.

Other Important Info:

Challenges: Maintaining the sludge conveyance capacity to meet permit requirements during the construction of these improvements, will be the most significant challenge.

Project History: The C-II Incineration complex is over 40 years old. Major rehabilitation had been deferred over the years in anticipation of an alternative Biosolids disposal solution to handle all the solids. Complex-II has many major pieces of equipment that are nearing the end of their useful life and require replacement or major rehabilitation in order to be used as the primary long-term solids disposal method. GLWA approved contracts to rehabilitate some of the aging problem of the incineration and to meet the new air permit requirements. GLWA also completed a Biosolids Dryer Facility (BDF) with a firm capacity of 316 dry tons per day. The BDF facility is currently in operation under an in-term agreement with NEFCO. The current GLWA plan for Biosolids disposal is to utilize BDF to its capacity first, then send the additional load to Complex-II Incinerators and anything beyond that to the land fill. This Biosolids Disposal Plan requires investment in the Complex-II Incinerators to process the sludge loads for the daily and wet weather events to avoid the highest cost of land fill.

The sludge from Dewatering Complex II travels through a series of conveyor belts before it reaches Incineration Complex II. The conveyor belt structures in Incineration C-II have been rebuilt or repaired several times that may have altered the overall integrity of the structures. The existing "Dusseau" hopper oftentimes plugged resulting to sludge spillage. The existing feed system to the incinerator from the hoppers should be redesigned and replaced. New control systems, safeguards, provision of SFE water, run time meter or tie to ovation system and poor lighting system in the complex needs improvement. Drainage problems have historically existed within the basement of Complex II Incineration and C-II Dewatering. These problems led to excessive demands on operations and maintenance staff, shutdown of process-related equipment, and safety concerns. Improvements to the C-II

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Incinerators building drainage system were completed in 2003. However, the drainage problems were not completely eliminated and further Improvements to the C-II Dewatering are in design. To have an effective sludge conveyer's wash system the drainage improvements in Complex-II Dewatering and Incinerators building are essential.

Primary Driver: 3 - Regulatory

Driver Explanation:

The existing sludge conveyance system is very old and is critical to disposal of biosolids to meet incinerator air permit requirements. The disposal of biosolids to meet allowable permitted inventory of biosolids at the WRRF.

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Scoring

Project Manager Weighted Score:		96.7	
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	Current year Project Manager score carried over from previous year Project Manager Score
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems	Current year Project Manager score carried over from previous year Project Manager Score
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	Current year Project Manager score carried over from previous year Project Manager Score
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	Current year Project Manager score carried over from previous year Project Manager Score
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	Current year Project Manager score carried over from previous year Project Manager Score
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	Current year Project Manager score carried over from previous year Project Manager Score
Financial	4	A. Project will generate significant increased revenue/savings	Current year Project Manager score carried over from previous year Project Manager Score
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	Current year Project Manager score carried over from previous year Project Manager Score

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Review Committee Weighted Score: 96.2		
Criteria Name	Score	Comment
Condition	5	Committee score carried over from previous year committee score
Performance (Service Level/Reliability)	5	Committee score carried over from previous year committee score
Regulatory (Environmental/Legal)	5	Committee score carried over from previous year committee score
Operations and Maintenance	4	Committee score carried over from previous year committee score
Health and Safety	4	Committee score carried over from previous year committee score
Public Benefit	4	Committee score carried over from previous year committee score
Financial	4	Committee score carried over from previous year committee score
Efficiency and Innovation	3	Committee score carried over from previous year committee score

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/29/2016

Phase Status: Project Execution

End Date: 1/31/2026

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$996	\$996	\$975	\$21	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/29/2016	1/31/2026
Capital Delivery Salary (Fringes)	4/29/2016	1/31/2026

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 10/17/2022**Phase Status:** Cancelled**End Date:** 6/30/2024

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$360	\$360	\$343	\$17	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (2202942)	2/1/2024	2/29/2024
Professional Services (CS-166)	10/17/2022	1/31/2024
Professional Services (2202942)	2/1/2024	6/30/2024

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Design/Engineering (CS-060)

Phase Title: Design/Engineering (CS-060)

Phase Budget: Wastewater

Start Date: 4/29/2016

Phase Status: Project Execution

End Date: 1/31/2026

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: B&V

Cost Est. Date: 8/22/2016

Cost Est. Prepared By: B&V

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-060)	\$2,086	\$609	\$609	\$1,048	\$430	\$0	\$0	\$0	\$0	\$430	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-060)	4/29/2016	1/31/2026

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Design/Engineering (CS-291)

Phase Title: Design/Engineering (CS-291)

Phase Budget: Wastewater

Start Date: 5/1/2018

Phase Status: Closed Out

End Date: 6/30/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Unkown

Cost Est. Date: 7/18/2018

Cost Est. Prepared By: Unkown

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-291)	\$78	\$59	\$59	\$19	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-291)	5/1/2018	6/30/2023

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Design/Engineering (CS-1432A)

Phase Title: Design/Engineering (CS-1432A)

Phase Budget: Wastewater

Start Date: 7/1/2017

Phase Status: Closed Out

End Date: 6/29/2018

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Unkown

Cost Est. Date: 7/18/2017

Cost Est. Prepared By: Unkown

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-1432A)	\$29	\$29	\$29	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1432A)	7/1/2017	6/29/2018

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Design/Engineering (MISC)

Phase Title: Design/Engineering (MISC)

Phase Budget: Wastewater

Start Date: 7/1/2017

Phase Status: Closed Out

End Date: 6/30/2018

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Unkown

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Unkown

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (MISC)	\$130	\$130	\$130	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (MISC)	7/1/2017	6/30/2018

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Construction (Build) # 1 (CON-197)

Phase Title: Construction (Build) # 1 (CON-197)

Phase Budget: Wastewater

Start Date: 4/2/2018

Phase Status: Project Execution

End Date: 1/31/2026

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: BID

Cost Est. Date: 4/2/2018

Cost Est. Prepared By: Weiss

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1 (CON-197)	\$20,387	\$20,058	\$20,058	\$184	\$145	\$0	\$0	\$0	\$0	\$145	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (CON-197)	4/2/2018	1/31/2026

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Miscellaneous

Phase Title: Miscellaneous

Phase Budget: Wastewater

Start Date: 5/1/2010

Phase Status: Closed Out

End Date: 6/30/2015

Phase Comments/Description:

Chris Nastally has no idea what this is for.

Cost Est. Class: Class 1

Cost Est. Source: CAFR

Cost Est. Date: 6/21/2015

Cost Est. Prepared By: CAFR

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Miscellaneous	\$1,458	\$1,458	\$1,458	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Pre-CAFR Actuals	5/1/2010	6/30/2015

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$996	\$996	\$975	\$21	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services	\$360	\$360	\$343	\$17	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-060)	\$2,086	\$609	\$609	\$1,048	\$430	\$0	\$0	\$0	\$0	\$430	\$0
Design/Engineering (CS-291)	\$78	\$59	\$59	\$19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-1432A)	\$29	\$29	\$29	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (MISC)	\$130	\$130	\$130	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Build) # 1 (CON-197)	\$20,387	\$20,058	\$20,058	\$184	\$145	\$0	\$0	\$0	\$0	\$145	\$0
Miscellaneous	\$1,458	\$1,458	\$1,458	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$25,523	\$23,698	\$23,661	\$1,289	\$574	\$0	\$0	\$0	\$0	\$574	\$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	\$17,422	\$1,500	\$9,600	\$7,822	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,922
2019	\$21,620	\$0	\$567	\$6,787	\$11,356	\$3,477	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$22,187
2020	\$12,019	\$0	\$871	\$7,159	\$8,711	\$3,308	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,049
2021	\$2,258	\$0	\$0	\$9,352	\$8,336	\$2,258	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,946
2022	\$2,500	\$0	\$871	\$8,456	\$6,094	\$4,243	\$2,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$22,162
2023	\$0	\$0	\$871	\$8,480	\$6,070	\$3,241	\$3,690	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$23,809
2024	\$709	\$0	\$871	\$8,480	\$6,069	\$3,241	\$1,668	\$2,404	\$709	\$0	\$0	\$0	\$0	\$0	\$24,902
2025	\$104	\$0	\$871	\$8,480	\$6,069	\$3,241	\$1,668	\$1,063	\$2,362	\$104	\$0	\$0	\$0	\$0	\$25,318

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$25,523,817	\$23,660,593	\$1,288,958	\$574,266	\$0	\$0	\$0	\$0	\$574,266	\$0

Description of CIP Changes:

4/29/24 PK: Contractor has completed all Construction activities however the system has experienced performance issues like sludge spillage from the belt conveyors/chutes, belt pulley failures, new screw conveyor performance issues etc. Currently the Contractor is working on addressing all the deficiency list items. The Contract will likely need another time extension to address all the deficiency list items and conduct the 30 day performance test.

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Residuals Management

☐ **Project New to CIP**
☐ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
59.5

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Rehabilitation of the Ash Handling Systems

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Problem Statement:

The ash systems convey and store ash for ultimate disposal. The incinerators cannot be used if both the systems are not working.

Scope of Work/Project Alternatives:

The scope of work will include study, design, and construction for the rehabilitation of the wet and dry ash systems. The scope will also include the piping, valves, isolation gates, vacuum pumps, air filters, HVAC, boilers, miscellaneous silo repairs (concrete, access, etc.) site work and drainage, and miscellaneous structural repairs (foot bridge, spalling concrete, etc.) at the dry ash handling system. It will also include the pumps, piping, and sluicing system at the wet ash system.

Other Important Info:

*Innovation note: Due to only 10-15 years remaining useful life on Complex I, reconsider recommissioning wet ash.

Project History: The C-I and C-II Incinerators have been the primary source for processing Biosolids at the GLWA WRF since the plant was first built. The original ash handling system was a wet ash/sluicing process. The dry ash system was constructed in the 1960s and expanded with the construction of the C-II Incinerators in the 1970s. The wet ash system has not been in use for over five years and there is no backup if the dry ash system goes down. The C-I Incinerators are planned to be decommissioned in the next year or two and there is a potential to link the C-I ash handling system to the C-II system to provide extra storage.

Primary Driver: 1 - Condition

Driver Explanation:

The wet ash system has been out of service for over five years and the dry ash system is nearing the end of its useful life.

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Scoring

Project Manager Weighted Score: 57.8			
Criteria Name	Score	Score Criteria	Comment
Condition	3	A. Asset has <50% of its design service life remaining, B. Functionally sound and acceptable, signs of normal wear, C. May have minor failures or diminished efficiency; some performance deterioration, D. Moderate renewal or rehab needed in short term	
Performance (Service Level/Reliability)	2	A. Meets all design requirements under normal conditions; up to date	
Regulatory (Environmental/Legal)	3	E. Moderate historical evidence gives minor support for project	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	3	C. Likely to address minor hazard issues or concerns	
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships	
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	

Review Committee Weighted Score: 59.5		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 11/14/2025**Phase Status:** Future Planned Start**End Date:** 2/28/2033

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$264	\$26	\$26	\$0	\$20	\$33	\$33	\$33	\$33	\$151	\$87

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	11/14/2025	2/28/2033
Capital Delivery Salary (Fringes)	11/14/2025	2/28/2033

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Phase: Design/Engineering (1803499)

Phase Title: Design/Engineering (1803499)

Phase Budget: Wastewater

Start Date: 10/16/2019

Phase Status: Closed Out

End Date: 11/13/2020

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Consultant

Cost Est. Date: 10/16/2019

Cost Est. Prepared By: Consultant

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (1803499)	\$125	\$125	\$125	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1803499)	10/16/2019	11/13/2020

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 11/14/2025

Phase Status: Future Planned Start

End Date: 2/28/2033

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: TBD

Cost Est. Date: 11/28/2023

Cost Est. Prepared By: TBD

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$1,600	\$0	\$0	\$0	\$322	\$513	\$240	\$0	\$143	\$1,218	\$382

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	11/14/2025	2/28/2033

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 7/1/2029

Phase Status: Future Planned Start

End Date: 2/28/2033

Phase Comments/Description:

Rehabilitation of the Ash Handling Systems

Cost Est. Class: Class 4

Cost Est. Source: WWE

Cost Est. Date: 6/21/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$5,200	\$143	\$0	\$143	\$0	\$0	\$0	\$0	\$1,379	\$1,379	\$3,679

Phase Dates

Activity Name	Start Date	End Date
Construction (2102926)	7/1/2029	2/28/2033

Project Title: WRRF Rehabilitation of the Ash Handling Systems

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$264	\$26	\$26	\$0	\$20	\$33	\$33	\$33	\$33	\$151	\$87
Design/Engineering (1803499)	\$125	\$125	\$125	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$1,600	\$0	\$0	\$0	\$322	\$513	\$240	\$0	\$143	\$1,218	\$382
Construction (Build) #1	\$5,200	\$143	\$0	\$143	\$0	\$0	\$0	\$0	\$1,379	\$1,379	\$3,679
Totals	\$7,188	\$293	\$151	\$143	\$342	\$545	\$273	\$33	\$1,554	\$2,748	\$4,148

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	\$18,316	\$0	\$530	\$1,045	\$6,225	\$5,725	\$4,791	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,316
2019	\$11,286	\$0	\$0	\$0	\$687	\$916	\$3,614	\$6,069	\$9,330	\$0	\$0	\$0	\$0	\$0	\$20,616
2020	\$18,505	\$0	\$0	\$0	\$111	\$1,111	\$5,525	\$9,574	\$2,184	\$0	\$0	\$0	\$0	\$0	\$18,505
2021	\$18,377	\$0	\$0	\$0	\$166	\$1,338	\$636	\$11,061	\$5,342	\$0	\$0	\$0	\$0	\$0	\$18,543
2022	\$6,540	\$0	\$0	\$0	\$111	\$351	\$295	\$295	\$453	\$1,518	\$3,978	\$1,429	\$0	\$0	\$8,432
2023	\$1,000	\$0	\$0	\$0	\$111	\$40	\$0	\$0	\$0	\$0	\$500	\$500	\$0	\$1,484	\$6,351
2024	\$1,182	\$0	\$0	\$0	\$111	\$40	\$0	\$0	\$0	\$0	\$549	\$549	\$85	\$1,595	\$7,184
2025	\$1,182	\$0	\$0	\$0	\$111	\$40	\$0	\$0	\$0	\$0	\$0	\$549	\$550	\$84	\$7,184

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$7,188,909	\$151,058	\$142,781	\$342,243	\$545,496	\$272,972	\$32,588	\$1,554,254	\$2,747,555	\$4,147,515

Description of CIP Changes:

Study phase was added on its own to evaluate options prior to design. The schedule was delayed by 1 FY.

Updated costs, dates, and CIP Portal. - 7/22

Project Title: WRRF Biosolids Processing Improvements

Project Status: Active - Procurement - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Residuals Management

☐ **Project New to CIP**
☐ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
79.6

- ☒ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Biosolids Processing Improvements

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/19/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892111

☐ **From Program?**
Program Number:
Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☒ **Is a Predecessor Project?**
Successor Projects: 213009

Predecessor Projects:
 212008,211011,211007

Collaboration Opportunities: TBD

Partners:
Collaboration Entity:

Project Title: WRRF Biosolids Processing Improvements

Problem Statement:

The Central Operating Facility (COF) includes three trains of live bottom sludge storage bins, lime silos, sludge/lime mixers and numerous belt and screw conveyors for truck loading. Lime can be added for odor reduction and the sludge landfilled or stabilized and land applied.

The Complex I incinerators were constructed in 1940 and include six, 11 hearth units with capacity of 10 wet tons/hr. These were decommissioned in early 2017.

Complex II Incineration was constructed in the 1970s and consists of eight multiple hearth incinerators each containing 12 hearths with an outside diameter of 25'-9" as made by Nichols-Herreshoff. The rated capacity of each is 3.2 dry tons per hour (dtpH). During the 2006 wet weather evaluation, the average unit capacity was reduced to 2.5 dtpH, but increased back to rated capacity following upgrades. Thus, the firm C-II Incineration capacity is 461 dtpd based on six of eight incinerators in service and a 25 percent TS feed cake concentration.

Scope of Work/Project Alternatives:

The project will construct one/or a mix of the following alternatives:

1. Mesophilic Anaerobic Digestion (MAD) of Thickened Primary Sludge (TPS) and Thickened Fermented Sludge (TFS) with centrifuge dewatering and drying at a rehabilitated Biosolids Drying Facility (BDF).
2. Sludge screening, pre-dewatering, and Thermal Hydrolysis Process (THP) of FS and MAD of hydrolyzed sludge and TPS. Centrifuge dewatering and drying of the digested sludge at a rehabilitated BDF.
3. Identical to Alt 2, but only for sludge that comes from PS2. PS1 sludge would be sent to digested sludge storage tanks for dewatering and drying.
4. Expand the BDF to process all sludge without any THP or AD. This alternative was added after the previous alternatives had been evaluated. It does not include acceptance of high strength feedstocks or struvite recovery like the other options.

Other Important Info:

Sludge cake is discharged into the incinerators from the incinerator feed system, which consists of a live bottom hopper, transfer screw conveyors, a weighing belt conveyor, and a feed screw conveyor. From the incinerator feed system, the sludge enters the top of the incinerator and proceeds downward from one hearth to another as the sludge goes through the various stages of the combustion process, including drying, volatilization, burning of fixed carbon, ash cooling, and final discharge as ash.

Primary Driver: 4 - O and M

Driver Explanation:

Improving plant operations by re-organizing workflow paths and space utilization.

Project Title: WRRF Biosolids Processing Improvements

Scoring

Project Manager Weighted Score: 79.6			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining, B. Equipment/process functions but requires high level of maintenance to remain operational, D. Replacement or major rehab needed in the short term	
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions, B. High risk of performance failure; doesn't meet future requirements, C. Equipment/process OOS 25% to 50% of the time., E. Not doing the project frequent and repetitive service interruption and/or reliability issues†	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,, C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	
Operations and Maintenance	5	C. Repairs total >=60% of the asset/process original value, D. Project major, measurable positive impact on O&M; will completely alleviate ongoing O&M issues	
Health and Safety	4	C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	
Public Benefit	3	F. Canceling project moderate chance of moderate neg. publicity	
Financial	3	D. Canceling project moderate financial consequences (revenue loss, repair/restoration, downtime, fines, litigation)	
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings, B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	

Review Committee Weighted Score: 79.6		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	5	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: WRRF Biosolids Processing Improvements

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 11/4/2024**Phase Status:** Project Execution**End Date:** 1/31/2042

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$1,703	\$25	\$21	\$68	\$97	\$97	\$98	\$97	\$97	\$487	\$487

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	11/4/2024	1/31/2042
Capital Delivery Salary (Fringes)	11/4/2024	1/31/2042

Project Title: WRRF Biosolids Processing Improvements

Phase: Professional Services (CS-272)

Phase Title: Professional Services (CS-272)

Phase Budget:
Start Date: 9/23/2019

Phase Status: Closed Out

End Date: 5/19/2023

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 9/23/2019

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$3	\$3	\$3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	9/23/2019	5/19/2023

Project Title: WRRF Biosolids Processing Improvements

Phase: Professional Services (CS-166)

Phase Title: Professional Services (CS-166)

Phase Budget: Wastewater

Start Date: 4/20/2022

Phase Status: Closed Out

End Date: 12/14/2025

Phase Comments/Description:

Phase is closed now as PMA assisted in RFP development, and that work is completed.

Cost Est. Class: Class 1

Cost Est. Source: PMA

Cost Est. Date: 4/20/2022

Cost Est. Prepared By: PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-166)	\$227	\$0	\$0	\$141	\$86	\$0	\$0	\$0	\$0	\$86	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166)	4/20/2022	12/14/2025

Project Title: WRRF Biosolids Processing Improvements

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 11/4/2024**Phase Status:** Future Planned Start**End Date:** 1/31/2042

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$6,336	\$0	\$0	\$929	\$1,418	\$513	\$167	\$167	\$167	\$2,431	\$1,478

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	11/4/2024	1/31/2042

Project Title: WRRF Biosolids Processing Improvements

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 2/2/2031

Phase Status: Future Planned Start

End Date: 1/31/2042

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$900,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$246,541

Phase Dates

Activity Name	Start Date	End Date
Construction	2/2/2031	1/31/2042

Project Title: WRRF Biosolids Processing Improvements

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$1,703	\$25	\$21	\$68	\$97	\$97	\$98	\$97	\$97	\$487	\$487
Professional Services (CS-272)	\$3	\$3	\$3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (CS-166)	\$227	\$0	\$0	\$141	\$86	\$0	\$0	\$0	\$0	\$86	\$0
Design/Engineering	\$6,336	\$0	\$0	\$929	\$1,418	\$513	\$167	\$167	\$167	\$2,431	\$1,478
Construction	\$900,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$246,541
Totals	\$908,269	\$27	\$24	\$1,137	\$1,602	\$611	\$265	\$264	\$264	\$3,004	\$248,506

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	\$6,700	\$0	\$0	\$0	\$0	\$2,700	\$4,000	\$4,000	\$4,000	\$180,000
2024	\$3,517	\$0	\$0	\$0	\$0	\$642	\$1,435	\$1,439	\$1,435	\$199,423
2025	\$11,491	\$0	\$11	\$71	\$1,988	\$1,354	\$619	\$3,770	\$3,760	\$335,433

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$908,269,564	\$23,681	\$1,137,037	\$1,601,579	\$610,560	\$264,527	\$263,805	\$263,805	\$3,004,274	\$248,505,822

Description of CIP Changes:

Project added to CIP FY 23 AC.

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Project Status: Closed

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: General Purpose

☐ **Project New to CIP**
☐ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
94.7

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Project Manager: Phillip Kora

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 8/1/2016

Year Project Added to CIP: 2010

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF**Problem Statement:**

Rehabilitation of the sampling facilities will improve system reliability and allow for consistent and accurate sampling. This will help to facilitate accurate reporting to MDEQ. The rehabilitation of Ferric Chloride system will improve the phosphorous removal to comply with the Permit.

Scope of Work/Project Alternatives:

The scope of work includes:

Replacement of existing sampling equipment, installing new samplers, pumps, piping, housing and support equipment such as I&C, HVAC, etc. at the various sampling sites.

It also includes:

Replacement of two existing steel Ferric Chloride tanks at PS#2 with four (4) smaller tanks.

Providing new piping layout, gravity feed, and self-cleaning strainer.

Rehabilitating the Ferric Chloride Unloading station, associated Valves and Appurtenances.

Providing Flow meters and new control strategies to meet future demands of Ferric Chloride at Pump Station # 2.

The CIP is for construction only.

Other Important Info:

*Innovation note: Rehab may include alternative online/real-time sampling & analysis, as well as improved mixing of the ferric with primary influent.

The design for Grit & Screening System and Sampling Station were complete under an As Needed Engineering Services Contract. The construction for Rehabilitation of Sampling Sites will be bid out separately. The Bar Rack System will not proceed for construction as designed.

Challenges: Maintaining the MDEQ-NPDES required capacity during the construction phase of the project.

Project History: The Sampling sites are located at Oakwood, MPI-2, NEIA, PEAS1, 3 & 4, ML1 thru 4, and RAS1 thru 4, C2SE 3& 4. These sampling stations are required to be rehabilitated or replaced for meeting the permit sampling requirements. These sampling stations regularly fails to collect samples due to the clogging problem in the sample line. Replacement of existing sampling equipment, installing new samplers, pumps, HVAC, etc. is needed.

The WRRF sampling station rehabilitation design and WRRF PS# 2 Ferric Chloride rehabilitation design were completed under another As Needed Engineering Services Contract. These two projects are now combined together for construction.

Primary Driver: 2 - Performance

Driver Explanation:

Plant operations report on the failure of shear pins and accelerated wearing and tearing of the bar racks causing downtime for the maintenance and violation of the permit.

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Scoring

Project Manager Weighted Score:		94.7	
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems	Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	Project Manager score carried over from previous year Project Manager score
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	Project Manager score carried over from previous year Project Manager score
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	Project Manager score carried over from previous year Project Manager score
Financial	4	A. Project will generate significant increased revenue/savings	Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings	Project Manager score carried over from previous year Project Manager score

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Review Committee Weighted Score: 94.7		
Criteria Name	Score	Comment
Condition	5	Committee score carried over from previous year committee score
Performance (Service Level/Reliability)	5	Committee score carried over from previous year committee score
Regulatory (Environmental/Legal)	5	Committee score carried over from previous year committee score
Operations and Maintenance	4	Committee score carried over from previous year committee score
Health and Safety	3	Committee score carried over from previous year committee score
Public Benefit	3	Committee score carried over from previous year committee score
Financial	4	Committee score carried over from previous year committee score
Efficiency and Innovation	3	Committee score carried over from previous year committee score

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 2/18/2019

Phase Status: Closed Out

End Date: 8/6/2023

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$435	\$435	\$435	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	2/18/2019	8/6/2023
Capital Delivery Salary (Fringes)	2/18/2019	8/6/2023

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: Design/Engineering (CS-292)

Phase Title: Design/Engineering (CS-292)

Phase Budget: Wastewater

Start Date: 8/17/2019

Phase Status: Closed Out

End Date: 12/1/2021

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Metco

Cost Est. Date: 2/8/2019

Cost Est. Prepared By: Metco

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-292)	\$118	\$118	\$118	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-292)	8/17/2019	12/1/2021

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: Design/Engineering (CS-301)

Phase Title: Design/Engineering (CS-301)

Phase Budget: Wastewater

Start Date: 8/17/2019

Phase Status: Closed Out

End Date: 8/6/2023

Phase Comments/Description:

Providing design services for the project

Cost Est. Class: Class 1

Cost Est. Source: Sigma

Cost Est. Date: 2/18/2019

Cost Est. Prepared By: Sigma

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-301)	\$440	\$440	\$440	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-301)	8/17/2019	8/6/2023

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: Design/Engineering (CS-1481)

Phase Title: Design/Engineering (CS-1481)

Phase Budget: Wastewater

Start Date: 7/1/2016

Phase Status: Closed Out

End Date: 6/29/2018

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: WWE

Cost Est. Date: 2/18/2019

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-1481)	\$271	\$271	\$271	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1481)	7/1/2016	6/29/2018

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: Design/Engineering (CS-1499)

Phase Title: Design/Engineering (CS-1499)

Phase Budget: Wastewater

Start Date: 7/1/2016

Phase Status: Closed Out

End Date: 6/29/2018

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: WWE

Cost Est. Date: 7/1/2016

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-1499)	\$124	\$124	\$124	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1499)	7/1/2016	6/29/2018

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: Design/Engineering (MISC)

Phase Title: Design/Engineering (MISC)

Phase Budget: Wastewater

Start Date: 7/1/2017

Phase Status: Closed Out

End Date: 6/30/2021

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (MISC)	\$49	\$49	\$49	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (MISC)	7/1/2017	6/30/2021

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: Construction (Build) # 1 (1802410)

Phase Title: Construction (Build) # 1 (1802410)

Phase Budget: Wastewater

Start Date: 2/18/2019

Phase Status: Closed Out

End Date: 8/6/2023

Phase Comments/Description:

Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Cost Est. Class: Class 1

Cost Est. Source: BID

Cost Est. Date: 2/18/2019

Cost Est. Prepared By: Weiss

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1 (1802410)	\$6,469	\$6,469	\$6,469	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (1802410)	2/18/2019	8/6/2023

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: Construction (1900744)

Phase Title: Construction (1900744)

Phase Budget: Wastewater

Start Date: 7/1/2022

Phase Status: Closed Out

End Date: 6/30/2023

Phase Comments/Description:

This contract number is a water project attached proof to C&S sheet this needs to be corrected.

Cost Est. Class: Class 1

Cost Est. Source: N/A

Cost Est. Date: 6/15/2023

Cost Est. Prepared By: N/A

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (1900744)	\$56	\$56	\$56	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (1900744)	7/1/2022	6/30/2023

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$435	\$435	\$435	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-292)	\$118	\$118	\$118	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-301)	\$440	\$440	\$440	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-1481)	\$271	\$271	\$271	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-1499)	\$124	\$124	\$124	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (MISC)	\$49	\$49	\$49	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Build) # 1 (1802410)	\$6,469	\$6,469	\$6,469	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (1900744)	\$56	\$56	\$56	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$7,962	\$7,962	\$7,963	\$0	\$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	\$5,000	\$0	\$2,500	\$2,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000
2019	\$5,073	\$312	\$40	\$551	\$3,957	\$565	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,425
2020	\$4,528	\$0	\$439	\$609	\$3,921	\$607	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,576
2021	\$1,421	\$0	\$0	\$815	\$3,493	\$1,300	\$121	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,729
2022	\$76	\$0	\$4	\$316	\$1,318	\$4,932	\$76	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,645
2023	\$0	\$312	\$127	\$376	\$823	\$1,433	\$2,211	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,282
2024	\$195	\$311	\$127	\$376	\$823	\$1,433	\$3,268	\$1,796	\$195	\$0	\$0	\$0	\$0	\$0	\$8,330
2025	\$0	\$311	\$127	\$376	\$823	\$1,433	\$3,268	\$1,385	\$832	\$0	\$0	\$0	\$0	\$0	\$8,556

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Reporting Period 72: Ending FY25 M03 Sep

Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$7,962,530	\$7,962,530	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

Reallocated as-needed contracts from CIP No. 380901 (Sigma-Sampling Sta.) and CIP No. 380901 (Metco-Ferric). Pump station No.2 ferric chloride system re-design is completed and the contractor started the work at site. Re-design of various sampling sites will be completed in few months.

4/25/24 PK: This project is completed and officially closed out via final change order No. 5. The final contract value is \$6,469,410.95 and the final completion date is 8/6/2023.

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: General Purpose

☐ **Project New to CIP**

☒ **Useful Life > 20 Yrs**

☒ **Multiple Phases**

Project Score

79

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



Assessment and Rehabilitation of WRRF yard piping and underground utilities

Project Manager: Greg Marker

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**

Program Number:

Delivery Method: CMAR (Construction Management At Risk)

Delivery Method Details:

☐ **Is a Predecessor Project?**

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Problem Statement:

Yard piping and underground utilities are vital to the operations of the WRRF. The integrity of these systems will be maintained with this project. The Secondary Water system needs to be relocated or completely refurbished to provide uninterrupted water for fire protection and process applications such as seal water to the pumps. Some of the yard piping is original to the plant and requires a condition assessment.

Scope of Work/Project Alternatives:

This project will include the study, design, and construction for the needed improvements to yard piping and underground utilities. This includes right sizing, as-built confirmation and condition assessment of our yard piping and underground utilities. It is possible that the secondary water system may need to be relocated. The distribution models for the water systems will also need to be updated. A redundant potable water feed to the WRRF will also be evaluated.

Other Important Info:

Reliable utility is a critical aspect of O&M for the facility and to avoid outages.

Project History: Some of the pipe lines at the WRRF have been in existence since the plant was built. As the plant has grown, so have the systems. In general, the majority of the changes to the multiple systems occurred when the specific buildings or components to the plant were built or renovated. Therefore, an evaluation and necessary replacement of these pipelines is needed.

Challenges: Maintaining adequate supply of water systems required for treatment processes during assessment and rehabilitation of underground utilities will be the most significant challenge. Temporary power, air, water, natural gas system shutdowns may be required to perform the work.

Primary Driver: 2 - Performance

Driver Explanation:

Some underground utilities are original to the plant and are critical to the plant treatment processes.

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Scoring

Project Manager Weighted Score:		49.1	
Criteria Name	Score	Score Criteria	Comment
Condition	3	A. Asset has <50% of its design service life remaining, D. Moderate renewal or rehab needed in short term, C. May have minor failures or diminished efficiency; some performance deterioration, B. Functionally sound and acceptable, signs of normal wear	
Performance (Service Level/Reliability)	3	F. Some likelihood for noticeable inconveniences for 2-5 wholesale, 10K retail, but no critical customers, E. Canceling project potential for service/reliability issues† a few times/yr, D. Project moderate positive impact on service levels/reliability/lower risk, C. Equipment/process is out of service 5% to 25% of the time, B. Performance acceptable–marginal; likely not to meet future req’s, A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues, A. Low risk of causing, F. Compliance failure not result in a significant fine, enforcement, environmental impact, but may have some local impact	
Operations and Maintenance	2	E. Measurable cost reductions 2% to 4%/year of current budget, A. Low levels of O/M keeps meantime between failure standard	E. The cost reduction in E is in terms of less maintenance cost/budget
Health and Safety	2	C. Canceling project unlikely to impact staff/public H&S†, B. Project limited positive impact on staff/public H&S†; No major staff or hazard issues or concerns addressed, A. Low chance of failure occurring; failure easily mitigated w/ no safety/health/env. impacts	
Public Benefit	2	F. Canceling project minor chance off public impact; no neg. gov’t/reg. interest, E. No media coverage, minor impact on comm./stakeholder relations, D. Low impact on public/GLWA image, minor recognition, A. Low to moderate impact by supporting City/region/neighborhood growth	
Financial	2	C. Low positive impact on resource capacity, B. Low positive financial implications\$100K-\$250K or ROI 15-20 yrs, A. Low financial impact to GLWA; No grants/other external funding, D. Canceling project limited/low financial consequences	
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings	project will not increase revenues

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Review Committee Weighted Score: 79		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 9/23/2019

Phase Status: Project Execution

End Date: 6/30/2029

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$451	\$384	\$363	\$32	\$14	\$14	\$14	\$14	\$0	\$57	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	9/23/2019	6/30/2029
Capital Delivery Salary (Fringes)	9/23/2019	6/30/2029

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 9/23/2019

Phase Status: Project Execution

End Date: 5/19/2026

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: AECOM

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$142	\$137	\$137	\$3	\$3	\$0	\$0	\$0	\$0	\$3	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72021A.06 / 72007B.09 / 72007A.09)	9/23/2019	5/19/2026

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Phase: Design/Engineering (1903601)**Phase Title:** Design/Engineering (1903601)

Phase Budget: Wastewater**Start Date:** 12/28/2020**Phase Status:** Project Execution**End Date:** 6/30/2029

Phase Comments/Description:2024-05-02 GJM Construction starting. CDM has been contracted to provide and RPR for the construction during till October 2026.

Cost Est. Class: Class 1**Cost Est. Source:** CDM**Cost Est. Date:** 1/15/2021**Cost Est. Prepared By:** CDM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (1903601)	\$7,517	\$3,580	\$3,383	\$1,140	\$1,166	\$609	\$610	\$609	\$0	\$2,993	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1903601)	12/28/2020	6/30/2029

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 1/15/2021

Phase Status: Project Execution

End Date: 8/30/2026

Phase Comments/Description:

Assessment and Rehabilitation of WRRF yard piping and underground utilities

Cost Est. Class: Class 1

Cost Est. Source: Christman

Cost Est. Date: 1/15/2021

Cost Est. Prepared By: Christman

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$25,900	\$7,435	\$6,544	\$9,961	\$8,067	\$1,328	\$0	\$0	\$0	\$9,395	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	1/15/2021	8/30/2026

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Phase: Construction (Build) # 2

Phase Title: Construction (Build) # 2

Phase Budget: Wastewater

Start Date: 1/1/2026

Phase Status: Project Execution

End Date: 6/30/2029

Phase Comments/Description:

Adjustments made in C&S Sheet

Cost Est. Class: Class 1

Cost Est. Source: Greg Marker

Cost Est. Date: 6/16/2023

Cost Est. Prepared By: Greg Marker

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 2	\$4,000	\$0	\$0	\$0	\$567	\$1,143	\$1,146	\$1,143	\$0	\$4,000	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase 2)	1/1/2026	6/30/2029

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$451	\$384	\$363	\$32	\$14	\$14	\$14	\$14	\$0	\$57	\$0
Professional Services	\$142	\$137	\$137	\$3	\$3	\$0	\$0	\$0	\$0	\$3	\$0
Design/Engineering (1903601)	\$7,517	\$3,580	\$3,383	\$1,140	\$1,166	\$609	\$610	\$609	\$0	\$2,993	\$0
Construction (Build) # 1	\$25,900	\$7,435	\$6,544	\$9,961	\$8,067	\$1,328	\$0	\$0	\$0	\$9,395	\$0
Construction (Build) # 2	\$4,000	\$0	\$0	\$0	\$567	\$1,143	\$1,146	\$1,143	\$0	\$4,000	\$0
Totals	\$38,010	\$11,534	\$10,427	\$11,136	\$9,817	\$3,094	\$1,771	\$1,766	\$0	\$16,448	\$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	\$47,579	\$0	\$1,700	\$2,000	\$12,000	\$15,600	\$16,279	\$4,141	\$0	\$0	\$0	\$0	\$0	\$0	\$51,720
2019	\$30,430	\$0	\$0	\$0	\$1,718	\$4,008	\$7,174	\$17,530	\$24,026	\$0	\$0	\$0	\$0	\$0	\$54,456
2020	\$17,430	\$0	\$0	\$0	\$323	\$5,258	\$3,849	\$4,500	\$3,500	\$7,423	\$0	\$0	\$0	\$0	\$24,853
2021	\$23,966	\$0	\$0	\$3	\$270	\$4,291	\$4,754	\$4,754	\$4,767	\$5,400	\$273	\$0	\$0	\$0	\$24,512
2022	\$23,221	\$0	\$0	\$3	\$70	\$580	\$558	\$2,858	\$9,808	\$9,782	\$214	\$0	\$0	\$0	\$23,875
2023	\$19,864	\$0	\$0	\$18	\$56	\$965	\$206	\$2,963	\$9,432	\$7,468	\$0	\$0	\$0	\$0	\$21,108
2024	\$16,409	\$0	\$0	\$18	\$57	\$965	\$2,722	\$6,134	\$8,216	\$8,194	\$0	\$0	\$0	\$0	\$26,305
2025	\$15,047	\$0	\$0	\$18	\$57	\$965	\$2,722	\$2,221	\$10,840	\$3,341	\$3,341	\$3,339	\$3,349	\$1,674	\$31,871

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$38,010,419	\$10,426,689	\$11,135,931	\$9,817,428	\$3,093,534	\$1,770,838	\$1,766,000	\$0	\$16,447,799	\$0

Description of CIP Changes:

The design for different improvements were completed and bids are procured, and construction has started. GM/PK 6/5/24

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: General Purpose

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
63.2

- ☒ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



Rehabilitation of Screened Final Effluent (SFE) Pump Station

Project Manager: Scott Worth

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 6/21/2017

Year Project Added to CIP: 2018

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**
Program Number:
Delivery Method: PDB (Progressive Design-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Problem Statement:

The Screened Final Effluent (SFE) Pump Station provides SFE water to many of the GLWA WRRF treatment processes and needs to be completely rehabilitated to maintain uninterrupted supply of SFE water to these processes.

Scope of Work/Project Alternatives:

This project will include the study, design, and construction for the needed improvements to the SFE pump station. This includes required capacity, pumps, strainers, piping, controls, building improvements, and electrical supply. This will also include a study to evaluate the potential for replacing the secondary water with SFE utilization where feasible and an alternative analysis to the existing carrier water at chlorination/dechlorination facility, seal water, recovery needs which may include additional SFE treatment such as chemical addition to accommodate process needs.

Other Important Info:

*Innovation note: Optimizing of a valuable resource recovered for facility needs. Project History: The SFE pump station has eight pumps with a total capacity of approximately 135 MGD. Pumps 1,2,4, and 6 were installed in 1973, pumps 3 and 5 in 1980, and pumps 7 and 8 in 1998. The older pumps were rebuilt in 1998. Strainers have been reconditioned over time. Due to the critical nature of the SFE pump station a significant upgrade/rehabilitation is required. In addition, the two 5 kV transformers that supply power from EB-3 are approximately 40 years old and are in need of replacement.

Challenges: Maintaining adequate supply of SFE to the plant treatment processes during construction.

Primary Driver: 1 - Condition

Driver Explanation:

The SFE pump station is very old and is critical to other treatment processes meeting permit requirements. The Secondary Water System is very corroded and needs to be rehabilitated.

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Scoring

Project Manager Weighted Score: 64.7			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life, D. Immediate replacement or rehabilitation required	
Performance (Service Level/Reliability)	2	A. Meets all design requirements under normal conditions; up to date	
Regulatory (Environmental/Legal)	2	A. Low risk of causing	The score should be higher (not sure where to put increasing Resiliency) this will backup the WRRF water system
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	
Health and Safety	1	C. Staff/public safety/hazard issues not a concern	
Public Benefit	5	C. Additional revenue/savings for GLWA(\$1M+ per year) w/ minimal risk; better utilize existing infrastructure	
Financial	4	A. Project will generate significant increased revenue/savings, D. Significant financial implications \$1M - \$5M or ROI of 5-10 yrs	
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings, C. Significant positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	

Review Committee Weighted Score: 63.2		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	1	Scores carried over from previous year
Public Benefit	2	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 1/22/2019

Phase Status: Project Execution

End Date: 1/10/2029

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$574	\$43	\$35	\$101	\$124	\$124	\$124	\$66	\$0	\$438	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	1/22/2019	1/10/2029
Capital Delivery Salary (Fringes)	1/22/2019	1/10/2029

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Phase: Professional Services (CS-272)

Phase Title: Professional Services (CS-272)

Phase Budget: Wastewater

Start Date: 5/7/2020

Phase Status: Closed Out

End Date: 5/19/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 5/7/2020

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$466	\$466	\$466	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72014A.06 / 72021A.07 / 72024A.01)	5/7/2020	5/19/2025

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Phase: Design/Engineering (1802887)

Phase Title: Design/Engineering (1802887)

Phase Budget: Wastewater

Start Date: 1/22/2019

Phase Status: Closed Out

End Date: 8/24/2019

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Noresco

Cost Est. Date: 4/5/2021

Cost Est. Prepared By: Noresco

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (1802887)	\$29	\$29	\$29	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1802887)	1/22/2019	8/24/2019

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Phase: Design/Engineering (CS-166)

Phase Title: Design/Engineering (CS-166)

Phase Budget: Wastewater

Start Date: 5/7/2020

Phase Status: Project Execution

End Date: 3/15/2028

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: PMA

Cost Est. Date: 7/1/2021

Cost Est. Prepared By: PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-166)	\$1,174	\$151	\$143	\$241	\$311	\$303	\$175	\$0	\$0	\$790	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (2202942)	5/7/2020	3/15/2028
Design/Engineering (CS-166)	7/1/2021	5/15/2027
Design/Engineering (2202942)	7/1/2021	5/15/2027

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Phase: Design/Engineering (2203638)**Phase Title:** Design/Engineering (2203638)

Phase Budget:**Start Date:** 9/1/2024**Phase Status:****End Date:** 9/30/2024

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (2203638)	\$44	\$44	\$0	\$44	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (2203638)	9/1/2024	9/30/2024
Design/Engineering (2203638)	9/1/2024	9/30/2024

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 3/25/2021

Phase Status: Future Planned Start

End Date: 1/10/2029

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs / Noresco

Cost Est. Date: 6/1/2023

Cost Est. Prepared By: Jacobs / Noresco

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$104,267	\$3,796	\$3,796	\$1,521	\$17,943	\$31,872	\$31,758	\$17,378	\$0	\$98,950	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Operating Services (net-zero cost account to be archived)	3/25/2021	1/10/2029
Construction (2000970)	3/25/2021	1/10/2029

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$574	\$43	\$35	\$101	\$124	\$124	\$124	\$66	\$0	\$438	\$0
Professional Services (CS-272)	\$466	\$466	\$466	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (1802887)	\$29	\$29	\$29	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-166)	\$1,174	\$151	\$143	\$241	\$311	\$303	\$175	\$0	\$0	\$790	\$0
Design/Engineering (2203638)	\$44	\$44	\$0	\$44	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Build) #1	\$104,267	\$3,796	\$3,796	\$1,521	\$17,943	\$31,872	\$31,758	\$17,378	\$0	\$98,950	\$0
Totals	\$106,554	\$4,529	\$4,469	\$1,907	\$18,378	\$32,299	\$32,058	\$17,444	\$0	\$100,178	\$0

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

CIP	5 Year Total	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2020	\$24,897	\$51	\$1,091	\$991	\$9,475	\$7,805	\$5,535	\$0	\$0	\$0	\$0	\$0	\$24,948
2021	\$24,364	\$0	\$590	\$1,362	\$1,507	\$15,571	\$5,924	\$0	\$0	\$0	\$0	\$0	\$24,954
2022	\$26,923	\$0	\$6	\$500	\$906	\$6,504	\$6,504	\$6,504	\$6,504	\$13,390	\$0	\$0	\$40,821
2023	\$38,464	\$0	\$6	\$257	\$1,500	\$2,510	\$10,848	\$10,848	\$14,258	\$0	\$0	\$0	\$40,226
2024	\$58,397	\$0	\$6	\$257	\$1,403	\$3,912	\$2,694	\$19,382	\$19,382	\$16,939	\$0	\$0	\$63,975
2025	\$65,291	\$0	\$6	\$257	\$1,403	\$2,047	\$4,886	\$13,500	\$12,965	\$12,959	\$12,952	\$12,917	\$101,100

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$106,554,482	\$4,469,069	\$1,907,015	\$18,378,229	\$32,298,835	\$32,057,650	\$17,443,682	\$0	\$100,178,397	\$0

Description of CIP Changes:

5/2/24 PK/SW: Project schedule and budget is updated and the design is currently at 60% level. GMP is expected by August 2024.

Project Title: WRRF Structural Improvements

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: General Purpose

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
64.4

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Structural Improvements

Project Manager: Kashmira Patel

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 8/24/2020

Year Project Added to CIP: 2020

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**
Program Number:
Delivery Method: DB (Design-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: WRRF Structural Improvements

Problem Statement:

The WRRF facilities are some of the oldest facilities within the GLWA infrastructure and are beyond their original design lives. In order to assure the safety of GLWA personnel working at the WRRF and to increase operational reliability, GLWA is initiating a long-term structural maintenance program. The program will start with a full structural needs assessment and a four-year program of implementing the highest priority repairs in order of priority.

Scope of Work/Project Alternatives:

The program will include a complete field assessment and structural condition report, classification of recommended repairs into levels of urgency, estimating quantities and the costs of repairs, developing a three-year repair program to address high priority repairs, design and implementation of repairs, preparation of as-built drawings and final project report. The Work includes improvements to be designed, administered, and constructed by the D/B Contractor including civil/site, architectural, and structural, engineering disciplines and construction trades.

Other Important Info:

None

Primary Driver: 1 - Condition

Driver Explanation:

Many older structures around the site are at the end of life and are requiring excessive cost to maintain them.

Project Title: WRRF Structural Improvements

Scoring

Project Manager Weighted Score:		65.5	
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions	Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	3	A. Moderate risk of causing	Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	Project Manager score carried over from previous year Project Manager score
Health and Safety	3	B. Project moderate positive impact on staff/public H&S†	Few immediate safety risks are being addressed by this project, for example, PS-1 Rack & Grit corbel, Primary 9&10 loose concrete, etc.
Public Benefit	2	A. Low to moderate impact by supporting City/region/neighborhood growth	Project Manager score carried over from previous year Project Manager score
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	Project Manager score carried over from previous year Project Manager score

Project Title: WRRF Structural Improvements

Review Committee Weighted Score: 64.4		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from previous year committee score
Performance (Service Level/Reliability)	4	Committee score carried over from previous year committee score
Regulatory (Environmental/Legal)	3	Committee score carried over from previous year committee score
Operations and Maintenance	4	Committee score carried over from previous year committee score
Health and Safety	2	Committee score carried over from previous year committee score
Public Benefit	2	Committee score carried over from previous year committee score
Financial	3	Committee score carried over from previous year committee score
Efficiency and Innovation	1	Committee score carried over from previous year committee score

Project Title: WRRF Structural Improvements

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 10/17/2022**Phase Status:** Project Execution**End Date:** 12/30/2026

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$371	\$51	\$45	\$113	\$142	\$71	\$0	\$0	\$0	\$214	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	10/17/2022	12/30/2026
Capital Delivery Salary (Fringes)	10/17/2022	12/30/2026

Project Title: WRRF Structural Improvements

Phase: Professional Services #1**Phase Title:** Professional Services #1

Phase Budget: Wastewater**Start Date:** 9/27/2021**Phase Status:** Closed Out**End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services #1	\$73	\$73	\$73	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	9/27/2021	5/19/2023

Project Title: WRRF Structural Improvements

Phase: Professional Services #2**Phase Title:** Professional Services #2

Phase Budget: Wastewater**Start Date:** 4/9/2021**Phase Status:** Project Execution**End Date:** 12/30/2026

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** PMA**Cost Est. Date:** 4/9/2021**Cost Est. Prepared By:** PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services #2	\$895	\$571	\$515	\$164	\$144	\$72	\$0	\$0	\$0	\$216	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166 -Task C.27)	4/9/2021	12/30/2026

Project Title: WRRF Structural Improvements

Phase: Design/Engineering (CS-166)

Phase Title: Design/Engineering (CS-166)

Phase Budget: Wastewater

Start Date: 4/9/2021

Phase Status: Cancelled

End Date: 12/30/2026

Phase Comments/Description:

Task C. 27 was to prepare and submit RFP, and completed it.
 Task D.19 - Provide project oversight and is ongoing for 2100239.

Cost Est. Class: Class 1

Cost Est. Source: PMA

Cost Est. Date: 8/29/2022

Cost Est. Prepared By: PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-166)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (net-zero cost account to be archived)	4/9/2021	12/30/2026

Project Title: WRRF Structural Improvements

Phase: Design-Build

Phase Title: Design-Build

Phase Budget: Wastewater

Start Date: 10/17/2022

Phase Status: Project Execution

End Date: 12/30/2026

Phase Comments/Description:

The project is in the construction phase. The current contract completion date is 07/18/2027. KP-05/01/24

Cost Est. Class: Class 1

Cost Est. Source: Bidding

Cost Est. Date: 3/15/2022

Cost Est. Prepared By: Kokosing

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design-Build	\$12,639	\$5,566	\$4,821	\$3,098	\$3,144	\$1,576	\$0	\$0	\$0	\$4,721	\$0

Phase Dates

Activity Name	Start Date	End Date
Design-Build	10/17/2022	12/30/2026
Construction (net-zero cost account to be archived)	10/17/2022	12/30/2026

Project Title: WRRF Structural Improvements

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$371	\$51	\$45	\$113	\$142	\$71	\$0	\$0	\$0	\$214	\$0
Professional Services #1	\$73	\$73	\$73	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services #2	\$895	\$571	\$515	\$164	\$144	\$72	\$0	\$0	\$0	\$216	\$0
Design/Engineering (CS-166)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design-Build	\$12,639	\$5,566	\$4,821	\$3,098	\$3,144	\$1,576	\$0	\$0	\$0	\$4,721	\$0
Totals	\$13,977	\$6,260	\$5,453	\$3,374	\$3,431	\$1,720	\$0	\$0	\$0	\$5,151	\$0

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

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2022	\$10,235	\$52	\$2,052	\$2,046	\$2,046	\$2,046	\$2,046	\$2,046	\$0	\$0	\$12,333
2023	\$10,350	\$0	\$0	\$400	\$2,487	\$2,488	\$2,488	\$2,488	\$1,049	\$0	\$11,400
2024	\$12,877	\$0	\$25	\$2,254	\$3,259	\$3,251	\$3,251	\$3,117	\$0	\$0	\$15,156
2025	\$11,706	\$0	\$25	\$1,708	\$3,702	\$3,732	\$3,732	\$3,732	\$511	\$0	\$17,142

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$13,977,502	\$5,452,715	\$3,373,961	\$3,430,752	\$1,720,076	\$0	\$0	\$0	\$5,150,825	\$0

Description of CIP Changes:

All immediate, high, moderate "B" repairs and Aeration basin Nos. 3 and 4 deck joints & traffic coating will be provided within the current contract value. At this time, no future change order is anticipated unless GLWA decides to expand the scope to include all repairs per assessment. The current contract completion date is 07/18/2027. - KP/4-29-24

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Field Services

Class Lvl 3: Interceptor

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
62.7

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Project Manager: Greg Marker

Director: Jason Edberg

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared: 7/27/2016

Year Project Added to CIP: 2014

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Oakwood District

Funds and Cost Center: Wastewater - 5421-892411 (Field Engineering)

☐ **From Program?**
Program Number:
Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☒ **Is a Predecessor Project?**
Successor Projects: 222001

Predecessor Projects: 270004

Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Problem Statement:

The Oakwood PS and CSO basin are currently under-utilized. Surcharging in Northwest Interceptor (NWI) has increased the CSOs and reduced the ability of customers to discharge into the NWI. A concept to isolate the downstream portion of the NWI from the WRRF and divert flow to the Oakwood PS was evaluated and refined under the Wastewater Master Plan Project (WWMP). The purpose of this project is to implement the WWMP recommended relief connection from the NWI to the Oakwood PS.

Scope of Work/Project Alternatives:

The scope of this project involves Study, Design, and Construction Phase Activities. The study phase will consist of determining the feasibility of advancing the project to the Design and Construction stages. Based on the efforts under the Study the Consultants will proceed with design and construction phase activities.

Other Important Info:

Challenges: Maintaining the wet weather contract capacities and adequate CSO treatment during extreme storm events and mitigating basement and street flooding in the District and intercommunity regional districts are the most significant challenges for the project to address. Other Important Info: The Oakwood District is located in the southwest portion of the City of Detroit covering an area of 1,520 acres. Some areas of the District are situated in relatively low-lying, flood prone topographies. Much of the combined sewer drainage system was originally designed and built since the 1930's with laterals and larger trunk and intercepting sewers tributary to the Oakwood Pumping Station. In early years, combined sanitary and intercepted storm runoff flow drained to that pump station was conveyed through two discharge conduits tributary to a segment of the O'Brien Drain--a natural and man-made (modified) stream confluent to the Rouge River--without further treatment. Much of the remaining area of the District (i.e Oakwood Heights), is situated on relatively higher terrain. Originally, significant portions of this area connected to public sewers drained to other streams or outfalls tributary to the Rouge and drained to the wastewater treatment plant (WWTP) via an original 24" siphon connection constructed beneath the Rouge River to the city's 12'-9" Oakwood Interceptor. In the 1940's, a 3'-0" sewer was constructed from the original pump station's discharge channel which connected with a 24" siphoned sewer running easterly beneath the Rouge River and connecting to the City's 12'-9" Oakwood Northwest Interceptor (ONWI) tributary to the WWTP (now WRRF). Continued sewer modifications in the District promoted the interception and routing of combined flows in other areas underserved by the pump station via larger intercepting sewers connecting with the main Liddesdale Interceptor--the primary influent sewer to the pump station.

Primary Driver: 6 - Public Benefit

Driver Explanation:

Preferred alternative wet weather relief sewer

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

modifications to mitigate historical basement and street flooding in impacted districts and otherwise provide increased flow transport and treatment for economic, ecologic and societal benefit of customers

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Scoring

Project Manager Weighted Score: 74.8			
Criteria Name	Score	Score Criteria	Comment
Condition	1	D. Does not impact performance, meets all expected future requirements	
Performance (Service Level/Reliability)	4	D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*	
Regulatory (Environmental/Legal)	4	C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	
Operations and Maintenance	1	D. Project low/negative impact on O&M; no critical assets involved; not expected to significantly impact any O&M issues.	
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns	
Public Benefit	4	E. Canceling project chance to have major negative public impact	
Financial	3	E. Unlikely to have wider budget implications.	
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings	

Review Committee Weighted Score: 62.7		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	1	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 3/15/2021

Phase Status: Project Execution

End Date: 11/1/2028

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP TEAM

Cost Est. Date: 11/17/2023

Cost Est. Prepared By: GLWA CIP TEAM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$841	\$160	\$46	\$230	\$288	\$206	\$52	\$18	\$0	\$565	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	3/15/2021	11/1/2028
Capital Delivery Salary (Fringes)	3/15/2021	11/1/2028
Other Capital Improvement Costs	3/15/2021	11/1/2028

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Phase: Design/Engineering (2002655)

Phase Title: Design/Engineering (2002655)

Phase Budget: Wastewater

Start Date: 3/15/2021

Phase Status: Project Execution

End Date: 11/1/2028

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: FKE

Cost Est. Date: 3/15/2021

Cost Est. Prepared By: FKE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (2002655)	\$13,584	\$2,931	\$2,931	\$767	\$1,767	\$3,466	\$3,475	\$1,177	\$0	\$9,885	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (2002655)	3/15/2021	11/1/2028

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 9/16/2024

Phase Status: Project Execution

End Date: 11/1/2028

Phase Comments/Description:

CURRENT IS ESTIMATED FROM FKE

Cost Est. Class: Class 1

Cost Est. Source: Bid

Cost Est. Date: 5/24/2024

Cost Est. Prepared By: Bid received from Jay Dee

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$73,509	\$0	\$0	\$2,694	\$20,932	\$27,012	\$17,977	\$4,894	\$0	\$70,815	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	9/16/2024	11/1/2028

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$841	\$160	\$46	\$230	\$288	\$206	\$52	\$18	\$0	\$565	\$0
Design/Engineering (2002655)	\$13,584	\$2,931	\$2,931	\$767	\$1,767	\$3,466	\$3,475	\$1,177	\$0	\$9,885	\$0
Construction (Build) #1	\$73,509	\$0	\$0	\$2,694	\$20,932	\$27,012	\$17,977	\$4,894	\$0	\$70,815	\$0
Totals	\$87,933	\$3,091	\$2,977	\$3,691	\$22,987	\$30,684	\$21,504	\$6,089	\$0	\$81,265	\$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	\$11,000	\$0	\$0	\$550	\$2,750	\$5,500	\$2,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,000
2019	\$17,635	\$0	\$0	\$0	\$10	\$1,372	\$5,961	\$10,292	\$20,365	\$0	\$0	\$0	\$0	\$0	\$38,000
2020	\$23,954	\$0	\$0	\$0	\$0	\$0	\$3,800	\$10,077	\$10,077	\$14,077	\$0	\$0	\$0	\$0	\$38,031
2021	\$32,147	\$0	\$0	\$0	\$0	\$975	\$3,128	\$3,371	\$11,234	\$13,439	\$21,365	\$0	\$0	\$0	\$53,512
2022	\$23,700	\$0	\$0	\$0	\$0	\$925	\$790	\$786	\$779	\$4,870	\$16,474	\$16,431	\$12,340	\$0	\$53,397
2023	\$40,312	\$0	\$0	\$0	\$0	\$476	\$1,182	\$1,182	\$1,185	\$10,818	\$14,123	\$13,004	\$11,498	\$0	\$53,466
2024	\$0	\$0	\$0	\$0	\$0	\$476	\$1,338	\$581	\$0	\$0	\$0	\$0	\$0	\$0	\$81,428
2025	\$78,792	\$0	\$0	\$0	\$0	\$476	\$1,338	\$797	\$26	\$0	\$22,468	\$22,468	\$22,530	\$11,326	\$81,428

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$87,933,767	\$2,977,295	\$3,691,362	\$22,987,279	\$30,684,213	\$21,504,200	\$6,089,419	\$0	\$81,265,110	\$0

Description of CIP Changes:

The construction contract was advertised and bids were received on 5/24/24 and is being evaluated by GLWA

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Field Services

Class Lvl 3: Interceptor

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
66.4

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Project Manager: Mini Panicker

Director: Biren Saparia

Managing Dept.: SCC

Date Original Business Case Prepared:
 10/11/2016

Year Project Added to CIP: 2016

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Detroit River Interceptor

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**
Program Number:
Delivery Method: DB (Design-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Problem Statement:

The DRI was constructed under multiple contracts from the 1910's to the 1930's and has been in service since that time. Between 2012 and 2016, a visual inspection was completed of the DRI beginning at Alter Road and extending to near the WRRF. Significant distress was observed in some sections of the DRI during these inspections, and by 2017, it was clear that a major rehabilitation of the interceptor was necessary to prevent further deterioration and to limit the potential for catastrophic failure of this major interceptor. As a result GLWA initiated this design build project to inspect, design, and construct needed repairs to the DRI.

Scope of Work/Project Alternatives:

The Preliminary Scope of Work of the Project is to review the existing records, investigate the existing conditions, provide the necessary cleaning/rehabilitation/replacement to optimize the design capacity of the interceptor and to extend the service life of this asset.

Other Important Info:

Challenges: DRI had significant flow control challenges for both inspection and rehabilitation. As part of this project major flow control structures were constructed to meet these challenges.

Primary Driver: 1 - Condition

Driver Explanation:

Inspections prior to the initiation of this project revealed portions with significant encrustation, sediment deposition, and deterioration.

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Scoring

Project Manager Weighted Score: 78.3			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements	
Regulatory (Environmental/Legal)	4	D. Some historical evidence of permit/regulatory/contract violations support the decision	
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	
Public Benefit	4	D. Significant, noticeable impact on the public & GLWA image; seen as achievement for GLWA/communities/regions served	
Financial	4	B. Project will likely result in avoidance of fines, potential litigation, emergency repairs or damage to asset/public, E. Canceling project significant financial consequences from revenue loss, repair /restoration/O&M cost, downtime, potential litigation, fines, damage, etc.; some budget implications requiring deferral or cutbacks in other areas.	
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	Cross over connection is an enhancement to the entire GLWA collection system

Review Committee Weighted Score: 66.4		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	1	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	5	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2017

Phase Status: Project Execution

End Date: 1/30/2035

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: GLWA

Cost Est. Date: 7/1/2022

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$1,948	\$261	\$220	\$163	\$163	\$163	\$164	\$163	\$163	\$816	\$749

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2017	1/30/2035
Capital Delivery Salary (Fringes)	7/1/2017	1/30/2035
Other Capital Improvement Costs	5/24/2018	1/30/2035

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Phase: Construction (DB-226)

Phase Title: Construction (DB-226)

Phase Budget: Wastewater

Start Date: 5/24/2018

Phase Status: Project Execution

End Date: 3/31/2029

Phase Comments/Description:

Added most recent CO executed No. 2 to C&S sheet and the text from CCD No. 22 - the dates match with the documents available as well as the C&S sheet - REACH 2A, MARCH 2023 WET WEATHER / NON-WORK DAYS, 21 EA - \$6,000.00 \$126,000.00
 TOTAL CCD-22 COST \$ 126,000.00
 DB-226 COORDINATION ALLOWANCE BEFORE CCD-22 DB-226 COORDINATION ALLOWANCE AFTER CCD-22
 \$ 2,420,700.82
 \$ 2,294,700.82

Cost Est. Class: Class 1

Cost Est. Source: FKE

Cost Est. Date: 4/19/2023

Cost Est. Prepared By: Mini Panicker

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (DB-226)	\$92,231	\$55,631	\$53,061	\$8,652	\$8,131	\$8,131	\$8,153	\$6,104	\$0	\$30,518	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (DB-226)	5/24/2018	3/31/2029

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Phase: Design-Build # 2 (CON-183)

Phase Title: Design-Build # 2 (CON-183)

Phase Budget: Wastewater

Start Date: 7/1/2017

Phase Status: Closed Out

End Date: 5/29/2020

Phase Comments/Description:

Added final Change Order No. 4 reference in C&S final completion date should match final change order final completion 11/30/19 not the day of the CO.

Cost Est. Class: Class 1

Cost Est. Source: GLWA Final

Cost Est. Date: 4/13/2020

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design-Build # 2 (CON-183)	\$4,408	\$4,408	\$4,408	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (CON-183)	7/1/2017	5/29/2020

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Phase: TBD/Unallocated

Phase Title: TBD/Unallocated

Phase Budget: Wastewater

Start Date: 1/1/2030

Phase Status: Future Planned Start

End Date: 1/30/2035

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: GLWA

Cost Est. Date: 7/1/2022

Cost Est. Prepared By: Mini Panicker

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
TBD/Unallocated	\$21,015	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,049	\$2,049	\$18,966

Phase Dates

Activity Name	Start Date	End Date
TBD/Unallocated	1/1/2030	1/30/2035

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$1,948	\$261	\$220	\$163	\$163	\$163	\$164	\$163	\$163	\$816	\$749
Construction (DB-226)	\$92,231	\$55,631	\$53,061	\$8,652	\$8,131	\$8,131	\$8,153	\$6,104	\$0	\$30,518	\$0
Design-Build # 2 (CON-183)	\$4,408	\$4,408	\$4,408	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TBD/Unallocated	\$21,015	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,049	\$2,049	\$18,966
Totals	\$119,602	\$60,300	\$57,689	\$8,815	\$8,294	\$8,294	\$8,317	\$6,267	\$2,213	\$33,384	\$19,714

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	\$20,000	\$321	\$10,000	\$5,000	\$5,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,321
2019	\$39,697	\$5	\$2,232	\$1,084	\$8,052	\$10,187	\$10,187	\$10,187	\$2,491	\$0	\$0	\$0	\$0	\$0	\$44,425
2020	\$32,000	\$0	\$2,647	\$9,424	\$10,000	\$10,000	\$10,000	\$1,000	\$1,000	\$5,000	\$0	\$0	\$0	\$0	\$49,071
2021	\$54,885	\$0	\$0	\$10,592	\$16,199	\$23,634	\$9,786	\$1,465	\$10,014	\$9,986	\$0	\$0	\$0	\$0	\$81,676
2022	\$35,825	\$0	\$7	\$5,353	\$14,791	\$11,192	\$11,192	\$10,057	\$5,696	\$5,235	\$3,645	\$5,608	\$0	\$0	\$72,775
2023	\$21,615	\$5	\$2,642	\$7,965	\$9,539	\$16,947	\$10,471	\$9,416	\$3,060	\$3,047	\$3,047	\$3,047	\$8,000	\$0	\$77,184
2024	\$38,670	\$5	\$2,642	\$7,964	\$9,540	\$16,947	\$5,181	\$12,892	\$17,254	\$10,038	\$8,983	\$167	\$2,228	\$4,300	\$113,559
2025	\$32,901	\$5	\$2,642	\$7,964	\$9,540	\$16,947	\$5,181	\$8,784	\$11,738	\$11,581	\$8,424	\$8,424	\$4,321	\$151	\$117,561

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$119,602,517	\$57,689,053	\$8,815,067	\$8,293,978	\$8,293,978	\$8,316,701	\$6,266,842	\$2,212,573	\$33,384,072	\$19,714,325

Description of CIP Changes:

Funds increased due to anticipated DB-226 scope increase.

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Field Services

Class Lvl 3: Interceptor

☐ **Project New to CIP**

☒ **Useful Life > 20 Yrs**

☐ **Multiple Phases**

Project Score

63.9

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



North Interceptor East Arm

Project Manager: Jody Caldwell

Director: Chris Nastally

Managing Dept.: AM/CIP

Date Original Business Case Prepared: 7/11/2022

Year Project Added to CIP: 2022

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: 7 Mile & Outer Drive E

Funds and Cost Center: Wastewater - 5421-892411 (Field Engineering)

☐ **From Program?**

Program Number:

Delivery Method: Other (Design In-house and Bid Out for Construction)

Delivery Method Details: Project will be procured and managed by OMIDDD. Cost sharing of this project is still under consideration.

☐ **Is a Predecessor Project?**

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: Yes

Partners: Other

Collaboration Entity: Oakland Macomb Drain Drainage District

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure**Problem Statement:**

Oakland-Macomb Interceptor Drain Drainage District's (OMIDDD) is proposing new flow controls within the NIEA near 7-Mile, as part of the repair work currently being designed by OMIDDD within the NIEA upstream of Meldrum.

There are four sewer connections through which wastewater is discharged into the NIEA. On the upstream end of the NIEA, the OMIDDD discharges wastewater from the NESPS. Downstream of the NESPS, there are three gated drop connections to the NIEA at its crossings with the First-Hamilton, Conant-Mt. Elliott and Meldrum sewers. The gated connections are operated by GLWA and discharge dry weather and low wet weather flow from the First-Hamilton, Conant-Mt Elliott, and Meldrum sewers to the NIEA through valve remote gates VR-13, VR-15 and VR-16, respectively. When these valve remote gates are closed, wastewater flow continues downstream to the Detroit River Interceptor (DRI).

Presently, reaches of the NIEA can be isolated and drained for part of the day in dry weather by storing wastewater in the OMID interceptor system upstream of the NESPS and closing the VR-15 and VR-16 gates. The available storage times in the interceptors upstream of the NESPS vary daily, seasonally, and with preceding rainfall and snowmelt events. If the NESPS is shut off at certain conditions, it is estimated that about 3 hours of storage time is available. The storage times range between 9 and 11 hours if storage is also occurring at three upstream OMIDDD control structures, at two MIDDD control facilities, and flow diversion is occurring at the OCWRC's Perry Street Pumping Station. These activities will preclude any other currently planned work in the OMIDDD and MIDDD interceptors and require a substantial amount of well-planned coordination

Scope of Work/Project Alternatives:

The scope of work consists of the construction of a new flow control structure and automation of an existing flow control gate at the point of connection between the NIEA and the 7-Mile Relief Sewer.

This project is being undertaken by OMIDDD as part of their planned NIEA rehabilitation work. GLWA is currently considering cost sharing options for this project as GLWA believes this automated gate structure has operational benefit.

GLWA has evaluated the benefit of the automated gate structure by performing a bottom up feasibility analysis. The evaluation considers GLWA's use of the diversion structure over the 25 year asset life cycle. Assumptions were made as to the type of use (inspection, maintenance, renewal) along the NIEA. In addition, frequencies, durations and costs were estimated to evaluate the cost savings of automatic gate use versus a manual gate use. Considerations of multiple crane use and traffic control were financial drivers in the calculation for manual gate use.

The dollar value identified within this project (\$5,000,000) is only an estimate of GLWA's portion of the overall diversion structure budget. This amount has yet to be negotiated and finalized with OMIDD. The overall project amount is greater than (\$10,000,000).

Other Important Info:

Within Section 6.11 Collection System Redundancy Assessment of the Wastewater Master Plan, identifies the NIEA diversion at 7-Mile Road as a dry weather flow redundancy need.

Project is not scored by the risk committee since it is critical or for emergency repairs. OMID will manage the project and GLWA will provide a portion of the overall funding.

Primary Driver: 2 - Performance

Driver Explanation:

Related to the performance driver, the use of the automated gate structure would provide dry weather flow redundancy that would improve performance related to inspection, maintenance and renewal needs within the NIEA.

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

between multiple jurisdictions.

Reaches of the NIEA have the potential to be isolated continuously during dry weather conditions without any flow storage in the upstream OMIDDD or MIDDD sewers, by rehabilitating a stop gate structure on the NIEA south of Seven Mile Road that was constructed under DWSD contract PC-663 and restoring and improving an abandoned interconnection with the Seven Mile Relief sewer at Seven Mile Road. The current gate structure is not automated and would require significant resources to operate if needed. The proposed diversion structure would be automated to allow for more frequent usage for inspection, maintenance, and repairs.

Once rehabilitated, it is proposed that the PC-663 stop gate structure be closed, the adit gates be opened, and wastewater diverted from the NIEA into the Seven Mile Relief sewer. Under this mode of operation, the flow from the NESPS can be diverted around a majority of the NIEA in dry weather conditions and will provide a reasonable amount of working time in the sewer while the OMIDDD and MIDDD systems can operate under normal conditions.

The basis for re-establishing this automated connection is summarized as follows.

- Minimizes the need for significant project coordination and sequencing in multiple jurisdictions
- 7 Mile Diversion can provide continuous dry weather flow by-pass
- 7 Mile Diversion utilizes the GLWA system to divert the flow rather than relying on OMID and other jurisdictions
- 7 Mile Diversion provides redundancy of the NIEA sewer downstream of 7 Mile to the WRRF for routine inspections and maintenance
- 7 Mile Diversion in place will provide GLWA the ability to divert flow within a matter of hours in

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

case of emergency

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

Scoring

Project Manager Weighted Score:		63.9	
Criteria Name	Score	Score Criteria	Comment
Condition	3	B. Functionally sound and acceptable, signs of normal wear, C. May have minor failures or diminished efficiency; some performance deterioration	This score relates to the NIEA and not the existing gate structure. Currently, the manual gate could be operated and the bulkhead removed if the need arose. It is unknown if this diversion has been used.
Performance (Service Level/Reliability)	4	D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*, E. Not doing the project frequent and repetitive service interruption and/or reliability issues†, G. Limited redundancy	Having the ability to divert dry weather flow at this location will allow for greater amount of time within the interceptor for inspection, maintenance and renewal, will reduce the timing issues and coordination issues with OMIDDD and other jurisdictions when flow withholding is needed for the like.
Regulatory (Environmental/Legal)	1	A. No risk of causing, B. Low/no impact on specific reg. compliance issues	No risk
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	Ability to utilize the automated gate will allow for longer, more frequent access to the NIEA for maintenance, inspections and renewals.
Health and Safety	3	B. Project moderate positive impact on staff/public H&S‡, C. Likely to address minor hazard issues or concerns	Dry weather flow will be addressed by this diversion to the 7 Mile Relief Sewer in the event of a failure within the NIEA, however wet weather flows will still need to be pumped/bypassed.
Public Benefit	3	C. Moderate additional revenue/savings for GLWA (\$100K-\$499K/yr), E. /stakeholder relationships/confidence in GLWA	Project would be coordinated with OMIDDD as a regional partners to address access issues with NIEA. Evaluation of costs related to the manual operation of the existing diversion structure is estimated at \$5M over 25 years.

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

Financial	2	B. Low positive financial implications\$100K-\$250K or ROI 15-20 yrs	Evaluation of costs related to the manual operation of the existing diversion structure is estimated at \$5M over 25 years.
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	The ability to automatically operate the diversion structure to divert dry weather flow on an immediate basis provides for greater redundancy, limits coordination of projects with multiple jurisdictions which will allow for more concurrent projects to be taken on by multiple entities.

Review Committee Weighted Score: 63.9

Criteria Name	Score	Comment
Condition	3	Committee score carried over from current year Project Manager score
Performance (Service Level/Reliability)	4	Committee score carried over from current year Project Manager score
Regulatory (Environmental/Legal)	1	Committee score carried over from current year Project Manager score
Operations and Maintenance	4	Committee score carried over from current year Project Manager score
Health and Safety	3	Committee score carried over from current year Project Manager score
Public Benefit	3	Committee score carried over from current year Project Manager score
Financial	2	Committee score carried over from current year Project Manager score
Efficiency and Innovation	4	Committee score carried over from current year Project Manager score

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 11/1/2023

Phase Status: Project Execution

End Date: 7/31/2026

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA

Cost Est. Date: 6/1/2023

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$50	\$0	\$0	\$20	\$27	\$2	\$0	\$0	\$0	\$29	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	11/1/2023	7/31/2026
Capital Delivery Salary (Fringes)	11/1/2023	7/31/2026

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 11/1/2023

Phase Status: Project Execution

End Date: 7/31/2026

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA

Cost Est. Date: 7/1/2020

Cost Est. Prepared By: Jody Caldwell

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$4,500	\$2,250	\$2,164	\$1,211	\$1,037	\$88	\$0	\$0	\$0	\$1,125	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	11/1/2023	7/31/2026

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$50	\$0	\$0	\$20	\$27	\$2	\$0	\$0	\$0	\$29	\$0
Construction	\$4,500	\$2,250	\$2,164	\$1,211	\$1,037	\$88	\$0	\$0	\$0	\$1,125	\$0
Totals	\$4,549	\$2,250	\$2,164	\$1,231	\$1,064	\$90	\$0	\$0	\$0	\$1,154	\$0

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

CIP	5 Year Total	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2024	\$2,521	\$2,479	\$2,521	\$0	\$0	\$0	\$0	\$0	\$5,000
2025	\$2,250	\$0	\$2,250	\$1,125	\$1,125	\$0	\$0	\$0	\$4,500

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$4,549,500	\$2,164,050	\$1,231,150	\$1,063,939	\$90,362	\$0	\$0	\$0	\$1,154,300	\$0

Description of CIP Changes:

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Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Project Status: Closed

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Systems Control Center

Class Lvl 3: Pump Stations

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
63.6

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☒ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Fairview Pumping Station - Replace Four Sanitary Pumps

Project Manager: Jorge Nicolas

Director: Chris Nastally

Managing Dept.: Water Eng

Date Original Business Case Prepared:
 3/9/2011

Year Project Added to CIP: 2011

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Fairview Pumping Station

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Problem Statement:

Replacement and upgrade of pumping equipment's to improve transportation of waste water to the treatment plant

Scope of Work/Project Alternatives:

The scope of work consists of the study, design, and construction of four new pumping systems including inlet and discharge valves and wet well hydraulics. This also includes enlarging doorways, revamping roadways, and upgrading electrical and control systems including installation of a standby emergency power generator system.

Other Important Info:

This project replaces all existing old pumping units with a state of the art dry pit pumping units with associated I&C and Ovation control from SCC
This project was not scored by risk committee because it is far advanced

Primary Driver: 1 - Condition

Driver Explanation:

Age of pumps - Active

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Scoring

Project Manager Weighted Score: 63.6			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining, B. Equipment/process functions but requires high level of maintenance to remain operational	
Performance (Service Level/Reliability)	4	D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*	
Regulatory (Environmental/Legal)	2	A. Low risk of causing	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	2	A. Low chance of failure occurring; failure easily mitigated w/ no safety/health/env. impacts	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers), B. Supports City/regional/neighborhood growth (i.e. measurable impact on public/community through economic development)	
Financial	1	A. Minimal to no impact to GLWA	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies, B. Low – moderate positive impact on energy use, conservation, environmental responsibility& sustainability i.e. 1-5% energy reduction	

Review Committee Weighted Score: 63.6		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from current year Project Manager score
Performance (Service Level/Reliability)	4	Committee score carried over from current year Project Manager score
Regulatory (Environmental/Legal)	2	Committee score carried over from current year Project Manager score
Operations and Maintenance	4	Committee score carried over from current year Project Manager score
Health and Safety	2	Committee score carried over from current year Project Manager score
Public Benefit	4	Committee score carried over from current year Project Manager score
Financial	1	Committee score carried over from current year Project Manager score
Efficiency and Innovation	2	Committee score carried over from current year Project Manager score

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/5/2016

Phase Status: Closed Out

End Date: 1/31/2024

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: TBD

Cost Est. Date: 11/17/2023

Cost Est. Prepared By: TBD

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$355	\$355	\$355	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/5/2016	1/31/2024
Capital Delivery Salary (Fringes)	7/5/2016	1/31/2024
Capitalized Interest	7/5/2016	1/31/2024

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 7/1/2016

Phase Status: Closed Out

End Date: 6/30/2017

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$19	\$19	\$19	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services	7/1/2016	6/30/2017

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Design & Construction Assistance # 1 (CS-1747, CON-297, CS-1488)

Phase Title: Design & Construction Assistance # 1 (CS-1747, CON-297, CS-1488)

Phase Budget: Wastewater

Start Date: 7/5/2016

Phase Status: Closed Out

End Date: 1/31/2024

Phase Comments/Description:

Construction phase

Cost Est. Class: Class 1

Cost Est. Source: Consultant Brown & Caldwell (CS-1747)

Cost Est. Date: 11/13/2019

Cost Est. Prepared By: Consultant Brown & Caldwell

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design & Construction Assistance # 1 (CS-1747, CON-297, CS-1488)	\$7,156	\$7,156	\$7,156	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1747)	7/5/2016	1/31/2024

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Design/Engineering (CON-297)

Phase Title: Design/Engineering (CON-297)

Phase Budget: Wastewater

Start Date: 7/1/2017

Phase Status: Closed Out

End Date: 6/28/2019

Phase Comments/Description:

CONSTRUCTION ADMINISTRATION

Cost Est. Class: Class 1

Cost Est. Source: Consultant Brown & Caldwell (CS-1747)

Cost Est. Date: 11/13/2019

Cost Est. Prepared By: Consultant Brown & Caldwell

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CON-297)	\$41	\$41	\$41	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CON-297)	7/1/2017	6/28/2019

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Design/Engineering (CS-1488)

Phase Title: Design/Engineering (CS-1488)

Phase Budget: Wastewater

Start Date: 7/1/2017

Phase Status: Closed Out

End Date: 6/29/2018

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: NA

Cost Est. Date: 11/13/2018

Cost Est. Prepared By: NA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-1488)	\$30	\$30	\$30	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1488)	7/1/2017	6/29/2018

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Miscellaneous (Insurance) #1

Phase Title: Miscellaneous (Insurance) #1

Phase Budget: Wastewater

Start Date: 4/25/2016

Phase Status: Closed Out

End Date: 1/31/2024

Phase Comments/Description:

CONSTRUCTION ADMINISTRATION

Cost Est. Class: Class 1

Cost Est. Source: Consultant Brown & Caldwell (CS-1747)

Cost Est. Date: 11/13/2022

Cost Est. Prepared By: Consultant Brown & Caldwell

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Miscellaneous (Insurance) #1	(\$41)	(\$41)	(\$41)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Miscellaneous (Insurance)	4/25/2016	1/31/2024

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Construction (Build) # 1 (CON-297)

Phase Title: Construction (Build) # 1 (CON-297)

Phase Budget: Wastewater

Start Date: 1/7/2019

Phase Status: Closed Out

End Date: 11/30/2023

Phase Comments/Description:

CONSTRUCTION PHASE

Cost Est. Class: Class 1

Cost Est. Source: Weiss Construction (CON-297)

Cost Est. Date: 11/13/2022

Cost Est. Prepared By: Weiss construction

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1 (CON-297)	\$37,486	\$37,486	\$37,486	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (CON-297)	1/7/2019	11/30/2023

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Miscellaneous (Insurance) #2

Phase Title: Miscellaneous (Insurance) #2

Phase Budget: Wastewater

Start Date: 1/7/2019

Phase Status: Closed Out

End Date: 11/30/2023

Phase Comments/Description:

Construction

Cost Est. Class: Class 1

Cost Est. Source: Weiss Construction (CON-297)

Cost Est. Date: 11/13/2022

Cost Est. Prepared By: Weiss construction

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Miscellaneous (Insurance) #2	(\$305)	(\$305)	(\$305)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Miscellaneous (Insurance)	1/7/2019	11/30/2023

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$355	\$355	\$355	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services	\$19	\$19	\$19	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design & Construction Assistance # 1 (CS-1747, CON-297, CS-1488)	\$7,156	\$7,156	\$7,156	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CON-297)	\$41	\$41	\$41	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-1488)	\$30	\$30	\$30	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Miscellaneous (Insurance) #1	(\$41)	(\$41)	(\$41)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Build) # 1 (CON-297)	\$37,486	\$37,486	\$37,486	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Miscellaneous (Insurance) #2	(\$305)	(\$305)	(\$305)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$44,742	\$44,742	\$44,742	\$0	\$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	\$31,800	\$472	\$2,100	\$14,350	\$15,350	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32,400
2019	\$30,482	\$778	\$508	\$12,094	\$14,414	\$3,974	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$31,768
2020	\$22,891	\$0	\$1,551	\$6,000	\$18,000	\$4,891	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$30,442
2021	\$6,320	\$0	\$0	\$3,404	\$27,552	\$5,336	\$984	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$37,276
2022	\$12,810	\$0	\$772	\$1,852	\$11,648	\$12,990	\$12,781	\$28	\$0	\$0	\$0	\$0	\$0	\$0	\$40,074
2023	\$38	\$778	\$772	\$1,924	\$10,798	\$16,098	\$9,346	\$38	\$0	\$0	\$0	\$0	\$0	\$0	\$39,757
2024	\$2,480	\$778	\$773	\$1,924	\$10,798	\$16,098	\$8,415	\$4,857	\$2,480	\$0	\$0	\$0	\$0	\$0	\$46,124
2025	\$0	\$778	\$773	\$1,924	\$10,798	\$16,098	\$8,415	\$4,961	\$2,377	\$0	\$0	\$0	\$0	\$0	\$46,124

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$44,742,444	\$44,742,444	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

Change Order No.4 Added. This CO #4 extended the contract time and increased the contract budget.

Project Title: Conner Creek Pump Station Improvements

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Systems Control Center

Class Lvl 3: Pump Stations

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
94.1

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☒ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Conner Creek Pump Station Improvements

Project Manager: Paul Ransom

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 10/12/2016

Year Project Added to CIP: 2016

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Conner Creek & Freud Pump Stations

Funds and Cost Center: Wastewater - 5421-882301

☐ **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:

Project Title: Conner Creek Pump Station Improvements

Problem Statement:

Connor pump stations experience reliability challenges associated with the age of the equipment. The wet well cannot be isolated from the influent collection system to allow for inspection and maintenance. Modifications and improvements to this pump station are necessary to protect the health, safety, and welfare of the residents. The primary objective of this project is the study of the overall performance of Connor Creek pump station, developing the design, and building an operational strategy to optimize the utilization of the Conner Creek pumping station in relation to its operation with the Freud pumping station and Conner Creek Retention Treatment Basin.

Scope of Work/Project Alternatives:

Provide a basis of design, and final design for an operational strategy to optimize the utilization of Connor Creek pumping station in relation to its operation with the Freud pumping station and the Connor Creek Retention Treatment Basin. Provide construction of the project and construction assistance during construction.

Other Important Info:

Challenges: Meeting the collection system transport capacity during the construction.

Project History: The Connor Creek Pump Station (CCPS) was originally built in 1928 with four storm water pumps, each with a rated capacity of 500 cubic feet per second (cfs). The CCPS was expanded in 1940 adding four more pumps of the same capacity. The pump station currently has a total capacity of 4,000 cfs and a firm capacity of 3,500 cfs. The pumps are primed using a vacuum system that relies on the flooding of the discharge channel siphon to maintain a water seal, which allows the pumps to be primed. Since the Conner Creek CSO RTB went into operation in November 2005, the discharge channel for the CCPS is drained when the CC RTB is dewatered. Therefore, the vacuum priming system cannot prime the pumps. This results in the CCPS pumps being unable to start until the discharge channel is flooded and the vacuum priming system has a seal on the discharge to prime the pumps.

Primary Driver: 2 - Performance

Driver Explanation:

During peak wet weather there is a potential for the sewers to surcharge and flood the street.

Project Title: Conner Creek Pump Station Improvements

Scoring

Project Manager Weighted Score: 97.4			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	
Performance (Service Level/Reliability)	5	B. Current performance unacceptable, does not meet current requirements/demands; equipment obsolete/extremely difficult to maintain or find spare parts/repair service; Asset/process OOS 50% or more of the time; Recurring, expected failures	
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	
Operations and Maintenance	5	A. Unsustainable levels of O/M required to keep in service that will still not ensure future stable/proper operation	
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	
Public Benefit	4	D. Significant, noticeable impact on the public & GLWA image; seen as achievement for GLWA/communities/regions served	
Financial	4	E. Canceling project significant financial consequences from revenue loss, repair /restoration/O&M cost, downtime, potential litigation, fines, damage, etc.; some budget implications requiring deferral or cutbacks in other areas.	
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	

Review Committee Weighted Score: 94.1		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	5	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	5	Scores carried over from previous year
Financial	5	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Conner Creek Pump Station Improvements

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 9/30/2016

Phase Status: Project Execution

End Date: 12/31/2036

Phase Comments/Description:
Cost Est. Class: Class 3

Cost Est. Source: Brown & Caldwell

Cost Est. Date: 6/1/2023

Cost Est. Prepared By: Dave Nitz

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$7,630	\$2,814	\$2,802	\$306	\$393	\$393	\$394	\$393	\$393	\$1,965	\$1,965

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	9/30/2016	12/31/2036
Capital Delivery Salary (Fringes)	9/30/2016	12/31/2036
Other Capital Improvement Costs (5421)	9/30/2016	12/31/2036
Other Capital Improvement Costs (5404 - Clairpointe)	9/30/2016	12/31/2036
Capitalized Interest	9/30/2016	12/31/2036

Project Title: Conner Creek Pump Station Improvements

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 2/16/2017

Phase Status: Closed Out

End Date: 6/30/2018

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: N/A

Cost Est. Date: 5/2/2024

Cost Est. Prepared By: N/A

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$49	\$49	\$49	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (Contractor OH)	2/16/2017	6/30/2018

Project Title: Conner Creek Pump Station Improvements

Phase: Professional Services (CS-272)**Phase Title:** Professional Services (CS-272)

Phase Budget: Wastewater**Start Date:** 4/6/2022**Phase Status:** Closed Out**End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 5/19/2023**Cost Est. Prepared By:** AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$3	\$3	\$3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	4/6/2022	5/19/2023

Project Title: Conner Creek Pump Station Improvements

Phase: Design/Engineering (CS-120)

Phase Title: Design/Engineering (CS-120)

Phase Budget: Wastewater

Start Date: 9/1/2023

Phase Status: Project Execution

End Date: 12/31/2036

Phase Comments/Description:

Per Executed CO #2. Executed the end date for CS-120 ,07/07/28

Cost Est. Class: Class 1

Cost Est. Source: Arcadis

Cost Est. Date: 1/31/2021

Cost Est. Prepared By: Arcadis

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-120)	\$20,764	\$14,366	\$13,619	\$1,091	\$0	\$870	\$441	\$152	\$611	\$2,074	\$3,059

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-120)	9/1/2023	12/31/2036

Project Title: Conner Creek Pump Station Improvements

Phase: Design/Engineering (MISC)

Phase Title: Design/Engineering (MISC)

Phase Budget: Wastewater

Start Date: 7/1/2016

Phase Status: Closed Out

End Date: 6/30/2017

Phase Comments/Description:

Edits made in C&S Sheet

Cost Est. Class: Class 1

Cost Est. Source: Mini Panicker

Cost Est. Date: 6/16/2023

Cost Est. Prepared By: Mini Panicker

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (MISC)	\$8	\$8	\$8	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (MISC)	7/1/2016	6/30/2017

Project Title: Conner Creek Pump Station Improvements

Phase: Construction (Build) # 1 (CON-109)

Phase Title: Construction (Build) # 1 (CON-109)

Phase Budget: Wastewater

Start Date: 9/30/2016

Phase Status: Closed Out

End Date: 7/1/2021

Phase Comments/Description:

Freud Pump Rehabilitation and procurement of new pump and a switchgear.

Cost Est. Class: Class 4

Cost Est. Source: Engineering

Cost Est. Date: 8/31/2017

Cost Est. Prepared By: Biren Saparia

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1 (CON-109)	\$5,086	\$5,086	\$5,086	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (CON-109)	9/30/2016	7/1/2021

Project Title: Conner Creek Pump Station Improvements

Phase: Construction (Phase 2) - Freud Pump Station

Phase Title: Construction (Phase 2) - Freud Pump Station

Phase Budget: Wastewater

Start Date: 7/1/2016

Phase Status: Cancelled

End Date: 6/30/2030

Phase Comments/Description:

This phase has been re-classified to 232005

Cost Est. Class: Class 2

Cost Est. Source: Arcadis

Cost Est. Date: 6/8/2023

Cost Est. Prepared By: Jeff Swartz

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Phase 2) - Freud Pump Station	\$2,493	\$2,493	\$2,493	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase 2) - Freud Pump Station	7/1/2024	6/30/2030
Construction Materials (2103384)	12/14/2022	3/20/2027
Construction (MISC - Land Purchase)	7/1/2016	6/30/2018

Project Title: Conner Creek Pump Station Improvements

Phase: Construction (Phase 3) - Connor Pump Station

Phase Title: Construction (Phase 3) - Connor Pump Station

Phase Budget: Wastewater

Start Date: 7/1/2025

Phase Status: Future Planned Start

End Date: 9/30/2028

Phase Comments/Description:

Dates adjusted in C&S Sheet

Cost Est. Class: Class 4

Cost Est. Source: Engineers Estimate

Cost Est. Date: 6/15/2023

Cost Est. Prepared By: Arcadis

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Phase 3) - Connor Pump Station	\$37,196	\$0	\$0	\$0	\$4,917	\$17,315	\$12,637	\$2,328	\$0	\$37,196	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase 3) - Connor Pump Station	7/1/2025	9/30/2028

Project Title: Conner Creek Pump Station Improvements

Phase: Construction (2302739)

Phase Title: Construction (2302739)

Phase Budget: Wastewater

Start Date: 12/1/2023

Phase Status: Closed Out

End Date: 1/31/2024

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA

Cost Est. Date: 1/1/2023

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (2302739)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (2302739 - Net Zero CAFR Actuals)	12/1/2023	1/31/2024

Project Title: Conner Creek Pump Station Improvements

Phase: Construction (1900318)

Phase Title: Construction (1900318)

Phase Budget: Wastewater

Start Date: 2/1/2024

Phase Status: Closed Out

End Date: 3/1/2024

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: GLWA

Cost Est. Date: 1/1/2024

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (1900318)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (1900318) (net-zero cost account to be archived)	2/1/2024	3/1/2024

Project Title: Conner Creek Pump Station Improvements

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 1/1/2026

Phase Status: Future Planned Start

End Date: 1/31/2031

Phase Comments/Description:
Cost Est. Class: Class 5

Cost Est. Source: GLWA

Cost Est. Date: 6/30/2023

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$116,366	\$0	\$0	\$0	\$2,291	\$11,252	\$34,258	\$34,655	\$23,023	\$105,479	\$10,887

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase 6)	1/1/2026	1/31/2031

Project Title: Conner Creek Pump Station Improvements

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 9/1/2030

Phase Status: Future Planned Start

End Date: 9/30/2036

Phase Comments/Description:
Cost Est. Class: Class 5

Cost Est. Source: GLWA

Cost Est. Date: 6/30/2023

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$158,504	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$131,809

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase 7)	9/1/2030	9/30/2036

Project Title: Conner Creek Pump Station Improvements

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$7,630	\$2,814	\$2,802	\$306	\$393	\$393	\$394	\$393	\$393	\$1,965	\$1,965
Professional Services	\$49	\$49	\$49	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (CS-272)	\$3	\$3	\$3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-120)	\$20,764	\$14,366	\$13,619	\$1,091	\$0	\$870	\$441	\$152	\$611	\$2,074	\$3,059
Design/Engineering (MISC)	\$8	\$8	\$8	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Build) # 1 (CON-109)	\$5,086	\$5,086	\$5,086	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Phase 2) - Freud Pump Station	\$2,493	\$2,493	\$2,493	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Phase 3) - Connor Pump Station	\$37,196	\$0	\$0	\$0	\$4,917	\$17,315	\$12,637	\$2,328	\$0	\$37,196	\$0
Construction (2302739)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (1900318)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$116,366	\$0	\$0	\$0	\$2,291	\$11,252	\$34,258	\$34,655	\$23,023	\$105,479	\$142,696
Totals	\$348,098	\$24,819	\$24,060	\$1,397	\$7,601	\$29,829	\$47,729	\$37,528	\$24,028	\$146,715	\$147,720

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

Project Title: Conner Creek Pump Station Improvements

CIP	5 Year Total	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2018	\$14,460	\$8,040	\$5,900	\$5,100	\$2,460	\$1,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$22,500
2019	\$13,997	\$2,101	\$1,384	\$1,192	\$0	\$223	\$1,582	\$11,000	\$15,000	\$0	\$0	\$0	\$0	\$0	\$32,482
2020	\$155,078	\$0	\$5,110	\$1,984	\$17,029	\$13,014	\$50,014	\$50,014	\$25,007	\$257	\$0	\$0	\$0	\$0	\$162,429
2021	\$71,033	\$0	\$0	\$5,631	\$7,364	\$6,445	\$57	\$9,898	\$23,830	\$30,803	\$138,071	\$0	\$0	\$0	\$222,099
2022	\$91,041	\$0	\$2,301	\$134	\$4,908	\$6,445	\$3,357	\$12,646	\$17,446	\$23,446	\$34,146	\$41,846	\$41,846	\$40,758	\$229,279
2023	\$126,094	\$2,101	\$3,010	\$521	\$1,712	\$3,217	\$3,779	\$10,753	\$19,818	\$32,653	\$32,692	\$30,177	\$34,270	\$34,093	\$262,798
2024	\$124,345	\$2,101	\$3,010	\$521	\$1,712	\$3,217	\$6,011	\$3,595	\$21,816	\$26,208	\$29,444	\$29,444	\$17,434	\$35,707	\$558,497
2025	\$190,509	\$2,101	\$3,010	\$521	\$1,712	\$3,217	\$6,011	\$3,296	\$4,073	\$21,068	\$27,283	\$46,503	\$45,760	\$49,894	\$464,077

Reporting Period 72: Ending FY25 M03 Sep

Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$348,098,596	\$24,059,617	\$1,396,622	\$7,600,731	\$29,829,409	\$47,729,169	\$37,527,715	\$24,027,649	\$146,714,674	\$147,719,801

Description of CIP Changes:

The original solution for Conner Creek PS was the construction of a new combined Storm and Sanitary Pump Station. However, after additional design and analysis it was determined the same level of service could be obtained through the construction of a new Sanitary Station and rehabilitation of the existing Storm Pump Station. Phase 3 construction costs were reduced to reflect this change. CIP split and a Freud is now a new CIP 232005

Project Title: Freud Pump Station Improvements

Project Status: Project Execution - Construction

CIP Type: Project

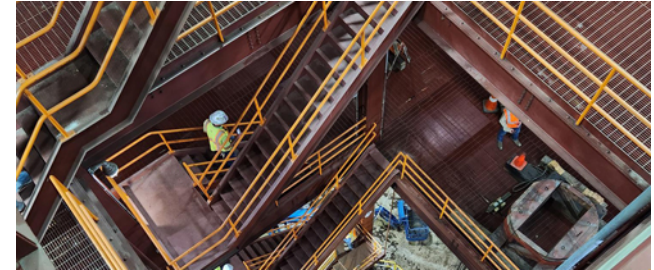
Class Lvl 1: Wastewater

Class Lvl 2: Systems Control Center

Class Lvl 3: Pump Stations

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☒ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Freud Pump Station Improvements

Project Manager: Paul Ransom

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 10/12/2016

Year Project Added to CIP: 2024

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Freud Pump Station

Funds and Cost Center: Wastewater - 5421-882301

☐ **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:

Project Title: Freud Pump Station Improvements

Problem Statement:

Freud pump station experiences reliability challenges associated with the age of the equipment. The wet well cannot be isolated from the influent collection system to allow for inspection and maintenance or storm pumps. Modifications and improvements to this pump station is necessary to protect the health, safety, and welfare of the residents.

Scope of Work/Project Alternatives:

Provide a basis of design, and final design for an operational strategy to optimize the utilization of interconnected piping and operation for Freud Sewage Pumping Station. Provide construction of the project and construction assistance during construction.

Other Important Info:

Challenges: Meeting the collection system transport capacity during the construction.

Primary Driver: 2 - Performance

Driver Explanation:

During peak wet weather there is a potential for the sewers to surcharge and flood the street.

Project Title: Freud Pump Station Improvements

Scoring

Project Manager Weighted Score: 97.4			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	Scores carried over from previous year
Performance (Service Level/Reliability)	5	B. Current performance unacceptable, does not meet current requirements/demands; equipment obsolete/extremely difficult to maintain or find spare parts/repair service; Asset/process OOS 50% or more of the time; Recurring, expected failures	Scores carried over from previous year
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	Scores carried over from previous year
Operations and Maintenance	5	A. Unsustainable levels of O/M required to keep in service that will still not ensure future stable/proper operation	Scores carried over from previous year
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	Scores carried over from previous year
Public Benefit	4	D. Significant, noticeable impact on the public & GLWA image; seen as achievement for GLWA/communities/regions served	Scores carried over from previous year
Financial	4	E. Canceling project significant financial consequences from revenue loss, repair /restoration/O&M cost, downtime, potential litigation, fines, damage, etc.; some budget implications requiring deferral or cutbacks in other areas.	Scores carried over from previous year
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	Scores carried over from previous year

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	

Project Title: Freud Pump Station Improvements

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget:**Start Date:** 6/7/2017**Phase Status:** Project Execution**End Date:** 4/30/2030

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA**Cost Est. Date:** 12/13/2023**Cost Est. Prepared By:** GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$1,617	\$0	\$0	\$217	\$290	\$290	\$290	\$290	\$241	\$1,401	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	6/7/2017	4/30/2030
Capital Delivery Salary (Fringes)	6/7/2017	4/30/2030

Project Title: Freud Pump Station Improvements

Phase: Design/Engineering (Freud)

Phase Title: Design/Engineering (Freud)

Phase Budget: Wastewater

Start Date: 6/7/2017

Phase Status: Project Execution

End Date: 4/30/2030

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Proposal

Cost Est. Date: 6/17/2017

Cost Est. Prepared By: Brown & Caldwell / Arcadis

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (Freud)	\$3,647	\$292	\$172	\$569	\$601	\$601	\$603	\$601	\$500	\$2,906	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	6/7/2017	4/30/2030

Project Title: Freud Pump Station Improvements

Phase: Construction (Freud)

Phase Title: Construction (Freud)

Phase Budget: Wastewater

Start Date: 10/1/2024

Phase Status: Project Execution

End Date: 4/30/2030

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: BID

Cost Est. Date: 12/13/2023

Cost Est. Prepared By: Kokosing

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Freud)	\$145,719	\$0	\$0	\$3,943	\$16,601	\$39,542	\$39,651	\$28,417	\$17,565	\$141,776	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction - Freud Pump Station	10/1/2024	4/30/2030

Project Title: Freud Pump Station Improvements

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$1,617	\$0	\$0	\$217	\$290	\$290	\$290	\$290	\$241	\$1,401	\$0
Design/Engineering (Freud)	\$3,647	\$292	\$172	\$569	\$601	\$601	\$603	\$601	\$500	\$2,906	\$0
Construction (Freud)	\$145,719	\$0	\$0	\$3,943	\$16,601	\$39,542	\$39,651	\$28,417	\$17,565	\$141,776	\$0
Totals	\$150,983	\$291	\$172	\$4,729	\$17,492	\$40,433	\$40,543	\$29,307	\$18,306	\$146,082	\$0

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

CIP	FY24	FY25	FY26	FY27	FY28	FY29
2025	\$0	\$0	\$0	\$0	\$0	\$0

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$150,983,098	\$172,439	\$4,728,894	\$17,491,735	\$40,432,716	\$40,543,491	\$29,307,453	\$18,306,369	\$146,081,765	\$0

Description of CIP Changes:

2024 - This project was separated from former 232002 CIP.

Project Title: Rouge River In-system Storage Devices

Project Status: Future Planned - Ten Year CIP

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Systems Control Center

Class Lvl 3: In System Devices (Dams, ISD's)

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
88.2

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Rouge River In-system

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 8/1/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: Wayne County - Outside Detroit

Lookup Location: Rouge Riiver

Funds and Cost Center: Wastewater - 5421-882301

☐ **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:

Project Title: Rouge River In-system Storage Devices

Problem Statement:

The Rouge River receives untreated CSO discharges from GLWA CSO outfalls and outfalls from other Member combined sewer systems during wet weather. CSO control strategies that deal with first flush capture from small storms is typically a cost-effective implementation step in an overall CSO control program. Studies for the Wastewater Master Plan have shown the effectiveness of controlling first flush for small storms using receiving water modeling. Nine (9) locations on DWSD trunk sewers east of the Rouge River are considered feasible for storing 25 million gallons of CSO during small storms (less than 1-inch of rainfall).

Scope of Work/Project Alternatives:

Perform sewer inspections, utility survey, and flow metering to establish and prioritize the siting of 9 new In-System Storage Devices (ISD)

Perform preliminary and final design of the ISDs, including upstream and downstream access points, power supply and instrumentation.

Construct 9 new inflatable dam in-system storage devices (ISD). Modify existing manholes or construct new access points upstream and downstream of each ISD. Provide electrical power, above ground structures for pneumatic control systems and instrumentation for remote operation. Provide connection for a mobile standby generator.

Other Important Info:

The new ISD devices would be installed in trunk sewers owned and operated by DWSD. These are not GLWA leased sewers. A legal agreement may need to be prepared for GLWA to construct, operate, and maintain.

Primary Driver: 3 - Regulatory

Driver Explanation:

The NPDES permit requires GLWA to control untreated CSO discharge. This project serves to increase in-system storage to prevent smaller storms from discharging untreated CSO.

Project Title: Rouge River In-system Storage Devices

Scoring

Project Manager Weighted Score: 88.8			
Criteria Name	Score	Score Criteria	Comment
Condition	1	D. Does not impact performance, meets all expected future requirements	
Performance (Service Level/Reliability)	3	D. Project moderate positive impact on service levels/reliability/lower risk	
Regulatory (Environmental/Legal)	5	B. Project part of a mandated or otherwise enforceable program	
Operations and Maintenance	1	C. Measurable cost reductions 1%–negligible, could raise O&M costs	
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns, C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	
Public Benefit	4	D. Significant, noticeable impact on the public & GLWA image; seen as achievement for GLWA/communities/regions served	
Financial	2	B. Low positive financial implications\$100K-\$250K or ROI 15-20 yrs	
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	

Review Committee Weighted Score: 88.2			
Criteria Name	Score	Comment	
Condition	1	Scores carried over from previous year	
Performance (Service Level/Reliability)	3	Scores carried over from previous year	
Regulatory (Environmental/Legal)	5	Scores carried over from previous year	
Operations and Maintenance	1	Scores carried over from previous year	
Health and Safety	4	Scores carried over from previous year	
Public Benefit	4	Scores carried over from previous year	
Financial	1	Scores carried over from previous year	
Efficiency and Innovation	4	Scores carried over from previous year	

Project Title: Rouge River In-system Storage Devices

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater **Start Date:** 12/31/2033

Phase Status: Future Planned Start **End Date:** 12/30/2045

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Date: 8/1/2019

Cost Est. Source: CIP Team

Cost Est. Prepared By: CIP Team

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$497	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$62

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	12/31/2033	12/30/2045
Capital Delivery Salary (Fringes)	12/31/2033	12/30/2045

Project Title: Rouge River In-system Storage Devices

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 12/31/2033

Phase Status: Future Planned Start

End Date: 12/30/2045

Phase Comments/Description:
Cost Est. Class: Class 5

Cost Est. Source: Limnotech

Cost Est. Date: 11/1/2023

Cost Est. Prepared By: Carrie Turner

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$8,839	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,294

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	12/31/2033	12/30/2045

Project Title: Rouge River In-system Storage Devices

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 12/30/2035

Phase Status: Future Planned Start

End Date: 12/30/2045

Phase Comments/Description:

This phase constructs the designed improvements for the in-system storage devices at the 9 (or more) locations within the west-side sewer system which serve to protect the Rouge River during small precipitation events.

Cost Est. Class: Class 5

Cost Est. Source: Limnotech

Cost Est. Date: 11/1/2023

Cost Est. Prepared By: Carrie Turner

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$72,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	12/30/2035	12/30/2045

Project Title: Rouge River In-system Storage Devices

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$497	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$62
Design/Engineering	\$8,839	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,294
Construction (Build) #1	\$72,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$81,335	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,356

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

CIP	5 Year Total	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2021	\$5,476	\$0	\$0	\$32	\$86	\$3,374	\$1,984	\$41,321	\$0	\$0	\$0	\$46,797
2022	\$3,075	\$0	\$0	\$0	\$0	\$1,026	\$1,024	\$1,024	\$9,477	\$9,503	\$9,477	\$46,317
2023	\$3,690	\$0	\$0	\$0	\$0	\$232	\$1,000	\$1,230	\$1,230	\$9,480	\$9,507	\$46,317
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$46,436
2025	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$81,336

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$81,335,735	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,355,715

Description of CIP Changes:

This is a new project to the FY 2021 CIP being driven by recommendations from the Wastewater Masterplan Project (2019).

2024 - no major updates, extending and revising costs.

Project Title: Sewer and Interceptor Rehabilitation Program

Project Status: Future Planned - Within Five Year Plan

CIP Type: Program

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Sewer and Interceptor Rehabilitation Program

Project Manager: Jason Edberg

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
10/11/2016

Year Project Added to CIP: 2013

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Sewers and Interceptors

Funds and Cost Center: Wastewater - 5421-882301

☐ **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:

Project Title: Sewer and Interceptor Rehabilitation Program

Problem Statement:

The GLWA Collection System consists of approximately 190 miles of pipelines and associated manholes. The Linear System Integrity Plan (LSIP) will work on assessment of all of the regional collection system and categorization of defects and prioritization of defect repair to ensure proper operation of the collection system. As the LSIP is completed, this program will be updated.

Scope of Work/Project Alternatives:

This program has been previously informed from O&M CCTV. However, going forward, this program will be informed by LSIP and O&M inspection and a budget will be established to effectuate necessary capital improvements to the system along with projects creation.

Other Important Info:

Challengers: Large sewers and interceptors may have flow control challenges for both inspection and rehabilitation.

Project History: The installation of some of these interceptors and sewers dates back to 1912 under various contracts. Condition assessment of sewers to assess the existing conditions are necessary and will be done every 5 to 7 years. Recommendations from these inspections may indicate further need for cleaning, rehabilitation or replacement.

Primary Driver: 1 - Condition

Driver Explanation:

Some sewers have sediment deposits that results in transportation capacity limitation. Most of them have deterioration.

Project Title: Sewer and Interceptor Rehabilitation Program

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	

Project Title: Sewer and Interceptor Rehabilitation Program

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2025

Phase Status: Cancelled

End Date: 6/30/2034

Phase Comments/Description:

I recommend no GLWA salaries be tracked against programs.

Cost Est. Class: Class 5

Cost Est. Source: N/A

Cost Est. Date: 1/1/2020

Cost Est. Prepared By: N/A

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2025	6/30/2034
Capital Delivery Salary (Fringes)	7/1/2025	6/30/2034

Project Title: Sewer and Interceptor Rehabilitation Program

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget:**Start Date:** 3/10/2026**Phase Status:****End Date:** 3/3/2032

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	3/10/2026	3/3/2032

Project Title: Sewer and Interceptor Rehabilitation Program

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 7/1/2025

Phase Status: Cancelled

End Date: 6/30/2033

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: TBD

Cost Est. Date: 11/29/2023

Cost Est. Prepared By: TBD

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2025	6/30/2033

Project Title: Sewer and Interceptor Rehabilitation Program

Phase: TBD/Unallocated

Phase Title: TBD/Unallocated

Phase Budget: Wastewater

Start Date: 7/1/2025

Phase Status: Future Planned Start

End Date: 6/30/2034

Phase Comments/Description:
Cost Est. Class: Class 5

Cost Est. Source: GLWA

Cost Est. Date: 7/1/2020

Cost Est. Prepared By: Mini Panicker

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
TBD/Unallocated	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
TBD/Unallocated	7/1/2025	6/30/2034

Project Title: Sewer and Interceptor Rehabilitation Program

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 3/10/2026

Phase Status: Cancelled

End Date: 6/30/2029

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: TBD

Cost Est. Date: 11/29/2023

Cost Est. Prepared By: TBD

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	3/10/2026	6/30/2029

Project Title: Sewer and Interceptor Rehabilitation Program

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
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
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TBD/Unallocated	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$0	\$0	\$0	\$0	\$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	\$76,000	\$2,612	\$8,000	\$8,000	\$20,000	\$20,000	\$20,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$78,612
2019	\$55,201	\$3,397	\$7,751	\$10,601	\$10,400	\$11,400	\$11,400	\$11,400	\$11,400	\$0	\$0	\$0	\$0	\$0	\$77,749
2020	\$75,000	\$0	\$13,555	\$8,609	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$95,000	\$0	\$0	\$0	\$0	\$192,164
2021	\$103,737	\$0	\$0	\$18,637	\$19,029	\$12,976	\$36,047	\$24,872	\$15,495	\$14,347	\$13,240	\$0	\$0	\$0	\$154,643
2022	\$37,371	\$0	\$0	\$0	\$0	\$3,138	\$0	\$7,214	\$7,915	\$10,695	\$11,547	\$13,240	\$0	\$0	\$53,749
2023	\$25,935	\$0	\$0	\$0	\$0	\$0	\$4,911	\$6,603	\$6,644	\$5,793	\$5,793	\$1,100	\$15,000	\$15,000	\$65,845
2024	\$6,933	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17	\$17	\$17	\$1,972	\$4,910	\$4,286	\$19,117
2025	\$4,073	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,018	\$1,018	\$1,020	\$1,018	\$9,172

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

NA

Project Title: CON-149, Emergency Sewer Repair

Project Status: Project Execution - Pending Closeout

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
76.9

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



CON-149, Emergency Sewer Repair

Project Manager: Mini Panicker

Director: Biren Saparia

Managing Dept.: SCC

Date Original Business Case Prepared:
 10/11/2016

Year Project Added to CIP: 2013

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Sewers and Interceptors

Funds and Cost Center: Wastewater - 5421-882301

☒ **From Program?**
Program Number: 260200

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: CON-149, Emergency Sewer Repair

Problem Statement:

Most of the GLWA existing sewers within the collection system are older than 80 years. Due to the age and deterioration of the sewer pipes, immediate repair and/or rehabilitation is often required. This project will encompass all work as may be necessary to inspect, assess, rehabilitate, replace, and repair large diameter sewers and appurtenances on an emergency or urgent basis as directed by GLWA.

Scope of Work/Project Alternatives:

This is to address any immediate/urgent rehabilitation/repair needs for the GLWA Collection System

Other Important Info:

Challenges: Large sewers and interceptors may have flow control challenges for both inspection and rehabilitation.

Primary Driver: 1 - Condition**Driver Explanation:**

Some sewers have sediment deposits that results in transportation capacity limitation. Some have deterioration.

Project Title: CON-149, Emergency Sewer Repair

Scoring

Project Manager Weighted Score: 76.9			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions	Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	3	A. Moderate risk of causing	Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	Project Manager score carried over from previous year Project Manager score
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	Project Manager score carried over from previous year Project Manager score
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	Project Manager score carried over from previous year Project Manager score
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	Project Manager score carried over from previous year Project Manager score

Project Title: CON-149, Emergency Sewer Repair

Review Committee Weighted Score: 76.9		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from current year Project Manager score
Performance (Service Level/Reliability)	4	Committee score carried over from current year Project Manager score
Regulatory (Environmental/Legal)	3	Committee score carried over from current year Project Manager score
Operations and Maintenance	4	Committee score carried over from current year Project Manager score
Health and Safety	4	Committee score carried over from current year Project Manager score
Public Benefit	3	Committee score carried over from current year Project Manager score
Financial	3	Committee score carried over from current year Project Manager score
Efficiency and Innovation	2	Committee score carried over from current year Project Manager score

Project Title: CON-149, Emergency Sewer Repair

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/17/2017

Phase Status: Project Execution

End Date: 12/30/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Mini Panicker

Cost Est. Date: 1/1/2020

Cost Est. Prepared By: Mini Panicker

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$144	\$144	\$144	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (882301.000) (Direct Labor)	7/17/2017	12/30/2023
Capital Delivery Salary (892211.000) (Direct Labor)	7/17/2017	12/30/2023
Capital Delivery Salary (882301.000) (Fringes)	7/17/2017	12/30/2023
Capital Delivery Salary (892211.000) (Fringes)	7/17/2017	12/30/2023

Project Title: CON-149, Emergency Sewer Repair

Phase: Professional Services (CS-272)

Phase Title: Professional Services (CS-272)

Phase Budget: Wastewater

Start Date: 8/23/2019

Phase Status: Closed Out

End Date: 9/2/2020

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$221	\$221	\$221	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 71003A.01)	8/23/2019	9/2/2020

Project Title: CON-149, Emergency Sewer Repair

Phase: Professional Services (CS-166)

Phase Title: Professional Services (CS-166)

Phase Budget:

Start Date: 8/23/2019

Phase Status: Closed Out

End Date: 9/2/2020

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-166)	\$79	\$79	\$79	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-166)	8/23/2019	9/2/2020

Project Title: CON-149, Emergency Sewer Repair

Phase: Design/Engineering (CS-168)

Phase Title: Design/Engineering (CS-168)

Phase Budget: Wastewater

Start Date: 8/23/2017

Phase Status: Project Execution

End Date: 12/30/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: FKE

Cost Est. Date: 8/23/2017

Cost Est. Prepared By: FKE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-168)	\$2,760	\$2,497	\$2,497	\$263	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-168)	8/23/2017	12/30/2023

Project Title: CON-149, Emergency Sewer Repair

Phase: Construction (CON-149)

Phase Title: Construction (CON-149)

Phase Budget: Wastewater

Start Date: 7/17/2017

Phase Status: Pending Close-out

End Date: 12/30/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: IPR

Cost Est. Date: 7/14/2017

Cost Est. Prepared By: IPR

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (CON-149)	\$35,829	\$35,829	\$35,829	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (CON-149)	7/17/2017	12/30/2023

Project Title: CON-149, Emergency Sewer Repair

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$144	\$144	\$144	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (CS-272)	\$221	\$221	\$221	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (CS-166)	\$79	\$79	\$79	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-168)	\$2,760	\$2,497	\$2,497	\$263	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (CON-149)	\$35,829	\$35,829	\$35,829	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$39,032	\$38,769	\$38,769	\$263	\$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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2020	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2021	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2022	\$1,479	\$0	\$8,822	\$4,164	\$6,516	\$11,301	\$1,479	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32,282
2023	\$3,051	\$91	\$8,822	\$5,074	\$5,516	\$9,603	\$6,096	\$3,051	\$0	\$0	\$0	\$0	\$0	\$0	\$38,252
2024	\$2,237	\$91	\$8,822	\$5,074	\$5,516	\$9,603	\$5,821	\$3,807	\$1,108	\$984	\$146	\$0	\$0	\$0	\$40,970
2025	\$493	\$91	\$8,822	\$5,074	\$5,516	\$9,603	\$5,821	\$3,819	\$1,746	\$422	\$71	\$0	\$0	\$0	\$40,984

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$39,032,395	\$38,769,082	\$263,313	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Project Title: CON-149, Emergency Sewer Repair

Description of CIP Changes:

CON-149 has CO-002 for time extension only and CO-003 for time extension and additional funds. CO-003 is to assess and address the flood related damages. Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: Conveyance System Engineering Services-1802575

Project Status: Project Execution - Construction

CIP Type: Project

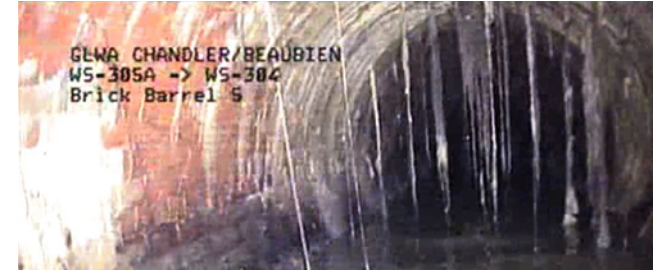
Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
78.3

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Conveyance System Engineering Services-1802575

Project Manager: Greg Marker

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 10/11/2016

Year Project Added to CIP: 2013

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Sewers and Interceptors

Funds and Cost Center: Wastewater - 5421-892411 (Field Engineering)

☒ **From Program?**
Program Number: 260200

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Conveyance System Engineering Services-1802575

Problem Statement:

As part of the baseline condition assessment, the trunk sewers and interceptors were inspected for structural integrity and maintenance issues in accordance with the National Association of Sewer Service Companies (NASSCO) standards. The purpose of this project is to provide Engineering Services to evaluate the inspection results and recommend the best rehabilitation methods and to provide construction assistance for the Woodward Sewer and Connors Creek Sewer Systems.

Scope of Work/Project Alternatives:

Evaluate the existing conditions of the Woodward Sewer System and Connors Creek Sewer System and provide the design for both projects. In addition, provide for the construction of Conner Creek.

Other Important Info:

Challenges: These are large sewers and may have flow control challenges for both inspection and rehabilitation.

Primary Driver: 1 - Condition**Driver Explanation:**

Some sewers have sediment deposits that results in transportation capacity limitation. Some have deterioration.

Project Title: Conveyance System Engineering Services-1802575

Scoring

Project Manager Weighted Score: 77.4			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements	
Regulatory (Environmental/Legal)	4	E. Reg compliance failure moderate fines, enforcement actions, environmental impact	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	3	D. Canceling project pose limited-moderate staff/public safety/hazard issues, some potential for minor injury/regulatory violations	
Public Benefit	4	D. Significant, noticeable impact on the public & GLWA image; seen as achievement for GLWA/communities/regions served	
Financial	3	D. Canceling project moderate financial consequences (revenue loss, repair/restoration, downtime, fines, litigation)	
Efficiency and Innovation	2	D. Little to no time and cost saving	

Review Committee Weighted Score: 78.3		
Criteria Name	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	4	
Health and Safety	3	
Public Benefit	4	
Financial	3	
Efficiency and Innovation	4	

Project Title: Conveyance System Engineering Services-1802575

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 10/29/2018

Phase Status: Project Execution

End Date: 10/25/2026

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Brown & Cald

Cost Est. Date: 10/14/2019

Cost Est. Prepared By: Dave Nitz

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$500	\$75	\$73	\$155	\$205	\$66	\$0	\$0	\$0	\$271	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	10/29/2018	10/25/2026
Capital Delivery Salary (Fringes)	10/29/2018	10/25/2026

Project Title: Conveyance System Engineering Services-1802575

Phase: Professional Services (CS-272)

Phase Title: Professional Services (CS-272)

Phase Budget:

Start Date: 8/23/2019

Phase Status: Closed Out

End Date: 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 8/23/2019

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$2	\$2	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services (CS-272)	8/23/2019	5/19/2023

Project Title: Conveyance System Engineering Services-1802575

Phase: Professional Services (CS-166)

Phase Title: Professional Services (CS-166)

Phase Budget:

Start Date: 8/23/2019

Phase Status: Closed Out

End Date: 5/19/2023

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-166)	\$6	\$6	\$6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services (CS-166)	8/23/2019	5/19/2023

Project Title: Conveyance System Engineering Services-1802575

Phase: Design/Engineering (1802575)**Phase Title:** Design/Engineering (1802575)

Phase Budget: Wastewater**Start Date:** 8/23/2019**Phase Status:** Project Execution**End Date:** 5/31/2026

Phase Comments/Description:

Project added additional RPR for Conner Creek and field engineer in January 2024 to help complete Woodward project and coordinate larger items on Conner

Cost Est. Class: Class 1**Cost Est. Source:** Brown and Caldwell**Cost Est. Date:** 8/8/2019**Cost Est. Prepared By:** Brown and Caldwell

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (1802575)	\$4,310	\$4,166	\$3,534	\$710	\$66	\$0	\$0	\$0	\$0	\$66	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1802575)	8/23/2019	5/31/2026
Construction (1802575) (net-zero cost account to be archived)	8/23/2019	5/31/2026

Project Title: Conveyance System Engineering Services-1802575

Phase: Construction (Build) # 1**Phase Title:** Construction (Build) # 1

Phase Budget: Wastewater**Start Date:** 10/3/2022**Phase Status:** Project Execution**End Date:** 10/25/2026

Phase Comments/Description:Conner Creek Sewer rehabilitation project arising from 1802575

Cost Est. Class: Class 1**Cost Est. Source:** Oscar Renda - Contractor bid**Cost Est. Date:** 2/14/2024**Cost Est. Prepared By:** Oscar Renda

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$49,576	\$26,806	\$23,602	\$8,612	\$10,183	\$7,179	\$0	\$0	\$0	\$17,362	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	10/3/2022	10/25/2026

Project Title: Conveyance System Engineering Services-1802575

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$500	\$75	\$73	\$155	\$205	\$66	\$0	\$0	\$0	\$271	\$0
Professional Services (CS-272)	\$2	\$2	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (CS-166)	\$6	\$6	\$6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (1802575)	\$4,310	\$4,166	\$3,534	\$710	\$66	\$0	\$0	\$0	\$0	\$66	\$0
Construction (Build) #1	\$49,576	\$26,806	\$23,602	\$8,612	\$10,183	\$7,179	\$0	\$0	\$0	\$17,362	\$0
Totals	\$54,393	\$31,054	\$27,218	\$9,477	\$10,454	\$7,245	\$0	\$0	\$0	\$17,699	\$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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2020	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2021	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2022	\$39,589	\$0	\$0	\$0	\$913	\$11,656	\$11,646	\$9,476	\$9,250	\$9,216	\$0	\$0	\$0	\$0	\$52,157
2023	\$47,834	\$0	\$0	\$0	\$913	\$31	\$1,276	\$11,169	\$18,357	\$18,307	\$0	\$0	\$0	\$0	\$50,054
2024	\$41,381	\$0	\$0	\$0	\$913	\$31	\$980	\$12,246	\$16,923	\$16,876	\$7,582	\$0	\$0	\$0	\$55,551
2025	\$40,620	\$0	\$0	\$0	\$913	\$31	\$980	\$8,086	\$6,881	\$13,440	\$25,311	\$969	\$902	\$0	\$57,510

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$54,393,676	\$27,218,046	\$9,477,000	\$10,453,975	\$7,244,654	\$0	\$0	\$0	\$17,698,630	\$0

Project Title: Conveyance System Engineering Services-1802575

Description of CIP Changes:

Schedule Extension Conveyance System Engineering Services-1802575. The construction for Conner Creek Sewer System will be under this CIP. 7/23/21 AC. GJM 2024-05-01 project is in Construction with Woodward ending in summer 2024. Conner is supposed to end Dec 2025, all indications are trending toward summer 2026 for completion at this point.

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: NWI Rehabilitation

Project Status: Project Execution - Pending Closeout

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
60.3

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



NWI Rehabilitation

Project Manager: Greg Marker

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 12/1/2019

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Sewers and Interceptors

Funds and Cost Center: Wastewater - 5421-892111

☒ **From Program?**
Program Number: 260200

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: NWI Rehabilitation

Problem Statement:

The North West Interceptor (NWI) was constructed between 1928 and 1950 and is unique among the GLWA interceptors in that the NWI diameter reduces in size at certain locations to restrict downstream conveyance to the Water Resource Recovery Facility (WRRF). Review of available CCTV and PACP information and man entry inspection have indicated a need for ongoing maintenance, typically consisting of spot repairs and debris removal.

Scope of Work/Project Alternatives:

Scope of work is the rehabilitation of NWI from Eight Mile to Tireman. The work includes mainly debris removal, deep concrete repairs, brick repairs, tuck pointing etc. to reduce infiltration and to increase the conveyance capacity.

Other Important Info:

Two flow control structures were constructed under CON-149 contract to facilitate condition assessment and rehabilitation for portions of the NWI south of McNichols

Primary Driver: 1 - Condition

Driver Explanation:

NWI was constructed between 1928 and 1950 and its size varies significantly from segment to segment.

Project Title: NWI Rehabilitation

Scoring

Project Manager Weighted Score: 67.1			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements	
Regulatory (Environmental/Legal)	3	B. Project will have a moderate positive impact on reg. issues	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	3	D. Canceling project pose limited-moderate staff/public safety/hazard issues, some potential for minor injury/regulatory violations	
Public Benefit	3	D. May not receive media coverage; positive influence on community	
Financial	4	B. Project will likely result in avoidance of fines, potential litigation, emergency repairs or damage to asset/public	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 60.3		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: NWI Rehabilitation**Phase:** GLWA Salaries**Phase Title:** GLWA Salaries**Phase Budget:** Wastewater**Start Date:** 6/1/2020**Phase Status:** Pending Close-out**End Date:** 9/30/2024**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** TBD**Cost Est. Date:** 11/17/2023**Cost Est. Prepared By:** TBD**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$134	\$30	\$27	\$107	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	6/1/2020	9/30/2024
Capital Delivery Salary (Fringes)	6/1/2020	9/30/2024

Project Title: NWI Rehabilitation

Phase: Design/Engineering (CS-168)

Phase Title: Design/Engineering (CS-168)

Phase Budget: Wastewater

Start Date: 6/1/2020

Phase Status: Pending Close-out

End Date: 9/30/2024

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: FKE

Cost Est. Date: 6/1/2019

Cost Est. Prepared By: FKE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-168)	\$1,341	\$1,204	\$1,054	\$286	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-168)	6/1/2020	9/30/2024

Project Title: NWI Rehabilitation

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 7/1/2022

Phase Status: Pending Close-out

End Date: 9/30/2024

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: LGC- Executed Contract

Cost Est. Date: 7/1/2022

Cost Est. Prepared By: LGC

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$7,873	\$5,338	\$4,945	\$2,927	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2022	9/30/2024

Project Title: NWI Rehabilitation

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$134	\$30	\$27	\$107	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-168)	\$1,341	\$1,204	\$1,054	\$286	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$7,873	\$5,338	\$4,945	\$2,927	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$9,347	\$6,573	\$6,027	\$3,321	\$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	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2022	\$9,092	\$1,767	\$5,046	\$4,046	\$0	\$0	\$0	\$0	\$0	\$0	\$10,938
2023	\$10,075	\$188	\$37	\$5,044	\$5,030	\$0	\$0	\$0	\$0	\$0	\$10,379
2024	\$4,244	\$188	\$67	\$3,155	\$4,232	\$12	\$0	\$0	\$0	\$0	\$7,734
2025	\$359	\$188	\$67	\$1,968	\$5,652	\$325	\$34	\$0	\$0	\$0	\$8,315

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$9,347,793	\$6,026,532	\$3,321,261	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

Schedule is changed to extend the construction into FY24

2024 - updated status

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: Conveyance System Repairs (Sewers)

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
57.6

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Conveyance System Repairs (Sewers)

Project Manager: Jason Edberg

Director: Jason Edberg

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/24/2020

Year Project Added to CIP: 2020

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Sewers and Interceptors

Funds and Cost Center: Wastewater - 5421-892411 (Field Engineering)

☒ **From Program?**
Program Number: 260200

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Conveyance System Repairs (Sewers)**Problem Statement:**

Rehabilitation program of the existing sewers and interceptors is identified after the the baseline condition assessment. This project is for the rehabilitation of Brush/Bates, Joy Road, & Seven Mile Sewers to extend their service lives and to maximize their transportation capacities.

Scope of Work/Project Alternatives:

Study, design, and construction assistance services associated with reviewing and supplementing information gathered from recent sewer inspections, identifying all required repairs, creating construction documents for repairs, and providing construction phase assistance during the implementation of the repairs for Brush/Bates, Joy Road, & Seven Mile Sewers.

Other Important Info:

This Engineering Services contract also encompasses the remaining CSO outfalls which is being funded by the Outfall Program, 260510

Primary Driver: 1 - Condition**Driver Explanation:**

There are PACP grades 4 and 5 Structural and O&M deficiencies in these sewers. Rehabilitating them will increase the capacity of the system as well as reduce I/I into the sewer system

Project Title: Conveyance System Repairs (Sewers)

Scoring

Project Manager Weighted Score: 63.2			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions	
Regulatory (Environmental/Legal)	3	B. Project will have a moderate positive impact on reg. issues	
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	
Health and Safety	2	A. Low chance of failure occurring; failure easily mitigated w/ no safety/health/env. impacts	
Public Benefit	2	F. Canceling project minor chance off public impact; no neg. gov't/reg. interest	
Financial	2	D. Canceling project limited/low financial consequences	
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	

Review Committee Weighted Score: 57.6		
Criteria Name	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	3	
Health and Safety	2	
Public Benefit	2	
Financial	2	
Efficiency and Innovation	1	

Project Title: Conveyance System Repairs (Sewers)**Phase:** GLWA Salaries**Phase Title:** GLWA Salaries**Phase Budget:** Wastewater**Start Date:** 6/7/2021**Phase Status:** Project Execution**End Date:** 5/15/2029**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** GLWA**Cost Est. Date:** 6/7/2021**Cost Est. Prepared By:** GLWA**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$407	\$35	\$32	\$63	\$80	\$80	\$81	\$70	\$0	\$312	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	6/7/2021	5/15/2029
Capital Delivery Salary (Fringes)	6/7/2021	5/15/2029

Project Title: Conveyance System Repairs (Sewers)

Phase: Design/Engineering Phase #1 (2003443)

Phase Title: Design/Engineering Phase #1 (2003443)

Phase Budget: Wastewater

Start Date: 6/7/2021

Phase Status: Project Execution

End Date: 5/15/2025

Phase Comments/Description:

THIS NEEDS TO CONSOLIDATE ENGINEERING PHASE 1 AND 2 INTO IT...THEY ARE UNDER THE SAME DESIGN CONTRACT.

Cost Est. Class: Class 1

Cost Est. Source: FKE

Cost Est. Date: 6/7/2021

Cost Est. Prepared By: FKE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering Phase #1 (2003443)	\$1,554	\$1,317	\$1,325	\$229	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	6/7/2021	5/15/2025
Design/Engineering Phase #1 (WW Field Services) (2003443)	6/7/2021	5/15/2025
Construction (2003443)(net-zero cost account to be archived)	6/7/2021	5/15/2025

Project Title: Conveyance System Repairs (Sewers)

Phase: Design/Engineering Phase #2

Phase Title: Design/Engineering Phase #2

Phase Budget: Wastewater

Start Date: 6/7/2021

Phase Status: Cancelled

End Date: 5/15/2029

Phase Comments/Description:

NEED TO CONSOLIDATE THIS PHASE 2 WITH PHASE 1 since they literally cover the same contract number, just 2 different designs.

Cost Est. Class: Class 1

Cost Est. Source: FKE

Cost Est. Date: 6/7/2021

Cost Est. Prepared By: FKE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering Phase #2	\$1,250	\$0	\$0	\$0	\$210	\$361	\$362	\$316	\$0	\$1,250	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering Phase #2	6/7/2021	5/15/2029

Project Title: Conveyance System Repairs (Sewers)

Phase: Construction Phase #1

Phase Title: Construction Phase #1

Phase Budget: Wastewater

Start Date: 4/17/2023

Phase Status: Project Execution

End Date: 5/15/2025

Phase Comments/Description:

THIS IS THE JOY BRUSH BATES PHASE OF CONSTRUCTION, WITH DESIGN BY FKE UNDER 2003443

Cost Est. Class: Class 1

Cost Est. Source: Jay Dee Contracting

Cost Est. Date: 4/17/2023

Cost Est. Prepared By: Jay Dee Contracting

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction Phase #1	\$9,626	\$6,322	\$5,634	\$3,991	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #1) (2202757)	4/17/2023	5/15/2025

Project Title: Conveyance System Repairs (Sewers)**Phase:** Construction Phase #2**Phase Title:** Construction Phase #2**Phase Budget:** Wastewater**Start Date:** 7/1/2025**Phase Status:** Future Planned Start**End Date:** 6/30/2028**Phase Comments/Description:**

THIS IS THE SEVEN MILE CONSTRUCTION PHASE. THE DESIGN WAS PREPARED BY FKE UNDER 2003443

Cost Est. Class: Class 3**Cost Est. Source:** GLWA**Cost Est. Date:** 7/1/2021**Cost Est. Prepared By:** Mini Panicker**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction Phase #2	\$27,000	\$0	\$0	\$0	\$8,992	\$8,992	\$9,016	\$0	\$0	\$27,000	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #2)	7/1/2025	6/30/2028

Project Title: Conveyance System Repairs (Sewers)

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$407	\$35	\$32	\$63	\$80	\$80	\$81	\$70	\$0	\$312	\$0
Design/Engineering Phase #1 (2003443)	\$1,554	\$1,317	\$1,325	\$229	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering Phase #2	\$1,250	\$0	\$0	\$0	\$210	\$361	\$362	\$316	\$0	\$1,250	\$0
Construction Phase #1	\$9,626	\$6,322	\$5,634	\$3,991	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction Phase #2	\$27,000	\$0	\$0	\$0	\$8,992	\$8,992	\$9,016	\$0	\$0	\$27,000	\$0
Totals	\$39,836	\$7,674	\$6,992	\$4,283	\$9,282	\$9,434	\$9,460	\$386	\$0	\$28,562	\$0

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

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2022	\$36,230	\$523	\$7,046	\$7,046	\$7,046	\$7,046	\$8,046	\$6,046	\$5,023	\$0	\$47,821
2023	\$20,611	\$22	\$5,149	\$2,149	\$3,000	\$5,163	\$5,149	\$5,149	\$5,149	\$4,339	\$35,271
2024	\$28,078	\$22	\$374	\$1,972	\$8,167	\$7,479	\$3,019	\$4,746	\$4,668	\$4,070	\$34,515
2025	\$16,762	\$22	\$374	\$801	\$5,182	\$5,208	\$1,941	\$3,342	\$3,351	\$2,921	\$23,141

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$39,836,925	\$6,992,002	\$4,283,059	\$9,282,235	\$9,433,756	\$9,459,603	\$386,269	\$0	\$28,561,864	\$0

Description of CIP Changes:

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: Rehabilitation of Woodward Sewer Systems

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
76.8

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Rehabilitation of Woodward Sewer Systems

Project Manager: Greg Marker

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/8/2020

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Sewers and Interceptors

Funds and Cost Center: Wastewater - 5421-892211

☒ **From Program?**
Program Number: 260200

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Rehabilitation of Woodward Sewer Systems

Problem Statement:

During the initial condition assessment, Woodward Sewer was ranked higher in the rehabilitation list since there were several grade 3, 4 and 5 defects, root intrusions, as well as instances of missing bricks and infiltration throughout the pipe segments. This rehabilitation is essential to optimize the transportation capacity of the Woodward Sewer and the GLWA collection system and to increase its life expectancy

Scope of Work/Project Alternatives:

The scope of work to be performed on this project includes rehabilitation of existing sewers along Woodward Avenue in Detroit, MI from McNichols Road at the north end to the location of the B-21 regulator south of Jefferson Avenue. In addition it includes two segments that connect to the sewer on Woodward Avenue will be rehabilitated:

1. Woodward Extension-just north of the Detroit-Highland Park city border on Highland Street west from Woodward Avenue to a parallel sewer line running south on Third Avenue, south to and along Tuxedo back to Woodward Avenue.
2. Sewer-extending east of Woodward Avenue in the alley between Chandler and Smith Streets, then along Clay Street to the east to Hamtramck Drive and north to Denton Avenue at Lumpkin Street.

The work involves mainly slip lining, heavy cleaning, spot repairs, and manhole rehabilitation are involved

Other Important Info:

NA

Primary Driver: 1 - Condition

Driver Explanation:

The rehabilitation of this sewer was prioritized due to its condition and age. When Woodward sewer was originally inspected in 2017 there were several grade 3, 4 and 5 defects, root intrusions, as well as instances of missing bricks and infiltration throughout the pipe segments.

Project Title: Rehabilitation of Woodward Sewer Systems

Scoring

Project Manager Weighted Score: 75.6			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	4	E. Not doing the project frequent and repetitive service interruption and/or reliability issues†	
Regulatory (Environmental/Legal)	4	C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	
Public Benefit	3	E. /stakeholder relationships/confidence in GLWA	
Financial	2	A. Low financial impact to GLWA; No grants/other external funding	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 76.8		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Rehabilitation of Woodward Sewer Systems

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 1/1/2020

Phase Status: Project Execution

End Date: 6/1/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA

Cost Est. Date: 7/1/2021

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$362	\$87	\$84	\$278	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	1/1/2020	6/1/2025
Capital Delivery Salary (Direct Labor)	1/1/2020	6/1/2025
Capital Delivery Salary (Fringes)	1/1/2020	6/1/2025
Capital Delivery Salary (Fringes)	1/1/2020	6/1/2025

Project Title: Rehabilitation of Woodward Sewer Systems

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 7/1/2021

Phase Status: Closed Out

End Date: 1/1/2024

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: PMA

Cost Est. Date: 7/1/2021

Cost Est. Prepared By: PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$730	\$542	\$542	\$188	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166)	7/1/2021	1/1/2024
Professional Services (2202942)	7/1/2021	1/1/2024

Project Title: Rehabilitation of Woodward Sewer Systems

Phase: Design/Engineering #2

Phase Title: Design/Engineering #2

Phase Budget: Wastewater

Start Date: 10/14/2019

Phase Status: Project Execution

End Date: 12/31/2024

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Brown and Caldwell

Cost Est. Date: 10/14/2019

Cost Est. Prepared By: Brown and Caldwell

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering #2	\$3,117	\$2,820	\$2,990	\$126	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1802575)	10/14/2019	12/31/2024
Construction (1802575) (net-zero cost account to be archived)	10/14/2019	12/31/2024

Project Title: Rehabilitation of Woodward Sewer Systems

Phase: Design/Engineering #1

Phase Title: Design/Engineering #1

Phase Budget: Wastewater

Start Date: 8/24/2019

Phase Status: Cancelled

End Date: 7/1/2025

Phase Comments/Description:

i'm not sure what this one is for.

Cost Est. Class: Class 1

Cost Est. Source: N/A

Cost Est. Date: 5/2/2024

Cost Est. Prepared By: N/A

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (MISC.)	1/1/2020	12/1/2020
Other Capital Improvement Costs	8/24/2019	7/1/2025
Other Capital Improvement Costs	8/24/2019	7/1/2025

Project Title: Rehabilitation of Woodward Sewer Systems

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 10/6/2021

Phase Status: Project Execution

End Date: 6/1/2025

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: Lanzo

Cost Est. Date: 10/6/2021

Cost Est. Prepared By: Lanzo

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$18,695	\$16,044	\$16,685	\$2,010	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	10/6/2021	6/1/2025

Project Title: Rehabilitation of Woodward Sewer Systems

Phase: Construction Property Acquisition**Phase Title:** Construction Property Acquisition

Phase Budget: Wastewater**Start Date:** 11/24/2020**Phase Status:** Closed Out**End Date:** 10/5/2021

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** N/A**Cost Est. Date:** 5/3/2024**Cost Est. Prepared By:** N/A

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction Property Acquisition	\$21	\$21	\$21	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction - Property Acquisition	11/24/2020	10/5/2021

Project Title: Rehabilitation of Woodward Sewer Systems

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$362	\$87	\$84	\$278	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services	\$730	\$542	\$542	\$188	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering #2	\$3,117	\$2,820	\$2,990	\$126	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$18,695	\$16,044	\$16,685	\$2,010	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction Property Acquisition	\$21	\$21	\$21	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$22,924	\$19,513	\$20,322	\$2,602	\$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	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2023	\$14,559	\$3,372	\$4,848	\$4,862	\$4,848	\$0	\$0	\$0	\$0	\$19,160
2024	\$6,721	\$2,349	\$10,722	\$6,721	\$0	\$0	\$0	\$0	\$0	\$21,021
2025	\$308	\$2,349	\$8,431	\$10,607	\$308	\$0	\$0	\$0	\$0	\$22,925

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$22,924,569	\$20,322,100	\$2,602,469	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

This project is expected to be completed August 2025. GM 6/5/24
 Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: Sewer Rehabilitation and Repair

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
61.3

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Sewer Rehabilitation and Repair

Project Manager: Jason Edberg

Director: Biren Saparia

Managing Dept.: SCC

Date Original Business Case Prepared:
 5/30/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Sewers and Interceptors

Funds and Cost Center: Wastewater - 5421-882301

☒ **From Program?**
Program Number: 260200

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Sewer Rehabilitation and Repair

Problem Statement:

GLWA collection system has a network of aging and deteriorated sewers. Due to the age and deterioration, immediate sewer repair/rehabilitation services are often necessary to avoid basement flooding and maintain the flows within the wastewater conveyance system. This contract is to continue the as needed sewer repairs, inspection, and rehabilitations to help GLWA optimize the collection system capacity.

Scope of Work/Project Alternatives:

Scope of work to be performed under this contract includes as needed repair, inspection, heavy cleaning, and rehabilitation to bring back the sewer system to its normal capacity and function and to avoid collapse.

Other Important Info:

This is a replacement contract for the current CON-149.

Primary Driver: 1 - Condition**Driver Explanation:**

Condition assessment of the collection system has revealed many structural and O&M related defects throughout the GLWA sewer collection system.

Project Title: Sewer Rehabilitation and Repair

Scoring

Project Manager Weighted Score: 76.4			
Criteria Name	Score	Score Criteria	Comment
Condition	4		
Performance (Service Level/Reliability)	4		
Regulatory (Environmental/Legal)	3		
Operations and Maintenance	4		
Health and Safety	4		
Public Benefit	3		
Financial	3		
Efficiency and Innovation	1		

Review Committee Weighted Score: 61.3		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Sewer Rehabilitation and Repair

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2022

Phase Status: Project Execution

End Date: 6/30/2026

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA

Cost Est. Date: 7/1/2022

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$225	\$19	\$19	\$88	\$118	\$0	\$0	\$0	\$0	\$118	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2022	6/30/2026
Capital Delivery Salary (Fringes)	7/1/2022	6/30/2026

Project Title: Sewer Rehabilitation and Repair

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 7/1/2022

Phase Status: Project Execution

End Date: 6/30/2026

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: IPR

Cost Est. Date: 7/1/2022

Cost Est. Prepared By: IPR

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$14,740	\$3,402	\$3,173	\$6,440	\$5,127	\$0	\$0	\$0	\$0	\$5,127	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2022	6/30/2026

Project Title: Sewer Rehabilitation and Repair

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$225	\$19	\$19	\$88	\$118	\$0	\$0	\$0	\$0	\$118	\$0
Construction	\$14,740	\$3,402	\$3,173	\$6,440	\$5,127	\$0	\$0	\$0	\$0	\$5,127	\$0
Totals	\$14,965	\$3,421	\$3,192	\$6,528	\$5,245	\$0	\$0	\$0	\$0	\$5,245	\$0

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	\$12,200	\$0	\$4,505	\$5,863	\$1,833	\$0	\$0	\$0	\$0	\$12,200
2024	\$19,985	\$4	\$5,037	\$7,480	\$6,270	\$6,235	\$0	\$0	\$0	\$25,025
2025	\$9,209	\$4	\$2,094	\$3,658	\$4,604	\$4,604	\$0	\$0	\$0	\$14,965

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$14,965,035	\$3,192,486	\$6,527,764	\$5,244,784	\$0	\$0	\$0	\$0	\$5,244,784	\$0

Description of CIP Changes:

Project Manager Updated from M.Panicker to J.Edberg - CIP 09.18.24

This is to address any immediate/urgent rehabilitation/repair needs for the GLWA Collection System

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee**Project Status:** Project Execution - Design**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Programs**Class Lvl 3:** Programs☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****59.6**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Rehabilitation of GLWA Sewers

Project Manager: Greg Marker**Director:** Chris Nastally**Managing Dept.:** Wastewater Engineering**Date Original Business Case Prepared:**
3/14/2022**Year Project Added to CIP:** 2022**CIP Budget:** Wastewater**Project Jurisdiction:** Wayne County - Outside Detroit**Lookup Location:** Multiple Locations**Funds and Cost Center:** Water - 5519-882411
(Field Engineering)☒ **From Program?****Program Number:** 260200**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** TBD**Partners:****Collaboration Entity:**

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Problem Statement:

When GLWA performed the condition assessment and prioritization of the collection system sewers, Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee fell among the top 20 due for rehabilitation. They revealed infiltration drippers, runners, gushers, and heavy sediment deposits throughout. To optimize the collection system capacity, to prevent additional degradation, and to extend the reliable useful life of these sewers, this project is initiated.

Scope of Work/Project Alternatives:

Scope of work include professional engineering services for the rehabilitation and eventual constructions as necessary to repair and rehabilitate these five (5) sewers, and their associated manholes and other structures.

Other Important Info:

Anticipating at least 2 construction projects from this CIP. 2024-05-02 GJM- Lonyo is being broken out into its own project. A large amount of debris is being quantified by MSI as the design goes from 60 to 90%. This has increased the estimate for Lonyo to \$26 mill as of now.

Primary Driver: 1 - Condition

Driver Explanation:

The rehabilitation of these sewers was prioritized due to their condition.

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Scoring

Project Manager Weighted Score: 60.2			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	3	D. Project moderate positive impact on service levels/reliability/lower risk	
Regulatory (Environmental/Legal)	3	C. Canceling project potential for moderate env. impact to neighborhood, possibility for wider ecosystem impact; non-compliance risk in 1-3 years	
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	
Health and Safety	3	B. Project moderate positive impact on staff/public H&S±	
Public Benefit	3	E. /stakeholder relationships/confidence in GLWA	
Financial	3	C. Moderate positive financial implications of \$250,000 - \$999,999 or a ROI of 10-15 years	5-2024 GJM changed 2 to 3.
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 59.6		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from current year Project Manager score
Performance (Service Level/Reliability)	3	Committee score carried over from current year Project Manager score
Regulatory (Environmental/Legal)	3	Committee score carried over from current year Project Manager score
Operations and Maintenance	3	Committee score carried over from current year Project Manager score
Health and Safety	3	Committee score carried over from current year Project Manager score
Public Benefit	3	Committee score carried over from current year Project Manager score
Financial	2	Committee score carried over from current year Project Manager score
Efficiency and Innovation	2	Committee score carried over from current year Project Manager score

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 2/6/2023

Phase Status: Project Execution

End Date: 11/15/2028

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP TEAM

Cost Est. Date: 5/2/2024

Cost Est. Prepared By: GLWA CIP TEAM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$335	\$28	\$24	\$59	\$74	\$74	\$75	\$28	\$0	\$251	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	2/6/2023	11/15/2028
Capital Delivery Salary (Fringes)	2/6/2023	11/15/2028

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Phase: Professional Services (CS-272)

Phase Title: Professional Services (CS-272)

Phase Budget:

Start Date: 4/6/2022

Phase Status: Closed Out

End Date: 5/19/2023

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$2	\$2	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	4/6/2022	5/19/2023

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee**Phase:** Design/Engineering**Phase Title:** Design/Engineering**Phase Budget:** Wastewater**Start Date:** 2/6/2023**Phase Status:** Project Execution**End Date:** 11/15/2028**Phase Comments/Description:**

5-2024 60% design milestone

Cost Est. Class: Class 1**Cost Est. Source:** FKE**Cost Est. Date:** 2/6/2023**Cost Est. Prepared By:** FKE**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$5,989	\$1,863	\$1,579	\$284	\$881	\$1,363	\$1,367	\$515	\$0	\$4,126	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	2/6/2023	11/15/2028
Construction	2/6/2023	11/15/2028

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Phase: Construction (Phase #1)

Phase Title: Construction (Phase #1)

Phase Budget: Wastewater

Start Date: 11/7/2025

Phase Status: Future Planned Start

End Date: 11/15/2028

Phase Comments/Description:

3-2024 30% BODR estimate

Cost Est. Class: Class 3

Cost Est. Source: FKE-GLWA

Cost Est. Date: 3/8/2024

Cost Est. Prepared By: FKE-GJM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Phase #1)	\$25,000	\$0	\$0	\$0	\$1,284	\$10,984	\$10,208	\$2,523	\$0	\$25,000	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #1)	11/7/2025	11/15/2028

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee**Phase:** Construction (Phase #2)**Phase Title:** Construction (Phase #2)**Phase Budget:** Wastewater**Start Date:** 1/15/2027**Phase Status:** Future Planned Start**End Date:** 11/15/2028**Phase Comments/Description:**

3-2024 30% BODR estimate

Cost Est. Class: Class 3**Cost Est. Source:** FKE-GLWA**Cost Est. Date:** 3/1/2024**Cost Est. Prepared By:** FKE-GJM**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Phase #2)	\$12,000	\$0	\$0	\$0	\$0	\$959	\$9,026	\$2,015	\$0	\$12,000	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #2)	1/15/2027	11/15/2028

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$335	\$28	\$24	\$59	\$74	\$74	\$75	\$28	\$0	\$251	\$0
Professional Services (CS-272)	\$2	\$2	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$5,989	\$1,863	\$1,579	\$284	\$881	\$1,363	\$1,367	\$515	\$0	\$4,126	\$0
Construction (Phase #1)	\$25,000	\$0	\$0	\$0	\$1,284	\$10,984	\$10,208	\$2,523	\$0	\$25,000	\$0
Construction (Phase #2)	\$12,000	\$0	\$0	\$0	\$0	\$959	\$9,026	\$2,015	\$0	\$12,000	\$0
Totals	\$43,326	\$1,893	\$1,606	\$343	\$2,240	\$13,380	\$20,676	\$5,081	\$0	\$41,377	\$0

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

CIP	5 Year Total	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2024	\$6,112	\$1,007	\$1,522	\$1,518	\$1,518	\$1,518	\$39	\$3,758	\$37,235
2025	\$27,422	\$320	\$1,751	\$249	\$4,533	\$10,161	\$9,342	\$3,136	\$29,576

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$43,326,173	\$1,605,678	\$343,330	\$2,239,845	\$13,380,310	\$20,675,771	\$5,081,240	\$0	\$41,377,165	\$0

Description of CIP Changes:

Nelwy added

2024 - Provided updates for estimates

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

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Project Title: Emergency and Urgent Sewer Repair II

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
60.2

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Emergency and Urgent Sewer Repair II

Project Manager: Jason Edberg

Director: Biren Saparia

Managing Dept.: SCC

Date Original Business Case Prepared:
 6/2/2023

Year Project Added to CIP: 2023

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: System Wide - Multiple Projects

Funds and Cost Center: Wastewater - 5421-892411 (Field Engineering)

☒ **From Program?**
Program Number: 260200

Delivery Method: Other (Design In-house and Bid Out for Construction)

Delivery Method Details: Task Order

☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Emergency and Urgent Sewer Repair II

Problem Statement:

GLWA utilizes condition assessment and the Pipeline Assessment Certification Program (PACP) rating to assess sewer condition to track condition and rate of repair and rehabilitation. Often, an immediate emergency action is required, and sewer rehabilitation services are necessary to repair plugged, damaged, and collapsed sewers to avoid basement flooding, and maintain the flows within the wastewater conveyance system.

Scope of Work/Project Alternatives:

Scope of work is as needed condition assessment, repair, heavy cleaning and rehabilitation to bring the sewer system to its normal capacity and function.

Other Important Info:

This will be a parallel contract to the existing contract, CON- 2102000

Primary Driver: 1 - Condition

Driver Explanation:

Due to the size, age, and potential for deterioration of the sewer pipes, ongoing inspections, immediate spot repairs and/or rehabilitation are often required for the GLWA sewer system.

Project Title: Emergency and Urgent Sewer Repair II

Scoring

Project Manager Weighted Score: 78.4			
Criteria Name	Score	Score Criteria	Comment
Condition	4	B. Equipment/process functions but requires high level of maintenance to remain operational	Aging infrastructure
Performance (Service Level/Reliability)	4	D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*	Collection system capacity and level of service can be impacted
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	Necessary to maintain the sewer flow within the collection system.
Operations and Maintenance	4	F. Measurable reduction (50% - 74%) in reactive maintenance	Essential to maintain the system operation.
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns	Sewer system failure can cause significant impact on public health and safety.
Public Benefit	4	D. Significant, noticeable impact on the public & GLWA image; seen as achievement for GLWA/communities/regions served	Protection of public health and safety.
Financial	3	D. Canceling project moderate financial consequences (revenue loss, repair/restoration, downtime, fines, litigation)	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	Required for the proper Operation and Maintenance of the existing collection system.

Review Committee Weighted Score: 60.2		
Criteria Name	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	3	
Health and Safety	3	
Public Benefit	4	
Financial	3	
Efficiency and Innovation	1	

Project Title: Emergency and Urgent Sewer Repair II**Phase:** GLWA Salaries**Phase Title:** GLWA Salaries**Phase Budget:** Wastewater**Start Date:** 2/1/2024**Phase Status:** Project Execution**End Date:** 1/31/2028**Phase Comments/Description:****Cost Est. Class:** Class 5**Cost Est. Source:** TBD**Cost Est. Date:** 11/28/2023**Cost Est. Prepared By:** TBD**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$66	\$5	\$5	\$14	\$18	\$18	\$11	\$0	\$0	\$47	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	2/1/2024	1/31/2028
Capital Delivery Salary (Fringes)	2/1/2024	1/31/2028

Project Title: Emergency and Urgent Sewer Repair II**Phase:** Design/Engineering**Phase Title:** Design/Engineering**Phase Budget:****Start Date:** 2/1/2024**Phase Status:****End Date:** 1/31/2028**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	2/1/2024	1/31/2028

Project Title: Emergency and Urgent Sewer Repair II**Phase:** Construction**Phase Title:** Construction**Phase Budget:** Wastewater**Start Date:** 2/1/2024**Phase Status:** Project Execution**End Date:** 1/31/2028**Phase Comments/Description:****Cost Est. Class:** Class 5**Cost Est. Source:** GLWA**Cost Est. Date:** 7/1/2021**Cost Est. Prepared By:** Mini Panicker**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$6,000	\$0	\$0	\$1,044	\$2,350	\$1,867	\$738	\$0	\$0	\$4,956	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	2/1/2024	1/31/2028

Project Title: Emergency and Urgent Sewer Repair II

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$66	\$5	\$5	\$14	\$18	\$18	\$11	\$0	\$0	\$47	\$0
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$6,000	\$0	\$0	\$1,044	\$2,350	\$1,867	\$738	\$0	\$0	\$4,956	\$0
Totals	\$6,066	\$4	\$5	\$1,058	\$2,368	\$1,886	\$749	\$0	\$0	\$5,003	\$0

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

CIP	5 Year Total	FY24	FY25	FY26	FY27	FY28	FY29	Total
2025	\$5,515	\$485	\$1,499	\$1,499	\$1,499	\$1,018	\$0	\$6,000

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$6,066,000	\$4,933	\$1,057,921	\$2,368,438	\$1,885,619	\$749,088	\$0	\$0	\$5,003,146	\$0

Description of CIP Changes:

Project Manager Updated from M.Panicker to J.Edberg - CIP 09.18.24

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: CSO Outfall Rehabilitation

Project Status: Future Planned - Within Five Year Plan

CIP Type: Program

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



CSO Rehabilitation

Project Manager: Jason Edberg

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 3/3/2017

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: CSO Outfalls

Funds and Cost Center: Wastewater - 5421-882301

☐ **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:

Project Title: CSO Outfall Rehabilitation

Problem Statement:

Rehabilitation of the CSO outfalls is essential to properly discharge the uncontrolled combined sewer overflows to the receiving waters and to prevent sewer backups in the Conveyance System. Recent inspections of the outfalls revealed structural deficiencies such as fractures, missing mortar from bricks. There are also sediment and debris deposits in many of them.

Scope of Work/Project Alternatives:

The scope of work initially defined for this program was centered around known issues with outfalls identified during master planning, or inspections. Going forward, this program will be informed by the Linear System Integrity Plan (LSIP) being performed on the regional wastewater collection system with budgets, and projects established for the outfalls herein.

Other Important Info:

Projects 222006 AND 233001 have been incorporated into this project.

Project History: The construction of these outfalls dates back to the early 1900s.

Challenges: Some outfalls are below the river elevation and rehabilitation may be challenging.

Primary Driver: 1 - Condition

Driver Explanation:

Inspections of the outfalls revealed structural deficiencies like fractures, missing mortar from bricks and sediment and debris deposits.

Project Title: CSO Outfall Rehabilitation

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	

Project Title: CSO Outfall Rehabilitation**Phase:** GLWA Salaries**Phase Title:** GLWA Salaries**Phase Budget:** Wastewater**Start Date:** 7/1/2025**Phase Status:** Cancelled**End Date:** 6/29/2037**Phase Comments/Description:****Cost Est. Class:** Class 5**Cost Est. Source:** N/A**Cost Est. Date:** 1/1/2020**Cost Est. Prepared By:** N/A**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2025	6/29/2037
Capital Delivery Salary (Fringes)	7/1/2025	6/29/2037

Project Title: CSO Outfall Rehabilitation**Phase:** Professional Services**Phase Title:** Professional Services**Phase Budget:****Start Date:** 7/1/2025**Phase Status:****End Date:** 6/30/2035**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services	7/1/2025	6/30/2035

Project Title: CSO Outfall Rehabilitation

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 7/1/2025**Phase Status:** Cancelled**End Date:** 6/30/2035

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** TBD**Cost Est. Date:** 11/29/2023**Cost Est. Prepared By:** TBD

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2025	6/30/2035

Project Title: CSO Outfall Rehabilitation**Phase:** TBD Future Allocation**Phase Title:** TBD Future Allocation**Phase Budget:** Wastewater**Start Date:** 7/1/2027**Phase Status:** Future Planned Start**End Date:** 6/29/2037**Phase Comments/Description:****Cost Est. Class:** Class 5**Cost Est. Source:** GLWA**Cost Est. Date:** 7/1/2021**Cost Est. Prepared By:** Mini Panicker**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
TBD Future Allocation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
TBD Future Allocation	7/1/2027	6/29/2037

Project Title: CSO Outfall Rehabilitation

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TBD Future Allocation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$0	\$0	\$0	\$0	\$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	\$30,000	\$0	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$0	\$0	\$0	\$0	\$0	\$0	\$36,000
2019	\$34,336	\$0	\$0	\$507	\$3,826	\$10,001	\$10,001	\$10,001	\$10,001	\$0	\$0	\$0	\$0	\$0	\$44,337
2020	\$74,179	\$0	\$9	\$4,000	\$15,102	\$17,947	\$10,926	\$15,102	\$15,102	\$11,000	\$0	\$0	\$0	\$0	\$89,188
2021	\$52,076	\$0	\$0	\$3,331	\$4,802	\$11,706	\$9,156	\$11,995	\$10,976	\$8,243	\$4,197	\$0	\$0	\$0	\$64,406
2022	\$4,167	\$0	\$0	\$1	(\$1)	\$0	\$833	\$833	\$835	\$833	\$833	\$833	\$0	\$0	\$5,000
2023	\$8,212	\$0	\$0	\$0	\$0	\$0	\$11,641	\$1,642	\$1,646	\$1,641	\$1,641	\$1,641	\$1,646	\$0	\$21,501
2024	\$4,543	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,513	\$1,513	\$1,517	\$1,513	\$15,136
2025	\$1,546	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11	\$11	\$763	\$761	\$7,636

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

Funds allocated for TBD projects in the future years

2024- updated description (project will be informed in future years by LSIP).

Project Title: B-39 Outfall Rehabilitation

Project Status: Project Execution - Pending Closeout

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
75.3

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



B-39 Outfall Rehabilitation

Project Manager: Mini Panicker

Director: Biren Saparia

Managing Dept.: SCC

Date Original Business Case Prepared: 3/11/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: CSO Outfalls

Funds and Cost Center: Wastewater - 5421-892111

☒ **From Program?**
Program Number: 260500

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: B-39 Outfall Rehabilitation

Problem Statement:

The B-39 outfall was constructed in 1928. Findings from the recent investigations indicated that the outfall barrel was structurally compromised, with significant cracking, springline crushing, and general deterioration of the concrete liner. Rehabilitation of this CSO outfall was essential to properly discharge the uncontrolled combined sewer overflows to the receiving waters and to prevent sewer back ups in the Conveyance System.

Scope of Work/Project Alternatives:

The scope of work to be performed for the rehabilitation of this outfall mainly included isolation and dewatering of the outfall, repairing to seal the cracks/leaks, and heavy cleaning

Other Important Info:

Project not scored by risk committee because it was critical or for emergency repairs

Primary Driver: 1 - Condition

Driver Explanation:

During our evaluation in 2018, it was determined that the outfall tunnel was undergoing failure, that put the significant infrastructure immediately above and adjacent to the outfall at risk

Project Title: B-39 Outfall Rehabilitation

Scoring

Project Manager Weighted Score: 75.3			
Criteria Name	Score	Score Criteria	Comment
Condition	5	C. High risk of breakdown or imminent failure with serious impact on performance	
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements	
Regulatory (Environmental/Legal)	4	C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	
Health and Safety	3	D. Canceling project pose limited-moderate staff/public safety/hazard issues, some potential for minor injury/regulatory violations	
Public Benefit	3	F. Canceling project moderate chance of moderate neg. publicity	
Financial	1	A. Minimal to no impact to GLWA	
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	

Review Committee Weighted Score: 75.3		
Criteria Name	Score	Comment
Condition	5	Committee score carried over from current year Project Manager score
Performance (Service Level/Reliability)	4	Committee score carried over from current year Project Manager score
Regulatory (Environmental/Legal)	4	Committee score carried over from current year Project Manager score
Operations and Maintenance	3	Committee score carried over from current year Project Manager score
Health and Safety	3	Committee score carried over from current year Project Manager score
Public Benefit	3	Committee score carried over from current year Project Manager score
Financial	1	Committee score carried over from current year Project Manager score
Efficiency and Innovation	1	Committee score carried over from current year Project Manager score

Project Title: B-39 Outfall Rehabilitation

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 6/1/2020**Phase Status:** Project Execution**End Date:** 9/1/2024

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA**Cost Est. Date:** 6/1/2020**Cost Est. Prepared By:** GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$532	\$336	\$336	\$196	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	6/1/2020	9/1/2024
Capital Delivery Salary (Fringes)	6/1/2020	9/1/2024
Other Capital Improvement Costs	6/1/2020	9/1/2024

Project Title: B-39 Outfall Rehabilitation

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 6/1/2020

Phase Status: Project Execution

End Date: 9/1/2024

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: FKE

Cost Est. Date: 6/1/2020

Cost Est. Prepared By: FKE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$710	\$710	\$710	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-168)	6/1/2020	9/1/2024

Project Title: B-39 Outfall Rehabilitation

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 4/25/2022

Phase Status: Project Execution

End Date: 2/24/2024

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: LGC- Executed Contract

Cost Est. Date: 4/25/2022

Cost Est. Prepared By: LGC

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$9,743	\$9,416	\$9,416	\$327	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (2100891)	4/25/2022	2/24/2024

Project Title: B-39 Outfall Rehabilitation

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$532	\$336	\$336	\$196	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$710	\$710	\$710	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$9,743	\$9,416	\$9,416	\$327	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$10,984	\$10,461	\$10,461	\$523	\$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	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2022	\$387	\$180	\$180	\$180	\$26	\$0	\$0	\$0	\$0	\$0	\$569
2023	\$5,391	\$150	\$3,214	\$5,391	\$0	\$0	\$0	\$0	\$0	\$0	\$8,756
2024	\$4,377	\$150	\$724	\$4,956	\$4,377	\$0	\$0	\$0	\$0	\$0	\$10,207
2025	\$709	\$150	\$724	\$5,159	\$4,212	\$677	\$33	\$0	\$0	\$0	\$10,955

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$10,984,042	\$10,461,400	\$522,643	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

This Project was added to FY 23 CIP Plan. AC 3/25/21
 Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: Conveyance System Repairs (Outfalls)

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
73.8

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Conveyance System Repairs (Outfalls)

Project Manager: Jason Edberg

Director: Jason Edberg

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared: 8/24/2020

Year Project Added to CIP: 2020

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: CSO Outfalls

Funds and Cost Center: Wastewater - 5421-892411 (Field Engineering)

☒ **From Program?**
Program Number: 260500

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Conveyance System Repairs (Outfalls)**Problem Statement:**

Rehabilitation program of the CSO outfalls, sewers, and interceptors was identified after the baseline condition assessment. This project is to rehabilitate the remaining CSO outfalls that are not included under Phase 1, 2, 3, and 4 rehabilitations to increase their useful life.

Scope of Work/Project Alternatives:

Evaluate the existing conditions of the remaining CSO outfalls, provide the necessary rehabilitation to optimize the design capacities.

Other Important Info:

This Engineering Services contract also includes Joy Rd, Seven Mile, and Bates sewers which is being funded by the Sewer and Interceptor Rehabilitation Program, 260200 and this project is combined with 260206

Primary Driver: 1 - Condition

Driver Explanation:

Many of these CSO outfalls have sediment deposits that results in transportation capacity limitation. Several also have other O&M and Structural deficiencies

Project Title: Conveyance System Repairs (Outfalls)

Scoring

Project Manager Weighted Score: 74.2			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	
Health and Safety	3	B. Project moderate positive impact on staff/public H&S+	
Public Benefit	3	F. Canceling project moderate chance of moderate neg. publicity	
Financial	2	D. Canceling project limited/low financial consequences	
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	

Review Committee Weighted Score: 73.8		
Criteria Name	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	3	
Health and Safety	3	
Public Benefit	2	
Financial	2	
Efficiency and Innovation	1	

Project Title: Conveyance System Repairs (Outfalls)**Phase:** GLWA Salaries**Phase Title:** GLWA Salaries**Phase Budget:** Wastewater**Start Date:** 6/7/2021**Phase Status:** Project Execution**End Date:** 6/30/2027**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** GLWA**Cost Est. Date:** 6/7/2021**Cost Est. Prepared By:** GLWA**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$421	\$28	\$27	\$108	\$143	\$143	\$0	\$0	\$0	\$286	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	6/7/2021	6/30/2027
Capital Delivery Salary (Fringes)	6/7/2021	6/30/2027

Project Title: Conveyance System Repairs (Outfalls)

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 6/7/2021

Phase Status: Project Execution

End Date: 4/14/2026

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: FKE

Cost Est. Date: 6/7/2021

Cost Est. Prepared By: FKE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$2,501	\$2,501	\$2,286	\$215	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	6/7/2021	4/14/2026
Design/Engineering Phase #1 (WW Field Services - 2003443)	6/7/2021	4/14/2026

Project Title: Conveyance System Repairs (Outfalls)

Phase: Design/Engineering Phase #2

Phase Title: Design/Engineering Phase #2

Phase Budget: Wastewater

Start Date: 6/7/2021

Phase Status: Project Execution

End Date: 6/30/2027

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: FKE

Cost Est. Date: 6/7/2021

Cost Est. Prepared By: FKE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering Phase #2	\$2,044	\$0	\$0	\$0	\$1,022	\$1,022	\$0	\$0	\$0	\$2,044	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering Phase #2	6/7/2021	6/30/2027

Project Title: Conveyance System Repairs (Outfalls)

Phase: Construction Phase #1

Phase Title: Construction Phase #1

Phase Budget: Wastewater

Start Date: 7/17/2023

Phase Status: Project Execution

End Date: 8/31/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: FKE

Cost Est. Date: 7/1/2022

Cost Est. Prepared By: FKE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction Phase #1	\$10,286	\$4,280	\$2,649	\$6,525	\$1,111	\$0	\$0	\$0	\$0	\$1,111	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction Phase #1	7/17/2023	8/31/2025

Project Title: Conveyance System Repairs (Outfalls)

Phase: Construction Phase #2

Phase Title: Construction Phase #2

Phase Budget: Wastewater

Start Date: 7/1/2025

Phase Status: Future Planned Start

End Date: 6/30/2027

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: FKE

Cost Est. Date: 7/1/2022

Cost Est. Prepared By: FKE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction Phase #2	\$10,000	\$0	\$0	\$0	\$5,000	\$5,000	\$0	\$0	\$0	\$10,000	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction Phase #2	7/1/2025	6/30/2027

Project Title: Conveyance System Repairs (Outfalls)

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$421	\$28	\$27	\$108	\$143	\$143	\$0	\$0	\$0	\$286	\$0
Design/Engineering	\$2,501	\$2,501	\$2,286	\$215	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering Phase #2	\$2,044	\$0	\$0	\$0	\$1,022	\$1,022	\$0	\$0	\$0	\$2,044	\$0
Construction Phase #1	\$10,286	\$4,280	\$2,649	\$6,525	\$1,111	\$0	\$0	\$0	\$0	\$1,111	\$0
Construction Phase #2	\$10,000	\$0	\$0	\$0	\$5,000	\$5,000	\$0	\$0	\$0	\$10,000	\$0
Totals	\$25,251	\$6,809	\$4,962	\$6,849	\$7,277	\$6,165	\$0	\$0	\$0	\$13,442	\$0

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

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2022	\$40,096	\$557	\$7,710	\$7,710	\$7,728	\$7,710	\$9,240	\$8,210	\$0	\$0	\$48,863
2023	\$21,616	\$35	\$856	\$1,340	\$1,771	\$5,000	\$6,752	\$6,752	\$6,752	\$6,567	\$35,825
2024	\$33,566	\$35	\$868	\$1,193	\$4,828	\$9,270	\$11,793	\$6,715	\$962	\$0	\$35,661
2025	\$19,298	\$35	\$868	\$969	\$3,309	\$3,993	\$3,653	\$2,619	\$4,522	\$4,510	\$24,947

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$25,251,949	\$4,961,829	\$6,848,505	\$7,276,539	\$6,165,075	\$0	\$0	\$0	\$13,441,615	\$0

Description of CIP Changes:

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: CSO Facilities Improvement Program

Project Status: Project Execution - Construction

CIP Type: Program

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☐ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



CSO Facilities Improvement Program

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Conner Creek, Seven Mile, Puritan-Fenkell, Hubble-Southfield, Belle Isle, Oakwood CSO Basins, Baby Creek, Leib and St. Aubin Screening and Disinfection Facilities

Funds and Cost Center: Wastewater - 5421-892211

☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: TBD

Partners:
Collaboration Entity:

Project Title: CSO Facilities Improvement Program

☐ **From Program?**

Program Number:

Delivery Method: Other (Design In-house and Bid Out for Construction)

Delivery Method Details: Varies, this is a program.

Project Title: CSO Facilities Improvement Program

Problem Statement:

This program is being established to facilitate the study, design, construction administration, and construction of improvements necessary to maintain the facilities which contribute to the CSO Control Program and compliance with it.

Scope of Work/Project Alternatives:

This program is established to fund projects that arise in the near term of each fiscal year that were not budgeted for previously, and also serves as accounting of future costs in the CSO CIP that may be a part of long term CSO control, or other significant planning projects. Scopes of work will vary from roof replacement, to equipment replacement, to various other facility improvements.

Other Important Info:

The Total Lifetime cost of this program includes costs projected all the way out to 2044

Primary Driver: Varies

Driver Explanation:

Driver will be based on need of each individual project which falls within the program.

Project Title: CSO Facilities Improvement Program

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	

Project Title: CSO Facilities Improvement Program

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 12/1/2024**Phase Status:** Cancelled**End Date:** 12/31/2025

Phase Comments/Description:

recommend canceling this phase, why are we putting salaries to a program when we can't put projects to the same number. Salaries should go to the project is my thought.

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	12/1/2024	12/31/2025
Capital Delivery Salary (Fringes)	12/1/2024	12/31/2025

Project Title: CSO Facilities Improvement Program**Phase:** Design/Engineering**Phase Title:** Design/Engineering**Phase Budget:** Wastewater**Start Date:** 7/1/2022**Phase Status:** Cancelled**End Date:** 6/30/2044**Phase Comments/Description:****Cost Est. Class:** Class 5**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (DSGN)	7/1/2022	6/30/2044

Project Title: CSO Facilities Improvement Program**Phase:** Design/Engineering**Phase Title:** Design/Engineering**Phase Budget:** Wastewater**Start Date:** 12/1/2024**Phase Status:** Future Planned Start**End Date:** 12/31/2025**Phase Comments/Description:****Cost Est. Class:** Class 4**Cost Est. Source:** GLWA**Cost Est. Date:** 6/30/2023**Cost Est. Prepared By:** GLWA**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	12/1/2024	12/31/2025

Project Title: CSO Facilities Improvement Program

Phase: Design-Build**Phase Title:** Design-Build

Phase Budget: Wastewater**Start Date:** 7/1/2022**Phase Status:** Cancelled**End Date:** 6/30/2034

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design-Build	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design-Build	7/1/2022	6/30/2034

Project Title: CSO Facilities Improvement Program

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 7/1/2022

Phase Status: Cancelled

End Date: 6/30/2049

Phase Comments/Description:
Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2022	6/30/2049

Project Title: CSO Facilities Improvement Program

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design-Build	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$0	\$0	\$0	\$0	\$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	\$28,457	\$3,428	\$2,247	\$6,400	\$9,000	\$7,200	\$3,610	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$31,885
2019	\$31,548	\$764	\$1,658	\$9,277	\$6,218	\$2,351	\$4,351	\$9,351	\$11,251	\$0	\$0	\$0	\$0	\$0	\$45,221
2020	\$39,668	\$0	\$481	\$8,442	\$5,604	\$4,553	\$5,825	\$10,325	\$13,361	\$15,000	\$0	\$0	\$0	\$0	\$63,591
2021	\$53,396	\$0	\$0	\$6,742	\$7,555	\$7,492	\$10,289	\$10,576	\$4,759	\$20,280	\$85,250	\$0	\$0	\$0	\$152,943
2022	\$23,400	\$0	\$0	\$0	\$0	\$1,500	\$1,000	\$1,500	\$2,000	\$7,500	\$11,400	\$12,000	\$12,000	\$12,000	\$126,400
2023	\$7,500	\$0	\$0	\$0	\$0	\$0	\$1,000	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,045,500
2024	\$8,569	\$0	\$0	\$0	\$0	\$0	\$0	\$734	\$2,121	\$1,611	\$1,611	\$1,611	\$1,615	\$1,112	\$1,030,191
2025	\$3,896	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$437	\$657	\$657	\$657	\$659	\$1,265	\$1,018,750

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

260601 - CON-254 - Created new phase, \$555K contractors bid, estimated spend based on contractors tentative schedule.

260602 - Created new phase, moved \$980K from TBD to this project - CSO Fire Alarm Improvements.

260603 - CON-234, Updated FY costs based on actual contractors bid and potential change order to replace influent meters @ Conner Creek. This contract

Project Title: CSO Facilities Improvement Program

was bid in February 2018, awarded in 6/2018, and given the schedule, the Contractor will not complete work in FY19 as previously thought when it was bid.

260604 - Created new phase, shifted \$355K from TBD to this project - Baby Creek Influent Area Improvements

260605 - Created new phase, \$4.5M Budget for CSO Facilities Assessment Project

260606- Created new phase, moved \$300K from TBD to this project - Puritan Fenkell Roof Replacement.

260607 - Created new phase, costs are \$700K split over FY19 and FY20, FY19 from TBD- Leib Electrical Improvements Contract

TBD - Created new phase, Costs are estimated @ \$300K, 7 Mile Roof Replacement Project

TBD - Created new phase, Costs are estimated @ \$650K, Leib SDF HVAC Improvements Project

TBD - Created new phase, Costs are estimated @ \$150K, Baby Creek MAU Replacement - I&E funded.

TBD - Created new phase, Costs are estimated @ 650K, Baby Creek HVAC System Improvements - expands on the project to only replace the MAUs.

TBD - Created new phase, Costs are estimated @ \$400K, 7 Mile Parking lot, and Site Improvements Project

TBD - Created new phase, Costs are estimated @ \$11M, CSO Facilities Structural Improvements Design Build (based on Task CS-166 - Task C.05).

Modified the TBD allowance category for immediate years as projects become clearer. As previously indicated, this amount will steadily decrease as projects are defined, and will likely be removed once the CSO Assessment Project is completed.

UPDATES IN 7-2019

260605 - CS-299 CSO Facilities Assessment Project was removed from CIP. It is O&M and I&E funded because it is more of a study than a CIP project. It will lead to CIP projects and we can come back and capitalize it later if we so desire.

260610 - Baby Creek MAU Replacement project. Award was later than anticipated and equipment had 16 week lead time which led to funding being shifted from FY19 to FY20.

260612 - Puritan Fenkell & Seven Mile Instrumentation Project. This is to account for a CIP number that doesn't appear within the database but did exist briefly before we determined that this project was more appropriately funded from O&M. The CIP number had already been used in BigTime and so the decision was made to just assign the next project with the next CIP number Higher (260613).

260614 - CS-166 Task C.05 - Structural Improvements Project. In 2019 CIP this project was pushed back in the CIP to accommodate Conner/Freud impacts to the CIP budget. Due to lower than expected CIP spend, this project was pulled back forward for the 2020 CIP version to start in FY 20 (late FY 20 and carry through FY 24).

Added the following new projects

260616 - Baby Creek CSO Anchor and Wedge Improvement to West End Sewer

260617 - St. Aubin Screening and Disinfection Improvements

260618 - Oakwood HVAC Improvements.

Updated the unallocated amounts to account for CS-299 projects and also long term CSO control elements and cross-checked with AECOM for estimates. 08/2020

This year the structure of the CIP database was changed. All previous projects that were in the program previously have been pulled out and documented similar to non-program CIP projects.

Project Title: CSO Facilities Improvement Program

260619 - CAFR group added a project by Chris VanPoppelen for controls to PF, St. Aubin and Leib to the program.

260620 - added roof replacement of Baby Creek to the program.

pulled out TBD amounts for projects added as a result of CS-299

Updated in 2022

Revised future amounts that were allocated to other projects under the program (to offset the overall program value for net zero changes, if applicable).

2024 - pushing program out to later years for affordability.



Project Title: Structural Inspection & Structural Improvements

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
53.4

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Structural Inspection and Structural Improvements

Project Manager: Kashmira Patel

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Wayne

Funds and Cost Center: Wastewater - 5421-892211

☒ **From Program?**
Program Number: 260600

Delivery Method: DB (Design-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Structural Inspection & Structural Improvements

Problem Statement:

A partial structural condition assessment has been performed and structural improvement (types) identified and prioritized. This project will provide Design-Build service to completely inspect all of the CSO Facilities (above and below ground) and prioritize improvements to be carried out over a 3-5 year period.

Scope of Work/Project Alternatives:

The scope of work at each of nine CSO facilities includes a complete field assessment and structural condition report, classification of recommended repairs into levels of urgency, estimating quantities and the costs of repairs, developing a three-year repair program to address high priority repairs, design and implementation of repairs, preparation of as-built drawings and final project report. The Work includes improvements to be designed, administered, and constructed by the D/B Contractor at all nine CSO facilities.

Other Important Info:

Consideration of Shared Service Agreement with DWSD regarding the costing for the Belle Isle facility. This project not scored by risk committee because it is far advanced

Primary Driver: 1 - Condition

Driver Explanation:

CSO Facilities are an average of 17 years old. They are in need of repairs to keep them operating reliably and safe into the future. An initial partial structural inspection of these CSO Facilities was conducted through a separate contract, which had identified various improvements needed at each facility to ensure reliability and resiliency for continuous operation of CSO facilities for the next 20-years.

Project Title: Structural Inspection & Structural Improvements

Scoring

Project Manager Weighted Score: 53.4			
Criteria Name	Score	Score Criteria	Comment
Condition	3	C. May have minor failures or diminished efficiency; some performance deterioration	Scoring is not required for Program.
Performance (Service Level/Reliability)	3	D. Project moderate positive impact on service levels/reliability/lower risk	Scoring is not required for Program.
Regulatory (Environmental/Legal)	1	C. Not part of mandated/enforceable program	Scoring is not required for Program.
Operations and Maintenance	1	D. Project low/negative impact on O&M; no critical assets involved; not expected to significantly impact any O&M issues.	Scoring is not required for Program.
Health and Safety	3	B. Project moderate positive impact on staff/public H&S†	Scoring is not required for Program.
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	Scoring is not required for Program.
Financial	1	A. Minimal to no impact to GLWA	Scoring is not required for Program.
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	Scoring is not required for Program.

Review Committee Weighted Score: 53.4		
Criteria Name	Score	Comment
Condition	3	Committee score carried over from current year Project Manager score
Performance (Service Level/Reliability)	3	Committee score carried over from current year Project Manager score
Regulatory (Environmental/Legal)	1	Committee score carried over from current year Project Manager score
Operations and Maintenance	1	Committee score carried over from current year Project Manager score
Health and Safety	3	Committee score carried over from current year Project Manager score
Public Benefit	1	Committee score carried over from current year Project Manager score
Financial	1	Committee score carried over from current year Project Manager score
Efficiency and Innovation	1	Committee score carried over from current year Project Manager score

Project Title: Structural Inspection & Structural Improvements

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 1/4/2021**Phase Status:** Project Execution**End Date:** 12/31/2025

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$141	\$55	\$54	\$53	\$35	\$0	\$0	\$0	\$0	\$35	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	1/4/2021	12/31/2025
Capital Delivery Salary (Fringes)	1/4/2021	12/31/2025

Project Title: Structural Inspection & Structural Improvements

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 8/19/2019

Phase Status: Closed Out

End Date: 8/23/2019

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$12	\$12	\$12	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72009A.05)	8/19/2019	8/23/2019

Project Title: Structural Inspection & Structural Improvements

Phase: Design/Engineering (CS-166)

Phase Title: Design/Engineering (CS-166)

Phase Budget: Wastewater

Start Date: 1/4/2021

Phase Status: Project Execution

End Date: 12/31/2025

Phase Comments/Description:

Please see the cost change request submitted on 5/24/23.

Cost Est. Class: Class 1

Cost Est. Source: PMA

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-166)	\$1,605	\$1,443	\$1,436	\$104	\$65	\$0	\$0	\$0	\$0	\$65	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-166 (Including Tasks D-11 & C-05))	1/4/2021	12/31/2025
Interlocal Agreement or Intergovernmental Agreement (CS-166)	4/1/2021	12/31/2025

Project Title: Structural Inspection & Structural Improvements

Phase: Design-Build # 1 (1902224)**Phase Title:** Design-Build # 1 (1902224)

Phase Budget: Wastewater**Start Date:** 1/4/2021**Phase Status:** Project Execution**End Date:** 12/31/2025

Phase Comments/Description:

Please see the cost change request submitted on 5/24/23.
The current contract completion date is 01/03/2025.

Cost Est. Class: Class 1**Cost Est. Source:** Bidding, CO-001, and CO-002**Cost Est. Date:** 8/5/2020**Cost Est. Prepared By:** Pullman

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design-Build # 1 (1902224)	\$14,905	\$12,890	\$12,890	\$1,260	\$755	\$0	\$0	\$0	\$0	\$755	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1902224)	1/4/2021	6/30/2024
Construction (1902224)	1/4/2021	12/31/2025
Interlocal Agreement or Intergovernmental Agreement (1902224)	4/1/2021	12/31/2025

Project Title: Structural Inspection & Structural Improvements

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$141	\$55	\$54	\$53	\$35	\$0	\$0	\$0	\$0	\$35	\$0
Professional Services	\$12	\$12	\$12	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-166)	\$1,605	\$1,443	\$1,436	\$104	\$65	\$0	\$0	\$0	\$0	\$65	\$0
Design-Build # 1 (1902224)	\$14,905	\$12,890	\$12,890	\$1,260	\$755	\$0	\$0	\$0	\$0	\$755	\$0
Totals	\$16,663	\$14,400	\$14,393	\$1,416	\$855	\$0	\$0	\$0	\$0	\$855	\$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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2020	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2021	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2022	\$10,443	\$0	\$0	\$335	(\$32)	\$3,047	\$4,422	\$3,872	\$1,397	\$752	\$0	\$0	\$0	\$0	\$13,794
2023	\$7,952	\$0	\$0	\$335	(\$32)	\$2,234	\$3,100	\$3,100	\$3,109	\$1,743	\$0	\$0	\$0	\$0	\$13,591
2024	\$3,548	\$0	\$0	\$335	(\$31)	\$2,234	\$4,664	\$3,237	\$2,347	\$1,201	\$0	\$0	\$0	\$0	\$13,987
2025	\$125	\$0	\$0	\$335	(\$31)	\$2,234	\$4,664	\$5,523	\$2,765	\$125	\$0	\$0	\$0	\$0	\$15,613

Reporting Period 72: Ending FY25 M03 Sep

Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$16,663,770	\$14,392,799	\$1,415,779	\$855,192	\$0	\$0	\$0	\$0	\$855,192	\$0

Project Title: Structural Inspection & Structural Improvements

Description of CIP Changes:

All construction work has been completed at all nine CSO facilities. Currently, Contractor is waiting to receive approval from DTE on the electrical enclosure replacement at Hubbell - Southfield CSO Facility. It is anticipated to complete this work within the current budget and completion date, however, it depends on the response from DTE. - kp/4-29/24

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: Oakwood HVAC Project

Project Status: Closed

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
20

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Oakwood HVAC Project

Project Manager: Vinod Sharma

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Oakwood CSO Facility

Funds and Cost Center: Wastewater - 5421-892211

☒ **From Program?**
Program Number: 260600

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Oakwood HVAC Project

Problem Statement:

There is heavy corrosion and the gas detection system in the sanitary pump room is constantly turning off causing operators to leave the overhead door open to keep the space ventilated. The HVAC system pulls gases from the sewer as currently operated. The wet-well supply fans have failed functionally and this is also contributing to heavy corrosion in the sanitary pump room.

Scope of Work/Project Alternatives:

The Odor Control unit intake is being reconfigured, various supply and exhaust fans are being replaced, access for the odor control units will be made for all three units to facilitate proper maintenance. The crane and building structural steel will be assessed and re-coated to ensure proper life.

Other Important Info:

The project is under construction.
Project not scored by risk committee because it is far advanced

Primary Driver: 1 - Condition**Driver Explanation:**

The HVAC system had functionally failed. This was resulting in cascading failures of other building systems (i.e. pipes freezing because doors are left open, structural steel corroding, gas system failing, etc.).

Project Title: Oakwood HVAC Project

Scoring

Project Manager Weighted Score:		20	
Criteria Name	Score	Score Criteria	Comment
Condition	1	A. Asset has >75% of its design service life remaining	
Performance (Service Level/Reliability)	1	A. Fully operable, well maintained	
Regulatory (Environmental/Legal)	1	A. No risk of causing	
Operations and Maintenance	1	A. O&M levels are routine;	
Health and Safety	1	A. No failure reasonably expected to occur	
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	
Financial	1	A. Minimal to no impact to GLWA	
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	

Review Committee Weighted Score:		20	
Criteria Name	Score	Comment	
Condition	1	Committee score carried over from previous year committee score	
Performance (Service Level/Reliability)	1	Committee score carried over from previous year committee score	
Regulatory (Environmental/Legal)	1	Committee score carried over from previous year committee score	
Operations and Maintenance	1	Committee score carried over from previous year committee score	
Health and Safety	1	Committee score carried over from previous year committee score	
Public Benefit	1	Committee score carried over from previous year committee score	
Financial	1	Committee score carried over from previous year committee score	
Efficiency and Innovation	1	Committee score carried over from previous year committee score	

Project Title: Oakwood HVAC Project

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 6/29/2020**Phase Status:** Closed Out**End Date:** 1/15/2024

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$111	\$111	\$111	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	6/29/2020	1/15/2024
Capital Delivery Salary (Fringes)	6/29/2020	1/15/2024

Project Title: Oakwood HVAC Project

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 11/7/2019

Phase Status: Closed Out

End Date: 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$115	\$115	\$115	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72009A.04 / 72022A.02)	11/7/2019	5/19/2023

Project Title: Oakwood HVAC Project

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 6/29/2020**Phase Status:** Pending Close-out**End Date:** 1/15/2024

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Hazen**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Hazen

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$458	\$458	\$458	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	6/29/2020	1/15/2024
Design/Engineering (CA) (net-zero cost account to be archived)	4/26/2022	1/15/2024

Project Title: Oakwood HVAC Project

Phase: Design-Build

Phase Title: Design-Build

Phase Budget: Wastewater

Start Date: 7/1/2020

Phase Status: Cancelled

End Date: 6/24/2022

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: GLWA

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design-Build	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design-Build (net-zero cost account to be archived)	7/1/2020	6/24/2022

Project Title: Oakwood HVAC Project

Phase: Construction (Build) # 1**Phase Title:** Construction (Build) # 1

Phase Budget: Wastewater**Start Date:** 6/21/2021**Phase Status:** Pending Close-out**End Date:** 1/15/2024

Phase Comments/Description:

This phase will construct improvements designed during the design services phase of this project.

Cost Est. Class: Class 1**Cost Est. Source:** CCC**Cost Est. Date:** 6/21/2021**Cost Est. Prepared By:** CCC

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$5,527	\$5,527	\$5,527	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (2003330)	6/21/2021	1/15/2024

Project Title: Oakwood HVAC Project

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$111	\$111	\$111	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services	\$115	\$115	\$115	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$458	\$458	\$458	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design-Build	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (Build) #1	\$5,527	\$5,527	\$5,527	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$6,210	\$6,210	\$6,211	\$0	\$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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2020	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2021	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2022	\$3,252	\$0	\$0	\$0	\$76	\$640	\$3,236	\$17	\$0	\$0	\$0	\$0	\$0	\$0	\$3,967
2023	\$498	\$0	\$0	\$0	\$76	\$295	\$5,223	\$498	\$0	\$0	\$0	\$0	\$0	\$0	\$6,091
2024	\$0	\$0	\$0	\$0	\$76	\$294	\$4,480	\$915	\$0	\$0	\$0	\$0	\$0	\$0	\$5,766
2025	\$0	\$0	\$0	\$0	\$76	\$294	\$4,480	\$771	\$1,297	\$0	\$0	\$0	\$0	\$0	\$6,919

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$6,210,557	\$6,210,557	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Project Title: Oakwood HVAC Project

Description of CIP Changes:

2019-08 - added to program

2020-07 - updated project schedule, cost, scope

2021 - Updated with contract info.

2022 - Updated.

2024 - Reviewed. No Updates.

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
95.1

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Control System Upgrade - St Aubin, Lieb and Mile

Project Manager: Andy Kinel

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Seven Mile, Leib and St. Aubin
 Screening and Disinfection Facilities

Funds and Cost Center: Wastewater - 5421-
 892211

☒ **From Program?**
Program Number: 260600

Delivery Method: DB (Design-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Problem Statement:

This project was initiated to facilitate the design build improvements necessary to maintain the facilities which contribute to the CSO Control Program and ensure compliance.

Scope of Work/Project Alternatives:

The project will replace the Obsolete/End of Life Allen Bradley PLC5 control systems at 3 CSO Facilities (Leib, St. Aubin, 7-Mile) and upgrade critical Instrumentation. It includes new Controllers, HMI, network components and controls system integration. It also includes implementation of high-performance graphics and advance alarm management and advanced process control.

Other Important Info:

The intent of this project is to perform field investigation, replace, design, demolish existing, furnish, install and start-up a complete Control system, networks and replacement of all field devices at the above facilities.

Primary Driver: 1 - Condition

Driver Explanation:

The PLC system has exceeded its useful life.

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Scoring

Project Manager Weighted Score: 95.1			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life, E. Could initiate immediate funding request b/c "Urgent Necessity" in near term	PLC5 processors are no longer support by the manufacturer. Given the lack of security patches, this also increases the risk of a cyber attack.
Performance (Service Level/Reliability)	5	B. Current performance unacceptable, does not meet current requirements/demands; equipment obsolete/extremely difficult to maintain or find spare parts/repair service; Asset/process OOS 50% or more of the time; Recurring, expected failures	PLC5 processors are no longer support by the manufacturer. Purchasing new/reliable parts is becoming more difficult.
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public, E. Deferring/canceling project immediate risk of non-compliance, major permit violations, regulatory scrutiny; sig. measurable negative environmental impact on a regional or statewide level w/ lingering or permanent/irreversible impact on wider ecosystem	Given age of equipment and that this project will update three of the CSO sites controls and monitors systems. Canceling project would increase risk of failure during a wet weather event.
Operations and Maintenance	3	B. Will run in automatic mode	System runs in Auto but requires significant maintenance effort to keep the system operational.
Health and Safety	4	C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	Given age of equipment and that this project will update three of the CSO sites controls and monitors systems. Canceling project would increase risk of failure during a wet weather event.
Public Benefit	4	E. Canceling project chance to have major negative public impact	CSO equipment has been in the news and is within the publics focus. Having the complete control system fail at one of the CSOs would continue to increase public distrust.
Financial	4	B. Project will likely result in avoidance of fines, potential litigation, emergency repairs or damage to asset/public	Avoid fines due to CSO being offline.
Efficiency and Innovation	2	C. Low positive impact on water use, effluent reuse/recycling or other GLWA strategic initiative*; business process optimization and institutional knowledge; O&M process/operational efficiency	

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Review Committee Weighted Score: 95.1		
Criteria Name	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	5	
Operations and Maintenance	3	
Health and Safety	4	
Public Benefit	4	
Financial	4	
Efficiency and Innovation	2	

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 11/2/2019

Phase Status: Project Execution

End Date: 8/31/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$137	\$69	\$54	\$71	\$12	\$0	\$0	\$0	\$0	\$12	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (5421) (Direct Labor)	11/2/2019	8/31/2025
Capital Delivery Salary (5404) (Direct Labor)	11/2/2019	8/31/2025
Capital Delivery Salary (5421) (Fringes)	11/2/2019	8/31/2025
Capital Delivery Salary (5404) (Fringes)	11/2/2019	8/31/2025

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 11/2/2019

Phase Status: Project Execution

End Date: 5/19/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$463	\$250	\$250	\$212	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72012A.01)	11/2/2019	5/19/2025
Professional Services (CS-272 - 72012A.01)	11/2/2019	5/19/2025

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 6/22/2020

Phase Status: Cancelled

End Date: 3/31/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (net-zero cost account to be archived)	6/22/2020	3/31/2025

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 9/29/2022

Phase Status: Project Execution

End Date: 8/31/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Burns and McDonnell

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Burns and McDonnell

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$7,375	\$3,247	\$2,961	\$3,650	\$764	\$0	\$0	\$0	\$0	\$764	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	9/29/2022	8/31/2025

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$137	\$69	\$54	\$71	\$12	\$0	\$0	\$0	\$0	\$12	\$0
Professional Services	\$463	\$250	\$250	\$212	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$7,375	\$3,247	\$2,961	\$3,650	\$764	\$0	\$0	\$0	\$0	\$764	\$0
Totals	\$7,974	\$3,567	\$3,264	\$3,934	\$776	\$0	\$0	\$0	\$0	\$776	\$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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2020	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2021	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2022	\$0	\$0	\$0	\$0	\$62	\$54	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$116
2023	\$5,456	\$0	\$0	\$0	\$62	\$1	\$2,116	\$2,116	\$2,122	\$1,217	\$0	\$0	\$0	\$0	\$7,636
2024	\$4,952	\$0	\$0	\$0	\$62	\$1	\$0	\$2,558	\$3,869	\$1,084	\$0	\$0	\$0	\$0	\$7,573
2025	\$4,049	\$0	\$0	\$0	\$62	\$1	\$0	\$988	\$2,873	\$4,049	\$0	\$0	\$0	\$0	\$7,973

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$7,974,474	\$3,264,463	\$3,933,627	\$776,383	\$0	\$0	\$0	\$0	\$776,383	\$0

Description of CIP Changes:

Moved over from CIP 251002.

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: CSO Emergency Generator Improvements

Project Status: Closed

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
77.5

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



CSO Emergency Generator Improvements

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 3/25/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Various CSO Facilities

Funds and Cost Center: Wastewater - 5421-892211

☒ **From Program?**
Program Number: 260600

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: CSO Emergency Generator Improvements

Problem Statement:

The reliability of the CSO standby generators and automatic transfer switches is declining. During utility power outages when the standby generators are necessary, either the generators may not start automatically, or the automatic transfer switches may not transfer. Neither the generator control panels, nor automatic transfer switches report any status or alarm signals to the operators through the SCADA Ovation Control system. In many cases, CSO Facilities have automatic transfer switch (ATS) equipment which is original to construction and is now obsolete. Finding replacement parts, or servicing the existing equipment is no longer practical.

Scope of Work/Project Alternatives:

Under this project, the CSO facilities with standby generator systems will be upgraded to have a standardized, dedicated automatic transfer control system. This will include upgrades to the automatic transfer switches, upgrades to some generator control panels, and the addition of several alarm and status signals from both the generator control panels and the ATS controllers, which will be monitored by the Ovation Control system.

General Project Objectives are:

1. Replace obsolete Programmable Logic Controllers (PLCs) or other controller styles with modern, standardized, microprocessor based automatic transfer controllers.
2. Reconfigure front panel of ATS panels not being fully replaced to be standardized across all sites. Provide a remote HMI screen dedicated for the automatic transfer system.
3. Evaluate local generator panels for compatibility and reliability.
4. Create and standardize Ovation displays and include useful inputs (alarms, configuration, status).

Other Important Info:

None.

Primary Driver: 1 - Condition

Driver Explanation:

Existing ATS equipment is obsolete due to age and has degraded, causing reliability issues. Modern controls are needed to deliver reliable back up power to critical facilities.

Project Title: CSO Emergency Generator Improvements

Scoring

Project Manager Weighted Score: 93.6			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems	
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	
Operations and Maintenance	5	A. Unsustainable levels of O/M required to keep in service that will still not ensure future stable/proper operation	
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	
Financial	2	A. Low financial impact to GLWA; No grants/other external funding	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 77.5		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: CSO Emergency Generator Improvements

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 3/1/2021**Phase Status:** Closed Out**End Date:** 10/1/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$36	\$36	\$36	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	3/1/2021	10/1/2023
Capital Delivery Salary (Fringes)	3/1/2021	10/1/2023

Project Title: CSO Emergency Generator Improvements

Phase: Professional Services (CS-272 - 72031A.01)

Phase Title: Professional Services (CS-272 - 72031A.01)

Phase Budget: Wastewater

Start Date: 4/6/2022

Phase Status: Closed Out

End Date: 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272 - 72031A.01)	\$118	\$118	\$118	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72031A.01)	4/6/2022	5/19/2023

Project Title: CSO Emergency Generator Improvements

Phase: Design/Engineering (CS-299)

Phase Title: Design/Engineering (CS-299)

Phase Budget: Wastewater

Start Date: 3/1/2021

Phase Status: Closed Out

End Date: 9/11/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-299)	\$80	\$80	\$80	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-299)	3/1/2021	9/11/2023
Interlocal Agreement or Intergovernmental Agreement (CS-299)	1/1/2023	1/31/2023

Project Title: CSO Emergency Generator Improvements

Phase: Construction #1

Phase Title: Construction #1

Phase Budget: Wastewater

Start Date: 3/21/2022

Phase Status: Closed Out

End Date: 9/11/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: MCE

Cost Est. Date: 3/21/2022

Cost Est. Prepared By: MCE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction #1	\$989	\$989	\$989	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (2100575)	3/21/2022	9/11/2023
Interlocal Agreement or Intergovernment Agreement (2100575)	1/1/2023	1/31/2023

Project Title: CSO Emergency Generator Improvements

Phase: Construction #2 (1803025)**Phase Title:** Construction #2 (1803025)

Phase Budget: Wastewater**Start Date:** 10/1/2023**Phase Status:** Closed Out**End Date:** 10/1/2023

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** TBD**Cost Est. Date:** 11/28/2023**Cost Est. Prepared By:** TBD

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction #2 (1803025)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (1803025)	10/1/2023	10/1/2023

Project Title: CSO Emergency Generator Improvements

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$36	\$36	\$36	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (CS-272 - 72031A.01)	\$118	\$118	\$118	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (CS-299)	\$80	\$80	\$80	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction #1	\$989	\$989	\$989	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction #2 (1803025)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$1,222	\$1,222	\$1,223	\$0	\$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	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2023	\$2,020	\$40	\$1,221	\$800	\$0	\$0	\$0	\$0	\$0	\$2,061
2024	\$0	\$95	\$1,154	\$0	\$0	\$0	\$0	\$0	\$0	\$1,250
2025	\$0	\$95	\$988	\$286	\$0	\$0	\$0	\$0	\$0	\$1,370

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$1,222,710	\$1,222,710	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

New Project Added FY 23 CIP Plan. AC 3/25/21

2024 - closed project out

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: CSO Baby Creek Screen Rehabilitation

Project Status: Closed

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
93.2

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



CSO Baby Creek Screen Rehabilitation

Project Manager: Partho Ghosh

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/8/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Wayne County - Outside Detroit

Lookup Location: Dearborn

Funds and Cost Center: Wastewater - 5421-892211

☒ **From Program?**
Program Number: 260600

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: CSO Baby Creek Screen Rehabilitation

Problem Statement:

Based on the condition assessment conducted as a part of contract CS-299, the screens require rehabilitation to ensure long term viability.

Scope of Work/Project Alternatives:

The rehabilitation of Baby Creek Screens includes replacing/ repairing necessary parts to ensure system reliability and maintainability.

Other Important Info:

N/A

Primary Driver: 5 - Public Health and Safety

Driver Explanation:

These improvements are intended to restore the condition of existing equipment.

Project Title: CSO Baby Creek Screen Rehabilitation

Scoring

Project Manager Weighted Score: 94.4			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	5	A. Catastrophic failure w/ safety/health/environmental impacts imminent (2 years or less) as supported by engineering reports, studies, inspections, historical evidence, etc.	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	
Financial	5	A. Prevent higher cost projects; Substantial increase in revenue or savings; New customer acquisition for GLWA	
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	

Review Committee Weighted Score: 93.2		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	5	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	5	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: CSO Baby Creek Screen Rehabilitation**Phase:** GLWA Salaries**Phase Title:** GLWA Salaries**Phase Budget:** Wastewater**Start Date:** 6/1/2022**Phase Status:** Closed Out**End Date:** 9/30/2024**Phase Comments/Description:**

Ongoing closeout activities. IT.

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$61	\$61	\$59	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	6/1/2022	9/30/2024
Capital Delivery Salary (Fringes)	6/1/2022	9/30/2024

Project Title: CSO Baby Creek Screen Rehabilitation

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 4/6/2022**Phase Status:** Closed Out**End Date:** 5/19/2023

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$15	\$15	\$15	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	4/6/2022	5/19/2023

Project Title: CSO Baby Creek Screen Rehabilitation**Phase:** Design/Engineering**Phase Title:** Design/Engineering**Phase Budget:** Wastewater**Start Date:** 7/1/2021**Phase Status:** Closed Out**End Date:** 9/30/2024**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 6/1/2022**Cost Est. Prepared By:** GLWA CIP Group**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$20	\$20	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-299)	7/1/2021	9/30/2024

Project Title: CSO Baby Creek Screen Rehabilitation**Phase:** Construction**Phase Title:** Construction**Phase Budget:** Wastewater**Start Date:** 6/1/2022**Phase Status:** Closed Out**End Date:** 9/30/2024**Phase Comments/Description:**

Ongoing closeout activities. IT.

Cost Est. Class: Class 1**Cost Est. Source:** Contractor Bid**Cost Est. Date:** 6/1/2022**Cost Est. Prepared By:** Contractor Bid**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$2,180	\$2,180	\$2,175	\$5	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (2102618) (net-zero cost account to be archived)	6/1/2022	9/30/2024
Construction	6/1/2022	9/30/2024

Project Title: CSO Baby Creek Screen Rehabilitation

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$61	\$61	\$59	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services	\$15	\$15	\$15	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$20	\$20	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$2,180	\$2,180	\$2,175	\$5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$2,275	\$2,275	\$2,268	\$7	\$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	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2023	\$2,155	\$20	\$1,077	\$1,077	\$0	\$0	\$0	\$0	\$0	\$2,175
2024	\$1,049	\$23	\$1,321	\$1,049	\$0	\$0	\$0	\$0	\$0	\$2,393
2025	\$31	\$23	\$1,424	\$911	\$31	\$0	\$0	\$0	\$0	\$2,389

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$2,275,399	\$2,268,321	\$7,078	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

New CIP added to FY 2023-2027 CIP Plan 08/6/2021 AC.
 Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: CSO Baby Creek Chemical Storage Tanks Replacement (TOES / Emergency)

Project Status: Active - Pre-Procurement
 - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☒ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



CSO Baby Creek Chemical Storage Tanks

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/27/2016

Year Project Added to CIP: 2024

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: --

Funds and Cost Center: Wastewater - 5421-892211

☒ **From Program?**
Program Number: 260600

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: CSO Baby Creek Chemical Storage Tanks Replacement (TOES / Emergency)**Problem Statement:**

****NOTE*** Replace all tanks at Baby Creek CSO facility. An immediate emergency action is required, to replace the worn or failed components of each tank. New CIP No. request to pull from the 260600. The program was set up with an unallocated amount due to the emergent nature of the CSO Facilities condition. As projects surface and are initiated, they draw from the unallocated amount.

Scope of Work/Project Alternatives:

Replace chemical storage tanks @ Baby Creek as they are past their life, and rusting out. Emergency, urgent, replacement work necessary for system reliability and public and GLWA health and safety concerns.

Other Important Info:

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Primary Driver: 1 - Condition

Driver Explanation:

This project will prevent failure of critical operational process areas.

Project Title: CSO Baby Creek Chemical Storage Tanks Replacement (TOES / Emergency)

Scoring

Project Manager Weighted Score: 77.8			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life, C. High risk of breakdown or imminent failure with serious impact on performance	This project will prevent failure of critical operational process areas
Performance (Service Level/Reliability)	5	B. Current performance unacceptable, does not meet current requirements/demands; equipment obsolete/extremely difficult to maintain or find spare parts/repair service; Asset/process OOS 50% or more of the time; Recurring, expected failures	This project will prevent failure of critical operational process areas
Regulatory (Environmental/Legal)	1	C. Not part of mandated/enforceable program	This project will prevent failure of critical operational process areas
Operations and Maintenance	5	C. Repairs total $\geq$ 60% of the asset/process original value	Replacing with a newly designed chemical storage tank to decrease corruptions
Health and Safety	1	B. Project minimal positive impact on staff/public H&S; No major hazard issues/concerns to addressed	The new use will keep our critical equipment in service.
Public Benefit	2	C. Additional revenue/savings for GLWA (<\$100K/yr)	This project will prevent failure of critical operational process areas
Financial	5	E. Canceling project major/extensive financial consequences from revenue loss, repair/restoration/O&M cost, downtime, fines, damages, litigation etc.; major budget implications requiring deferral or cutbacks in other areas	Multiple repairs or full replacement are expected to be between \$1-5M based on expected scope.
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	Protection of public health and safety.

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	

Project Title: CSO Baby Creek Chemical Storage Tanks Replacement (TOES / Emergency)**Phase:** GLWA Salaries**Phase Title:** GLWA Salaries**Phase Budget:****Start Date:** 12/5/2024**Phase Status:****End Date:** 12/5/2026**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$50	\$0	\$0	\$14	\$25	\$11	\$0	\$0	\$0	\$36	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	12/5/2024	12/5/2026
Capital Delivery Salary (Fringes)	12/5/2024	12/5/2026

Project Title: CSO Baby Creek Chemical Storage Tanks Replacement (TOES / Emergency)**Phase:** Design/Engineering**Phase Title:** Design/Engineering**Phase Budget:****Start Date:** 12/5/2024**Phase Status:****End Date:** 12/5/2026**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$1,000	\$0	\$0	\$285	\$499	\$216	\$0	\$0	\$0	\$715	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	12/5/2024	12/5/2026

Project Title: CSO Baby Creek Chemical Storage Tanks Replacement (TOES / Emergency)

Phase: Construction

Phase Title: Construction

Phase Budget:

Start Date: 4/1/2025

Phase Status:

End Date: 10/1/2026

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$4,100	\$0	\$0	\$680	\$2,726	\$695	\$0	\$0	\$0	\$3,420	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	4/1/2025	10/1/2026

Project Title: CSO Baby Creek Chemical Storage Tanks Replacement (TOES / Emergency)

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$50	\$0	\$0	\$14	\$25	\$11	\$0	\$0	\$0	\$36	\$0
Design/Engineering	\$1,000	\$0	\$0	\$285	\$499	\$216	\$0	\$0	\$0	\$715	\$0
Construction	\$4,100	\$0	\$0	\$680	\$2,726	\$695	\$0	\$0	\$0	\$3,420	\$0
Totals	\$5,150	\$0	\$0	\$978	\$3,250	\$921	\$0	\$0	\$0	\$4,172	\$0

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

CIP

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$5,150,000	\$0	\$978,368	\$3,250,147	\$921,485	\$0	\$0	\$0	\$4,171,632	\$0

Description of CIP Changes:

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Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Project Status: Future Planned - Ten Year CIP

CIP Type: Program

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Sewer System Infrastructure Improvements and Pumping Stations

Project Manager: Jason Edberg

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/28/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: CSO Outfalls

Funds and Cost Center: Wastewater - 5421-882301

☐ **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:

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Problem Statement:

This program will focus on sewage pumping station and collection system assets used for control of flow in the conveyance system (VR's, ISD's, Backwater Gates, Regulators, etc.). Over time these assets will be systematically inspected, and plans for capital improvement developed and put into the CIP under this program.

Scope of Work/Project Alternatives:

Assess existing pump station or system control assets, create a plan for necessary improvements consisting of design, and construction scopes of works and estimates, and placing individual projects into the CIP.

Other Important Info:

Previous projects were laser focused on pre-identified issues. As this program goes forward, a more holistic approach will need to occur so that conveyance system assets can be assessed and properly prioritized.

Primary Driver: 1 - Condition

Driver Explanation:

These structures have reached their life expectancy and some of the operating technology is outdated.

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

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	

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Phase: Capital Delivery Salary (was 222004)

Phase Title: Capital Delivery Salary (was 222004)

Phase Budget: Wastewater

Start Date: 10/24/2019

Phase Status: Cancelled

End Date: 6/30/2033

Phase Comments/Description:

I don't think employee costs should be tracked at the program level but rather at the project level.

Cost Est. Class: Class 5

Cost Est. Source: N/A

Cost Est. Date: 5/2/2024

Cost Est. Prepared By: N/A

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Capital Delivery Salary (was 222004)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	10/24/2019	6/30/2033

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Phase: TBD/Unallocated

Phase Title: TBD/Unallocated

Phase Budget: Wastewater

Start Date: 7/1/2028

Phase Status: Future Planned Start

End Date: 6/30/2033

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: GLWA

Cost Est. Date: 7/1/2020

Cost Est. Prepared By: Mini Panicker

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
TBD/Unallocated	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
TBD/Unallocated	7/1/2028	6/30/2033

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Phase: Construction (3 Projects)

Phase Title: Construction (3 Projects)

Phase Budget:

Start Date: 7/1/2020

Phase Status:

End Date: 6/30/2028

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (3 Projects)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
TBD/Unallocated	7/1/2020	6/30/2028

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Capital Delivery Salary (was 222004)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TBD/Unallocated	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (3 Projects)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$0	\$0	\$0	\$0	\$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	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2022	\$30,810	\$1,403	\$3,661	\$9,051	\$9,021	\$7,234	\$1,844	\$1,844	\$1,844	\$0	\$35,901
2023	\$376	\$0	\$75	\$75	\$75	\$75	\$75	\$75	\$75	\$0	\$527
2024	\$247	\$0	\$0	\$33	\$49	\$49	\$49	\$49	\$49	\$124	\$1,025
2025	\$347	\$0	\$0	\$0	\$36	\$54	\$54	\$54	\$55	\$129	\$1,025

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

Project Manager Update from C.Nastally to J.Edberg - CIP 09.18.24

Title Changed to "Sewer System Infrastructure and Pumping Stations Improvements" and moved to program 260700 in 2022 CIP update.

2024 - updated description, etc. to discuss the program more than a specific project.

Project Title: Conveyance System Infrastructure Improvements

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score
60.1

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Redundancy
- ☐ Predecessor Project(s)
- ☒ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Conveyance System Infrastructure Improvements

Project Manager: Jason Edberg

Director: Jason Edberg

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 11/1/2017

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: City of Detroit, Southfield, and others

Funds and Cost Center: Wastewater - 5421-882301

☒ From Program?

Program Number: 260700

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ Is a Predecessor Project?

Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Conveyance System Infrastructure Improvements

Problem Statement:

VR-Gates, ISDs, and backwater gates are operational elements in the collection system that minimize untreated overflows and maximizing flow to the WRRF and CSO control facilities. They have reached their life expectancy and need rehabilitation.

Scope of Work/Project Alternatives:

Assess the structure and functionality of the VR-Gates, ISDs, Regulators, Backwater Gates, Access Hatches and provide Design, Construction, and Construction Assistance for their replacement or rehabilitation.

Other Important Info:

Rehabilitation will be in 2 different phases. Phase 1 will be the rehabilitation of the mechanical, structural and electrical equipment at 59 combined sewage outfall (CSO). Most of the work includes replacement of timber backwater gates, modifications to the regulator opening and replacement of regulator gates, and replacement of all instrumentation equipment. Phase 2 will be the rehabilitation of 14 ISDs and 2 DR facilities. These facilities are intended to store and release flow during times of high flow. Phase 2 will also include the rehabilitation 13 VR gates. VR gates are slide gates that can be operated remotely and divert flow to and from various sewers throughout the system.

Primary Driver: 6 - Public Benefit

Driver Explanation:

These structures have reached their life expectancy and some of the operating technology is outdated.

Project Title: Conveyance System Infrastructure Improvements

Scoring

Project Manager Weighted Score: 93.5			
Criteria Name	Score	Score Criteria	Comment
Condition	4	B. Equipment/process functions but requires high level of maintenance to remain operational	
Performance (Service Level/Reliability)	4	D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*	
Regulatory (Environmental/Legal)	5	C. Measurable positive regulatory/compliance impact (CSO, permits)	
Operations and Maintenance	3	E. Reduction (25% to 49%) in reactive maintenance	
Health and Safety	4	C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	
Financial	4	E. Canceling project significant financial consequences from revenue loss, repair /restoration/O&M cost, downtime, potential litigation, fines, damage, etc.; some budget implications requiring deferral or cutbacks in other areas.	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 60.1		
Criteria Name	Score	Comment
Condition	3	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Conveyance System Infrastructure Improvements

Phase: Capital Delivery Salary (was 222004)

Phase Title: Capital Delivery Salary (was 222004)

Phase Budget: Wastewater

Start Date: 10/14/2019

Phase Status: Project Execution

End Date: 3/17/2026

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA

Cost Est. Date: 10/11/2022

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Capital Delivery Salary (was 222004)	\$490	\$47	\$47	\$227	\$216	\$0	\$0	\$0	\$0	\$216	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary - Will be 222004 Actuals through June 2020 (Direct Labor)	10/14/2019	3/17/2026
Capital Delivery Salary - Will be 222004 Actuals through June 2020 (Fringes)	10/14/2019	3/17/2026

Project Title: Conveyance System Infrastructure Improvements

Phase: Professional Services (CS-272)**Phase Title:** Professional Services (CS-272)

Phase Budget:**Start Date:** 4/6/2022**Phase Status:** Closed Out**End Date:** 5/19/2023

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$2	\$2	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	4/6/2022	5/19/2023

Project Title: Conveyance System Infrastructure Improvements

Phase: Design/Engineering (1803709)

Phase Title: Design/Engineering (1803709)

Phase Budget: Wastewater

Start Date: 10/14/2019

Phase Status: Project Execution

End Date: 3/17/2026

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: ASI

Cost Est. Date: 10/21/2019

Cost Est. Prepared By: ASI

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (1803709)	\$5,154	\$3,917	\$3,658	\$988	\$507	\$0	\$0	\$0	\$0	\$507	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1803709)	10/14/2019	3/17/2026

Project Title: Conveyance System Infrastructure Improvements

Phase: Construction #1

Phase Title: Construction #1

Phase Budget: Wastewater

Start Date: 10/11/2022

Phase Status: Project Execution

End Date: 12/9/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Jay Dee Contracting

Cost Est. Date: 10/11/2022

Cost Est. Prepared By: Jay Dee Contracting

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction #1	\$36,863	\$24,853	\$22,171	\$10,220	\$4,473	\$0	\$0	\$0	\$0	\$4,473	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #1) (2102859)	10/11/2022	12/9/2025

Project Title: Conveyance System Infrastructure Improvements

Phase: Construction Sewer In-System Storage and Valve Remote Improvements

Phase Title: Construction Sewer In-System Storage and Valve Remote Improvements

Phase Budget: Wastewater

Start Date: 11/9/2022

Phase Status: Project Execution

End Date: 5/31/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA

Cost Est. Date: 10/11/2022

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction Sewer In-System Storage and Valve Remote Improvements	\$15,944	\$9,493	\$8,293	\$7,650	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #2 & Phase#3)	11/9/2022	5/31/2025

Project Title: Conveyance System Infrastructure Improvements

Phase: Construction #3**Phase Title:** Construction #3

Phase Budget: Wastewater**Start Date:** 11/9/2022**Phase Status:** Cancelled**End Date:** 11/7/2024

Phase Comments/Description:

Project Status Changed to "Canceled"

Cost Est. Class: Class 5**Cost Est. Source:** NA**Cost Est. Date:** 1/12/2023**Cost Est. Prepared By:** NA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #3) (net-zero cost account to be archived)	11/9/2022	11/7/2024

Project Title: Conveyance System Infrastructure Improvements

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Capital Delivery Salary (was 222004)	\$490	\$47	\$47	\$227	\$216	\$0	\$0	\$0	\$0	\$216	\$0
Professional Services (CS-272)	\$2	\$2	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (1803709)	\$5,154	\$3,917	\$3,658	\$988	\$507	\$0	\$0	\$0	\$0	\$507	\$0
Construction #1	\$36,863	\$24,853	\$22,171	\$10,220	\$4,473	\$0	\$0	\$0	\$0	\$4,473	\$0
Construction Sewer In-System Storage and Valve Remote Improvements	\$15,944	\$9,493	\$8,293	\$7,650	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$58,453	\$38,312	\$34,172	\$19,085	\$5,196	\$0	\$0	\$0	\$0	\$5,196	\$0

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

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2022	\$2,761	\$1,356	\$1,356	\$1,356	\$48	\$0	\$0	\$0	\$0	\$0	\$4,586
2023	\$48,473	\$1,384	\$5,774	\$15,639	\$17,041	\$11,794	\$4,000	\$0	\$0	\$0	\$55,631
2024	\$40,794	\$1,384	\$858	\$14,893	\$19,310	\$15,957	\$5,528	\$0	\$0	\$0	\$57,929
2025	\$27,828	\$1,384	\$858	\$10,933	\$17,452	\$16,080	\$9,554	\$2,191	\$0	\$0	\$58,453

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$58,453,030	\$34,171,877	\$19,085,076	\$5,196,077	\$0	\$0	\$0	\$0	\$5,196,077	\$0

Description of CIP Changes:

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: Pump Station Assets Updates

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

59.6

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Redundancy
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☒ Pumps
- ☐ Storage
- ☐ Treatment



Pump Station Assets

Project Manager: Paul Ransom

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
11/24/2020

Year Project Added to CIP: 2022

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Multiple Locations

Funds and Cost Center: Wastewater - 5421-882301

☒ From Program?

Program Number: 260700

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Pump Station Assets Updates

Problem Statement:

Evaluation and upgrade of the Pumping Station elements needed to improve the conveyance of wastewater to the WRRF.

Scope of Work/Project Alternatives:

Evaluate/upgrade/replace the Sewer Pump Station elements to maintain the collection system transport capacity on an as needed basis.

Other Important Info:

N/A

Primary Driver: 1 - Condition

Driver Explanation:

N/A

Project Title: Pump Station Assets Updates

Scoring

Project Manager Weighted Score: 57.5			
Criteria Name	Score	Score Criteria	Comment
Condition	3	C. May have minor failures or diminished efficiency; some performance deterioration	
Performance (Service Level/Reliability)	3	D. Project moderate positive impact on service levels/reliability/lower risk	
Regulatory (Environmental/Legal)	3	D. Project not part of mandated or enforceable program but directly or indirectly related to expected future requirements	
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	
Health and Safety	2	C. Canceling project unlikely to impact staff/public H&S†	
Public Benefit	2	F. Canceling project minor chance off public impact; no neg. gov't/reg. interest	
Financial	2	A. Low financial impact to GLWA; No grants/other external funding	
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	

Review Committee Weighted Score: 59.6			
Criteria Name	Score	Comment	
Condition	4	Scores carried over from previous year	
Performance (Service Level/Reliability)	3	Scores carried over from previous year	
Regulatory (Environmental/Legal)	3	Scores carried over from previous year	
Operations and Maintenance	3	Scores carried over from previous year	
Health and Safety	3	Scores carried over from previous year	
Public Benefit	4	Scores carried over from previous year	
Financial	2	Scores carried over from previous year	
Efficiency and Innovation	1	Scores carried over from previous year	

Project Title: Pump Station Assets Updates

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2026**Phase Status:** Future Planned Start**End Date:** 6/30/2037

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP TEAM**Cost Est. Date:** 5/3/2024**Cost Est. Prepared By:** GLWA CIP TEAM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2026	6/30/2037

Project Title: Pump Station Assets Updates

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 7/1/2027**Phase Status:** Future Planned Start**End Date:** 6/30/2037

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA**Cost Est. Date:** 7/1/2020**Cost Est. Prepared By:** Mini Panicker

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

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

Project Title: Pump Station Assets Updates

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$0	\$0	\$0	\$0	\$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	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2022	\$0	\$669	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$669
2023	\$2,000	\$0	\$0	\$0	\$666	\$667	\$667	\$0	\$0	\$0	\$2,000
2024	\$2,014	\$0	\$0	\$0	\$0	\$0	\$0	\$1,005	\$1,009	\$1,005	\$10,065
2025	\$2,019	\$0	\$0	\$0	\$0	\$0	\$0	\$6	\$1,008	\$1,005	\$10,065

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

Project Class Level 2 and 3 updated - CIP 08.22.24

2024 - moved out to future cip

Project Title: WRRF Roof Replacement for Multiple Facilities Program

Project Status: Future Planned - Within Five Year Plan

CIP Type: Program

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Roof Replacement for Multiple Facilities Program

Project Manager: Brooke Ballard

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 8/8/2016

Year Project Added to CIP: 2018

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: WRRF Roof Replacement for Multiple Facilities Program

Problem Statement:

Some of the roofs at GLWA WRRF facilities are near the end of their useful life. The roofs help to protect the expensive equipment by preventing rainwater entering into the facilities.

Scope of Work/Project Alternatives:

Inspect the roofing system conditions and assess drainage conditions on all the GLWA wastewater facility buildings. Document the roofing system inspections with high-quality photographs, scaled drawings, sketches, and inspection notes to describe the conditions and deficiencies of the roofing systems. Recommend the extent of roofing repairs and replacements required. Document the roof for each building inspected on the project. Classify the roofs into three main categories, 1) Roofs that require complete replacement, 2) Roofs that only require repair, and 3) Roofs that require no action within the next 10 years. Develop a recommended implementation schedule with budgetary costs repairs and replacements over the next 10 years. Provide preventative care suggestions for roofing systems evaluated under this contract. Provide any OSHA compliance suggestions that may be applicable.

Other Important Info:

Challenges: Roof material testing for asbestos before demolition and flashing will be challenging to manage as low levels of asbestos are very common in the GLWA's old roof type systems.

Project History: Majority of GLWA WRRF facilities have Built-Up-Roof (BUR) membrane systems commonly referred to as "tar and gravel" roofs. The old Administration building, and the Newer Administration building have tar and gravel type roof systems. The CSO RTB's and SDF's have metal and shingle type roofing systems. Most of the roofs are over 15 years old, with the remainder up to 30 years old. These roofing systems have been maintained through regular maintenance and repair to fix leaking roof spots

Primary Driver: 1 - Condition

Driver Explanation:

Roofing systems are old, and some are near end of its useful life

Project Title: WRRF Roof Replacement for Multiple Facilities Program

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	

Project Title: WRRF Roof Replacement for Multiple Facilities Program

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2026

Phase Status: Future Planned Start

End Date: 6/30/2037

Phase Comments/Description:

I move to removed all GLWA salaries from the parent program and only allocate them as we assign projects.

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$162	\$0	\$0	\$0	\$0	\$15	\$15	\$15	\$15	\$59	\$73

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2026	6/30/2037
Capital Delivery Salary (Fringes)	7/1/2026	6/30/2037

Project Title: WRRF Roof Replacement for Multiple Facilities Program

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 7/1/2026**Phase Status:** Future Planned Start**End Date:** 6/30/2037

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$2,700	\$0	\$0	\$0	\$0	\$100	\$150	\$150	\$0	\$400	\$1,400

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2026	6/30/2037

Project Title: WRRF Roof Replacement for Multiple Facilities Program

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 7/1/2027

Phase Status: Future Planned Start

End Date: 6/30/2037

Phase Comments/Description:
Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$12,000	\$0	\$0	\$0	\$0	\$0	\$2,003	\$1,997	\$0	\$4,000	\$4,000

Phase Dates

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

Project Title: WRRF Roof Replacement for Multiple Facilities Program

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$162	\$0	\$0	\$0	\$0	\$15	\$15	\$15	\$15	\$59	\$73
Design/Engineering	\$2,700	\$0	\$0	\$0	\$0	\$100	\$150	\$150	\$0	\$400	\$1,400
Construction	\$12,000	\$0	\$0	\$0	\$0	\$0	\$2,003	\$1,997	\$0	\$4,000	\$4,000
Totals	\$14,861	\$0	\$0	\$0	\$0	\$115	\$2,168	\$2,162	\$15	\$4,459	\$5,473

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

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2022	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2023	\$5,000	\$0	\$0	\$1,891	\$1,891	\$1,218	\$0	\$0	\$0	\$0	\$5,000
2024	\$2,741	\$0	\$0	\$0	\$0	\$0	\$0	\$519	\$2,222	\$2,216	\$14,833
2025	\$4,900	\$0	\$0	\$0	\$0	\$0	\$0	\$500	\$2,203	\$2,197	\$14,700

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$14,861,700	\$0	\$0	\$0	\$114,689	\$2,167,670	\$2,161,748	\$14,689	\$4,458,796	\$5,473,485

Description of CIP Changes:

Moved project from CIP 331002.

2024 - Updated cost and schedule ~BBallard

Project Title: 2022 WRRF Roof Improvements Project

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score
77.9

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Redundancy
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



2022 WRRF Roof Improvements Project

Project Manager: Brooke Ballard

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 3/4/2022

Year Project Added to CIP: 2022

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892111

☒ From Program?

Program Number: 260800

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ Is a Predecessor Project?

Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: 2022 WRRF Roof Improvements Project

Problem Statement:

This project stems from the 260800 WRRF Roof Replacement Program. This project will perform assessment on nearly all of the rooves at the WRRF, and prioritize the worst condition rooves for design of improvements to restore proper function to the rooves.

Scope of Work/Project Alternatives:

Perform assessment of all existing rooves and supporting structures, including parapets, penetrations, roof system, flashing, and coping. Provide report on rooves and prioritize highest need, perform design, bid out for construction and construct improvements.

Other Important Info:

N/A

Primary Driver: 1 - Condition

Driver Explanation:

Rooves in the worst condition which pose the greatest risk to operations, or cause for damage related to an improperly performing roof will be prioritized first.

Project Title: 2022 WRRF Roof Improvements Project

Scoring

Project Manager Weighted Score: 78.1			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining, D. Replacement or major rehab needed in the short term	Rooves that are the worst condition will be repaired/replaced first.
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements	Rooves that have active leaks will be repaired / replaced.
Regulatory (Environmental/Legal)	4	C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	Canceling this project could result in rooves failing over process areas which could result in a failure of a process due to malfunction.
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	Rooves in worst condition will be repaired. Failure to repair will result in higher O&M that may or may not actually prevent failure of the roof system.
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns	Leaking rooves pose a danger to staff for slip / fall, and also pose a danger because water can infiltrate electronic or electric equipment and cause failures requiring staff to perform repairs increasing risk for injury.
Public Benefit	3	E. /stakeholder relationships/confidence in GLWA	Failure to fix our rooves will result in lower confidence by the public of GLWA to maintain our assets because failure will likely have cascading effects.
Financial	4	F. Total financial consequence of \$1,000,000 - \$5,000,000	Roof repairs will be fit within the program annual costs.
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	No real efficiency or innovation for this.

Project Title: 2022 WRRF Roof Improvements Project

Review Committee Weighted Score: 77.9		
Criteria Name	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	3	
Health and Safety	4	
Public Benefit	4	
Financial	4	
Efficiency and Innovation	1	

Project Title: 2022 WRRF Roof Improvements Project

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 5/11/2022

Phase Status: Project Execution

End Date: 1/2/2026

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: GLWA CIP Team

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Team

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$44	\$16	\$10	\$22	\$11	\$0	\$0	\$0	\$0	\$11	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	5/11/2022	1/2/2026
Capital Delivery Salary (Fringes)	5/11/2022	1/2/2026

Project Title: 2022 WRRF Roof Improvements Project

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 1/17/2022**Phase Status:** Project Execution**End Date:** 5/19/2025

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$250	\$24	\$24	\$226	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	1/17/2022	5/19/2025

Project Title: 2022 WRRF Roof Improvements Project

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 5/11/2022

Phase Status: Project Execution

End Date: 1/2/2026

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: Engineer bid

Cost Est. Date: 5/11/2022

Cost Est. Prepared By: Engineer bid

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$500	\$450	\$437	\$51	\$12	\$0	\$0	\$0	\$0	\$12	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	5/11/2022	1/2/2026

Project Title: 2022 WRRF Roof Improvements Project

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 12/4/2023

Phase Status: Project Execution

End Date: 1/2/2026

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$3,958	\$2,890	\$0	\$3,650	\$308	\$0	\$0	\$0	\$0	\$308	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (2300394)	12/4/2023	1/2/2026

Project Title: 2022 WRRF Roof Improvements Project

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 4/1/2025

Phase Status: Cancelled

End Date: 4/30/2027

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: Bid

Cost Est. Date: 12/4/2023

Cost Est. Prepared By: Bid received from Schreiber

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (net-zero cost account to be archived)	4/1/2025	4/30/2027

Project Title: 2022 WRRF Roof Improvements Project

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$44	\$16	\$10	\$22	\$11	\$0	\$0	\$0	\$0	\$11	\$0
Professional Services	\$250	\$24	\$24	\$226	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$500	\$450	\$437	\$51	\$12	\$0	\$0	\$0	\$0	\$12	\$0
Construction	\$3,958	\$2,890	\$0	\$3,650	\$308	\$0	\$0	\$0	\$0	\$308	\$0
Totals	\$4,751	\$3,379	\$471	\$3,949	\$331	\$0	\$0	\$0	\$0	\$331	\$0

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

CIP	5 Year Total	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2024	\$4,648	\$153	\$2,349	\$2,298	\$0	\$0	\$0	\$0	\$4,846
2025	\$3,894	\$257	\$554	\$2,103	\$1,780	\$11	\$0	\$0	\$4,752

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$4,751,071	\$470,901	\$3,949,070	\$331,100	\$0	\$0	\$0	\$0	\$331,100	\$0

Description of CIP Changes:

2022 - Added to the CIP from the 260800 Program.

2024- Construction contract awarded with Notice to Proceed date of 12/4/2023. Value of contract is \$3,957,500.00. ~B Ballard

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: WRRF Roof Improvements - Phase II

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☒ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
59.5

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Roof Improvements - Phase II

Project Manager: Brooke Ballard

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 3/11/2024

Year Project Added to CIP: 2025

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892111

☒ **From Program?**
Program Number: 260800

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: WRRF Roof Improvements - Phase II

Problem Statement:

This project stems from 260800 WRRF Roof Replacement Program. Condition assessment was performed under previous project under this program. This project will perform replacement and repairs of various roofs at the Water Resource Recovery facility to restore proper function to roofs.

Scope of Work/Project Alternatives:

Scope of this project is to repair and replace existing roofs at various buildings at the Water Resource Recovery Facility. This includes roofs and their supporting structures - including parapets, penetrations, roof system, flashing, and coping.

Other Important Info:

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Primary Driver: 1 - Condition

Driver Explanation:

Roofs in the worst condition were addressed under previous contract under this program. This project is to repair and replace additional roofs to minimize future damage related to roof leaking.

Project Title: WRRF Roof Improvements - Phase II

Scoring

Project Manager Weighted Score: 59.2			
Criteria Name	Score	Score Criteria	Comment
Condition	3	A. Asset has <50% of its design service life remaining	Roofs in need of repairs, and one replacement. Deficiencies were observed during 2022 inspection report.
Performance (Service Level/Reliability)	3	B. Performance acceptable–marginal; likely not to meet future req’s	Roofs that have potential for future leaks will be repaired/ replaced
Regulatory (Environmental/Legal)	3	C. Canceling project potential for moderate env. impact to neighborhood, possibility for wider ecosystem impact; non-compliance risk in 1-3 years	Canceling this project could result in roofs failing in the near or distant future which could result in a failure of a process due to malfunction.
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total >=20%original value	Canceling this project could result in roofs sustaining continued damage, which will result in higher O&M that may or may not actually prevent failure on the roof system.
Health and Safety	3	B. Project moderate positive impact on staff/public H&S†	Leaking roofs in the future pose a danger to staff for slip/ fall, and also pose a danger because water can infiltrate electronic or electric equipment and cause failures requiring staff to perform repairs increasing risk for injury.
Public Benefit	2	E. No media coverage, minor impact on comm./stakeholder relations	Failure to maintain roofs may cause to structural/ safety concerns which may result in lower confidence by the public of GLWA to maintain our assets because failures will likely have cascading effects.
Financial	4	F. Total financial consequence of \$1,000,000 - \$5,000,000	Roof repairs will fit within the program budgeted costs.
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	No real efficiency or innovation.

Project Title: WRRF Roof Improvements - Phase II

Review Committee Weighted Score: 59.5		
Criteria Name	Score	Comment
Condition	3	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	3	
Health and Safety	3	
Public Benefit	2	
Financial	3	
Efficiency and Innovation	3	

Project Title: WRRF Roof Improvements - Phase II

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget:**Start Date:** 3/8/2026**Phase Status:** Future Planned New**End Date:** 6/30/2029

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA**Cost Est. Date:** 5/1/2024**Cost Est. Prepared By:** GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$32	\$0	\$0	\$0	\$3	\$10	\$10	\$10	\$0	\$32	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	3/8/2026	6/30/2029
Capital Delivery Salary (Fringes)	3/8/2026	6/30/2029

Project Title: WRRF Roof Improvements - Phase II**Phase:** Design/Engineering**Phase Title:** Design/Engineering**Phase Budget:** Wastewater**Start Date:** 3/8/2026**Phase Status:** Future Planned New**End Date:** 6/30/2029**Phase Comments/Description:****Cost Est. Class:** Class 5**Cost Est. Source:** TOES Contract Value**Cost Est. Date:** 5/1/2024**Cost Est. Prepared By:** TOES Contract Maximum**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$500	\$0	\$0	\$0	\$131	\$269	\$50	\$50	\$0	\$500	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	3/8/2026	6/30/2029

Project Title: WRRF Roof Improvements - Phase II**Phase:** Construction**Phase Title:** Construction**Phase Budget:** Wastewater**Start Date:** 6/16/2027**Phase Status:** Future Planned New**End Date:** 6/30/2029**Phase Comments/Description:****Cost Est. Class:** Class 5**Cost Est. Source:** Wade Trim estimates escalated to 2028**Cost Est. Date:** 5/1/2024**Cost Est. Prepared By:** Wade Trim, escalated by GLWA**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$3,000	\$0	\$0	\$0	\$0	\$60	\$1,472	\$1,468	\$0	\$3,000	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	6/16/2027	6/30/2029

Project Title: WRRF Roof Improvements - Phase II

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$32	\$0	\$0	\$0	\$3	\$10	\$10	\$10	\$0	\$32	\$0
Design/Engineering	\$500	\$0	\$0	\$0	\$131	\$269	\$50	\$50	\$0	\$500	\$0
Construction	\$3,000	\$0	\$0	\$0	\$0	\$60	\$1,472	\$1,468	\$0	\$3,000	\$0
Totals	\$3,531	\$0	\$0	\$0	\$134	\$339	\$1,531	\$1,527	\$0	\$3,532	\$0

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

CIP

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$3,531,631	\$0	\$0	\$134,058	\$338,802	\$1,531,478	\$1,527,294	\$0	\$3,531,631	\$0

Description of CIP Changes:

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: WRRF Facility Optimization Program

Project Status: Future Planned - Within Five Year Plan

CIP Type: Program

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
0

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Facility Optimization Program

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/12/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**
Program Number:
Delivery Method: Other (Design In-house and Bid Out for Construction)

Delivery Method Details: Program

☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: WRRF Facility Optimization Program

Problem Statement:

The existing WRRF is a product of numerous construction projects over nearly 90 years and consists of numerous process and other buildings with varying levels of use and practicality. It is critical to convey an image that reflects the pride and importance of the work that is done every day at this facility. This program will focus on various WRRF optimization projects that were identified in the wastewater masterplan technical memorandum no. 9. Some of these projects include a welcome center, renovation of the administration building floors, and renovation of workspaces throughout the WRRF complex.

Scope of Work/Project Alternatives:

The work consists of extending the evaluation performed as a part of Master Planning to design and construct site modifications including a new visitor center, demolition or repurposing of existing structures that are no longer used, consolidation or reconfiguration of administration, operations and maintenance staff and spaces, vehicle and equipment storage spaces, shops, etc. The project also includes site modifications to include improved site circulation, parking and fencing, green infrastructure, improved landscaping, walking paths and site features, including educational signage and benches.

Other Important Info:

N/A

Primary Driver: 2 - Performance

Driver Explanation:

Improving plant operations by re-organizing workflow paths and space utilization.

Project Title: WRRF Facility Optimization Program

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	

Project Title: WRRF Facility Optimization Program

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2022**Phase Status:** Future Planned Start**End Date:** 6/30/2038

Phase Comments/Description:

I recommend we do not allocate GLWA salaries to a program, just like we cannot allocate a project to a program, but rather to a number under the program.

Cost Est. Class: Class 2**Cost Est. Source:** TBD**Cost Est. Date:** 11/20/2023**Cost Est. Prepared By:** TBD

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$935	\$0	\$0	\$51	\$68	\$68	\$68	\$68	\$68	\$340	\$340

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2022	6/30/2038
Capital Delivery Salary (Fringes)	7/1/2022	6/30/2038

Project Title: WRRF Facility Optimization Program

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 1/1/2029

Phase Status: Future Planned Start

End Date: 6/30/2038

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$85,000	\$0	\$0	\$0	\$0	\$0	\$0	\$2,477	\$4,995	\$7,473	\$22,527

Phase Dates

Activity Name	Start Date	End Date
Construction (Unallocated)	1/1/2029	6/30/2038

Project Title: WRRF Facility Optimization Program

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$935	\$0	\$0	\$51	\$68	\$68	\$68	\$68	\$68	\$340	\$340
Construction	\$85,000	\$0	\$0	\$0	\$0	\$0	\$0	\$2,477	\$4,995	\$7,473	\$22,527
Totals	\$85,935	\$0	\$0	\$51	\$68	\$68	\$68	\$2,545	\$5,063	\$7,813	\$22,867

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	\$429	\$0	\$0	\$429	\$0	\$0	\$0	\$0	\$0	\$429
2024	\$2,398	\$0	\$35	\$53	\$53	\$53	\$53	\$2,188	\$4,335	\$85,771
2025	\$2,124	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,124	\$85,000

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$85,935,000	\$0	\$50,837	\$67,970	\$67,970	\$68,156	\$2,545,160	\$5,063,408	\$7,812,662	\$22,867,406

Description of CIP Changes:

This is a newly added CIP program that includes multiple renovation projects within WRRF. This program replaces CIP 216010 AC 6/7/21

2024 - tweaked program description

Project Title: Rehabilitation of HAZMAT Facility at WRRF

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
52.1

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



Rehabilitation of HAZMAT Facility at WRRF

Project Manager: Scott Worth

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 6/7/2021

Year Project Added to CIP: 2022

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☒ **From Program?**
Program Number: 260900

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Rehabilitation of HAZMAT Facility at WRRF

Problem Statement:

The HAZMAT Security Specialists at the Water Resource Recovery Facility (WRRF) provide rapid response for GLWA operations, including site security and emergency response relating to leaks or spills of hazardous substances. There are approximately 3-4 specialists occupying the existing HAZMAT building daily, with a maximum of 5-6 specialists at certain times. The HAZMAT facility, which is located on the opposite side of Jefferson Road from the WRRF, is a single story, steel framed and concrete block building, with metal roofing and siding, and a concrete floor slab. The building was built in the 1990's. It is occupied 24 hours per day, seven days per week.

Recently, a condition assessment was completed on the HAZMAT Building. The assessment found that most of the building has exceeded its useful life and a complete rehabilitation is required. This includes exterior metal siding, metal roofing, doors, windows etc.

Scope of Work/Project Alternatives:

The scope of work will renovate the existing HAZMAT building to right size the facility to:

- accommodate the GLWA HAZMAT team.
- accommodate the parking of one (1) pick-up truck type vehicle, two (2) response vehicles and a response trailer.
- demolish and construct new officer booth to accommodate one officer

Other Important Info:

N/A

Primary Driver: 1 - Condition

Driver Explanation:

Improving plant operations by re-organizing workflow paths and space utilization.

Project Title: Rehabilitation of HAZMAT Facility at WRRF

Scoring

Project Manager Weighted Score: 52.9			
Criteria Name	Score	Score Criteria	Comment
Condition	4	D. Replacement or major rehab needed in the short term	
Performance (Service Level/Reliability)	3	B. Performance acceptable–marginal; likely not to meet future req’s	
Regulatory (Environmental/Legal)	2	A. Low risk of causing	
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value	
Health and Safety	2	A. Low chance of failure occurring; failure easily mitigated w/ no safety/health/env. impacts	
Public Benefit	2	D. Low impact on public/GLWA image, minor recognition	
Financial	3	E. Unlikely to have wider budget implications.	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 52.1		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	2	Scores carried over from previous year
Public Benefit	2	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Rehabilitation of HAZMAT Facility at WRRF

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/24/2020

Phase Status: Project Execution

End Date: 11/27/2024

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$83	\$83	\$64	\$19	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/24/2020	11/27/2024
Capital Delivery Salary (Fringes)	7/24/2020	11/27/2024

Project Title: Rehabilitation of HAZMAT Facility at WRRF

Phase: Professional Services (CS-272)

Phase Title: Professional Services (CS-272)

Phase Budget: Wastewater

Start Date: 1/17/2022

Phase Status: Project Execution

End Date: 5/19/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$180	\$42	\$42	\$138	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 72012A.01 / 72029A.03)	1/17/2022	5/19/2025

Project Title: Rehabilitation of HAZMAT Facility at WRRF**Phase:** Professional Services (2203638)**Phase Title:** Professional Services (2203638)**Phase Budget:** Wastewater**Start Date:** 11/27/2023**Phase Status:** Closed Out**End Date:** 8/30/2024**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** PMA task**Cost Est. Date:** 1/1/2024**Cost Est. Prepared By:** PMA task proposal**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (2203638)	\$110	\$110	\$65	\$45	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (2203638)	11/27/2023	6/30/2024
Design/Engineering (2203638)	8/1/2024	8/30/2024

Project Title: Rehabilitation of HAZMAT Facility at WRRF

Phase: Design/Engineering (1900318)

Phase Title: Design/Engineering (1900318)

Phase Budget: Wastewater

Start Date: 7/24/2020

Phase Status: Project Execution

End Date: 11/27/2024

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Wade Trim

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Wade Trim

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (1900318)	\$376	\$331	\$307	\$69	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	7/24/2020	11/27/2024
Design/Engineering (1903598) (net-zero cost account to be archived)	7/24/2020	11/27/2024

Project Title: Rehabilitation of HAZMAT Facility at WRRF**Phase:** Construction**Phase Title:** Construction**Phase Budget:** Wastewater**Start Date:** 2/7/2023**Phase Status:** Project Execution**End Date:** 11/27/2024**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** BID**Cost Est. Date:** 4/1/2023**Cost Est. Prepared By:** LaSalle**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$3,108	\$2,904	\$2,755	\$353	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	2/7/2023	11/27/2024

Project Title: Rehabilitation of HAZMAT Facility at WRRF

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$83	\$83	\$64	\$19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (CS-272)	\$180	\$42	\$42	\$138	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (2203638)	\$110	\$110	\$65	\$45	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (1900318)	\$376	\$331	\$307	\$69	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$3,108	\$2,904	\$2,755	\$353	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$3,856	\$3,470	\$3,233	\$624	\$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	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2023	\$1,274	\$0	\$1,274	\$0	\$0	\$0	\$0	\$0	\$0	\$1,405
2024	\$2,106	\$96	\$25	\$1,409	\$697	\$0	\$0	\$0	\$0	\$2,358
2025	\$84	\$96	\$102	\$3,093	\$84	\$0	\$0	\$0	\$0	\$3,507

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$3,856,922	\$3,233,172	\$623,751	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

4/29/24 PK: Construction activities are progressing at site. The project is expected to be completed in November 2024.

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: WRRF 4th Floor Renovation

Project Status: Closed

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
59.5

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF 4th Floor Renovation

Project Manager: Alfredo Lava

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 6/7/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☒ **From Program?**
Program Number: 260900

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: WRRF 4th Floor Renovation

Problem Statement:

The Wastewater Master Plan 'non-process space programming task' for the WRRF provided an overview of space needs, both current and future, to provide GLWA with the knowledge of space needs and a "roadmap" for building improvements utilizing holistic planning principles that yield several benefits including:

- Increased efficiencies and space utilizations in the Admin Building complex, consolidating operations work flows and optimizing the use of existing space.
- Standardization of office and workstations sizes.
- Elimination of barriers between service units while offering opportunities for team members to associate with other team members; thus, promoting collaboration.
- Identifying improvements to the work environment that will benefit team members such as daylighting, use of interior color and artwork.

Scope of Work/Project Alternatives:

GLWA plans to renovate a significant portion of the existing fourth floor of the New Administration Building, in order to house Engineering Design & CSO, Construction Engineering, and Local Asset Management groups. The area of renovation is approximately 15,980 gross square feet and will be a combination of enclosed perimeter offices and conference rooms, coupled with furniture cubicles, collaboration space, and a break area.

Other Important Info:

N/A

Primary Driver: 1 - Condition

Driver Explanation:

Improving plant operations by re-organizing workflow paths and space utilization.

Project Title: WRRF 4th Floor Renovation

Scoring

Project Manager Weighted Score: 41			
Criteria Name	Score	Score Criteria	Comment
Condition	2	A. Asset has <75% of its design service life remaining, C. Delivering full efficiency; little/no performance deterioration	
Performance (Service Level/Reliability)	2	D. Equipment/process is out of service 5% or less of the time, C. Project moderate to low positive impact on service levels and/or system reliability, B. Overall good performance; will likely meet future requirements, A. Meets all design requirements under normal conditions; up to date	
Regulatory (Environmental/Legal)	1	C. Not part of mandated/enforceable program, B. Low/no impact on specific reg. compliance issues, A. No risk of causing	
Operations and Maintenance	1	E. Negligible/no reduction (1% - 5%) in reactive maintenance	Not Applicable
Health and Safety	1	C. Staff/public safety/hazard issues not a concern, B. Project minimal positive impact on staff/public H&S; No major hazard issues/concerns to addressed	
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships, B. Negligible additional revenues/savings; Requires all new infrastructure, A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	
Financial	4	F. Total financial consequence of \$1,000,000 - \$5,000,000	
Efficiency and Innovation	2	B. Low – moderate positive impact on energy use, conservation, environmental responsibility& sustainability i.e. 1-5% energy reduction, D. Little to no time and cost saving	

Review Committee Weighted Score: 59.5		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: WRRF 4th Floor Renovation

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 11/28/2017

Phase Status: Closed Out

End Date: 12/27/2023

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$165	\$165	\$165	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	11/28/2017	12/27/2023
Capital Delivery Salary (Fringes)	11/28/2017	12/27/2023

Project Title: WRRF 4th Floor Renovation

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 11/28/2017

Phase Status: Closed Out

End Date: 12/27/2023

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: Albert Kahn

Cost Est. Date: 9/28/2020

Cost Est. Prepared By: Albert Kahn

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$81	\$81	\$81	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	11/28/2017	12/27/2023

Project Title: WRRF 4th Floor Renovation

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 5/20/2022**Phase Status:** Closed Out**End Date:** 11/20/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Allied Building Services**Cost Est. Date:** 5/20/2022**Cost Est. Prepared By:** Allied Building Services

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$3,305	\$3,305	\$3,305	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	5/20/2022	11/20/2023

Project Title: WRRF 4th Floor Renovation

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$165	\$165	\$165	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$81	\$81	\$81	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$3,305	\$3,305	\$3,305	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$3,551	\$3,551	\$3,552	\$0	\$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	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2023	\$2,671	\$0	\$2,671	\$0	\$0	\$0	\$0	\$0	\$0	\$2,720
2024	\$1,043	\$16	\$2,190	\$1,043	\$0	\$0	\$0	\$0	\$0	\$3,300
2025	\$0	\$16	\$3,079	\$583	\$0	\$0	\$0	\$0	\$0	\$3,727

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$3,551,593	\$3,551,593	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

This project has been reclassified under the WRRF Facility Optimization Program 6/7/21.

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: WRRF Front Entrance Rehabilitation

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**

☒ **Useful Life > 20 Yrs**

☐ **Multiple Phases**

Project Score

52.4

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Front Entrance Rehabilitation

Project Manager: Paul Ransom

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
6/10/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☒ **From Program?**

Program Number: 260900

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ **Is a Predecessor Project?**

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF Front Entrance Rehabilitation

Problem Statement:

The Great Lakes Water Authority's (GLWA) Water Resource Recovery Facility (WRRF) is the largest single wastewater treatment facility in the United States with nearly five hundred individuals that report to the facility on a regular basis including team members, visitors, and contractors. The main entry point to the facility is the entrance from Jefferson closest to the Rouge River bridge which handles the majority of the traffic entering the plant. Team members and Contractors with badge access can go through the automated barrier gate arms along Jefferson and near the turnstiles for parking in the parking structure. Visitors without badge access have to wait at the barrier gate to be given access to park adjacent to the parking structure. Employees and visitors access the plant grounds through the security turnstiles located near the Guard House, which is manned 24 hours a day. The current traffic flow at the entrance of the facility results in back up at the gates, providing relief for visitors prior to entering the site.

Scope of Work/Project Alternatives:

The project will re-design the Front Entrance at WRRF to accommodate the traffic flow at the entrance, provide visitor parking prior to the automated barrier gate arm, improvement to the turnstiles and the Guard House. This may require relocation of existing infrastructure to provide the best workflow at the entrance. The scope of work includes the following:

- Re-design the parking and traffic flow at the front entrance.
- Minimize the pedestrian-vehicle conflicts at the north entrance to the parking garage.
- Increase parking spaces for visitor.
- Visitor parking shall be prior to the automated barrier gate arm which may require it to be relocated.
- Parking for oversized vehicles.
- Renovate the front entrance of WRRF
- Maintain the security of the facility.
- Rehabilitate and possibly relocate the Guard House.
- The area may require canopy.

Other Important Info:

N/A

Primary Driver: 1 - Condition

Driver Explanation:

Improving plant operations by re-organizing workflow paths and space utilization.

Project Title: WRRF Front Entrance Rehabilitation

Scoring

Project Manager Weighted Score: 77.8			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements, F. Likelihood of serious inconveniences and business impacts for affected customers; impact 6-10 wholesale, 100K retail, critical customers	Repairs of Surge basin will be incorporated in the project.
Regulatory (Environmental/Legal)	4	C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	The surge basin failure could turn into uncontrolled regulatory discharges to the river
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value	Project Manager score carried over from previous year Project Manager score
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	The surge basin failure could turn into uncontrolled regulatory discharges to the river
Public Benefit	3	F. Canceling project moderate chance of moderate neg. publicity	The surge basin failure could turn into uncontrolled regulatory discharges to the river
Financial	4	B. Project will likely result in avoidance of fines, potential litigation, emergency repairs or damage to asset/public	The surge basin failure could turn into uncontrolled regulatory discharges to the river which may impact in high claims
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	Project Manager score carried over from previous year Project Manager score

Project Title: WRRF Front Entrance Rehabilitation

Review Committee Weighted Score: 52.4		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	2	Committee score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	2	Committee score carried over from previous year Project Manager score
Operations and Maintenance	3	Committee score carried over from previous year Project Manager score
Health and Safety	2	Committee score carried over from previous year Project Manager score
Public Benefit	2	Committee score carried over from previous year Project Manager score
Financial	2	Committee score carried over from previous year Project Manager score
Efficiency and Innovation	4	Committee score carried over from previous year Project Manager score

Project Title: WRRF Front Entrance Rehabilitation

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 3/23/2020

Phase Status: Project Execution

End Date: 12/31/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$102	\$71	\$63	\$26	\$12	\$0	\$0	\$0	\$0	\$12	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	3/23/2020	12/31/2025
Capital Delivery Salary (Fringes)	3/23/2020	12/31/2025

Project Title: WRRF Front Entrance Rehabilitation**Phase:** Professional Services (CS-272)**Phase Title:** Professional Services (CS-272)**Phase Budget:** Wastewater**Start Date:** 3/1/2023**Phase Status:** Closed Out**End Date:** 9/30/2023**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 3/1/2023**Cost Est. Prepared By:** AECOM**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$32	\$32	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	3/1/2023	9/30/2023

Project Title: WRRF Front Entrance Rehabilitation

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/5/2021

Phase Status: Project Execution

End Date: 12/31/2025

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: HRC

Cost Est. Date: 3/22/2021

Cost Est. Prepared By: HRC

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$452	\$452	\$372	\$80	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	4/5/2021	12/31/2025
Construction (net-zero cost account to be archived)	4/5/2021	12/31/2025

Project Title: WRRF Front Entrance Rehabilitation

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 9/15/2023

Phase Status: Project Execution

End Date: 12/31/2025

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: BID

Cost Est. Date: 4/1/2023

Cost Est. Prepared By: CCC

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$6,997	\$1,510	\$1,510	\$3,926	\$1,561	\$0	\$0	\$0	\$0	\$1,561	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	9/15/2023	12/31/2025

Project Title: WRRF Front Entrance Rehabilitation

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$102	\$71	\$63	\$26	\$12	\$0	\$0	\$0	\$0	\$12	\$0
Professional Services (CS-272)	\$32	\$32	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$452	\$452	\$372	\$80	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$6,997	\$1,510	\$1,510	\$3,926	\$1,561	\$0	\$0	\$0	\$0	\$1,561	\$0
Totals	\$7,582	\$2,064	\$1,977	\$4,033	\$1,573	\$0	\$0	\$0	\$0	\$1,573	\$0

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	\$1,005	\$0	\$1,005	\$0	\$0	\$0	\$0	\$0	\$0	\$1,005
2024	\$3,470	\$137	\$394	\$2,475	\$995	\$0	\$0	\$0	\$0	\$4,000
2025	\$1,285	\$137	\$230	\$6,165	\$1,285	\$0	\$0	\$0	\$0	\$7,817

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$7,582,772	\$1,976,652	\$4,032,709	\$1,573,411	\$0	\$0	\$0	\$0	\$1,573,411	\$0

Description of CIP Changes:

This project has been reclassified under the WRRF Facility Optimization Program work was initiated under TOES Contract 2001464-10T. AC 6/10/21

2024 - Updated project status to construction, and bid info.

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: WRRF 3rd Floor Renovation

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score
40.5

- ☐ Innovation
- ☒ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Redundancy
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



WRRF 3rd Floor Renovation

Project Manager: Brooke Ballard

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/12/2022

Year Project Added to CIP: 2022

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892111

☒ From Program?

Program Number: 260900

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ Is a Predecessor Project?

Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: WRRF 3rd Floor Renovation

Problem Statement:

GLWA is in the process of renovating the 4th floor of the New Administration Building. This renovation will consolidate document management, the CIP/Asset Management Teams, and Engineering. As a result of this renovation, and the previous renovation to the 2nd Floor, the 3rd floor is now ready for the next phase of renovation in accordance with the Wastewater Masterplan.

Scope of Work/Project Alternatives:

The plan is to renovate the 3rd floor to permit relocation of administration staff, OD, safety, and facilities teams to the 3rd floor to make room on the 1st floor (the last floor to be renovated). This plan will also make the 3rd floor more secure and in line with renovations performed on the 2nd floor and being performed on the 4th floor.

Other Important Info:

Project is currently in procurement.

Primary Driver: 8 - Efficiency

Driver Explanation:

This project aligns needs of the organization with the functionality of the facility.

Project Title: WRRF 3rd Floor Renovation

Scoring

Project Manager Weighted Score: 39.4			
Criteria Name	Score	Score Criteria	Comment
Condition	3	B. Functionally sound and acceptable, signs of normal wear	The third floor layout, and furniture was constructed in the early 1990's and is approximately 30 years old. The furniture and equipment are in need of replacement.
Performance (Service Level/Reliability)	2	C. Project moderate to low positive impact on service levels and/or system reliability	If not completed, the floor can still work, but it is not efficient, and future use of the first floor would not be realized.
Regulatory (Environmental/Legal)	1	A. No risk of causing	This has no effect on regulator compliance.
Operations and Maintenance	2	C. Repairs total $\geq 10\%$ of asset original value	Rehabbing the floor, fixtures, equipment would be expensive even if the floor plan were to remain unchanged.
Health and Safety	1	C. Staff/public safety/hazard issues not a concern	No appreciable safety concerns.
Public Benefit	3	E. /stakeholder relationships/confidence in GLWA	This allows for renovation of the first floor and to more open up the WRRF to the public for viewing / education / interaction.
Financial	1	A. Minimal to no impact to GLWA	There is little financial impact to GLWA as a result of not completing the project.
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	This is part of the optimization of the WRRF and right-sizing the floors of our administration building to promote better coordination & cooperation amongst the various groups at the WRRF.

Project Title: WRRF 3rd Floor Renovation

Review Committee Weighted Score: 40.5		
Criteria Name	Score	Comment
Condition	3	
Performance (Service Level/Reliability)	2	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	3	
Health and Safety	1	
Public Benefit	4	
Financial	1	
Efficiency and Innovation	4	

Project Title: WRRF 3rd Floor Renovation

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Water**Start Date:** 9/5/2022**Phase Status:** Project Execution**End Date:** 9/1/2027

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$125	\$48	\$39	\$29	\$26	\$26	\$5	\$0	\$0	\$57	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	9/5/2022	9/1/2027
Capital Delivery Salary (Fringes)	9/5/2022	9/1/2027

Project Title: WRRF 3rd Floor Renovation

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 9/5/2022

Phase Status: Project Execution

End Date: 9/1/2027

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: Albert Kahn

Cost Est. Date: 9/5/2022

Cost Est. Prepared By: Albert Kahn

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$265	\$86	\$86	\$46	\$62	\$62	\$11	\$0	\$0	\$134	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	9/5/2022	9/1/2027

Project Title: WRRF 3rd Floor Renovation

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 9/1/2025**Phase Status:** Future Planned Start**End Date:** 9/1/2027

Phase Comments/Description:No updates to present ~BBallard

Cost Est. Class: Class 3**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$9,000	\$0	\$0	\$0	\$3,731	\$4,494	\$776	\$0	\$0	\$9,000	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	9/1/2025	9/1/2027

Project Title: WRRF 3rd Floor Renovation

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$125	\$48	\$39	\$29	\$26	\$26	\$5	\$0	\$0	\$57	\$0
Design/Engineering	\$265	\$86	\$86	\$46	\$62	\$62	\$11	\$0	\$0	\$134	\$0
Construction	\$9,000	\$0	\$0	\$0	\$3,731	\$4,494	\$776	\$0	\$0	\$9,000	\$0
Totals	\$9,390	\$133	\$125	\$75	\$3,818	\$4,582	\$791	\$0	\$0	\$9,191	\$0

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

CIP	5 Year Total	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2024	\$3,251	\$167	\$14	\$414	\$2,140	\$682	\$0	\$0	\$3,421
2025	\$3,441	\$66	\$38	\$2,017	\$1,424	\$0	\$0	\$0	\$3,546

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$9,390,331	\$124,674	\$74,552	\$3,818,468	\$4,581,806	\$790,832	\$0	\$0	\$9,191,105	\$0

Description of CIP Changes:

2024- Design contract awarded with total value of \$265,250. Design has progress to 90% ~BBallard
 Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: WRRF Plumbing Shop Renovation - 260905

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Plumbing Shop Renovation - 260905

Project Manager: Reed Johnson

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 9/28/2022

Year Project Added to CIP: 2022

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☒ **From Program?**
Program Number: 260900

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: Yes

Partners: Other

Collaboration Entity: GLWA Logistics and Materials Group

Project Title: WRRF Plumbing Shop Renovation - 260905

Problem Statement:

The plumbing shop building is approximately 35 years old. It requires renovations to ensure proper function of the building for the next 20 years.

Scope of Work/Project Alternatives:

Do nothing is not an option. Rehab is recommended and while performing these renovations, we will ensure the building's function will be sufficient to suit the needs of the WRRF for the next 20 years. By renovating the building and providing a proper space for logistics and materials team to properly store and access items frequently used at the plant for operations and maintenance to ensure continuity of operations. This will include demolition of interior floor space, establishment of storage racks, re-roofing, ensuring proper building insulation and minimal HVAC improvements for a warehouse. Demolition would really be a waste of resources because the building still have service life and can still provide useful function to the WRRF.

Other Important Info:

Repurpose of a building that is not being properly utilized to a space that can best serve the WRRF.

Primary Driver: 1 - Condition

Driver Explanation:

The building is 35 years old. The roof and outer walls require attention to ensure it's serviceable life can continue.

Project Title: WRRF Plumbing Shop Renovation - 260905

Scoring

Project Manager Weighted Score:		50.7	
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	Building is approximately 35 years old. Slab is cracking. Roof needs replacement.
Performance (Service Level/Reliability)	3	B. Performance acceptable–marginal; likely not to meet future req’s	The building will continue to stand, but function / performance will decrease as leaks develop.
Regulatory (Environmental/Legal)	1	A. No risk of causing, B. Low/no impact on specific reg. compliance issues	The new use will store parts needed to keep our critical equipment in service.
Operations and Maintenance	2	A. Low levels of O/M keeps meantime between failure standard	Roof will leak and cause us to have to fix. Leaking could damage other items in the building requiring fixing.
Health and Safety	2	B. Project limited positive impact on staff/public H&S†; No major staff or hazard issues or concerns addressed	No major health / safety impacts
Public Benefit	2	E. No media coverage, minor impact on comm./stakeholder relations	This project will result in better use of our facilities and proper storage of parts which ultimately benefits the public.
Financial	3	F. Total financial consequence of \$250,000 - \$999,999	Having to make repairs associated with canceling the project (roof) is likely over \$250K
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	None.

Project Title: WRRF Plumbing Shop Renovation - 260905

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	

Project Title: WRRF Plumbing Shop Renovation - 260905

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/30/2021**Phase Status:** Project Execution**End Date:** 11/26/2026

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP TEAM**Cost Est. Date:** 5/2/2024**Cost Est. Prepared By:** GLWA CIP TEAM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$31	\$31	\$25	\$6	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/30/2021	11/26/2026
Capital Delivery Salary (Fringes)	7/30/2021	11/26/2026

Project Title: WRRF Plumbing Shop Renovation - 260905

Phase: Professional Services (CS-272)**Phase Title:** Professional Services (CS-272)

Phase Budget: Wastewater**Start Date:** 8/15/2022**Phase Status:** Closed Out**End Date:** 3/31/2024

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 3/1/2023**Cost Est. Prepared By:** AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$20	\$20	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	8/15/2022	3/31/2024

Project Title: WRRF Plumbing Shop Renovation - 260905

Phase: Professional Services (2203638)

Phase Title: Professional Services (2203638)

Phase Budget: Wastewater

Start Date: 11/27/2023

Phase Status: Project Execution

End Date: 11/26/2026

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: PMA task

Cost Est. Date: 1/1/2024

Cost Est. Prepared By: PMA task proposal

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (2203638)	\$61	\$61	\$31	\$30	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (2203638)	11/27/2023	11/26/2026
Design/Engineering (2203638)	9/1/2024	9/30/2024

Project Title: WRRF Plumbing Shop Renovation - 260905

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 7/30/2021

Phase Status: Project Execution

End Date: 3/1/2025

Phase Comments/Description:

2002899 - 260905.N1.300DGSB - Design Project Execution - 260905.N1.3002030 Current Start adjust to 7/30/21 Current Finish Adjust to 7/29/23 - 2002899 15T (1900318) WRRF Plumber Shop Rehabilitation (The amount in the CIP C&S Smartsheet I think is light in its estimate of costs for this project.) To accommodate the additional time to design and construct the improvements, we are extending the final completion date of TOES Task 15T by 216 days to March 1, 2024. To accommodate the additional cost to design the improvements, we are increasing the contract amount by \$57,000 to \$227,247.88. Attached supporting documents including Amendment 1.

Cost Est. Class: Class 1

Cost Est. Source: HDR

Cost Est. Date: 8/24/2022

Cost Est. Prepared By: Jared Buzo

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$288	\$182	\$177	\$111	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/30/2021	3/1/2025
Construction (net-zero cost account to be archived)	7/30/2021	3/1/2025

Project Title: WRRF Plumbing Shop Renovation - 260905

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 7/10/2023

Phase Status: Project Execution

End Date: 3/1/2025

Phase Comments/Description:

Confirmed Dates and Dollars with PM Chris Nastally reviewing for final approval in C&S sheet.

Cost Est. Class: Class 1

Cost Est. Source: BID

Cost Est. Date: 6/14/2023

Cost Est. Prepared By: CCC

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$2,288	\$1,098	\$877	\$1,411	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	7/10/2023	3/1/2025

Project Title: WRRF Plumbing Shop Renovation - 260905

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$31	\$31	\$25	\$6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (CS-272)	\$20	\$20	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (2203638)	\$61	\$61	\$31	\$30	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$288	\$182	\$177	\$111	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$2,288	\$1,098	\$877	\$1,411	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$2,687	\$1,391	\$1,130	\$1,558	\$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	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2024	\$2,170	\$18	\$1,144	\$1,026	\$0	\$0	\$0	\$0	\$2,188
2025	\$1,353	\$134	\$1,183	\$1,353	\$0	\$0	\$0	\$0	\$2,669

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$2,687,726	\$1,129,753	\$1,557,974	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

4/29/24 PK: Construction is progressing at site per the plan/schedule, and expected to complete on schedule.

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

Project Status: Future Planned - Ten Year CIP

CIP Type: Program

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☒ **Multiple Phases**
Project Score
0

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Rehabilitation of the Secondary Clarifiers

Project Manager: Elizabeth Mann

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**
Program Number:
Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☒ **Is a Predecessor Project?**
Successor Projects: 261001

Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

Problem Statement:

The secondary clarifiers need to be inspected and rehabilitated for certain components such as the rake arms.

Scope of Work/Project Alternatives:

This project will provide for inspection, study, design, and construction for refurbishing the secondary clarifiers. A key component will be the inspection of the concrete and the rake arms. Once the condition of these components is determined, alternatives will be evaluated, and the selected alternative will be designed and constructed. The scope will also include evaluating and designing isolation gates for the individual clarifiers. The B Houses have energy intensive HVAC units. These will be evaluated for payback potential with alternative, energy efficient units.

Other Important Info:

Challenges: This will be a long-term project because only one or two clarifiers can be taken out of service at a time. Also, there may be different levels of rehabilitation for each clarifier depending upon the results of the inspection. Inspecting the clarifiers to determine the rehabilitation scope requires taking each of them out of service and draining them.

Project History: There are 25 secondary clarifiers at the WRRF. They have been rehabilitated in the past for other components such as RAS pumps, troughs and weirs, and center drives. It is time to refurbish some of the other key components.

Primary Driver: 1 - Condition

Driver Explanation:

Some of the key components are approaching the end of their useful life.

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

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	

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2032

Phase Status: Future Planned Start

End Date: 6/30/2037

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$337	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$202

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2032	6/30/2037

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 7/1/2028

Phase Status: Cancelled

End Date: 6/30/2037

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2028	6/30/2037

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 7/1/2032

Phase Status: Future Planned Start

End Date: 6/30/2037

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$39,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$22,435

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2032	6/30/2037

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$337	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$202
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$39,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$22,435
Totals	\$39,337	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$22,637

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	\$2,056	\$2,057	\$46,828
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$37	\$39,337
2025	\$37	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$37	\$39,337

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$39,337,242	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$22,637,363

Description of CIP Changes:

Updated scope and detailed successor project.

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Project Status: Active - Procurement - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
72

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Project Manager: Partho Ghosh

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☒ **From Program?**
Program Number: 261000

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Problem Statement:

The secondary clarifiers need to be inspected and rehabilitated.

Scope of Work/Project Alternatives:

This project will provide for inspection, study, design, and construction for refurbishing the first six secondary clarifiers. Key components will be the inspection of the concrete, mechanical and electrical components. Once the condition of these components is determined, alternatives will be evaluated, and the selected alternative will be designed and constructed.

Other Important Info:

Challenges: This will be a long-term project because only two clarifiers can be taken out of service at a time. Also, there may be different levels of rehabilitation for each clarifier depending upon the results of the inspection.

Project History: There are 25 secondary clarifiers at the WRRF. They have been rehabilitated in the past for other components such as RAS pumps, RAS VFDs. It is time to refurbish the key components of the clarifiers.

Primary Driver: 1 - Condition

Driver Explanation:

Some of the key components are approaching the end of their useful life.

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Scoring

Project Manager Weighted Score: 72			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value	
Health and Safety	1	A. No failure reasonably expected to occur	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	
Financial	1	A. Minimal to no impact to GLWA	
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	

Review Committee Weighted Score: 72		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	1	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	1	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/1/2024

Phase Status: Project Execution

End Date: 11/1/2029

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$170	\$60	\$53	\$24	\$22	\$22	\$22	\$22	\$7	\$94	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/1/2024	11/1/2029
Capital Delivery Salary (Fringes)	4/1/2024	11/1/2029

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 3/4/2022

Phase Status: Closed Out

End Date: 10/28/2022

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 3/4/2022

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$2	\$2	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72014A.04 / 72007B.05)	3/4/2022	10/28/2022

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1**Phase:** Design/Engineering**Phase Title:** Design/Engineering**Phase Budget:** Wastewater**Start Date:** 11/1/2024**Phase Status:** Active - Procurement - Negotiation
Phase**End Date:** 11/1/2029**Phase Comments/Description:****Cost Est. Class:** Class 3**Cost Est. Source:** RFP**Cost Est. Date:** 11/17/2023**Cost Est. Prepared By:** TBD**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$5,000	\$0	\$0	\$442	\$666	\$1,449	\$1,175	\$946	\$322	\$4,558	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (2103347)	11/1/2024	11/1/2029

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Phase: Design/Engineering (1900318)**Phase Title:** Design/Engineering (1900318)

Phase Budget: Wastewater**Start Date:** 4/1/2024**Phase Status:** Closed Out**End Date:** 6/30/2026

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** GLWA**Cost Est. Date:** 1/1/2024**Cost Est. Prepared By:** GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (1900318)	\$84	\$84	\$84	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	4/1/2024	6/30/2026

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 11/1/2026**Phase Status:** Future Planned Start**End Date:** 11/1/2029

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** AECOM - Revised Estimate 2024**Cost Est. Date:** 3/15/2024**Cost Est. Prepared By:** AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$30,000	\$0	\$0	\$0	\$0	\$1,712	\$13,481	\$12,067	\$2,740	\$30,000	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	11/1/2026	11/1/2029

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$170	\$60	\$53	\$24	\$22	\$22	\$22	\$22	\$7	\$94	\$0
Professional Services	\$2	\$2	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$5,000	\$0	\$0	\$442	\$666	\$1,449	\$1,175	\$946	\$322	\$4,558	\$0
Design/Engineering (1900318)	\$84	\$84	\$84	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$30,000	\$0	\$0	\$0	\$0	\$1,712	\$13,481	\$12,067	\$2,740	\$30,000	\$0
Totals	\$35,256	\$146	\$138	\$466	\$688	\$3,182	\$14,678	\$13,035	\$3,069	\$34,652	\$0

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	\$4,030	\$0	\$0	\$790	\$790	\$395	\$2,056	\$0	\$0	\$4,030
2024	\$6,068	\$0	\$0	\$162	\$242	\$242	\$2,475	\$2,948	\$2,940	\$18,344
2025	\$9,488	\$0	\$23	\$216	\$832	\$832	\$2,390	\$2,722	\$2,715	\$18,346

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$35,256,278	\$138,467	\$465,581	\$687,667	\$3,182,282	\$14,678,070	\$13,035,092	\$3,069,118	\$34,652,230	\$0

Description of CIP Changes:

Project is now included under Program 216000

5/6/2024 - no change to schedule and financials at this time. Scope of project under review.

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: Pilot CSO Netting Facility

Project Status: Active - Pre-Procurement - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

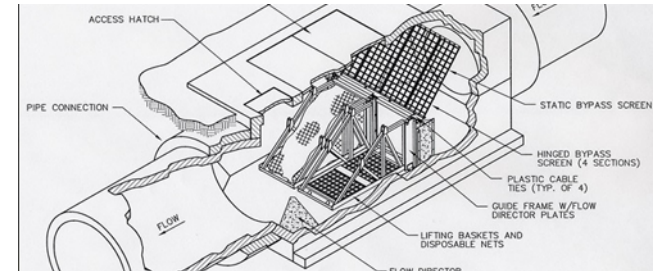
☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score
89.6

- ☐ Innovation
- ☒ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Redundancy
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Pilot CSO Netting Facility

Project Manager: Vincent Genco

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 8/1/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Detroit River - near MacArthur Bridge

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:
Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ Is a Predecessor Project?

Successor Projects:
Predecessor Projects:
Collaboration Opportunities: Yes

Partners: Other,EGLE

Collaboration Entity: Detroit Riverfront Conservancy, City of Detroit

Project Title: Pilot CSO Netting Facility

Problem Statement:

This problem statement has been revised based on updates and negotiations currently taking place between MDOT, DWSD, and GLWA for the I-94 Modernization project planned by MDOT. The use of the drainage system and negotiations between the three entities has resulted in the pilot location for netting facilities to be shifted to Outfalls B-3, B-4, and B-5. These outfalls are on the GLWA list for outfalls that require treatment to satisfy long term CSO control. This project is anticipated to be federally funded.

Scope of Work/Project Alternatives:

Inspect the 3 outfalls, perform a study to establish requirements for the netting facilities with respect to screening, disinfection, flow measurement, sampling, hydraulic gradeline, and bypass. Perform design services to carry the elements identified in the study forward for construction drawings and specifications. Perform services to establish locations for the required facilities, and assistance in land and easement acquisition to facilitate the improvements. Provide bidding, construction assistance, and project closeout services upon completion of study and design.

Other Important Info:

GLWA staff conducted a field inspection in 2019 of CSO outfall netting facilities constructed in Cleveland in 2004. There are different types of CSO net installations, and GLWA believes that in-line nets provide for the most efficient operation and maintenance.

Primary Driver: 3 - Regulatory

Driver Explanation:

The NPDES permit requires GLWA to reduce untreated CSO discharge. This project is a low cost option to reduce sanitary trash and treat bacteria from untreated CSO discharges that may occur from the outfall, just upstream of the beach.

Project Title: Pilot CSO Netting Facility

Scoring

Project Manager Weighted Score: 89.6			
Criteria Name	Score	Score Criteria	Comment
Condition	1	A. Asset has >75% of its design service life remaining	
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems	
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	
Operations and Maintenance	1	A. O&M levels are routine;	
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	
Financial	1	A. Minimal to no impact to GLWA	
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings	

Review Committee Weighted Score: 89.6		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	5	Scores carried over from previous year
Regulatory (Environmental/Legal)	5	Scores carried over from previous year
Operations and Maintenance	1	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	1	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: Pilot CSO Netting Facility

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2024**Phase Status:** Future Planned Start**End Date:** 6/30/2033

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$412	\$24	\$20	\$36	\$44	\$44	\$45	\$44	\$44	\$222	\$133

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2024	6/30/2033
Capital Delivery Salary (Fringes)	7/1/2024	6/30/2033

Project Title: Pilot CSO Netting Facility

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 6/1/2021

Phase Status: Closed Out

End Date: 6/30/2022

Phase Comments/Description:

We shifted from having PMA to doing this ourselves. Only a little bit of time was captured before we stopped them.

Cost Est. Class: Class 3

Cost Est. Source: PMA

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166)	6/1/2021	6/30/2022

Project Title: Pilot CSO Netting Facility**Phase:** Professional Services (2203638)**Phase Title:** Professional Services (2203638)**Phase Budget:****Start Date:** 7/1/2024**Phase Status:****End Date:** 7/30/2025**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (2203638)	\$24	\$24	\$0	\$24	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (2203638)	7/1/2024	7/30/2024
Design/Engineering (2203638)	7/1/2024	7/30/2025

Project Title: Pilot CSO Netting Facility

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 7/1/2025

Phase Status: Active - Pre-Procurement

End Date: 1/1/2029

Phase Comments/Description:
Cost Est. Class: Class 4

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$3,449	\$0	\$0	\$0	\$983	\$983	\$985	\$498	\$0	\$3,449	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2025	1/1/2029

Project Title: Pilot CSO Netting Facility

Phase: Design/Engineering (CA)

Phase Title: Design/Engineering (CA)

Phase Budget: Wastewater

Start Date: 1/1/2029

Phase Status: Future Planned Start

End Date: 6/30/2033

Phase Comments/Description:

Cost Est. Class: Class 4

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CA)	\$5,173	\$0	\$0	\$0	\$0	\$0	\$0	\$570	\$1,150	\$1,720	\$3,453

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CA)	1/1/2029	6/30/2033

Project Title: Pilot CSO Netting Facility

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 1/1/2030

Phase Status: Future Planned Start

End Date: 12/31/2032

Phase Comments/Description:

Constructing the netting facility.

Cost Est. Class: Class 4

Cost Est. Source: CDM Smith WWMP

Cost Est. Date: 7/17/2020

Cost Est. Prepared By: Carl Johnson

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$28,878	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,769	\$4,769	\$24,109

Phase Dates

Activity Name	Start Date	End Date
Construction	1/1/2030	12/31/2032

Project Title: Pilot CSO Netting Facility

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$412	\$24	\$20	\$36	\$44	\$44	\$45	\$44	\$44	\$222	\$133
Professional Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (2203638)	\$24	\$24	\$0	\$24	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$3,449	\$0	\$0	\$0	\$983	\$983	\$985	\$498	\$0	\$3,449	\$0
Design/Engineering (CA)	\$5,173	\$0	\$0	\$0	\$0	\$0	\$0	\$570	\$1,150	\$1,720	\$3,453
Construction (Build) #1	\$28,878	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,769	\$4,769	\$24,109
Totals	\$37,936	\$47	\$21	\$60	\$1,027	\$1,027	\$1,030	\$1,113	\$5,963	\$10,160	\$27,695

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

CIP	5 Year Total	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2021	\$6,535	\$0	\$20	\$86	\$1,604	\$318	\$4,507	\$1,234	\$0	\$0	\$0	\$7,769
2022	\$4,938	\$0	\$0	\$13	\$57	\$1,557	\$107	\$3,203	\$3,896	\$739	\$0	\$9,573
2023	\$1,149	\$0	\$0	\$0	\$0	\$345	\$345	\$348	\$111	\$2,396	\$2,395	\$6,199
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,034
2025	\$0	\$0	\$0	\$0	\$2	\$8	\$0	\$0	\$0	\$0	\$0	\$37,884

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$37,936,599	\$20,713	\$60,401	\$1,027,084	\$1,027,084	\$1,029,898	\$1,112,724	\$5,963,441	\$10,160,233	\$27,695,252

Project Title: Pilot CSO Netting Facility

Description of CIP Changes:

2019-08 - This is a new project to the CIP being driven by recommendations from the Wastewater Masterplan Project (2019).

2020-07 - Updating for schedule & costs (only including 1 Pilot Facility in the scope at this time). 4 Pilot facilities are proposed in WWMP.

2021 - pushed out 1 year to allow for better coordination with LTCSO plan.

2022 - updated this to reflect negotiations from I-94 Modernization project and new pilot locations.

2024 - RFP planned this year

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ **Project New to CIP**

☒ **Useful Life > 20 Yrs**

☐ **Multiple Phases**

Project Score

88.7

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Meldrum Sewer Diversion

Project Manager: Greg Marker

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
8/1/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Sewers and Interceptors

Funds and Cost Center: Wastewater - 5421-882301

☐ **From Program?**

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☒ **Is a Predecessor Project?**

Successor Projects: 270002

Predecessor Projects: 270004

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Problem Statement:

The Meldrum Sewer is an uncontrolled CSO that discharges through outfall B-07. Currently, this is an untreated CSO discharge. Untreated CSO discharges allow debris and bacteria make their way into fresh water bodies and are damaging to public health and the environment. The NPDES permit requires control of this outfall to Michigan water quality standards. The Leib Screening and Disinfection Facility was designed with capacity to screen and disinfect the Meldrum Sewer CSO flow, but currently there is no means to convey flow from the Meldrum sewer to the Conant-Mt. Elliot sewer (and to Leib). This project was a high-level recommendation from the wastewater masterplan. An RFP will be developed that further develops the project scope to achieve the desired outcome of connecting the Meldrum sewer to the Conant-Mt. Elliot sewer.

Scope of Work/Project Alternatives:

The scope of work involves connecting the Meldrum sewer to the Conant-Mt. Elliot Sewer with a diversion pipe that is 5 feet in diameter. New gates will be installed in the Meldrum sewer which direct flow through this diversion and into the Conant-Mt. Elliot sewer, which would then be processed through the Leib Screening and Disinfection Facility. These gates would allow dry weather flow to pass through the Meldrum sewer to the DRI, and would divert wet-weather to Leib SDF. This would reduce untreated CSO discharge, which is a requirement of the NPDES Permit.

Other Important Info:

Recommended in DWSD LTCSO Plan of 2008. This project is driven by recommendations from the Long Term CSO Control Plan from 2008 and further evaluation and recommendation from the Wastewater Masterplan Project (2019).

Primary Driver: 3 - Regulatory

Driver Explanation:

The NPDES permit requires GLWA to reduce untreated CSO discharge. This project is a low cost option to accomplish this for the B-07 outfall. In addition to complying with the regulator, this results in improved public benefit from better water quality.

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Scoring

Project Manager Weighted Score: 86.9			
Criteria Name	Score	Score Criteria	Comment
Condition	1	D. Does not impact performance, meets all expected future requirements	
Performance (Service Level/Reliability)	1	B. Consistent with current standards and technology	
Regulatory (Environmental/Legal)	5	B. Project part of a mandated or otherwise enforceable program	
Operations and Maintenance	1	B. Equipment/process/pipeline has no failures or non-routine repairs	
Health and Safety	4	C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	
Public Benefit	5	A. Project is key part of a strategic plan* for GLWA or politically driven	
Financial	1	A. Minimal to no impact to GLWA	
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	

Review Committee Weighted Score: 88.7			
Criteria Name	Score	Comment	
Condition	1	Scores carried over from previous year	
Performance (Service Level/Reliability)	3	Scores carried over from previous year	
Regulatory (Environmental/Legal)	5	Scores carried over from previous year	
Operations and Maintenance	1	Scores carried over from previous year	
Health and Safety	4	Scores carried over from previous year	
Public Benefit	5	Scores carried over from previous year	
Financial	1	Scores carried over from previous year	
Efficiency and Innovation	4	Scores carried over from previous year	

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2026

Phase Status: Future Planned Start

End Date: 7/1/2031

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: CDM Smith WWMP

Cost Est. Date: 8/1/2019

Cost Est. Prepared By: Carl Johnson

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$354	\$0	\$0	\$0	\$0	\$71	\$71	\$71	\$71	\$283	\$71

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	7/1/2026	7/1/2031
Capital Delivery Salary (Fringes)	7/1/2026	7/1/2031

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Phase: Design & Construction Assistance # 1

Phase Title: Design & Construction Assistance # 1

Phase Budget: Wastewater **Start Date:** 7/1/2026

Phase Status: Future Planned Start **End Date:** 7/1/2031

Phase Comments/Description:

Phase is to complete the design, carries through procurement of construction, and then through construction time period & project closeout. Includes designing the sewer connection, and assisting during construction

Cost Est. Class: Class 4

Cost Est. Source: CDM Smith WWMP

Cost Est. Date: 8/1/2019

Cost Est. Prepared By: Carl Johnson

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design & Construction Assistance # 1	\$2,000	\$0	\$0	\$0	\$0	\$800	\$173	\$342	\$342	\$1,657	\$343

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2026	12/29/2026
Design/Engineering (CA)	12/29/2027	7/1/2031

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1

Phase Budget: Wastewater

Start Date: 12/29/2027

Phase Status: Future Planned Start

End Date: 7/1/2031

Phase Comments/Description:

This phase is to execute the design project for the Meldrum Diversion to the Conant-Mt. Elliot sewer to divert untreated CSO discharge through the Leib SDF. This will result in untreated CSO discharge becoming "treated" CSO discharge. There is only recommendations about scope schedule and budget from a masterplan perspective at this time.

Cost Est. Class: Class 4

Cost Est. Source: CDM Smith (WWMP)

Cost Est. Date: 8/1/2019

Cost Est. Prepared By: Carl Johnson

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction (Build) # 1	\$7,000	\$0	\$0	\$0	\$0	\$0	\$1,011	\$1,995	\$1,995	\$5,000	\$2,000

Phase Dates

Activity Name	Start Date	End Date
Construction	12/29/2027	7/1/2031

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$354	\$0	\$0	\$0	\$0	\$71	\$71	\$71	\$71	\$283	\$71
Design & Construction Assistance # 1	\$2,000	\$0	\$0	\$0	\$0	\$800	\$173	\$342	\$342	\$1,657	\$343
Construction (Build) # 1	\$7,000	\$0	\$0	\$0	\$0	\$0	\$1,011	\$1,995	\$1,995	\$5,000	\$2,000
Totals	\$9,353	\$0	\$0	\$0	\$0	\$871	\$1,255	\$2,407	\$2,407	\$6,940	\$2,414

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

CIP	5 Year Total	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2021	\$847	\$0	\$0	\$13	\$86	\$586	\$162	\$5,232	\$0	\$0	\$0	\$6,079
2022	\$2,891	\$0	\$0	\$9	\$57	\$282	\$567	\$1,975	\$2,288	\$163	\$499	\$5,840
2023	\$2,079	\$0	\$0	\$0	\$0	\$0	\$224	\$436	\$1,419	\$1,253	\$1,256	\$5,840
2024	\$2,577	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$936	\$1,641	\$1,636	\$5,854
2025	\$3,120	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$618	\$865	\$1,638	\$6,401

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$9,353,793	\$0	\$0	\$0	\$870,681	\$1,255,106	\$2,407,137	\$2,407,137	\$6,940,061	\$2,413,732

Description of CIP Changes:

No update

Project Class Level 2 and 3 updated - CIP 08.22.24

Project Title: Long Term CSO Control Plan

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score
88

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Redundancy
- ☒ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment


Project Manager: Kevin Jankowski

Director: Kevin Jankowski

Managing Dept.: Systems Planning

Date Original Business Case Prepared:
8/20/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: City of Detroit

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:
Delivery Method: Other (Design In-house and Bid Out for Construction)

Delivery Method Details: Study Phase Only

☐ Is a Predecessor Project?

Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Long Term CSO Control Plan

Problem Statement:

The NPDES permit which governs CSO Discharges for GLWA requires GLWA to provide for prohibition, elimination, or adequate treatment of combined sewer discharges containing raw sewage. The current plans of 2008 and 2010 were approved by the EGLE (formerly MDEQ) and are the current plans of record. The new NPDES permit issued in July of 2019 opened the door for GLWA to refresh the Long Term Plan and submit to EGLE for review and approval by 11/15/2022. There are 56 total untreated outfalls operated by GLWA that require control in accordance with the NPDES permit language. The language allows for flexibility in terms of which outfalls GLWA shall address first, second & last, but nonetheless requires all of them to be addressed.

Scope of Work/Project Alternatives:

This project will be a predecessor project to executing a long term CSO control plan, as required by the NPDES permit. This project will include evaluation of the requirements and work done under the 2008 and 2010 current plans of record, evaluation of elements within the Wastewater Masterplan aimed at CSO Control, evaluation of affordability, evaluation and siting of specific projects to be executed, and evaluation and programming of recommended projects to address affordability. The Long Term CSO Control Plan report was submitted to EGLE on 10/15/2023 and received conditional acceptance on July 17, 2024. The project remains open in 2024 and 2025 to address any of EGLE's comments, to prepare a Basis of Design for the recommended alternative, to expand upon modeling activities, and to provide technical support services to the USACE SE Michigan Flood Study.

Other Important Info:

The wastewater masterplan, has identified elements that are a part of the Long Term Plan, including a new storage conduit on the west-side for first flush capture, in-system storage dams, system diversions, and some strategically selected netting facility locations. These will need to be evaluated further under this project and also evaluated against current system requirements, and former Long Term requirements and plans set forth in 2008 and 2010. Over the course of this project, it was agreed to use a water quality approach culminating into a "Phase I LTCP". It is intended to update the Long Term CSO Control Plan to incorporate the findings of the SE MI Flood Study, considered the "Phase II LTCP".

Primary Driver: 3 - Regulatory

Driver Explanation:

The NPDES permit requires GLWA to provide for prohibition, elimination, or adequate treatment of combined sewer discharges containing raw sewage.

Project Title: Long Term CSO Control Plan

Scoring

Project Manager Weighted Score:		88	
Criteria Name	Score	Score Criteria	Comment
Condition	1	A. Asset has >75% of its design service life remaining	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	1	A. O&M levels are routine;	Project Manager score carried over from previous year Project Manager score
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	Project Manager score carried over from previous year Project Manager score
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	Project Manager score carried over from previous year Project Manager score
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	Project Manager score carried over from previous year Project Manager score

Project Title: Long Term CSO Control Plan

Review Committee Weighted Score: 88		
Criteria Name	Score	Comment
Condition	1	Committee score carried over from previous year committee score
Performance (Service Level/Reliability)	3	Committee score carried over from previous year committee score
Regulatory (Environmental/Legal)	5	Committee score carried over from previous year committee score
Operations and Maintenance	1	Committee score carried over from previous year committee score
Health and Safety	4	Committee score carried over from previous year committee score
Public Benefit	3	Committee score carried over from previous year committee score
Financial	3	Committee score carried over from previous year committee score
Efficiency and Innovation	2	Committee score carried over from previous year committee score

Project Title: Long Term CSO Control Plan

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 9/19/2018

Phase Status: Project Execution

End Date: 6/30/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Limnotech

Cost Est. Date: 12/2/2020

Cost Est. Prepared By: Carrie Turner

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$105	\$0	\$0	\$105	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	9/19/2018	6/30/2025
Capital Delivery Salary (Fringes)	9/19/2018	6/30/2025

Project Title: Long Term CSO Control Plan

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 8/1/2019**Phase Status:** Closed Out**End Date:** 5/19/2023

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$1,122	\$1,122	\$1,122	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services (CS-272 - 72010A.01/02/03, 72010B.01/02/03/04)	8/1/2019	5/19/2023

Project Title: Long Term CSO Control Plan

Phase: Contractual Professional Services (CS-200)

Phase Title: Contractual Professional Services (CS-200)

Phase Budget: Wastewater

Start Date: 6/5/2017

Phase Status: Closed Out

End Date: 6/30/2020

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Contractual Professional Services (CS-200)	\$240	\$240	\$240	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services (CS-200)	6/5/2017	6/30/2020

Project Title: Long Term CSO Control Plan

Phase: Contractual Professional Services (1904197)

Phase Title: Contractual Professional Services (1904197)

Phase Budget: Wastewater **Start Date:** 11/1/2020

Phase Status: Project Execution **End Date:** 6/2/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Limnotech

Cost Est. Date: 11/1/2020

Cost Est. Prepared By: Limnotech

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Contractual Professional Services (1904197)	\$7,749	\$5,635	\$5,486	\$2,263	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services (1904197)	11/1/2020	6/2/2025
Contractual Professional Services (1904197)	11/1/2020	6/2/2025

Project Title: Long Term CSO Control Plan

Phase: Contractual Professional Services (U of M 2001434)

Phase Title: Contractual Professional Services (U of M 2001434)

Phase Budget: Wastewater **Start Date:** 8/3/2020

Phase Status: Closed Out **End Date:** 8/2/2023

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Contractual Professional Services (U of M 2001434)	\$361	\$361	\$361	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services (U of M 2001434)	8/3/2020	8/2/2023

Project Title: Long Term CSO Control Plan

Phase: Design & Construction Assistance

Phase Title: Design & Construction Assistance

Phase Budget: Wastewater

Start Date: 7/31/2019

Phase Status: Cancelled

End Date: 6/30/2025

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: TBD

Cost Est. Date: 11/28/2023

Cost Est. Prepared By: TBD

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design & Construction Assistance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/31/2019	6/30/2025

Project Title: Long Term CSO Control Plan

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$105	\$0	\$0	\$105	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services	\$1,122	\$1,122	\$1,122	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contractual Professional Services (CS-200)	\$240	\$240	\$240	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contractual Professional Services (1904197)	\$7,749	\$5,635	\$5,486	\$2,263	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contractual Professional Services (U of M 2001434)	\$361	\$361	\$361	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design & Construction Assistance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$9,576	\$7,358	\$7,209	\$2,368	\$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	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2021	\$5,726	\$68	\$2,796	\$2,220	\$710	\$0	\$0	\$0	\$0	\$0	\$0	\$5,794
2022	\$5,764	\$4	\$3,500	\$3,799	\$1,749	\$144	\$73	\$0	\$0	\$0	\$0	\$9,268
2023	\$2,958	\$4	\$2,126	\$3,162	\$2,519	\$285	\$154	\$0	\$0	\$0	\$0	\$8,249
2024	\$3,200	\$4	\$2,125	\$2,688	\$2,382	\$2,269	\$930	\$0	\$0	\$0	\$0	\$10,400
2025	\$1,586	\$4	\$2,125	\$2,688	\$1,772	\$1,400	\$1,586	\$0	\$0	\$0	\$0	\$9,577

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$9,576,302	\$7,208,702	\$2,367,600	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Project Title: Long Term CSO Control Plan

Description of CIP Changes:

2019 - This project is new to the CIP. I was formerly pulled out of the unallocated amount in the CSO Control Program 260600 of previous CIP version.

2020 - The GLWA CAFR group determined this would not be funded from CIP and subsequently removed it from CIP. This update is to remove it from the CIP as a "cancelled" project.

2020- The request was made to place this project back into the CIP with Sherri Gee as PM. AC

2024 - Updated PM to Kevin Jankowski. Updated scope of work and other important information sections to reflect the current status.

2024/08 - Updated some status information under Scope of Work and Other Important Information sections [KJ].

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ **Project New to CIP**
☐ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
79.4

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Oakwood and Leib CSO Facilities Improvement Project

Project Manager: Vincent Genco

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/20/2020

Year Project Added to CIP: 2020

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Oakwood/Leib

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**
Program Number:
Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☒ **Is a Predecessor Project?**
Successor Projects: 222001,270002

Predecessor Projects: 270004

Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Problem Statement:

The Leib CSO Facility has been under utilized for the last 20 years. The WWMP recommended a diversion to the facility which will increase utilization and close an untreated CSO outfall. To prepare for this increased utilization, improvements to the facility are required. The chemical system has functionally failed and the screening system presents operational and maintenance difficulties (pilot facility with different types of screens requiring different maintenance and having different failure modes). The Oakwood Facility Construction was completed in 2012. Over the last 8 years, the facility has also been under utilized. A proposed plan for an Oakwood-Northwest diversion to Oakwood coupled with a facility assessment require improvements to ensure the facility is prepared to handle flows beyond those historically observed over the last 8+ years.

Scope of Work/Project Alternatives:

To be prepared for the Meldrum Diversion project, the following are needed. Replacement of fine screens, the chemical feed system, improved automation for chemical dosing, improved access, miscellaneous electrical/HVAC and I&C improvements, a new road to improve safety, as well as various safety improvements to facility hatches. The scope of work was refined under CS-299 (CSO Facilities Assessment Project). The following improvements will be planned for: The manual screening in the pump station will be replaced with a mechanically raked bar screen to reduce pump failures (currently the manual screens blind and build up head in the storm well until they are manually cleaned, causing issues with bearing submersion of the storm pumps). The disinfection system will receive improvements to the chemical delivery system to increase reliability and improve automatic operation. The storage tanks will be retrofitted with manway accesses. The sampling system will be improved to allow operators flexibility for sampling at different levels to ensure TRC is adequate prior to discharge. The screening system will receive improvements to the solids handling conveyor, compactor, and grinder systems. Actuated gates will receive new actuator and automation improvements. The Basin drain system will be improved to address clogging of the smaller pipes. Various improvements for maintenance include relocating valves or equipment to areas where they can be accessed adding outlets to facilitate use of electrical equipment. Instrumentation for measuring flow and level will be replaced and programming in SCADA made to simplify automatic operation. The system operational schema will be revised to handle the new flow source. Site drainage issues will be resolved to improve the flow of rain water away from the facility buildings.

Other Important Info:

This is a predecessor project to the Meldrum diversion project and should be constructed prior to completion of the Meldrum Diversion to permit use and testing of equipment installed as a part of that project. This project is intended to be completed within a 24 month window from the completion of the NWI diversion project. Given anticipated difficulties of that project, it is likely that this project will be completed much earlier than the NWI diversion and ideally before the NWI diversion to allow for proper testing needed when the NWI diversion is completed.

Primary Driver: 6 - Public Benefit

Driver Explanation:

The chemical system is difficult to operate and maintain. In many instances only a few pumps are in service (since the facility has been under utilized, this hasn't been an issue). The supporting system of the chemical pumps is near the end of its 20-year design life and requires replacement. The screens are difficult to operate and there have been innovations in the screen industry since these were installed that will allow better operation & maintenance. (Oakwood driver is O&M) Many issues observed during the CS-299 Condition Assessment project are to resolve operational and maintenance issues (such as cleaning screens, having chemical pumps that operate in automatic, or access to equipment to facilitate maintenance).

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Scoring

Project Manager Weighted Score: 79.4			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions	
Regulatory (Environmental/Legal)	3	A. Moderate risk of causing	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	
Public Benefit	5	A. Project is key part of a strategic plan* for GLWA or politically driven	
Financial	4	A. Project will generate significant increased revenue/savings	
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	

Review Committee Weighted Score: 79.4		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	5	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 9/16/2022

Phase Status: Project Execution

End Date: 5/31/2030

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$187	\$76	\$73	\$18	\$20	\$20	\$20	\$20	\$18	\$96	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (NEW to CIP 2023) (Direct Labor)	9/16/2022	5/31/2030
Capital Delivery Salary (NEW to CIP 2023) (Fringes)	9/16/2022	5/31/2030

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 1/1/2021

Phase Status: Project Execution

End Date: 12/31/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: PMA

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$375	\$276	\$260	\$76	\$40	\$0	\$0	\$0	\$0	\$40	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166)	1/1/2021	12/31/2025

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 9/16/2022

Phase Status: Project Execution

End Date: 5/31/2030

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: CDM

Cost Est. Date: 8/15/2022

Cost Est. Prepared By: CDM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$8,700	\$5,137	\$4,619	\$906	\$707	\$770	\$772	\$697	\$230	\$3,175	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (NEW to CIP 2023) (2101475)	9/16/2022	5/31/2030

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Phase: Design/Engineering (CS-166)

Phase Title: Design/Engineering (CS-166)

Phase Budget: Wastewater

Start Date: 9/6/2022

Phase Status: Cancelled

End Date: 2/4/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: N/A

Cost Est. Date: 5/2/2024

Cost Est. Prepared By: N/A

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (CS-166)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-166) (net-zero cost account to be archived)	9/6/2022	2/4/2025

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 10/1/2025**Phase Status:** Future Planned Start**End Date:** 5/31/2030

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** CDM**Cost Est. Date:** 3/21/2024**Cost Est. Prepared By:** CDM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$50,274	\$0	\$0	\$0	\$1,627	\$10,135	\$16,361	\$14,164	\$7,987	\$50,274	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (NEW to CIP 2023)	10/1/2025	5/31/2030

Project Title: Oakwood and Leib CSO Facilities Improvement Project

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$187	\$76	\$73	\$18	\$20	\$20	\$20	\$20	\$18	\$96	\$0
Professional Services	\$375	\$276	\$260	\$76	\$40	\$0	\$0	\$0	\$0	\$40	\$0
Design/Engineering	\$8,700	\$5,137	\$4,619	\$906	\$707	\$770	\$772	\$697	\$230	\$3,175	\$0
Design/Engineering (CS-166)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$50,274	\$0	\$0	\$0	\$1,627	\$10,135	\$16,361	\$14,164	\$7,987	\$50,274	\$0
Totals	\$59,536	\$5,489	\$4,952	\$999	\$2,393	\$10,924	\$17,152	\$14,881	\$8,235	\$53,585	\$0

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	\$11,280	\$0	\$1,250	\$1,300	\$1,250	\$3,630	\$3,849	\$3,849	\$1,651	\$17,004
2024	\$12,559	\$67	\$1,510	\$2,285	\$1,378	\$2,699	\$3,094	\$3,103	\$2,433	\$16,571
2025	\$16,468	\$67	\$2,001	\$2,156	\$1,394	\$64	\$4,551	\$5,236	\$5,222	\$42,595

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$59,536,399	\$4,952,039	\$999,375	\$2,392,932	\$10,924,153	\$17,152,452	\$14,880,775	\$8,234,671	\$53,584,984	\$0

Description of CIP Changes:

2020-07 - New to CIP (project was previously included under the "unallocated" portion of the CSO Program 260600 in 2019 CIP Update. It was in unallocated because the scope of the work wasn't known but is now better defined mid-CS-299 completion.

5-5-2021-Projects reclassified to project 270004 from 274001 and 278001 per PM requests. PM will update during the annual update process. AC

6/23/2021 - project updated.

2022 - Updated

Project Title: CSO Facilities Improvements II

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
61

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



CSO Facilities Improvements II

Project Manager: Brooke Ballard

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/6/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Wayne County - Outside Detroit

Lookup Location: Various CSO Facilities

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: CSO Facilities Improvements II

Problem Statement:

At the CSO basins, there is a need to address safety and architectural deficiencies, upgrade or install new select instrumentation at Baby Creek and Belle Isle, and upgrade St. Aubin's screening and disinfection systems. Due to the age of the buildings, select architectural features are in disrepair and in need of rehabilitation. Additionally, safety features, especially fall protection, need to be improved to meet current code requirements and best practices. Furthermore, the St. Aubin facility is in need of rehabilitation and upgrades to the screening and disinfection systems. The chemical system is functionally inefficient, and the screening system requires upgrades to key components to ensure efficient, reliable operation. There select instrumentation and controls which need to be upgraded at Belle Isle and Baby Creek.

Scope of Work/Project Alternatives:

This project addresses O&M and safety issues at all 9 CSOs, especially as it relates to fall protection. This includes railing, netting/ grating in hatches, and fall protection anchor points. Architectural rehabilitation will also be implemented to ensure the longevity of buildings at the CSO basins. At St. Aubin, the screening system will have the hydraulic system upgraded to more efficient models, as well as other various parts replaced to maximize screening efficiency. Replacement of chemical feed system, improved automation for chemical dosing, improved access and maintenance of equipment, miscellaneous electrical/ hvac and I&C improvements. At Belle Isle, the gas monitoring system for the basin will be upgraded, as well as various other I&C improvements. At Baby Creek, a new flow meter will be installed in the bypass channel.

Other Important Info:

N/A

Primary Driver: 4 - O and M

Driver Explanation:

Most of the upgrades will improve O&M capabilities and safety. The control system upgrade is required to maintain system reliability. Additional lighting will improve working conditions in confined spaces.

Project Title: CSO Facilities Improvements II

Scoring

Project Manager Weighted Score: 79.3			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life, D. Immediate replacement or rehabilitation required, C. High risk of breakdown or imminent failure with serious impact on performance, B. Excessive maint. levels for the equipment/process area	The chemical feed equipment at St. Aubin is at extinction. The architectural features of buildings that need repair will lead to future building failures that may jeopardize equipment. Sealants around doors are beyond their life and require replacement to ensure weather tightness, sealant around windows, at block walls and wall control joints. Failure to maintain these architectural features correctly can result in larger issues for the building and could have cascading effects.
Performance (Service Level/Reliability)	4	E. Not doing the project frequent and repetitive service interruption and/or reliability issues†, B. High risk of performance failure; doesn't meet future requirements, A. Expected performance failures under normal conditions	The chemical feed system at St. Aubin has many leaks, and the pumps are costing significant amounts in maintenance to keep in service because the manufacturer wants to sunset the pulsafed pumps that service the chemical feed system. The screen system also has difficulty keeping the screens clean during an event causing the system to sometimes trip out during normal conditions.
Regulatory (Environmental/Legal)	4	E. Reg compliance failure moderate fines, enforcement actions, environmental impact, C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	HVAC Systems at St. Aubin do not meet current codes for NFPA. The screen system is frequently overtopped because of inadequate whipping which is not in compliance with our Permit.

Project Title: CSO Facilities Improvements II

Operations and Maintenance	4	F. Measurable reduction (50% - 74%) in reactive maintenance, D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues, A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	The screening and chemical feed systems at St. Aubin have high levels of maintenance to keep them in service. Hatch covers/spring loaded hinges at the facilities are at the end of service life. This requires maintenance to ensure the hatches open safely with the assistance of the spring-loaded hinges. Failure to address building envelop issues will lead to high levels of maintenance for other equipment or related systems and/or could have cascading effects.
Health and Safety	4	B. Project significant positive impact on staff/public H&S; Likely to address significant hazard issues or concerns	Many locations through the CSO Facilities contain hatches that do not meet current safety standards and staff could potentially fall into them when opening the hatch doors. Ladders do not meet OSHA standards. Railings and other safety features around roof hatches are needed for safe entry/exit. At Leib, hatches have heavy metal plates over them instead of spring-loaded hinges for ease of opening. Eye wash stations at some locations require replacement to ensure proper operation.
Public Benefit	4	E. Canceling project chance to have major negative public impact, D. Significant, noticeable impact on the public & GLWA image; seen as achievement for GLWA/communities/regions served	Not completing this project would mean GLWA is not maintaining our facilities properly and in some cases we could have workplace injuries, and in other cases we could have system failures resulting in pollution to the environment.

Project Title: CSO Facilities Improvements II

Financial	4	A. Project will generate significant increased revenue/savings, B. Project will likely result in avoidance of fines, potential litigation, emergency repairs or damage to asset/public	Failure of chemical feed and/or screening systems will result in fines for environmental pollution and failure to meet our permit. Safety improvements will reduce risk of workplace injury and keep potential workman's compensation claims lower. Maintaining the building envelope will protect the assets within the building. Building envelope failures develop over time and are costly. Addressing sealant, window, and door failures now will prevent future more severe issues.
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	No real changes here. We will have a new system, but it is difficult to discern if it will save money over the current system. The project is being driven by regulatory requirements.

Review Committee Weighted Score: 61		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: CSO Facilities Improvements II**Phase:** GLWA Salaries**Phase Title:** GLWA Salaries**Phase Budget:** Wastewater**Start Date:** 1/19/2023**Phase Status:** Project Execution**End Date:** 4/17/2028**Phase Comments/Description:****Cost Est. Class:** Class 2**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$133	\$59	\$50	\$25	\$21	\$21	\$17	\$0	\$0	\$58	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	1/19/2023	4/17/2028
Capital Delivery Salary (Fringes)	1/19/2023	4/17/2028

Project Title: CSO Facilities Improvements II**Phase:** Professional Services (CS-272)**Phase Title:** Professional Services (CS-272)**Phase Budget:** Wastewater**Start Date:** 4/18/2022**Phase Status:** Project Execution**End Date:** 1/31/2024**Phase Comments/Description:**

AECOM Project management services, and study for the St. Aubin Facility.

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$171	\$171	\$171	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	4/18/2022	1/31/2024

Project Title: CSO Facilities Improvements II**Phase:** Professional Services (CS-166)**Phase Title:** Professional Services (CS-166)**Phase Budget:** Wastewater**Start Date:** 11/1/2021**Phase Status:** Closed Out**End Date:** 1/6/2022**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-166)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166 - Task B.01)	11/1/2021	1/6/2022

Project Title: CSO Facilities Improvements II

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 1/19/2023

Phase Status: Project Execution

End Date: 4/17/2028

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: BID

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Hazen

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$5,177	\$2,657	\$2,117	\$852	\$653	\$909	\$646	\$0	\$0	\$2,208	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	1/19/2023	4/17/2028
Interlocal Agreement or Intergovernmental Agreement	2/15/2023	9/30/2024

Project Title: CSO Facilities Improvements II

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 2/16/2026

Phase Status: Future Planned Start

End Date: 4/17/2028

Phase Comments/Description:
Cost Est. Class: Class 3

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$15,375	\$0	\$0	\$0	\$2,621	\$7,086	\$5,669	\$0	\$0	\$15,375	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	2/16/2026	4/17/2028

Project Title: CSO Facilities Improvements II

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$133	\$59	\$50	\$25	\$21	\$21	\$17	\$0	\$0	\$58	\$0
Professional Services (CS-272)	\$171	\$171	\$171	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional Services (CS-166)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$5,177	\$2,657	\$2,117	\$852	\$653	\$909	\$646	\$0	\$0	\$2,208	\$0
Construction	\$15,375	\$0	\$0	\$0	\$2,621	\$7,086	\$5,669	\$0	\$0	\$15,375	\$0
Totals	\$20,856	\$2,887	\$2,338	\$877	\$3,294	\$8,016	\$6,331	\$0	\$0	\$17,642	\$0

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	\$1,351	\$0	\$93	\$134	\$134	\$496	\$496	\$496	\$70	\$1,916
2024	\$16,349	\$60	\$674	\$1,477	\$1,056	\$177	\$5,313	\$8,325	\$0	\$17,083
2025	\$18,332	\$60	\$677	\$1,503	\$1,056	\$3,487	\$8,908	\$4,881	\$0	\$20,571

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$20,856,151	\$2,337,610	\$876,868	\$3,294,350	\$8,015,887	\$6,331,436	\$0	\$0	\$17,641,672	\$0

Description of CIP Changes:

New CIP was added to Portal on 7/16/2021. AC

Project was consolidated with 260617, and 270005.

Updates Problem Statement and Scope of Work - 5/1/2024

Project Title: CSO Facilities Improvements II

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Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, and Puritan Fenkell CSO Facilities

Project Status: Active - Pre-Procurement
 - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
57

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Disinfection System Improvements

Project Manager: Vincent Genco

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/19/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Wayne

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, and Puritan Fenkell CSO Facilities

Problem Statement:

The chemical feed pumps and systems at these facilities are expensive to maintain and there is a lack of automation of the feed systems. Each facility has a different type of chemical pump, making O&M more difficult and site-specific. At Baby Creek, the floor in the Chemical Room is flat and the coating has been degraded by sodium hypochlorite spills.

Scope of Work/Project Alternatives:

This project replaces the chemical feed systems at each facility with standardized and automated feed systems. Other improvements include providing a sloped floor with a corrosion resistant coating in the Baby Creek Chemical Room and installation of a ladder and railing system to access the top of the carbon vessel of the Belle Isle odor control system for carbon replacement.

Other Important Info:

The Belle Isle portion of this work needs to be approved by DWSD.

Primary Driver: 7 - Financial**Driver Explanation:**

Most of the improvements are O&M related, with a regulatory component. Effluent permit conditions are typically met at these facilities; however, chemical feed system improvements should allow the system to better control hypochlorite feed rates, thus improving ability to meet effluent total residual chlorine (TRC) goals set by EGLE, and possibly avoid addition of dechlorination.

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, and Puritan Fenkell CSO Facilities

Scoring

Project Manager Weighted Score:		59.3	
Criteria Name	Score	Score Criteria	Comment
Condition	3	C. May have minor failures or diminished efficiency; some performance deterioration	Based on CS-299 conditional assessment scoring for affected assets.
Performance (Service Level/Reliability)	3	E. Canceling project potential for service/reliability issues† a few times/yr	Canceling this project would result in chemical feed systems that would be near the end of their useful life and not reliable for current flows.
Regulatory (Environmental/Legal)	3	B. Project will have a moderate positive impact on reg. issues	Chemical feed system improvements should provide an improved ability to meet effluent TRC goals.
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	Chemical feed system improvements and the other improvements in these projects should alleviate most ongoing O&M issues.
Health and Safety	2	B. Project limited positive impact on staff/public H&S†; No major staff or hazard issues or concerns addressed	The project has limited positive impact on staff/public H&S (ladder and railing system at Belle Isle odor control system should eliminate safety issues with replacement of carbon).
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships	The project has no measurable public benefit.
Financial	5	A. Prevent higher cost projects; Substantial increase in revenue or savings; New customer acquisition for GLWA	Based on the total project cost of the project.
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, and Puritan Fenkell CSO Facilities

Review Committee Weighted Score: 57		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	2	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	5	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, and Puritan Fenkell CSO Facilities

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 8/1/2023**Phase Status:** Project Execution**End Date:** 4/27/2032

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$75	\$4	\$4	\$7	\$9	\$9	\$9	\$9	\$9	\$47	\$17

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	8/1/2023	4/27/2032
Capital Delivery Salary (Fringes)	8/1/2023	4/27/2032

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, and Puritan Fenkell CSO Facilities

Phase: Professional Services (2202942)

Phase Title: Professional Services (2202942)

Phase Budget: Wastewater

Start Date: 8/1/2023

Phase Status: Project Execution

End Date: 4/27/2032

Phase Comments/Description:

PMA Contract 2202942: Task B.01 For RFP development and design procurement

Cost Est. Class: Class 1

Cost Est. Source: Contract

Cost Est. Date: 4/19/2023

Cost Est. Prepared By: PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (2202942)	\$55	\$45	\$44	\$1	\$1	\$1	\$1	\$1	\$1	\$7	\$2

Phase Dates

Activity Name	Start Date	End Date
Professional Services (2202942)	8/1/2023	4/27/2032

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, and Puritan Fenkell CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 10/1/2025

Phase Status: Active - Pre-Procurement

End Date: 12/31/2030

Phase Comments/Description:

The overall cost and schedule have been reduced from Jacob's estimate as part of the previous alignment.
 5/6/2024 - costs and schedule revisions based on escalation and revisions in scope.

Cost Est. Class: Class 5

Cost Est. Source: CSO Needs Assessment - Adjusted for Escalation

Cost Est. Date: 4/3/2024

Cost Est. Prepared By: Jacobs/PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$4,400	\$0	\$0	\$0	\$832	\$1,131	\$1,339	\$762	\$223	\$4,288	\$112

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	10/1/2025	12/31/2030

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, and Puritan Fenkell CSO Facilities

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 6/1/2027

Phase Status: Future Planned Start

End Date: 12/31/2030

Phase Comments/Description:

The overall cost and schedule have been reduced from Jacob's estimate as part of the previous alignment. The start date for Construction shows 7/1/2021, it should show an approved start date of 10/26/2027 / a forecast start date of 10/26/2029.

Cost Est. Class: Class 5

Cost Est. Source: CSO Needs Assessment - Adjusted for Escalation

Cost Est. Date: 4/3/2024

Cost Est. Prepared By: Jacobs/PMA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$12,000	\$0	\$0	\$0	\$0	\$56	\$1,441	\$5,066	\$4,076	\$10,638	\$1,362

Phase Dates

Activity Name	Start Date	End Date
Construction	6/1/2027	12/31/2030

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, and Puritan Fenkell CSO Facilities

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$75	\$4	\$4	\$7	\$9	\$9	\$9	\$9	\$9	\$47	\$17
Professional Services (2202942)	\$55	\$45	\$44	\$1	\$1	\$1	\$1	\$1	\$1	\$7	\$2
Design/Engineering	\$4,400	\$0	\$0	\$0	\$832	\$1,131	\$1,339	\$762	\$223	\$4,288	\$112
Construction	\$12,000	\$0	\$0	\$0	\$0	\$56	\$1,441	\$5,066	\$4,076	\$10,638	\$1,362
Totals	\$16,529	\$48	\$48	\$8	\$843	\$1,197	\$2,791	\$5,839	\$4,309	\$14,979	\$1,494

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	\$3,350	\$0	\$0	\$0	\$335	\$1,508	\$1,508	\$584	\$1,105	\$8,217
2024	\$3,449	\$0	\$0	\$0	\$201	\$1,082	\$1,082	\$1,085	\$530	\$8,291
2025	\$3,998	\$0	\$1	\$24	\$205	\$1,085	\$1,085	\$1,088	\$533	\$8,346

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$16,529,555	\$48,427	\$8,396	\$842,825	\$1,197,103	\$2,790,520	\$5,839,019	\$4,309,423	\$14,978,889	\$1,493,842

Description of CIP Changes:

New CIP added to Portal 7/16/21. AC

Scoring updated -07/2022. No Scoring update - 05/2023. Planned to submit RFP to Procurement by 7/15/24. The Belle Isle portion of this work needs to be coordinated by Finance with DWSD and approved by DWSD.

Title updated "Conor Creek" removed - Requested by V.Genco. CIP6/13

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
74.4

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Project Manager: Brooke Ballard

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/6/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Various CSO Facilities

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Problem Statement:

At Conner Creek, a significant amount of solids accumulate in the influent area just upstream of the bar screens. The original flushing system is ineffective and is non-functional. Currently, GLWA staff use a bobcat to fill a dumpster to remove some of the solids and rely on fire hoses to remove the rest - both of which are labor intensive, costly, and involve safety issues.

Also at Conner Creek, the flushing reservoirs in the basin require the use of potable water (after the initial flush that uses CSO water). This consumes a significant amount of potable water, which is both costly and time-consuming.

At St. Aubin, solids accumulate in the effluent conduit, as well as the chemical mixing channels, and the removal and cleaning of these settled solids is costly and involve safety issues.

Scope of Work/Project Alternatives:

This project provides improvements in the influent area of Conner Creek to allow for more efficient removal of accumulated solids and to make the entire influent area more accessible for bobcat maneuverability throughout the entire influent area.

This project also provides for river water as a source of flushing water in the basin, which will provide water savings and will significantly reduce the time to fill the reservoirs.

At St. Aubin, the project includes a new effluent conduit flushing system to allow for routine and automatic flushing of accumulated solids.

Other Important Info:

The Conner Creek flushing work is being combined with St. Aubin because of the similarity of the design and nature of construction.

Primary Driver: 7 - Financial

Driver Explanation:

This project will improve the ability to remove solids from the Conner Creek influent area and St. Aubin effluent conduit, thus reducing GLWA staff time inside these areas. The use of river water instead of potable water was found to be a benefit in the CS-299 Facilities Assessment.

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Scoring

Project Manager Weighted Score: 73.5			
Criteria Name	Score	Score Criteria	Comment
Condition	1	A. Asset has >75% of its design service life remaining	
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	2	A. Low risk of causing	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	
Financial	5	A. Prevent higher cost projects; Substantial increase in revenue or savings; New customer acquisition for GLWA	
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings	

Review Committee Weighted Score: 74.4		
Criteria Name	Score	Comment
Condition	3	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	5	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/25/2027

Phase Status: Future Planned Start

End Date: 4/28/2034

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$64	\$0	\$0	\$0	\$0	\$2	\$9	\$9	\$9	\$29	\$35

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/25/2027	4/28/2034
Capital Delivery Salary (Fringes)	4/25/2027	4/28/2034

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/25/2027

Phase Status: Future Planned Start

End Date: 4/28/2034

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$1,401	\$0	\$0	\$0	\$0	\$58	\$315	\$314	\$153	\$841	\$561

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/25/2027	4/28/2034

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater **Start Date:** 10/27/2030

Phase Status: Future Planned Start **End Date:** 4/28/2034

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$5,605	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,605

Phase Dates

Activity Name	Start Date	End Date
Construction	10/27/2030	4/28/2034

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$64	\$0	\$0	\$0	\$0	\$2	\$9	\$9	\$9	\$29	\$35
Design/Engineering	\$1,401	\$0	\$0	\$0	\$0	\$58	\$315	\$314	\$153	\$841	\$561
Construction	\$5,605	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,605
Totals	\$7,070	\$0	\$0	\$0	\$0	\$59	\$324	\$324	\$162	\$870	\$6,200

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	\$704	\$0	\$0	\$0	\$151	\$268	\$285	\$138	\$1,474	\$7,006
2024	\$870	\$0	\$0	\$0	\$60	\$324	\$324	\$163	\$1,199	\$7,070
2025	\$708	\$0	\$0	\$0	\$0	\$0	\$60	\$324	\$323	\$7,070

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$7,070,077	\$0	\$0	\$0	\$59,389	\$324,424	\$323,537	\$162,422	\$869,772	\$6,200,305

Description of CIP Changes:

New CIP added 7/16/21. AC

2024 - updated timing of cip, tentative

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ **Project New to CIP**

☒ **Useful Life > 20 Yrs**

☐ **Multiple Phases**

Project Score

54.6

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



CSO Facilities Improvements

Project Manager: Kashmira Patel

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
7/19/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Wayne

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

Problem Statement:

A number of site-related improvements were identified at St. Aubin, Belle Isle and Baby Creek CSO Facilities under CS-299. At the St. Aubin outfall these include: 1) poor drainage in the access drive area between Atwater St. and the fenced area; 2) fencing in disrepair; 3) difficulty in removing hatch plates and 4) limited access to the backwater gates. Poor drainage of the access drive has damaged the road surface and created issues with accessibility to the secured area. In addition, the concrete surface at the northwest corner of the St. Aubin CSO facility has cracked due to settlement, causing runoff to flow back toward the building.

At Belle Isle, the sodium hypochlorite tanker trucks have difficulty maneuvering next to the site for chemical deliveries. Also, there are safety issues with water ponding near the entrance gate and on the basin surface.

At Baby Creek, the stop logs are stored outside. This damages the stop log rubber seals due to exposure to sunlight.

Scope of Work/Project Alternatives:

This project includes site improvements at these three CSO facilities. At St. Aubin, various site improvements will be made to address the problems noted above. At Belle Isle, the concrete pavement will be extended to provide an adequate turning radius for the chemical delivery trucks, and other site improvements will be made to address drainage issues. At Baby Creek, a new stop log storage shelter will be constructed to provide protection from UV light for the stop log seals.

Other Important Info:

None

Primary Driver: 7 - Financial

Driver Explanation:

Most of the improvements are O&M and safety related. CS-299 Facilities Assessment performed a best value alternatives evaluation and recommended these projects based on best value.

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

Scoring

Project Manager Weighted Score: 56.7			
Criteria Name	Score	Score Criteria	Comment
Condition	3	D. Moderate renewal or rehab needed in short term	Based on average CS-299 condition assessment scores in 2020 for affected assets.
Performance (Service Level/Reliability)	2	C. Project moderate to low positive impact on service levels and/or system reliability	The project will have a moderate to low positive impact on service levels and/or system reliability.
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	The project will have a moderate to low impact on regulatory issues.
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	Site improvements will have a moderate positive impact on O&M.
Health and Safety	3	B. Project moderate positive impact on staff/public H&S†	The project will have a moderate positive impact on staff H&S.
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships	The project will have no measurable public benefit.
Financial	4	B. Project will likely result in avoidance of fines, potential litigation, emergency repairs or damage to asset/public	Based on the total project cost of the project.
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	The project will have low impact on business process optimization; no time/cost saving.

Review Committee Weighted Score: 54.6		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	2	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/21/2027

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$12	\$0	\$0	\$0	\$0	\$0	\$2	\$2	\$2	\$7	\$5

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/21/2027	12/24/2032
Capital Delivery Salary (Fringes)	4/21/2027	12/24/2032

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/21/2027

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:

The overall cost has been reduced from Jacob's estimate as part of the previous alignment. Please see the schedule change request submitted on 5/24/23. The cost needs to be escalated to 2024 from \$275,500 to \$320,000.00 - KP- 05/1/24.

Cost Est. Class: Class 4

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$276	\$0	\$0	\$0	\$0	\$15	\$76	\$74	\$8	\$173	\$102

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/21/2027	12/24/2032

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 4/23/2030**Phase Status:** Future Planned Start**End Date:** 12/24/2032

Phase Comments/Description:

The overall cost has been reduced from Jacob's estimate as part of the previous alignment. Please see the schedule change request submitted on 5/24/23. Construction cost needs to be escalated and updated as the project progresses through the design phase - KP -05/01/24.

Cost Est. Class: Class 4**Cost Est. Source:** Jacobs**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$1,102	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16	\$16	\$1,086

Phase Dates

Activity Name	Start Date	End Date
Construction	4/23/2030	12/24/2032

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$12	\$0	\$0	\$0	\$0	\$0	\$2	\$2	\$2	\$7	\$5
Design/Engineering	\$276	\$0	\$0	\$0	\$0	\$15	\$76	\$74	\$8	\$173	\$102
Construction	\$1,102	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16	\$16	\$1,086
Totals	\$1,389	\$0	\$0	\$0	\$0	\$15	\$78	\$76	\$26	\$196	\$1,194

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	\$37	\$0	\$0	\$0	\$0	\$0	\$37	\$67	\$61	\$1,378
2024	\$94	\$0	\$0	\$0	\$0	\$0	\$15	\$78	\$76	\$1,390
2025	\$170	\$0	\$0	\$0	\$0	\$0	\$15	\$78	\$76	\$1,390

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$1,389,999	\$0	\$0	\$0	\$15,228	\$78,497	\$76,407	\$25,705	\$195,836	\$1,194,164

Description of CIP Changes:

New CIP added to Portal on 7/16/21 AC

Scoring updated - 07/2022.

Design Engineering Cost needs to be escalated from \$275,500 (2021) to \$320,000.00 (2024) - KP/4-29-24

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Project Status: Active - Procurement - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
57.8

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Project Manager: Brooke Ballard

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 4/15/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Various CSO Facilities

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Problem Statement:

A number of HVAC-related improvements were identified as needed at Puritan-Fenkell and Seven Mile CSO Facilities under CS-299. The improvements at both facilities require replacement of a large amount of HVAC equipment, due to age of the equipment or need to improve access for maintenance, and to provide monitoring for code compliance in the Odor Control and Headworks area.

Scope of Work/Project Alternatives:

This project includes replacement of HVAC equipment including PACU-1, HVU-1, HVU-2, HVU-3, SF-1, SF-2, and exhaust fans at both Puritan-Fenkell and Seven Mile CSO Facilities. Also, the project includes improvements to enhance safety in the Odor Control and Headworks areas at both the facilities to comply with NFPA 820. It also includes removal of HVAC equipment from the shunt channel and effluent channel since it is not used and are inoperable.

Other Important Info:

NA

Primary Driver: 4 - O and M

Driver Explanation:

Most of the improvements are O&M related (replacing aging equipment), with a safety component. The safety-related improvements include providing the proper frequency of air changes and installation of combustible gas detection with audible and visible alarms at all entrances and within the space of the respective areas.

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Scoring

Project Manager Weighted Score: 73.2			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining, B. Equipment/process functions but requires high level of maintenance to remain operational	Based on average CS-299 condition assessment scores in 2020 and a review of work order history
Performance (Service Level/Reliability)	2	C. Project moderate to low positive impact on service levels and/or system reliability, F. Improvements impact 1 wholesale/1,000 retail customers	Project has moderate to low positive impact on service levels and/or system reliability
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	Project will have a moderate to low impact on regulatory issues.
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	HVAC improvement should alleviate most ongoing O&M issues
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns	Project will have significant positive impact on staff H&S with improved ventilation.
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	Project has low or no measurable public benefit
Financial	4	F. Total financial consequence of \$1,000,000 - \$5,000,000	Based on total cost of project
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	Project will have low impact on business process optimization; no time/ cost saving

Review Committee Weighted Score: 57.8		
Criteria Name	Score	Comment
Condition	3	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	2	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 4/1/2024**Phase Status:** Project Execution**End Date:** 7/17/2029

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$14	\$6	\$5	\$2	\$2	\$2	\$2	\$2	\$0	\$6	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/1/2024	7/17/2029
Capital Delivery Salary (Fringes)	4/1/2024	7/17/2029

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Professional Services (CS-272)**Phase Title:** Professional Services (CS-272)

Phase Budget: **Start Date:** 4/18/2022**Phase Status:** Project Execution **End Date:** 5/19/2025

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 4/18/2022**Cost Est. Prepared By:** AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services (CS-272)	\$15	\$15	\$15	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	4/18/2022	5/19/2025

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/1/2025

Phase Status: Active - Pre-Procurement

End Date: 7/17/2029

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$1,200	\$0	\$0	\$115	\$461	\$424	\$75	\$119	\$6	\$1,085	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/1/2025	7/17/2029

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/1/2024

Phase Status: Active - Procurement

End Date: 7/17/2029

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Estimate based on previous proposals

Cost Est. Date: 1/1/2024

Cost Est. Prepared By: GLWA

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (net-zero cost account to be archived)	4/1/2024	7/17/2029

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 11/14/2026

Phase Status: Future Planned Start

End Date: 7/17/2029

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$5,400	\$0	\$0	\$0	\$0	\$1,266	\$2,023	\$2,017	\$94	\$5,400	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	11/14/2026	7/17/2029

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$14	\$6	\$5	\$2	\$2	\$2	\$2	\$2	\$0	\$6	\$0
Professional Services (CS-272)	\$15	\$15	\$15	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering	\$1,200	\$0	\$0	\$115	\$461	\$424	\$75	\$119	\$6	\$1,085	\$0
Construction	\$5,400	\$0	\$0	\$0	\$0	\$1,266	\$2,023	\$2,017	\$94	\$5,400	\$0
Totals	\$6,629	\$21	\$21	\$117	\$462	\$1,692	\$2,100	\$2,138	\$100	\$6,492	\$0

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	\$476	\$0	\$0	\$40	\$70	\$70	\$294	\$500	\$500	\$1,509
2024	\$776	\$0	\$0	\$15	\$85	\$84	\$90	\$499	\$498	\$1,523
2025	\$1,481	\$0	\$9	\$68	\$88	\$34	\$325	\$518	\$517	\$1,583

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$6,629,046	\$20,695	\$116,846	\$462,441	\$1,691,535	\$2,099,676	\$2,138,263	\$99,591	\$6,491,505	\$0

Description of CIP Changes:

New CIP added to Portal 7/16/21 AC

Project Score Updates 7/11/2022 BB

Updated Status 5/1/2024 BB

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

Project Status: Future Planned - Ten Year CIP

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

70.5

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Redundancy
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Conner Creek and Belle Isle CSO Facilities

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared: 7/19/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Detroit

Funds and Cost Center: Wastewater - 5421-892211

☐ 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:

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

Problem Statement:

A number of HVAC-related improvements were identified at Conner Creek and Belle Isle CSO Facilities under the CS-299 Facilities Assessment. Most of the improvements are related to ventilation, access to HVAC equipment and heating/cooling systems.

Scope of Work/Project Alternatives:

The project includes improvements to enhance safety in the Odor Control area at Belle Isle to comply with NFPA 820, as well as improve access to HVAC equipment in the Chemical Room and Odor Control Area. Other improvements at Belle Isle include the replacement of the unit heaters and improvements in the cooling of the Control Room and Sample Room. At Conner Creek, the project includes improvements to the heating of the Maintenance Shop, Electrical Room, and Control Room, and access to the Chemical Room AHU. It also includes enclosure of ductwork in the Maintenance Shop to meet NFPA-820; and installation of showers in the men's and women's restroom.

Other Important Info:

None

Primary Driver: 5 - Public Health and Safety

Driver Explanation:

Most of the improvements are O&M and safety related. The HVAC improvements will improve worker safety and achieve code compliance.

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

Scoring

Project Manager Weighted Score: 71.8			
Criteria Name	Score	Score Criteria	Comment
Condition	3	C. May have minor failures or diminished efficiency; some performance deterioration, D. Moderate renewal or rehab needed in short term	Based on average CS-299 condition assessment scores in 2020 for affected assets.
Performance (Service Level/Reliability)	2	C. Project moderate to low positive impact on service levels and/or system reliability	The project will have a moderate to low positive impact on service levels and/or system reliability.
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	The project will have a moderate to low impact on regulatory issues.
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	HVAC improvements under this project will alleviate most ongoing O&M issues.
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns	The project will have a significant positive impact on staff H&S with improved ventilation.
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships	The project has no measurable public benefit.
Financial	3	D. Canceling project moderate financial consequences (revenue loss, repair/restoration, downtime, fines, litigation)	Based on the total project cost of the project.
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	Low impact on business process optimization; no time/cost saving

Review Committee Weighted Score: 70.5		
Criteria Name	Score	Comment
Condition	2	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/23/2031

Phase Status: Future Planned Start

End Date: 4/26/2034

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/23/2031	4/26/2034
Capital Delivery Salary (Fringes)	4/23/2031	4/26/2034

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/23/2031

Phase Status: Future Planned Start

End Date: 4/26/2034

Phase Comments/Description:

The overall cost has been reduced from Jacob's estimate based on the previous alignment.

Cost Est. Class: Class 4

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$800

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/23/2031	4/26/2034

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 12/25/2032

Phase Status: Future Planned Start

End Date: 4/26/2034

Phase Comments/Description:

The overall cost has been reduced from Jacob's estimate based on the previous alignment. Schedule change requested was submitted on 5/24/23.

Cost Est. Class: Class 4

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$5,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000

Phase Dates

Activity Name	Start Date	End Date
Construction	12/25/2032	4/26/2034

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4
Design/Engineering	\$800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$800
Construction	\$5,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000
Totals	\$5,803	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,804

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	\$0	\$0	\$383
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$418
2025	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$418

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$5,803,759	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,803,759

Description of CIP Changes:

New CIP added to Portal 7/16/2021 AC.

Scoring updated - 07/2022.

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
59

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Project Manager: Andy Kinel

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/6/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Various CSO Facilities

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**
Program Number:
Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: TBD

Partners:
Collaboration Entity:

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Problem Statement:

There is a need to update the existing control system to the latest version of Ovation in order to standardize equipment and increase monitoring capabilities at Conner Creek, Oakwood, and Puritan-Fenkell CSO Facilities. In addition, lighting at these facilities is poor or non-existent in some locations, which makes for unsafe working conditions. There is a need for additional flow meters, level sensors, and process cameras at these facilities. Similar issues related to lighting, remote control and monitoring exist at the Seven Mile and St. Aubin facilities.

Scope of Work/Project Alternatives:

This project addresses control system and I&C issues at Conner Creek, Oakwood, and Puritan-Fenkell. The Ovation control system will be updated to the latest version, which will enhance overall performance. Additional lighting will be provide at these facilities to improve worker safety. At Conner Creek, redundant level sensors will be removed, a new flow meter for dewatering flow downstream of the junction chamber will be provided, and chemical tank level indication and process cameras will be installed. At Oakwood, local control stations will be provided for the chemical feed pump to improve operations and chemical tank level indication and process cameras will be provided at Oakwood and Puritan-Fenkell.

Lighting improvements at Seven Mile and St. Aubin, and I&C improvements at St. Aubin are also included in this project. I&C improvements at St. Aubin include providing remote control of flushing and dewatering pumps at the outfall, and for the flushing valve for the influent channel, as well as installation of process cameras.

Other Important Info:

N/a

Primary Driver: 4 - O and M

Driver Explanation:

Most of the upgrades will improve O&M capabilities and safety. The control system upgrade is required to maintain system reliability and additional lighting will improve working conditions in the confined spaces.

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Scoring

Project Manager Weighted Score: 73.2			
Criteria Name	Score	Score Criteria	Comment
Condition	2	D. Only minor renewal or rehab may be needed in the near term	Based on average CS-299 condition assessment scores in 2020 for affected assets.
Performance (Service Level/Reliability)	3	E. Canceling project potential for service/reliability issues† a few times/yr	Cancelling project would potentially cause reliability issues.
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	Project will have a moderate to low impact on regulatory issues
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	Control system improvements should alleviate most ongoing O&M issues
Health and Safety	4	B. Project significant positive impact on staff/public H&S±; Likely to address significant hazard issues or concerns	Project will have significant positive impact on staff H&S with additional lighting and remote control of equipment
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	Project has no measurable public benefit
Financial	5	F. Total financial consequence >\$5,000,000	Based on project cost
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	Low impact on business process optimization; no time/ cost savings

Review Committee Weighted Score: 59		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/22/2027

Phase Status: Future Planned Start

End Date: 12/31/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$54	\$0	\$0	\$0	\$0	\$2	\$9	\$9	\$9	\$30	\$24

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/22/2027	12/31/2032
Capital Delivery Salary (Fringes)	4/22/2027	12/31/2032

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/22/2027

Phase Status: Future Planned Start

End Date: 12/31/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$1,184	\$0	\$0	\$0	\$0	\$63	\$328	\$320	\$33	\$743	\$441

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/22/2027	12/31/2032

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 4/24/2030

Phase Status: Future Planned Start

End Date: 12/31/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$437	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6	\$6	\$431

Phase Dates

Activity Name	Start Date	End Date
Construction	4/24/2030	12/31/2032

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$54	\$0	\$0	\$0	\$0	\$2	\$9	\$9	\$9	\$30	\$24
Design/Engineering	\$1,184	\$0	\$0	\$0	\$0	\$63	\$328	\$320	\$33	\$743	\$441
Construction	\$437	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6	\$6	\$431
Totals	\$1,675	\$0	\$0	\$0	\$0	\$65	\$337	\$329	\$48	\$780	\$895

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	\$147	\$0	\$0	\$0	\$0	\$0	\$147	\$281	\$281	\$5,920
2024	\$402	\$0	\$0	\$0	\$0	\$0	\$65	\$337	\$329	\$5,975
2025	\$732	\$0	\$0	\$0	\$0	\$0	\$65	\$337	\$329	\$5,975

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$1,675,008	\$0	\$0	\$0	\$64,533	\$337,419	\$329,328	\$48,298	\$779,578	\$895,430

Description of CIP Changes:

New CIP added 7/16/21 AC.

Score Updated 7/12/2022 -BB

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
56.8

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Project Manager: Brooke Ballard

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/6/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Various CSO Facilities

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Problem Statement:

At Puritan Fenkell and Seven Mile, there are various issues that need to be addressed based on the CS-299 Facilities Assessment. There is poor accessibility to the bearing assemblies of the basin's tipping buckets and to the dewatering forcemain for inspection and cleaning. There are drainage issues at both facilities, which become a safety concern for personnel accessing the buildings during the winter months due to ice. At Puritan Fenkell, there is no means to isolate the dry and wet weather wet wells and the removal and installation of effluent stop logs is difficult. The entrance gate to Puritan-Fenkell has recurring maintenance issues which is a security concern. At Seven Mile, the effluent hatch cover plates are heavy and difficult to remove.

Scope of Work/Project Alternatives:

This project improves surface access to the tipping buckets and dewatering forcemains to facilitate O&M at both the facilities. Similarly, the project will improve the drainage of water at both facilities. At Puritan-Fenkell, isolation of the wet weather and dry weather wet wells will be provided and a stop log removal system will be provided. At Seven Mile, the hatch cover plates will be replaced with lighter-weight hatches. The effluent stop log and effluent hatch replacement would not be needed if these two basins are converted to complete capture basins.

Other Important Info:

The stop log and hatch replacement will not be needed if these basins are converted to complete capture.

Primary Driver: 4 - O and M**Driver Explanation:**

Most of the improvements are O&M and safety related. The CS-299 Facilities Assessment performed a best value evaluation of alternatives and recommended these projects based on this evaluation.

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Scoring

Project Manager Weighted Score: 71.9			
Criteria Name	Score	Score Criteria	Comment
Condition	1	A. Asset has >75% of its design service life remaining	
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	2	A. Low risk of causing	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	
Financial	4	A. Project will generate significant increased revenue/savings	
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	

Review Committee Weighted Score: 56.8		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/21/2028

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$8	\$0	\$0	\$0	\$0	\$0	\$0	\$2	\$2	\$4	\$4

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/21/2028	12/24/2032
Capital Delivery Salary (Fringes)	4/21/2028	12/24/2032

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/21/2028

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$179	\$0	\$0	\$0	\$0	\$0	\$18	\$89	\$5	\$112	\$66

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/21/2028	12/24/2032

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 4/23/2030

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$715	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51	\$51	\$665

Phase Dates

Activity Name	Start Date	End Date
Construction	4/23/2030	12/24/2032

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$8	\$0	\$0	\$0	\$0	\$0	\$0	\$2	\$2	\$4	\$4
Design/Engineering	\$179	\$0	\$0	\$0	\$0	\$0	\$18	\$89	\$5	\$112	\$66
Construction	\$715	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51	\$51	\$665
Totals	\$902	\$0	\$0	\$0	\$0	\$0	\$18	\$91	\$57	\$167	\$735

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	\$23	\$83	\$894
2024	\$18	\$0	\$0	\$0	\$0	\$0	\$0	\$18	\$91	\$902
2025	\$109	\$0	\$0	\$0	\$0	\$0	\$0	\$18	\$91	\$902

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$902,132	\$0	\$0	\$0	\$0	\$18,178	\$91,192	\$57,295	\$166,664	\$735,468

Description of CIP Changes:

2024 - No Updates -BB

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ **Project New to CIP**

☒ **Useful Life > 20 Yrs**

☐ **Multiple Phases**

Project Score

72

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Project Manager: Brooke Ballard

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
4/15/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Various CSO Facilities

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ **Is a Predecessor Project?**

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: Yes

Partners: Municipalities

Collaboration Entity:

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Problem Statement:

The Wastewater Master Plan identified that Puritan Fenkell and Seven Mile can be operated in complete capture mode for flows up to the 10-year 1-hour design storm. These facilities have not experienced the originally anticipated level of flows and, in fact, the facilities had no discharge for 3 years from 2016 to 2018 and only a few discharges from Puritan Fenkell in 2019 and 2020.

Scope of Work/Project Alternatives:

This project includes modifying Puritan-Fenkell and Seven Mile Facilities to capture-only facilities. This project may be modified by the LTCP, depending on it's acceptance.

Other Important Info:

NA

Primary Driver: 4 - O and M

Driver Explanation:

Conversion to complete capture would allow for the cost avoidance of operating and maintaining the sodium hypochlorite feed and storage systems, and would eliminate the need for operations labor to be onsite during a storm event. It would also eliminate the risk of permit violations.

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Scoring

Project Manager Weighted Score: 73.3			
Criteria Name	Score	Score Criteria	Comment
Condition	2	D. Only minor renewal or rehab may be needed in the near term	Based on average CS-299 condition assessment scores in 2020 for affected assets.
Performance (Service Level/Reliability)	2	C. Project moderate to low positive impact on service levels and/or system reliability	Project moderate to low positive impact on service levels and/ or system reliability
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	Project will have a moderate to low impact on regulatory issues.
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	Project will have a significant positive impact on O&M and will alleviate most ongoing issues.
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns	Project will have a significant positive impact on staff H&S
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	Project has little to no measurable public benefit
Financial	5	F. Total financial consequence >\$5,000,000	Based on total cost of project
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings	Project will have a moderate positive impact on savings; process efficiency for a more robust system and less O&M, and time and cost savings.

Review Committee Weighted Score: 72		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/22/2028

Phase Status: Future Planned Start

End Date: 4/25/2035

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$40	\$0	\$0	\$0	\$0	\$0	\$1	\$6	\$6	\$13	\$28

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/22/2028	4/25/2035
Capital Delivery Salary (Fringes)	4/22/2028	4/25/2035

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/22/2028

Phase Status: Future Planned Start

End Date: 4/25/2035

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$888	\$0	\$0	\$0	\$0	\$0	\$38	\$200	\$200	\$437	\$451

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/22/2028	4/25/2035

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater **Start Date:** 10/24/2031

Phase Status: Future Planned Start **End Date:** 4/25/2035

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$3,554	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,554

Phase Dates

Activity Name	Start Date	End Date
Construction	10/24/2031	4/25/2035

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$40	\$0	\$0	\$0	\$0	\$0	\$1	\$6	\$6	\$13	\$28
Design/Engineering	\$888	\$0	\$0	\$0	\$0	\$0	\$38	\$200	\$200	\$437	\$451
Construction	\$3,554	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,554
Totals	\$4,482	\$0	\$0	\$0	\$0	\$0	\$39	\$205	\$205	\$450	\$4,032

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	\$80	\$154	\$4,443
2024	\$39	\$0	\$0	\$0	\$0	\$0	\$0	\$39	\$206	\$4,482
2025	\$245	\$0	\$0	\$0	\$0	\$0	\$0	\$39	\$206	\$4,482

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$4,482,478	\$0	\$0	\$0	\$0	\$39,376	\$205,318	\$205,318	\$450,011	\$4,032,467

Description of CIP Changes:

New CIP added to Portal 7/16/21 AC.

Score updates - 7/11/2022 - BB

2024 - updated to 10 year CIP

Project Title: Hubbell Southfield CSO Facility Improvements

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Hubbell Southfield

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
75.7

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Hubbell Southfield CSO Facility

Project Manager: Kashmira Patel

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 7/19/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Wayne County - Outside Detroit

Lookup Location: Dearborn

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: Hubbell Southfield CSO Facility Improvements

Problem Statement:

The Hubbell Southfield CSO Basin was constructed in the late 1990s and is in need of major capital improvements. The spray-flushing system is ineffective for removing solids and debris from the floor of the basin and shunt channel after a storm event. Currently, operators must manually use fire hoses and lower a bobcat into the basin after storm events, which is a safety concern due to the confined space, sloped and slippery floors, and poor lighting. The dewatering pumps are unable to handle heavy grit loads, and the sump pumps in the basin were removed because they were being overwhelmed by solids. The chemical feed pumps are expensive to maintain and there is a lack of automation of the feed system. There is a need to update the control system to the latest version and increase monitoring capabilities. Site issues noted by CS-299 include basin roof drainage issues, the need for resurfacing the service drive around the basin and replacing security fencing.

Scope of Work/Project Alternatives:

A new basin flushing system was recommended by the CS-299 Facilities Assessment consisting of flushing gates and reservoirs (similar to those installed at Conner Creek, Oakwood, and Belle Isle CSO Facilities). The project will include new dewatering pumps to replace the existing and new basin sump pumps with a solids system to fluidize accumulated grit to replace non-functional pumps. The project also includes chemical feed system improvements, including pump replacement to standardize pumping systems between GLWA CSO facilities and automatic chemical feed control, control system replacement and various I&C improvements, and additional lighting in the basin and around the site.

Other Important Info:

Additional required repairs were identified in preliminary BODR performed by AECOM under CS272 Task 7-2-030-A.

Primary Driver: 5 - Public Health and Safety

Driver Explanation:

Most of the improvements are O&M-related, with a regulatory component. The permit requirement to clean the basin after every storm event is not being achieved. The proposed flushing system should alleviate this issue by allowing the basin to be cleaned after every event. The proposed chemical feed system improvements should allow the system to better control hypochlorite feed rates, improving the ability to meet effluent total residual chlorine (TRC) goals set by EGLE, and possibly avoid the addition of Dechlorination.

Project Title: Hubbell Southfield CSO Facility Improvements

Scoring

Project Manager Weighted Score: 79.5			
Criteria Name	Score	Score Criteria	Comment
Condition	5	B. Excessive maint. levels for the equipment/process area	The flushing system does not perform as intended, sludge accumulation happens after every event and becomes a challenge for removal and disposal of it. Also, chemical runs out for most of the back-to-back events and needs an additional chem storage tank for larger or back-to-back events.
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions, B. High risk of performance failure; doesn't meet future requirements	Current flushing performance is unacceptable because it requires manual cleaning after every event. Chem runs out for larger and back-to-back rain events.
Regulatory (Environmental/Legal)	3	B. Project will have a moderate positive impact on reg. issues	Chemical feed system improvements should provide an improved ability to meet effluent TRC goals.
Operations and Maintenance	5	B. Requires constant monitoring/manual operation because it is unable to be run automatically, D. Project major, measurable positive impact on O&M; will completely alleviate ongoing O&M issues	Flushing system and chemical feed system improvements should minimize most ongoing O&M issues.
Health and Safety	4	B. Project significant positive impact on staff/public H&S±; Likely to address significant hazard issues or concerns	The project will have a significant positive impact on staff H&S because operators will not need to routinely enter the basin for flushing.
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships	The project has no measurable public benefit
Financial	5	E. Canceling project major/extensive financial consequences from revenue loss, repair/restoration/O&M cost, downtime, fines, damages, litigation etc.; major budget implications requiring deferral or cutbacks in other areas	Based on the total project cost of the project
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	This project will improve the flushing and chemical feed system.

Project Title: Hubbell Southfield CSO Facility Improvements

Review Committee Weighted Score: 75.7		
Criteria Name	Score	Comment
Condition	2	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	5	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Hubbell Southfield CSO Facility Improvements

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 9/25/2023**Phase Status:** Project Execution**End Date:** 6/22/2032

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$654	\$59	\$53	\$63	\$77	\$77	\$77	\$77	\$77	\$385	\$153

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	9/25/2023	6/22/2032
Capital Delivery Salary (Fringes)	9/25/2023	6/22/2032

Project Title: Hubbell Southfield CSO Facility Improvements

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 1/10/2022

Phase Status: Closed Out

End Date: 7/1/2022

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 1/11/2022

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$417	\$417	\$417	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	1/10/2022	7/1/2022

Project Title: Hubbell Southfield CSO Facility Improvements**Phase:** Design/Engineering (2202386)**Phase Title:** Design/Engineering (2202386)**Phase Budget:** Wastewater**Start Date:** 9/25/2023**Phase Status:** Closed Out**End Date:** 6/22/2024**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** Engineer**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Wade Trim**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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (2202386)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (2202386)	9/25/2023	6/22/2024

Project Title: Hubbell Southfield CSO Facility Improvements

Phase: Design/Engineering (2103225)

Phase Title: Design/Engineering (2103225)

Phase Budget: Wastewater

Start Date: 9/25/2023

Phase Status: Project Execution

End Date: 6/22/2032

Phase Comments/Description:

The project started on 9/25/23 and currently is in the Design Phase and project deliverables are expected per set milestones - KP /05-01-24.

Cost Est. Class: Class 1

Cost Est. Source: Engineer

Cost Est. Date: 8/28/2023

Cost Est. Prepared By: Wade Trim Associates, Inc.

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering (2103225)	\$11,418	\$3,662	\$2,038	\$2,089	\$1,219	\$1,219	\$1,222	\$1,219	\$1,206	\$6,086	\$1,205

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (2103225)	9/25/2023	6/22/2032
Design/Engineering (net-zero cost account to be archived)	9/25/2023	6/22/2032
Design/Engineering (net-zero cost account to be archived)	9/25/2023	6/22/2032

Project Title: Hubbell Southfield CSO Facility Improvements

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 6/25/2026**Phase Status:** Future Planned Start**End Date:** 6/22/2032

Phase Comments/Description:Based on the Engineer's 30% Design OPCC is \$51,769,830 ~ \$52,000,000.00

Cost Est. Class: Class 3**Cost Est. Source:** Engineer**Cost Est. Date:** 4/3/2024**Cost Est. Prepared By:** Engineer

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$51,753	\$0	\$0	\$0	\$29	\$1,743	\$7,366	\$13,069	\$13,069	\$35,275	\$16,478

Phase Dates

Activity Name	Start Date	End Date
Construction	6/25/2026	6/22/2032

Project Title: Hubbell Southfield CSO Facility Improvements

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$654	\$59	\$53	\$63	\$77	\$77	\$77	\$77	\$77	\$385	\$153
Professional Services	\$417	\$417	\$417	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (2202386)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineering (2103225)	\$11,418	\$3,662	\$2,038	\$2,089	\$1,219	\$1,219	\$1,222	\$1,219	\$1,206	\$6,086	\$1,205
Construction	\$51,753	\$0	\$0	\$0	\$29	\$1,743	\$7,366	\$13,069	\$13,069	\$35,275	\$16,478
Totals	\$64,243	\$4,138	\$2,508	\$2,153	\$1,325	\$3,039	\$8,666	\$14,365	\$14,352	\$41,746	\$17,836

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	\$8,876	\$0	\$533	\$1,600	\$1,600	\$1,800	\$3,343	\$8,799	\$8,799	\$38,576
2024	\$19,513	\$425	\$6	\$228	\$2,971	\$2,521	\$3,082	\$10,711	\$10,768	\$52,837
2025	\$29,456	\$425	\$14	\$2,021	\$3,032	\$449	\$7,915	\$9,042	\$9,017	\$54,520

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$64,243,015	\$2,508,499	\$2,152,591	\$1,324,793	\$3,038,674	\$8,666,046	\$14,365,088	\$14,351,705	\$41,746,307	\$17,835,618

Description of CIP Changes:

Based on WT's estimate, the construction cost is estimated to be around \$52,000,000.00 - kp/04-29-24

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Hubbell Southfield

☐ **Project New to CIP**
☐ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
50.2

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



CSO Hubbell Southfield VR-8 Gate Improvements

Project Manager: Brooke Ballard

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 4/15/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Wayne County - Outside Detroit

Lookup Location: Dearborn

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

Problem Statement:

The VR-8 Regulator is located upstream of the Hubbell-Southfield CSO Facility in the center median of Michigan Avenue east of the Southfield Freeway. The regulator consists of two stainless steel slide gates that are adjusted by SCADA control to regulate flow from the Hubbell-Southfield sewer to the NWI. A rehabilitation project was designed in 2013, but not implemented. Rehabilitation of the VR-8 Regulator is still needed.

Scope of Work/Project Alternatives:

The rehabilitation of the VR-8 Regulator includes replacement of the slide gates and actuator together with access improvements in the median near the gates and the control panel. The improvements will help maintain system reliability and functionality.

Other Important Info:

n/a

Primary Driver: 4 - O and M

Driver Explanation:

These improvements are intended to restore the condition of the existing equipment.

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

Scoring

Project Manager Weighted Score: 49.5			
Criteria Name	Score	Score Criteria	Comment
Condition	2	D. Only minor renewal or rehab may be needed in the near term	Based on average CS-299 assessment scores in 2020 for affected assets
Performance (Service Level/Reliability)	3	E. Canceling project potential for service/reliability issues† a few times/yr	Cancelling project would potentially cause reliability issues
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	Project will have a moderate to low impact on regulatory issues
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	VR-8 Gate improvements should alleviate most ongoing O&M issues.
Health and Safety	2	B. Project limited positive impact on staff/public H&S†; No major staff or hazard issues or concerns addressed	Project has limited positive impact on staff/ public H&S
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	Project has no measurable public benefit
Financial	4	F. Total financial consequence of \$1,000,000 - \$5,000,000	Based on total project cost.
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	Low impact on business process optimization; no time/ cost saving

Review Committee Weighted Score: 50.2		
Criteria Name	Score	Comment
Condition	3	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	2	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/21/2027

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:
Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$16	\$0	\$0	\$0	\$0	\$1	\$3	\$3	\$3	\$9	\$7

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/21/2027	12/24/2032
Capital Delivery Salary (Fringes)	4/21/2027	12/24/2032

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/21/2027

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$354	\$0	\$0	\$0	\$0	\$19	\$98	\$95	\$10	\$222	\$132

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/21/2027	12/24/2032

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 4/23/2030

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$1,416	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100	\$100	\$1,316

Phase Dates

Activity Name	Start Date	End Date
Construction	4/23/2030	12/24/2032

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$16	\$0	\$0	\$0	\$0	\$1	\$3	\$3	\$3	\$9	\$7
Design/Engineering	\$354	\$0	\$0	\$0	\$0	\$19	\$98	\$95	\$10	\$222	\$132
Construction	\$1,416	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100	\$100	\$1,316
Totals	\$1,785	\$0	\$0	\$0	\$0	\$20	\$101	\$98	\$113	\$331	\$1,454

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	\$50	\$0	\$0	\$0	\$0	\$0	\$50	\$82	\$80	\$1,770
2024	\$120	\$0	\$0	\$0	\$0	\$0	\$20	\$101	\$98	\$1,786
2025	\$218	\$0	\$0	\$0	\$0	\$0	\$20	\$101	\$98	\$1,786

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$1,785,839	\$0	\$0	\$0	\$19,566	\$100,864	\$98,177	\$112,814	\$331,421	\$1,454,418

Description of CIP Changes:

New CIP added to Portal 7/16/21 AC.

Score updated 7-12-2022

2024 - No Updates -BB

Project Title: Baby Creek Outfall Improvements Project

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Baby Creek

☐ Project New to CIP

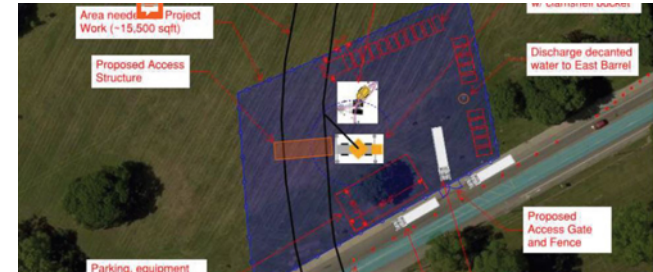
☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

80.1

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Redundancy
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Baby Creek Outfall Improvements Project

Project Manager: Paul Ransom

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
8/9/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Baby Creek CSO Facility

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: DB (Design-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Baby Creek Outfall Improvements Project

Problem Statement:

A facility is required to be constructed in order to ensure continued access to the Baby Creek Outfall. In addition system improvements which address sediment accumulation are needed to ensure the CSO can meet NPDES requirements. This system improvement will likely be a flushing system installed inside the outfall, but the best solution is not known at this time. The triple barrel Baby Creek Outfall consists of (3) 14'-6" wide by 17'-6" tall concrete box culverts which extend from the Baby Creek Screening & Disinfection Facility to the Baby Creek Outfall on the Rouge River (approximately 5,500 feet). Sediment accumulation has been an ongoing problem in the outfall, since original construction because there is no way to flush the outfall, and the accumulated debris from the outfall. Having debris in the outfall results in loss in capacity to transport flow, potential re-growth of bacteria during events making disinfection more difficult or require more chemical disinfection, and limiting GLWA's ability to perform inspections and assess the condition of the entire pipe.

Scope of Work/Project Alternatives:

This project consists of a study and design. Construction is anticipated but since the flushing system solution is not known at this time this phase is not included in the project due to the variability in alternatives and their associated costs. The study and design will assess the proper ways to clean the pipes, facilitate future maintenance, flushing of the pipes after rain events, and perform assessments of the backwater gates ensuring proper instrumentation is installed in the outfall to facilitate better operations and monitoring. The current pipes through the Woodmere Cemetery have a very minimal easement making future maintenance and access very difficult. This project will endeavor to identify the limits of a proper easement which will facilitate access necessary for GLWA to properly maintain the outfall, and the Consultant will assist GLWA in acquiring these easements. This easement will likely be through Woodmere Cemetery and the Patton Park between Vernor & the Baby Creek SDF.

Other Important Info:

The current outfall cannot be flushed and the solids level builds up after each rain event. Furthermore, the rising river level continues to impact this facility and its outfall capacity. The build up of sludge inhibits does not favor Baby Creek in passing the necessary flows because the capacity of the pipes are reduced due to the reduction in cross-sectional area.

Primary Driver: 2 - Performance**Driver Explanation:**

Over 6 feet of sediment has accumulated in some areas which affects the ability of the CSO outfalls to meet NPDES requirements and interferes with the proper operation of the backwater gates. There is currently no means to clean this sediment in the outfall. Current access points in the cemetery are contained within a limited easement that prohibits conducting regular cleanings because there are gravesites over the pipe, and inadequate space for equipment. An access facility is required to provide access in the future.

Project Title: Baby Creek Outfall Improvements Project

Scoring

Project Manager Weighted Score: 79.7			
Criteria Name	Score	Score Criteria	Comment
Condition	2	A. Asset has <75% of its design service life remaining	
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems	
Regulatory (Environmental/Legal)	3	A. Moderate risk of causing	
Operations and Maintenance	5	A. Unsustainable levels of O/M required to keep in service that will still not ensure future stable/proper operation	
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	

Review Committee Weighted Score: 80.1		
Criteria Name	Score	Comment
Condition	2	Scores carried over from previous year
Performance (Service Level/Reliability)	5	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: Baby Creek Outfall Improvements Project

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:** Project Execution**End Date:** 11/6/2025

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$1,782	\$481	\$469	\$896	\$417	\$0	\$0	\$0	\$0	\$417	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	11/7/2022	11/6/2025
Capital Delivery Salary (Fringes)	11/7/2022	11/6/2025
Other Capital Improvement Costs	7/1/2021	11/6/2025

Project Title: Baby Creek Outfall Improvements Project

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 7/22/2019

Phase Status: Pending Close-out

End Date: 5/19/2025

Phase Comments/Description:
Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 11/1/2019

Cost Est. Prepared By: AECOM

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Professional Services	\$1,400	\$1,223	\$1,227	\$173	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contr. Professional Services (CS-272 - 71009A.01/02/03, 72009B.01/C.01, 72019A.01, 72022A.03)	7/22/2019	5/19/2025
Contr. Professional Services (CS-272)	7/22/2019	5/19/2025
Construction (CS-272) (net-zero cost account to be archived)	7/22/2019	5/19/2025

Project Title: Baby Creek Outfall Improvements Project

Phase: Design-Build # 1

Phase Title: Design-Build # 1

Phase Budget: Wastewater

Start Date: 11/7/2022

Phase Status: Project Execution

End Date: 11/6/2025

Phase Comments/Description:

Phase includes design of flushing system for the outfall, and subsequent construction of the outfall. This project phase will include construction, but the construction phase is not identified as of yet because of the selected alternatives are not known and the costs can vary significantly. Project will also include improvements to the backwater gates and instrumentation.

Cost Est. Class: Class 1

Cost Est. Source: Jay Dee Contracting

Cost Est. Date: 2/1/2022

Cost Est. Prepared By: Jay Dee Contracting

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design-Build # 1	\$13,131	\$5,909	\$4,685	\$6,128	\$2,317	\$0	\$0	\$0	\$0	\$2,317	\$0

Phase Dates

Activity Name	Start Date	End Date
Design-Build (1902908)	11/7/2022	11/6/2025
Construction (net-zero cost account to be archived)	11/7/2022	11/6/2025

Project Title: Baby Creek Outfall Improvements Project

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$1,782	\$481	\$469	\$896	\$417	\$0	\$0	\$0	\$0	\$417	\$0
Professional Services	\$1,400	\$1,223	\$1,227	\$173	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design-Build # 1	\$13,131	\$5,909	\$4,685	\$6,128	\$2,317	\$0	\$0	\$0	\$0	\$2,317	\$0
Totals	\$16,312	\$7,613	\$6,381	\$7,197	\$2,735	\$0	\$0	\$0	\$0	\$2,735	\$0

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

CIP	5 Year Total	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
2021	\$2,158	\$79	\$1,251	\$907	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,237
2022	\$17,680	\$2	\$1,143	\$1,807	\$1,507	\$6,796	\$6,796	\$774	\$0	\$0	\$0	\$18,826
2023	\$11,450	\$2	\$1,067	\$218	\$1,250	\$2,600	\$2,600	\$2,600	\$2,400	\$550	\$0	\$13,286
2024	\$12,156	\$2	\$1,067	\$484	\$2,126	\$3,303	\$3,294	\$3,294	\$2,266	\$0	\$0	\$15,835
2025	\$9,377	\$2	\$1,067	\$484	\$1,721	\$3,664	\$3,554	\$3,450	\$2,372	\$0	\$0	\$16,313

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$16,312,714	\$6,380,985	\$7,196,933	\$2,734,795	\$0	\$0	\$0	\$0	\$2,734,795	\$0

Description of CIP Changes:

2019 - Project added to the database.

2020-07 - Project scope, schedule, budget updated.

2024 - no major updates, just updated phases.

Project Title: Baby Creek CSO Facility Influent Flushing System

Project Status: Future Planned - Ten Year CIP

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Baby Creek

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
72.3

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Redundancy**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Baby Creek CSO Facility Influent Flushing System

Project Manager: Brooke Ballard

Director: Chris Nastally

Managing Dept.: Wastewater Engineering

Date Original Business Case Prepared:
 4/15/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Wayne County - Outside Detroit

Lookup Location: Baby Creek

Funds and Cost Center: Wastewater - 5421-892211

☐ **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:

Project Title: Baby Creek CSO Facility Influent Flushing System

Problem Statement:

A significant amount of solids can accumulate in the Baby Creek influent channel area, immediately upstream of the weir wall at the Headworks. Significant solids buildup can cause hydraulic restrictions and impede inspection of the influent flow meters. There is no flushing system at this location and solids removal must be performed periodically by a contractor which is costly. In addition, the S-2-1 sluice gate opening does not extend to the bottom of the influent channel to allow for complete dewatering (or solids flushing) of the influent area.

Scope of Work/Project Alternatives:

This project includes evaluation and construction of a new flushing system in the influent area. The project will also include modifying the opening of the sluice gate S-2-1 to make the bottom of the gate opening at a lower elevation which would allow the flushed solids to enter the dewatering well.

Other Important Info:

NA

Primary Driver: 4 - O and M

Driver Explanation:

With a flushing system, the solids in the influent area can be removed after every storm, thus reducing buildup of solids and significantly reducing risk in accessing this area..

Project Title: Baby Creek CSO Facility Influent Flushing System

Scoring

Project Manager Weighted Score: 73.6			
Criteria Name	Score	Score Criteria	Comment
Condition	2	D. Only minor renewal or rehab may be needed in the near term	Based on average CS-299 condition assessment scores in 2020 for affected assets.
Performance (Service Level/Reliability)	3	E. Canceling project potential for service/reliability issues† a few times/yr	Cancelling project would potentially cause reliability issues
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	Project will have a moderate to low impact on regulatory issues
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	Project will have significant positive impact on staff H&S because operators will not need to routinely enter the basin for flushing
Health and Safety	4	B. Project significant positive impact on staff/public H&S†; Likely to address significant hazard issues or concerns	Project will have significant positive impact on staff H&S because operators will not need to routinely enter the basin for flushing
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	Project has no measurable public benefit
Financial	4	F. Total financial consequence of \$1,000,000 - \$5,000,000	Based on total project cost of project
Efficiency and Innovation	3	B. Moderate positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	Project will have a moderate positive impact on water savings; process efficiency for a more robust system and less O&M, and time and cost savings.

Project Title: Baby Creek CSO Facility Influent Flushing System

Review Committee Weighted Score: 72.3		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: Baby Creek CSO Facility Influent Flushing System

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/21/2034

Phase Status: Future Planned Start

End Date: 12/25/2037

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (Direct Labor)	4/21/2034	12/25/2037
Capital Delivery Salary (Fringes)	4/21/2034	12/25/2037

Project Title: Baby Creek CSO Facility Influent Flushing System

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/21/2034

Phase Status: Future Planned Start

End Date: 12/25/2037

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: CS-299

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Design/Engineering	\$148	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$89

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/21/2034	12/25/2037

Project Title: Baby Creek CSO Facility Influent Flushing System

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 4/23/2036

Phase Status: Future Planned Start

End Date: 12/25/2037

Phase Comments/Description:
Cost Est. Class: Class 5

Cost Est. Source: CS-299

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Jacobs

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
Construction	\$591	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	4/23/2036	12/25/2037

Project Title: Baby Creek CSO Facility Influent Flushing System

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	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
GLWA Salaries	\$7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2
Design/Engineering	\$148	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$89
Construction	\$591	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$744	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$91

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	\$0	\$0	\$738
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$746
2025	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$746

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Total Costs	Prior FYs	FY25	FY26	FY27	FY28	FY29	FY30	5 Year Total	FY31-35
\$744,959	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$90,772

Description of CIP Changes:

New CIP added to Portal 7/16/21. AC

Score Updated - 7/12/2022

CS-299 - updated phases, nothing else required.