



**Construction Work-in-Progress Quarterly Report  
(Unaudited, Pre-close)**

**As of March 31, 2018**

**For questions, please contact:**

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## Table of Contents

<b>Introduction.....</b>	<b>1</b>
<b>Water system .....</b>	<b>4</b>
Percent of Spend Compared to Budget and Capital Improvement Plan (CIP) Requests .....	4
Analysis of Projects with Largest Percent of Spend .....	5
Construction Work-in-Progress Rollforward .....	15
CIP Allowance and Program Summary .....	23
Budget Amendment Reporting .....	29
<b>Wastewater system .....</b>	<b>36</b>
Percent of Spend Compared to Budget and Capital Improvement Plan (CIP) Requests .....	36
Analysis of Projects with Largest Percent of Spend and Otherwise Noteworthy Projects .....	37
Construction Work-in-Progress Rollforward .....	46
CIP Allowance and Program Summary .....	51
Budget Amendment Reporting .....	55
<b>Glossary of Acronyms .....</b>	<b>61</b>

**June 15<sup>th</sup>, 2018****To Our Stakeholders:**

The contents of this report represent the financial presentation of construction work-in-progress activity for the Great Lakes Water Authority (GLWA) as of March 31, 2018. The information in this report presents a snapshot to inform decision makers and stakeholders. This is important as we manage the capital program for the remainder of FY 2018 and approach the implementation of the FY 2019–2023 Capital Improvement Plan (CIP).

This report remains relatively new and will continue to improve each quarter to inform decision makers and stakeholders.

**Report Contents and Organization**

This report is divided into two sections: one for the Water System and one for the Wastewater System as identified in the table of contents. Each section includes analysis and reporting of the following:

*Percent of Spend Compared to Budget and Capital Improvement Plan (CIP) Requests:* Presentation of spend information is necessary to report our progress on CIP projects.

*Analysis of Projects with Largest Percent of Spend and Otherwise Noteworthy Projects:* A combination of commentary and analysis provides further insight into risk factors and project status. An excerpt from the CIP for each of the selected projects follows the commentary as further background information.

*Construction Work-in-Progress Rollforward:* This table provides a list of all projects in the CIP along with status or financial activity. This table may be used to revisit priorities, workload, and phasing.

*Budget Amendments / Allowance & Program Analysis:* This information identifies the specific usage and the reallocation of allowance and program budgets to CIP projects

### Financial Information

All project amounts are unaudited and are “pre-close”. This means that direct contractor costs are generally included in these totals with most pay estimates entered through March 31, 2018. There may, however, be some pay estimates that lag. The totals do not include indirect overhead or capitalized interest.

### Budget vs. Plan

Generally, GLWA’s CIP projects span two or more fiscal years. The GLWA Board of Directors adopts a biennial “budget” and a five-year capital improvement “plan”.

- ✓ The adopted **budget** relates to operations and maintenance expense, annual fixed commitments such as debt service, and incremental adjustments to reserves. The budget provides authority to spend within defined amounts. The budget is also referred to as the “revenue requirement” for the utility.
- ✓ The CIP “budget” for the same biennial budget period above is based on the first two years of the CIP. Funding for these projects are established in the financial plan through a combination of bond proceeds and Improvement & Extension fund reserves
- ✓ The five-year capital improvement **plan** is a rolling plan that is updated at an administrative tracking level as projects move from estimated to actual bid numbers. An updated mid-cycle CIP would be presented to the Board for approval if the prioritization strategy was revised and/or the plan was in need of material revisions.

### Future Enhancements

This report presents information that is readily available. Currently under development are enhancements that will provide the opportunity for improved CWIP reporting.

*Monthly Capital Spend Projections* – Improvements are underway related to preliminary monthly spend information, projected out for the duration of the CIP, and communicated with Treasury to allow for investment optimization. This reporting is being developed as a joint effort with our engineering partners. This will also allow for improved accuracy of our Key Performance Indicator on rate of spending.

**Future Enhancements Continued...**

*Direct Labor Capitalization* – Technology solutions have been procured to improve direct labor capture accuracy, timeliness and ease in which labor cost are captured with anticipated implantation date of July 1, 2018.

*Indirect Labor Capitalization* – An effort to identify and capture indirect labor related to the capital process remains underway.

*Alignment of Budget & CIP* – During the development of the FY 2019–2023 CIP Plan, FY 2018 budgeted CIP was reforecast to align with anticipated spend. The resulting budget amendments will be entered and reflected in future period CWIP reports. This budget realignment will be reflected in the June 30, 2018 CWIP report.

*Key Performance Indicators* – KPI's under consideration include CIP spend vs book value assets, percentage growth of project in amount and duration, actual vs planned number of projects completed, and actual vs planned monthly capital spend.

**WATER SYSTEM**

**Percent of Spend Compared to Annual Budget and Capital Improvement Plan (CIP) Requests**

The rate of spend of is a key performance indicator. The ratios for FY 2017 (twelve months) of 37.9% and for FY 2018 (nine months) of 23.9% are lower than simple benchmark of 80% and 75% respectively. This is attributable to three reasons. First is the competition for staff priorities during stand-up of the GLWA (primarily during FY 2017). Second, is the alignment of projects identified and staff or contractor resources to carry out the projects. Several key hires occurred during the past year which will improve this performance. Third, is the phasing of CIP activity which is being further refined throughout GLWA.

Water System Projects	FY 2017 Original Plan and Budget (Twelve Months)	FY 2017 Activity	FY 2017 Activity as a Percentage of Budget	FY 2018 Amended Budget	FY 2018 Prorated (Nine Months)	FY 2018 Pre-Close Activity (Nine Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Nine Months) (Unaudited)
FY 2017 CIP Project Requests @ 100%	\$ 130,232,000	\$ 39,483,833	30.3%				
FY 2017 CIP Net Budget (approx. 80% of request)	104,185,600	39,483,833	37.9%				
FY 2018 CIP Project Requests @ 100%				\$ 137,655,000	\$ 103,241,250	\$ 19,778,231	19.2%
FY 2018 CIP Net Budget (approx. 80% of request)				110,124,000	82,593,000	19,778,231	23.9%

**It should be noted that these interim reports have been prepared on a modified cash basis. This means that expenses may lag in vendor invoice receipt and posting. Known expenses, material in nature, have been accrued.**

### Analysis of Projects with Largest Percent of Spend and Otherwise Noteworthy Projects

Of the total Water System Construction Bond spend for FY 2018 to date, **four projects account for \$8.5 million or 43.2% of the total spend**. Those projects are summarized in the following table. An analysis of each project and its related CIP summary follow the table. Note that the last page of this report provides a Glossary of Acronyms.

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget Per CIP	FY 2018 Pre-Close Activity (Nine Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Nine Months) (Unaudited)
<b>Project 114001- Springwells WTP 1958 Filter Rehabilitation</b>	\$ 77,422,000	\$ 82,884,422	\$ 1,200,000	\$ 4,597,124	<b>23.2%</b>
<b>Project 114003-Water Production Flow Metering Improvements at NE, SW, and SPW WTP Total</b>	12,900,000	184,952	8,800,000	848,784	<b>4.3%</b>
<b>Project 114015-Emergency Grating Replacement at Springwells WTP</b>	2,500,000	253,623	2,000,000	2,170,291	<b>11.0%</b>
<b>Project 116002- PA, SW and NE Raw Water Tunnel Improvements</b>	32,400,000	10,401	2,000,000	921,391	<b>4.7%</b>
<b>Selected Projects as a Percentage of the Total</b>	<u>\$ 125,222,000</u>	<u>\$ 83,333,398</u>	<u>\$ 14,000,000</u>	<u>\$ 8,537,590</u>	<u><b>43.2%</b></u>
<b>Total</b>			<u><b>\$ 137,655,000</b></u>	<u><b>\$ 19,778,231</b></u>	<u><b>100.0%</b></u>

The following analysis provides brief highlights related to these projects.

**Project 114001 – Springwells Water Treatment Plant 1958 Filter Rehabilitation**

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget Per CIP	FY 2018 Pre-Close Activity (Nine Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Nine Months) (Unaudited)
<b>Project 114001- Springwells WTP 1958 Filter Rehabilitation</b>	\$ 77,422,000	\$ 82,884,422	\$ 1,200,000	\$ 4,597,124	<b>23.2%</b>
<b>Prebifurcation budget not included in CIP 114001</b>	6,500,000				
<b>Total Project Budget</b>	<u>\$ 83,922,000</u>				

**Project Engineer/Manager:** Grant Gartrell

**Manager:** Grant Gartrell

**Total Construction and Construction Assistance Budget:** \$77,422,000

**Timeline:** To be completed by November 2018

**FY 2018 Last Pay Estimate Processed:** March 31, 2018

**Key Contracts/Vendors:** SP-563 Walsh Construction; CS-1425 & CS-200 CDM Michigan

**Project Description:** Installation of new filter media, underdrains, filter valves and rate controllers; replace the existing filter control console and hydraulic controls at Springwells Water Treatment Plant.

**Purpose:** Rehabilitation of both filter trains to restore filtration capacity and sustain the useful service life of the process treatment infrastructure.

**Status:** Construction continues with the installation of new stop logs and guides in the 1930 weir chamber, renovation of the laboratory and offices in the administration building, installation of new heating, ventilating and air-conditioning equipment in the administration building, rehabilitation of elevators in the switch house, store house and boiler house buildings, and construction of the 1958 breezeway.

**Additional Project Manager Comments:** None.

**Additional Construction Accounting & Financial Reporting Team Comments:** Total project budget per the Board approved CIP schedule does not include the historical, pre-fiscal year 2017 budget for the design contract CS-1425 nor the allocation of the Water Treatment Plant Allowance to fund CS-200 the Owner’s Representative (RPR) consultant contract. The design contract has a total budget amount of \$6,500,000.



**FY 2018-2022 CIP Page VI-3 for Project 114001 – Springwells Water Treatment Plant 1958 Filter Rehabilitation**

**CIP Number:** CIP 917  
**Title:** SPRINGWELLS WATER TREATMENT PLANT 1958 FILTER REHABILITATION AND AUXILIARY FACILITIES

**Classification:** 114: Water > Treatment Plants & Facilities > Springwells  
**Managing Dept:** Water Eng  
**RC Score:** NA  
**Contract No.:** CS-1425, SP-563  
**Significance:** Rehabilitation of Springwells WTP 1958 Filters and 1930s failed filters to provide the WTP with a renovated capacity of 295 MGD  
**Location:** Springwells WTP  
**Driver:** N/A - Active  
**Explanation:** N/A - Active

**Preliminary Scope of Work:**

This project includes the study, design (CS-1425) and construction assistance of improvements to the Springwells WTP that includes the replacement of Phosphoric Acid Feed System, rehabilitation of the 1958 Filters, rehabilitation of failed 1930s Filters, Update of Operation and Maintenance Manuals, and addition of polymer systems and controls. Provide construction services to furnish and install new filter media, underdrains, filter valves, and rate controllers; replace the existing filter control consoles, hydraulic control valves with electric control valves, enclosures; add appurtenances to enable automatic backwashing of the filters; provide a Filter Aid Polymer System to the 1930 and 1958 filter complexes; Programmable Logic Controller-based controls for automatic control of the polymer system; install a local instrumentation and controls system.

**Challenges:** N/A - Active

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
S/D/C A	Active	1/18/2008	1/18/2018	\$0	\$353	\$95	\$0	\$0	\$0	\$0	\$0	\$95	\$448
C	Active	7/8/2013	3/14/2018	\$56759	\$20000	\$215	\$0	\$0	\$0	\$0	\$0	\$215	\$76974
<b>Totals</b>				\$56759	\$20353	\$310	\$0	\$0	\$0	\$0	\$0	\$310	\$77422



Springwells filter building

\*Budget Amendment 6094 for RPR Services increases planned CIP from \$310,000 to \$1,200,000

**Project 114015 – Emergency Grating Replacement at Springwells WTP**

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget Per CIP	FY 2018 Pre-Close Activity (Nine Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Nine Months) (Unaudited)
<b>Project 114015-Emergency Grating Replacement at Springwells WTP</b>	2,500,000	253,623	2,000,000	2,170,291	<b>11.0%</b>

**Project Manager/Manager:** Erich Klun

**Manager:** Grant Gartrell

**Total Budget:** \$2,500,000

**Timeline:** The contract time was extended by 210 calendar days due to additional scope in the amount of \$745,186, as per Change Order No. 1, approved by the Board of Directors on April 25, 2018 and now ends on November 27, 2018.

**FY 2018 Last Pay Estimate Processed:** March 31, 2018

**Key Contracts/Vendors:** SCP-DB-112 Barton Malow Company

**Project Description:** The base scope of the contract involves replacement of grating and supports in the low lift pumping station at elevation 42.0 feet and replacement of the low lift station sump pumps. Change Order No. 1 added the replacement of select high lift header piping steel supports in the high-lift header vault, replacement of a steel reinforced concrete column in the basement of the administration building, and replacement of hatch covers at an outdoor vault near the drainage pump house at the site.

**Purpose:** Replace grating, supports, columns, and hatch covers that are significantly deteriorated and are in danger of failure. Replace sump pumps in the low lift station that are not reliable and protect the low lift station from flooding.

**Status:** The base scope of the contract is complete in the low lift station and contractor is proceeding with the additional scope added via Change Order No. 1 totaling \$745,186 as detailed in project description above.

**Additional Project Manager Comments:** None.

**Additional Construction Accounting & Financial Reporting Team Comments:** None.

**FY 2018-2022 CIP Page VI-71 for Project 114015 – Emergency Grating Replacement at Springwells**

**CIP Number:** CIP 1412  
**Title:** EMERGENCY GRATING REPLACEMENT AT SPRINGWELLS WTP

**Classification:** 114: Water > Treatment Plants & Facilities > Springwells  
**Managing Dept:** WSO Engineering

**RC Score:** NA

**Contract No.:** NA

**Significance:** Original grating and supporting structural steel dating back to 1930 has deteriorated to the point where operator, consultant and contractor safety at Springwells is severely compromised. Additionally, structural failure could result in lost water production at Springwells.

**Location:** Springwells Water Treatment Plant

**Driver:** 1 – Condition

**Explanation:** Failure of structural components could injure personnel and/or take Springwells out of commission

**Preliminary Scope of Work:**

Refer to the RFP and proposals received. The scope is very well defined, and the winning proposal is very well authored. It involves a lot of demolition and replacement of deteriorated grating and structural steel at five (5) locations at Springwells, the bulk of which is in the Low Lift Station.

**Challenges:** Maintaining operations through execution of the work.

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
D	New	NA	NA	\$0	\$250	\$250	\$0	\$0	\$0	\$0	\$0	\$250	\$500
C	New	NA	NA	\$0	\$250	\$1750	\$0	\$0	\$0	\$0	\$0	\$1750	\$2000
Totals				\$0	\$500	\$2000	\$0	\$0	\$0	\$0	\$0	\$2000	\$2500



**Project 114003-Water Production Flow Metering Improvements at NE, SW and SPW WTP**

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget Per CIP	FY 2018 Pre-Close Activity (Nine Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Nine Months) (Unaudited)
<b>Project 114003-Water Production Flow Metering Improvements at NE, SW, and SPW WTP Total</b>	12,900,000	184,952	8,800,000	848,784	<b>4.3%</b>

**Project Engineer/Manager:** Jorge Nicholas

**Manager:** Grant Gartrell

**Total Budget:** \$12,900,000

**Timeline:** July 31, 2019

**FY 2018 Last Pay Estimate Processed:** March 31, 2018

**Key Contracts/Vendors:** CON-133 Lakeshore Global Corporation

**Project Description:** Rehabilitate the existing water production meters at Northeast, Southwest and Springwells Water Treatment Plants.

**Purpose:** Rehabilitation of the meters will provide direct measurement of finished water flows that are pumped out of the plants to the transmission system. The rehabilitated flow meters will improve the accuracy and reliability of measuring water production flows from these water treatment plants.

**Status:** Construction work is currently being performed at the Northeast and Southwest Water Treatment Plants with work at Springwells work to commence in May 2018. Work at Northeast includes demolition of existing mechanical and electrical equipment in the meter vaults and site work. Substantial work has been completed post March 31, 2018. Work at Southwest includes removal of an existing venturi meter and preparation for the installation of the new venturi tube. The new venturi tubes that have been fabricated have been flow tested at Utah State University.

**Additional Project Manager Comments:** None.

**Additional Construction Accounting & Financial Reporting Team Comments:** None.

**FY 2018-2022 CIP Page VI-17 for Project 114003-Water Production Flow Metering Improvements at NE, SW and SPW WTP**

**CIP Number:** CIP 1264

**Title:** WATER PRODUCTION FLOW METERING IMPROVEMENTS AT NE, SW, AND SPW WTP

**Classification:** 114: Water > Treatment Plants & Facilities > Springwells

**Managing Dept:** Water Eng

**RC Score:** 41.4

**Contract No.:** NA

**Significance:** Existing water production flow meters need to be rehabilitated to place back into reliable and accurate service. Once completed, accurate flow measurement from these plants will answer non-revenue water questions.

**Location:** Springwells, Northeast and Southwest WTP

**Driver:** 7 - Financial

**Explanation:** Not provided.

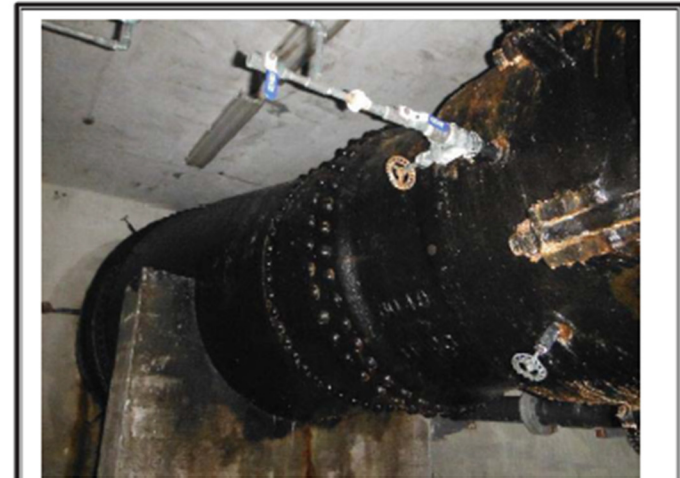
**Preliminary Scope of Work:**

Water production metering is needed at the Water Treatment Plants to manage non-revenue and provide estimates of usage for non-wholesale customers.

**Challenges:** Removing and replacing existing meters in original piping requires isolation using existing yard piping and valving. Condition of existing pipe and valves needs to be adequately addressed in the final design documents and coordinated with operations.

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
C	Not Yet Started	NA	NA	\$0	\$1000	\$8800	\$2100	\$1000	\$0	\$0	\$0	\$11900	\$12900
Totals				\$0	\$1000	\$8800	\$2100	\$1000	\$0	\$0	\$0	\$11900	\$12900



Water production flow metering device

**Project 116002 – PA, SW and NE Raw Water Tunnel Improvements**

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget Per CIP	FY 2018 Pre-Close Activity (Nine Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Nine Months) (Unaudited)
<b>Project 116002- PA, SW and NE Raw Water Tunnel Improvements</b>	32,400,000	10,401	2,000,000	921,391	<b>4.7%</b>

**Project Engineer/Manger:** Todd King

**Manager:** Grant Gartrell

**Total Budget:** \$32,400,000

**Timeline:** The detailed investigation and preliminary design work under this contract is scheduled to be completed by March 2019. Once the preliminary design is complete, the vendor will submit a guaranteed maximum price (GMP) for the construction of the raw water tunnel rehabilitation and improvements work which is tentatively scheduled to be completed by 2021.

**FY 2018 Last Pay Estimate Processed:** March 31, 2018

**Key Contracts/Vendors:** DB-150 / Ballard Marine Construction

**Project Description:** This is a progressive design build project delivery that involves the detailed inspection, design and construction of the improvements to the Pennsylvania, Northeast and Springwells raw water tunnels.

**Purpose:** Rehabilitate sections of the Pennsylvania, Northeast and Springwells raw water tunnels where substantial deterioration in the form of cracking and ovality have been observed.

**Status:** The contract started on January 29, 2018. The project kickoff workshop has been conducted and the vendor is currently preparing its implementation and safety plans for entering the raw water tunnels to conduct a detailed inspection. The results of the detailed inspection will be used to prepare the preliminary design documents for the project.

**Project 116002 – PA, SW and NE Raw Water Tunnel Improvements – Continued**

**Additional Project Manager Comments:** If GLWA and the vendor are unable to negotiate a GMP that is acceptable to GLWA, then GLWA will use the scope of the preliminary design to publicly bid the project as a design-build project delivery.

**Additional Construction Accounting & Financial Reporting Team Comments:** None.

**FY 2018-2022 CIP Page VI-55 for Project 116002 - PA, SW and NE Raw Water Tunnel Improvements**

**CIP Number:** CIP 1327  
**Title:** PENNSYLVANIA, SPRINGWELLS AND NORTHEAST RAW WATER SUPPLY TUNNEL IMPROVEMENTS BASED ON CONTRACT CS-1623 INSPECTION RESULTS

**Classification:** 116: Water > Treatment Plants & Facilities > General Purpose  
**Managing Dept:** Water Eng  
**RC Score:** 64.4  
**Contract No.:** DB-150  
**Significance:** Project critical to production at Springwells WTP during repurposing of Northeast WTP as recommended by the 2015 WMPU. Contract CS-1623 identified problem areas on the raw water supply system that compromised the system's ability to meet demands during the repurposing of Northeast WTP.  
**Location:** Springwells, Northeast, & Pennsylvania raw water tunnels  
**Driver:** 1 - Condition  
**Explanation:** Failure of the affected raw water tunnels could impact as much as 50% of the GLWA customers.



Crown cracks are especially concerning in the Springwells Raw Water Tunnel

**Preliminary Scope of Work:**

The scope of work is to conduct supplemental investigations to design the repairs for the sections of tunnel identified in CS-1623 as having structural concerns. Three areas were identified with the highest concern being a portion of the Springwells Tunnel near the Springwells WTP.

**Challenges:** The tunnels are approximately 80 feet below the surface of the Detroit River. This poses challenges for assessing the extent of damage to the structures, as well as repair. Dewatering the tunnels to repair them will create extensive stresses that must be considered prior to performing the work.

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
DB	Not Yet Started	NA	NA	\$0	\$500	\$2000	\$10000	\$15000	\$4900	\$0	\$0	\$31900	\$32400
Totals				\$0	\$500	\$2000	\$10000	\$15000	\$4900	\$0	\$0	\$31900	\$32400



## Construction Work-in-Progress Rollforward

The purpose of the construction work-in-progress (CWIP) rollforward is to analyze the current year activity for each project in relation to the overall capital improvement program as well as the project portfolio overall.

The CWIP Rollforward provides a project status for each item.

Future Year:	Project that was included in the CIP with no expenditures (F)
Active:	Project in which procurement process has been initiated and expenditures incurred (A)
Pending Close:	Project that has no projected expenditures for the current fiscal year and has reached substantial completion (PC)
Closed:	Project that has been closed and capitalized (C)

Projects in bold font on the CWIP Rollforward were discussed in further detail previously in this report.

As shown in the summary below, the Water System CWIP Rollforward identifies 110 projects with a total budgeted value of \$1.17 billion. Of that total, \$178.9 million (unaudited) is in CWIP as of March 31, 2018 as shown in the table beginning on the next page.

The order of the report on the subsequent pages is from largest spend in FY 2018 dollars first.

Status	Project Count	Total Project Estimated Budget	Percent of Total
Future Years (Post FY 2018)	23	134,605,000	12%
Active	76	987,196,000	84%
Pending Close	8	45,537,000	4%
Closed	3	2,041,000	0%
<b>Grand Total</b>	<b>110</b>	<b>1,169,379,000</b>	<b>100%</b>

**Great Lakes Water Authority**  
**Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward**  
**Unaudited, Pre-Close Activity For the Quarter Ended March 31, 2018**

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)							FY 2018 Activity (Unaudited), Pre-Close	Unaudited, Pre-Close CWIP Balance, March 31, 2018
					Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)		
004430	Project 004430-DWSD: Contract Replacement Water Main	A	-	75,804								-	75,804
007412	Project 007412- Water Main Repairs shared service with DWSD	A		536,930	2,638,895							2,638,895	3,175,825
111001	Project 111001-Energy Management: Lake Huron Water Treatment Plant Low Lift Pumping Improvements	F	5,700,000	-								-	-
111002	Project 111002 LHWTP Backflow Replacement	A	7,902,000	309,471	442,443	31,288			1,708	680		476,119	785,589
111003	Project 111003-Evaluation of Flocculation Improvement Alternatives at the LHWTP	F	125,000	-								-	-
111004	Project 111004-Electrical Tunnel Rehabilitation at Lake Huron WTP	A	5,600,000	-		3,265						3,265	3,265
111005	Project 111005-Miscellaneous Concrete Improvements at the Lake Huron WTP	PC	923,000	754,581					2,010	804		2,813	757,395
111006	Project 111006-Replacement of Filter Instrumentation and Raw Water Flow Metering Improvements at Lake Huron WTP	A	24,630,000	253,138		351,672			76	30		351,779	604,917
111007	Project 111007-Lake Huron WTP-Raw Sludge Clarifier and Raw Sludge Pumping System Improvements	A	7,133,000	9,332		189,840						189,840	199,172
112001	Project 112001-Yard Piping Replacement at Northeast Water Treatment Plant	F	800,000	-								-	-
112002	Project 112002-Low Lift Pumping Plant Caisson Rehabilitation at Northeast WTP	A	1,775,000	163,085		33,248			5,175	2,066		40,489	203,574
113001	Project 113001-Southwest Water Treatment Plant, Sludge Treatment & Waste Wash water Treatment Facilities	A	49,380,000	39,885					4,891	1,956		6,847	46,732
113002	Project 113002-High Lift Pump Discharge Valve Actuators Replacement at Southwest WTP	A	2,120,000	115,027		96,216			11,118	4,441		111,775	226,802
113003	Project 113003-Replacement of Butterfly Valves and Sluice Gates for Rapid Mix Chamber at Southwest WTP	F	2,940,000	-		26,608			5,682	2,271		34,560	34,560
113004	Project 113004-Residual Handling Facility's Decant Flow Modifications at Southwest WTP	A	5,509,000	141,675								-	141,675
<b>114001</b>	<b>Project 114001-Springwells Water Treatment Plant 1958 Filter Rehabilitation and Auxiliary Facilities</b>	<b>A</b>	<b>\$ 78,312,000</b>	<b>\$ 82,884,422</b>	<b>\$ 3,892,785</b>	<b>\$ 540,301</b>			<b>\$ 100,380</b>	<b>\$ 45,622</b>	<b>\$ 18,036</b>	<b>4,597,124</b>	<b>87,481,546</b>

**Great Lakes Water Authority**  
**Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward**  
**Unaudited, Pre-Close Activity For the Quarter Ended March 31, 2018**

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)							Unaudited, Pre-Close CWIP Balance, March 31, 2018	
					Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)		FY 2018 Activity (Unaudited), Pre-Close
114002	Project 114002-Springwells Water Treatment Plant - Low Lift and High Lift Pump Station	A	86,000,000	22,480		187,109				5,728	641	193,479	215,959
114003	<b>Project 114003-Water Production Flow Metering Improvements at NE, SW, and SPW WTP</b>	A	<b>12,900,000</b>	<b>184,952</b>	<b>726,725</b>	<b>88,187</b>				<b>25,482</b>	<b>8,389</b>	<b>848,784</b>	1,033,736
114004	Project 114004-Miscellaneous Concrete Improvements at Springwells WTP	A	998,000	-								-	-
114005	Project 114005-Administration Building Improvements at Springwells WTP	F	2,000,000	-								-	-
114006	Project 114006-Replacement of Rapid Mix Units at Springwells WTP 1958 Process Train	A	1,250,000	104,286		20,902				4,831	1,356	27,089	131,374
114007	Project 114007-Powdered Activated Carbon System Improvements at Springwells WTP	F	2,900,000	-								-	-
114008	Project 114008-1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements at Springwells WTP	F	7,500,000	-								-	-
114009	Project 114009-Springwells Water Treatment Plant Service Area Redundancy Study	A	450,000	193,332		120,856				1,878	751	123,484	316,816
114010	Project 114010-Yard Piping Improvements at Springwells WTP	F	25,000,000	-								-	-
114011	Project 114011-Steam, Condensate Return, and Compressed Air Piping Improvements at Springwells WTP	A	6,250,000	279,784		22,475				12,478	4,378	39,331	319,114
114012	Project 114012-Springwells Water Treatment Plant 1930 Filter Building-Roof Replacement	A	3,000,000	-						264	106	370	370
114013	Project 114013-Springwells Reservoir Fill Line Improvements	A	7,914,000	119,663		75,505				6,700	979	83,184	202,847
114014	Project 114014-Springwells WTP Underground Fire Protection Loop Improvements	F	3,289,000	-								-	-
114015	<b>Project 114015-Emergency Grating Replacement at Springwells WTP</b>	A	<b>2,500,000</b>	<b>253,623</b>	<b>2,152,690</b>	<b>6,334</b>				<b>11,048</b>	<b>219</b>	<b>2,170,291</b>	2,423,914
115001	Project 115001-Yard Piping, Valves and Venturi Meters Replacement at Water Works Park	A	53,900,000	8,977		452,326				5,776	2,309	460,412	469,389

**Great Lakes Water Authority**  
**Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward**  
**Unaudited, Pre-Close Activity For the Quarter Ended March 31, 2018**

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)							FY 2018 Activity (Unaudited), Pre-Close	Unaudited, Pre-Close CWIP Balance, March 31, 2018
					Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)		
115002	Project 115002-Miscellaneous Concrete and Road Improvements at Waterworks Park WTP	PC	3,036,000	1,951,164	16,102	9,676				4,750	1,900	32,428	1,983,592
115003	Project 115003-Comprehensive Condition Assessment at Waterworks Park WTP	A	575,000	-		176,766				5,362	1,941	184,069	184,069
115004	Project 115004-Water Works Park WTP Chlorine System Upgrade	A	9,690,000	370,797	432,800	24,721				6,418	2,157	466,096	836,893
116001	Project 116001-Miscellaneous Improvements to Raw Water Tunnels, Shafts and Related Structures	F	2,500,000	-								-	-
116002	<b>Project 116002-Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements based on Contract CS-1623 Inspection Results</b>	<b>A</b>	<b>32,400,000</b>	<b>10,401</b>	<b>921,391</b>							<b>921,391</b>	<b>931,792</b>
116003	Project 116003-Genesee and Lapeer County Transmission System Improvements	F	6,800,000	-								-	-
122001	Project 122001-Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road	PC	30,008,000	32,570,891		5,400						5,400	32,576,291
122002	Project 122002-Replacement of Five (5) PRV Pits of Treated Water Transmission System	A	2,220,000	1,696,488						76	30	106	1,696,595
122003	Project 122003-New Waterworks Park to Northeast Transmission Main	A	130,000,000	19,372		894,981				10,278	4,035	909,294	928,666
122004	Project 122004-96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main	A	139,000,000	459,919		276,048				19,138	6,547	301,733	761,651
122005	Project 122005-Transmission System Water Main Work - Replacement of Schoolcraft Water Main	F	14,550,000	-		3,960						3,960	3,960
122006	Project 122006-Transmission System Water Main Work-Wick Road Parallel Water Main	A	19,350,000	23,300								-	23,300
122007	Project 122007-Design and Construction of a new Newburgh Road 24" Main along Newburgh Road between Cherry Hill and Glenwood Avenue	F	4,000,000	-								-	-
122009	Project 122009-Water System Improvements in Joy Road from Southfield Road to Trinity	PC	8,423,000	106,881								-	106,881

**Great Lakes Water Authority**  
**Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward**  
**Unaudited, Pre-Close Activity For the Quarter Ended March 31, 2018**

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)							FY 2018 Activity (Unaudited), Pre-Close	Unaudited, Pre-Close CWIP Balance, March 31, 2018
					Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)		
122010	Project 122010-Water Main Replacement within the City of Detroit - Joy Rd from Greenfield to Schaefer and Davison Ave from Linwood to Livernois	F	3,128,000	-								-	-
122011	Project 122011-Park-Merriman Water Main-Final Phase	F	4,000,000	-								-	-
122012	Project 122012-36-inch Water Main in Telegraph Road	A	7,061,000	8,125,683	743,386	29,305			5,954	2,381		781,026	8,906,709
122013	Project 122013-Lyon Township Transmission Main Extension Project	F	29,800,000	-								-	-
122014	Project 122014-48-Inch Water Main Installation at Vining and Wick Roads in Romulus	A	4,535,000	3,839,433	110,084	7,512						117,596	3,957,029
122015	Project 122015-30-Inch Water Main	PC	2,327,000	2,345,314	115,459							115,459	2,460,774
132001	Project 132001-Wick Road Station Rehabilitation	A	13,702,000	85					123	49		173	258
132002	Project 132002-Replacement of Switchgear at Joy Road Pumping Station	C	612,000	-								-	-
132003	Project 132003-Isolation Gate Valves for Line Pumps for West Service Center Pumping Station	A	1,521,000	66,236		56,032			750			56,782	123,018
132004	Project 132004-Hydraulic Surge Control for North Service Center Pumping Station	A	2,800,000	75,075		45,422			5,247	2,091		52,760	127,834
132005	Project 132005-Energy Management: Evaluate Alternatives and Recommend Corrective Actions to Improve Power Factors (PF) at Various GLWA Booster Pumping Stations	F	250,000	-								-	-
132006	Project 132006-Pressure and Control Improvements at the Electric, Ford Road, Michigan, and West Chicago Water Booster Pumping Stations	A	3,000,000	7,524		87,065			3,454	1,382		91,901	99,425
132007	Project 132007-Energy Management: Freeze Protection Pump Installation at Imlay Pumping Station	F	1,000,000	-								-	-
132008	Project 132008-Needs Assessment Study for all Water Booster Pumping Stations	A	1,700,000	33,385		620,318			18,263	1,504		640,084	673,470
132009	Project 132009-Study Phase Services for Proposed East Service Center Booster Pumping Station and Reservoir	A	500,000	10,313								-	10,313

**Great Lakes Water Authority**  
**Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward**  
**Unaudited, Pre-Close Activity For the Quarter Ended March 31, 2018**

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)							Unaudited, Pre-Close CWIP Balance, March 31, 2018	
					Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)		FY 2018 Activity (Unaudited), Pre-Close
132010	Project 132010-West Service Center/Duval Rd Division Valve Upgrades	A	11,800,000	-		(23,023)						(23,023)	(23,023)
132011	Project 132011-Energy Management: West Service Center (WSC) VFD Installation	F	3,334,000	-								-	-
132012	Project 132012- Ypsilanti Pumping Station Improvements	A	-	-						548	217	765	765
161001	Project 161001-Comprehensive Water Master Plan Update	PC	290,000	-								-	-
170011	Project 170011-Miscellaneous Heating Improvements Southwest WTP	C	563,000	-	3,916					2,659	1,064	7,638	7,638
170100	Project 170100-Allowance: WTP/Pump Station	A	76,877,010	-								-	-
170101	Project 170101-Master Specs	PC	300,000	-								-	-
170102	Project 170102-Water Production Plant Flow Metering Improvements at NE, SP & SW WTP	A	1,989,000	269,071	49,008					183	72	49,263	318,335
170103	Project 17103-Belle Isle Water Supply Intake and Ice Boom Improvements	A	369,150	6,243	148,090	13,943						162,033	168,276
170104	Project 170104-Orion and Newburgh Pumping Stations Improvements	A	2,590,000	164,615		36,369				16,464	4,854	57,687	222,303
170105	Project 170105-Phosphoric Acid and Heating System and NE-WTP	A	1,804,620	1,949,623						233	93	327	1,949,950
170106	Project 17016- Phosphoric Acid Tank Replacement LHWTP	F	575,000									-	-
170107	Project 170107- Belle Isle Water Supply Intake Lagoon Main Entrance Bridge Pile Restoration	A	358,500	12,041	259,431	15,346				5,473	2,189	282,439	294,480
170108	Project 170108- Adams Road Water Isolation Gate	A	1,092,500	625								-	625
170109	Project 170109-Inspection of Raw Water Intakes and Tunnels	A	2,076,120	2,920,548		118,214				1,392	557	120,163	3,040,711
170110	Project 170110- WWP WTP Raw Water Smapling Improvements	A	535,600							402	161	562	562
170113	Project 170113-Water Plant Automation	A	1,610,000	12,933		582,004						582,004	594,936
170117	Project 170117-Instrument Air Compressor Systems Replacement at NE-WTP	PC	230,000	226,483								-	226,483
170118	Project 170118-1958 Sedimentation Basin	C	866,000	-								-	-
170119	Project 170119- Belle Isle Water Supply Intake Lagoon	F	115,000									-	-
170120	Project 170120-Phosphoric Acid Feed System Improvements at Southwest WTP	A	207,500	87,031		13,345				5,329	2,129	20,803	107,834

**Great Lakes Water Authority**  
**Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward**  
**Unaudited, Pre-Close Activity For the Quarter Ended March 31, 2018**

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)							Unaudited, Pre-Close CWIP Balance, March 31, 2018	
					Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)		FY 2018 Activity (Unaudited), Pre-Close
170200	Project 170200-As Needed Construction Materials, Environmental Media and Special Testing Services, Construction Inspection, and Other Technical Services	A	-	-								-	-
170201	Project 17020- Job Order Contract for Construction, Environmental, Special Testing, Inspection and Other Technical Services	A	1,500,000							206	82	288	288
170300	Project 170300-Water Treatment Plant Automation Program	A	5,890,000	-								-	-
170400	Project 170400-Water Transmission Improvement Program	A	45,666,500									-	-
170401	Project 170401-Emergency Bypass Around Ypsilanti Station	A	1,150,000	373,858						329	132	461	374,318
170402	Project 170402-Emergency Manned Visual Inspection 84-Inch Transmission Main	A	163,500	121,400		34,620						34,620	156,020
170403	Project 170403-Lapeer County Chlorine Booster Station	A	3,020,000	579,723								-	579,723
170500	Project 170500-Transmission System Valve Assessment and Rehabilitation/Replacement	A	-	-								-	-
170502	Project 170502-Transmission System Valve Assessment and Rehabilitation/Replacement	A	15,330,000		1,279,399							1,279,399	1,279,399
170600	Project 170600-Water Transmission Main Asset Assessment Program	A	10,626,000	-								-	-
170701	Project 170701-Booster Station & Reservoirs Program Management	A	11,975,000	12,913,885		(206,805)						(206,805)	12,707,080
170800	Project 170800-Reservoir Inspection, Design and Rehabilitation at Imlay Station, Adams Station, Haggerty Stations, LH-WTP, SP-WTP and SW-WTP	A	11,000,000	-								-	-
170900	Project 170900-Suburban Water Meter Pit Rehabilitation and Meter Replacement	A	20,500,000	-								-	-
331001	Project 331002-Roofing Replacement	F	11,500,000	-								-	-
351001	Project 351001-Water Facility Lighting Renovations	F	2,799,000	-								-	-
361001	Project 361001-Consolidated Process Control Systems	A	4,237,000	146,482	166,250							166,250	312,732
361002	Project 361002-Data Control Reliab/Avail Improvements	A	2,851,000	16,080								-	16,080
361003	Project 361003-SCADA Radio Network Upgrade	A	3,484,000	467,427								-	467,427

# Water System Construction Work-in-Progress Quarterly Report

As of March 31, 2018

Great Lakes Water Authority  
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward  
Unaudited, Pre-Close Activity For the Quarter Ended March 31, 2018

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)							Unaudited, Pre-Close CWIP Balance, March 31, 2018		
					Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)		FY 2018 Activity (Unaudited), Pre-Close	
380401	Project 380400-As-Needed CIP Implementation Assistance and Related Services	A	-	105,339		33,587						33,587	138,926	
380500	Project 380500-Department-Wide General Engineering Services on an As-Needed Basis	A	-	-								-	-	
380501	Project 380501-Department-Wide General Engineering Services on an As-Needed Basis	A	5,260,000	132,282		11,911						11,911	144,193	
380600	Project 380600-General Engineering Services	A	-	-								-	-	
380601	Project 380601-General Engineering Services	A	8,014,000	157,971						329	82	411	158,382	
380701	Project 380701-Engineering Services for Concrete Testing, Geotechnical Soil Borings and Services	A	2,556,000	115,418		93,045					288	115	93,448	208,866
380800	Project 380800-Geotechnical and Related Services on an As-Needed Basis	A	2,573,000	-								-	-	
380801	Project 380801-Geotechnical and Related Services on an As-Needed Basis	A	-	82,476								-	82,476	
380900	Project 390900-General Engineering Services	A	1,513,000	-								-	-	
380901	Project 380901- General Engineering Services	A	-	74,791		18,232				3,986	1,594	23,812	98,604	
381000	Project 381000-Energy Management: Electric Metering Improvement Program	A	3,000,000	-								-	-	
<b>Total # of Projects and Dollars</b>	<b>110</b>		<b>\$ 1,169,379,000</b>	<b>\$ 159,099,050</b>	<b>\$ 14,098,855</b>	<b>\$ 5,224,128</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 100,380</b>	<b>\$ 268,097</b>	<b>\$ 86,771</b>	<b>\$ 19,778,231</b>	<b>\$ 178,877,281</b>	
FY 2018 - 2022 Water CIP Total (Page IV-2)			<u>\$ 1,169,378,000</u>	<u>\$ 159,099,050</u>								<u>19,778,231</u>		
Difference due to rounding			(1,000)	-								-		
Items to be reclassified to Capital Outlay FY 2018				<u>287,488</u>										
Total CWIP Reported on FY 2017 Financial Statements				<u>159,386,538</u>										



## **CIP Allowance and Program Summary**

Within the FY 2018 – 2022 CIP, GLWA has developed budgets for allowances and programs that provide GLWA flexibility in capital development and improvements.

Allowances are established to provide funding related to unanticipated pipeline and equipment failures that require immediate repair and rehabilitation to continuously meet level of service requirements. Allowances can also be allocated to projects with anticipated or actual spend in excess of CIP budget.

Programs are established to provide funding related to specific capital improvements that are system specific, reoccurring, and vary from year to year.

Below are the allowances and programs within the Water System.

### **Allowance**

170100: Water Treatment Plant / Pump Station Allowance

### **Programs**

170200: As Needed Construction Materials, Environmental Media and Special Testing, Construction Inspection, and Other Technical Services

170300: Water Treatment Plant Automation Program

170400: Water Transmission Improvement Program

170500: Transmission System Valve Rehabilitation and Replacement Program

170600: Water Transmission Main Asset Assessment Program

170700: Reservoirs Inspection, Repair and Rehabilitation Program

170800: Reservoir Inspection, Design and Rehabilitation at Imlay Station, Adams Station, Haggerty Station, LH-WTP, SPW-WTP and SW-WTP

170900: Suburban Water Meter Pit Rehabilitation and Meter Replacement

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Allowance: 170100 Water Treatment / Pump Station**

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
<b>170100</b>		<b>Water Treatment / Pump Station Allowance</b>			<b>19,650,000</b>	<b>20,000,000</b>	<b>20,000,000</b>	<b>10,000,000</b>	<b>10,000,000</b>
111002	CON-212	Lake Huron Treatment Plant Mechanical Improvements	9410	Board	(381,000)	(579,000)			
112002	CON-215	Low Lift Chaisson Rehabilitation at NEWTP	6857	Administrative	(247,000)	(195,000)	0	0	0
114001	CS-200	Resident Project Representative and O&M for SP-564	6904	Administrative	(890,000)	0	0	0	0
114013	SCP-CS-038	Professional Engineering Services Springwell WTP	6905	Administrative	(207,000)	(172,500)	(34,500)	0	0
170011	SCP-SW-011	Miscellaneous Heating Improvements at Southwest WTP			0	0	0	0	0
170101	SCP-CS-1630	Water Transmission Pipeline Improvements			0	0	0	0	0
170102	SCP-CS-1656	Water Production Plant Flow Meter	6859	Administrative	(105,000)	0	0	0	0
170103	SCP-CON-094	Belle Isle Ice Boom Replacement & Reinforcement Upgrade			0	0	0	0	0
170104	CON-225	Orion Pumping Station Improvements	6923	Board	(500,000)	(1,800,000)	0	0	0
170105	SCP-NE-017	Phosphoric Acid and Heating System Improvements			0	0	0	0	0
170106	SCP-LH-398	Phosphoric Acid Tank Replacement LHWT			0	0	0	0	0
170107	SCP-DWS-059	Belle Isle Water Intake Bridge Improvements	6862	Administrative	(358,500)	0	0	0	0
170108	SCP-DWS-063	Adams Rd Water Booster Isolation Gate	6900	Administrative	(192,500)	0	0	0	0
170109	SCP-CS-1623	Inspection of Three Water Intakes	6864	Board	(500,000)	(3,000)	0	0	0
170110	CON-153	WWPWTP Raw Water Sampling Improvements			0	0	0	0	0
170117	SCP-NE-007A	Instrument Air Compressor NEWTP			0	0	0	0	0
170118	SCP-SP-009	Sedimentation Basin Sludge Removal			0	0	0	0	0
170119	SCP-CS-1685	Belle Isle Water Supply Intake Lagoon			0	0	0	0	0
170120	SCP-CS-1692	Acid and Chlorine Feed Improvements SWWP			0	0	0	0	0
		<b>Available Balance</b>			<b>16,269,000</b>	<b>17,250,500</b>	<b>19,965,500</b>	<b>10,000,000</b>	<b>10,000,000</b>

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170200 As Needed Construction Materials, Environmental Media and Special Testing Services**  
**Construction Inspection, and other Technical Services**

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170200		As Needed Materials and Services			500,000	500,000	500,000	0	0
<b>Available Balance</b>					<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>0</b>	<b>0</b>

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170300 Water Treatment Plant Automation**

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170300		Water Treatment Plant Automation Program			1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
170113	CS-108	Water Plant Automation Needs Assessment	6867	Board	(1,090,000)				
<b>Total</b>		<b>Available Balance</b>			<b>410,000</b>	<b>1,500,000</b>	<b>1,500,000</b>	<b>1,500,000</b>	<b>1,500,000</b>

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170400 Water Transmission Improvement**

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
<b>170400</b>		<b>Water Transmission Improvements Program</b>			<b>10,000,000</b>	<b>10,000,000</b>	<b>10,000,000</b>	<b>10,000,000</b>	<b>10,000,000</b>
170402	PO# 0004292	84" Transmission Water Main Assessment in Troy							
170403	GLWA-DBW-070	Lapeer County Chlorine Booster Stations	6932	Board	(2,900,000)	(120,000)			
		<b>Available Balance</b>			<b>7,100,000</b>	<b>9,880,000</b>	<b>10,000,000</b>	<b>10,000,000</b>	<b>10,000,000</b>

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170500 Transmission System Valve Rehabilitation and Replacement**

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
<b>170500</b>		<b>Transmission System Valve Assessment and Rehabilitation / Replacement</b>			<b>2,930,000</b>	<b>3,100,000</b>	<b>3,100,000</b>	<b>3,100,000</b>	<b>3,100,000</b>
170502	CON-181	Transmission System Valve Assessment and Rehabilitation and Replacement	6977	Board	(2,930,000)	(3,100,000)	(3,100,000)	(870,000)	
		<b>Available Balance</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>2,230,000</b>	<b>3,100,000</b>

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170600 Water Transmission Main Asset Assessment**

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170600		<b>Water Transmission Main Asset Assessment Program</b>			2,626,000	2,000,000	2,000,000	2,000,000	2,000,000
		<b>Available Balance</b>			2,626,000	2,000,000	2,000,000	2,000,000	2,000,000

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170700 Reservoirs Inspection, Repair and Rehabilitation**

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170700		<b>Booster Stations and Reservoirs Inspection, Rehabilitation and Inspection Repair Program</b>			88,000				
170701	DWS-874	Booster Stations & Reservoirs Inspection	N/A		(88,000)	0	0	0	0
		<b>Available Balance</b>			0	0	0	0	0

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170800 Reservoir Inspection, Design and Rehabilitation at Implay Station, Adams Station**  
**Haggerty Station, LH-WTP, SPW-WTP and SW-WTP**

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170800		Reservoir Inspection, Design and Rehabilitation at Implay Station, Adams Station, Haggerty Station, LH-WTP, SP-WTP and SW-WTP Program			3,300,000	2,550,000	2,550,000	2,550,000	
<b>Available Balance</b>					<b>3,300,000</b>	<b>2,550,000</b>	<b>2,550,000</b>	<b>2,550,000</b>	<b>0</b>

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170900 Suburban Water Meter Pit Rehabilitation and Meter Replacement**

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170900		Suburban Water Meter Pit Rehabilitation and Meter Replacement Program			4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
<b>Available Balance</b>					<b>4,000,000</b>	<b>4,000,000</b>	<b>4,000,000</b>	<b>4,000,000</b>	<b>4,000,000</b>

## **Budget Amendment Reporting**

**Scope:** Budget amendments are being utilized as an internal management tool to properly allocate funds from the allowance and programs within the Capital Improvement Plan (CIP) for the budgeted years by the reallocation of funds from the budgeted allowance or programs level to the actual project level.

**Process:** Steps are listed below.

- 1) Properly identify projects that utilize funds from the allowance or programs
- 2) Reallocate the funds from the budgeted allowance or programs level through a journal entry
- 3) Attach documents that support the reallocation (CIP funding request, contract transmittal, or change orders)
- 4) Create, review, and approve budget amendment journal entry

Budget Amendments / Descriptions / Reasons / GL Strings	Amount
<b>6857</b>	
<b>CIP 170100 Water Treatment / Pump Station Allowance</b>	
To fund Salaries, Benefits and Construction Services that exceeds FY 2018-2022 CIP	
<b>Allocation of Allowance Budget</b>	
5519-882111.000-616900-170100	(247,000)
<b>CIP 112002 Low Lift Chaisson Rehabilitation at NE-WTP</b>	
To fund Salaries, Benefits and Construction Services that exceeds FY 2018-2022 CIP	
<b>Executed Contract in excess of CIP Budget</b>	
5519-882111.000-616900-112002	147,000
<b>Benefits Allocation (Not included in FY 2018 - 2022 CIP)</b>	
5519-882111.000-601997-112002	40,000
<b>Salaries Allocation (Not included in FY 2018 - 2022 CIP)</b>	
5519-882111.000-601995-112002	60,000
<b>6859</b>	
<b>CIP 170100 Water Treatment / Pump Station Allowance</b>	
To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP	
<b>Allocation of Allowance Budget</b>	
5519-882111.000-616900-170100	(105,000)
<b>CIP 170102 Water Production Plant Flow Meter</b>	
To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP	
<b>Project was not included in FY 2018-2022 CIP</b>	
5519-882111.000-617950-170102	20,000
<b>Benefits Allocation (Not included in FY 2018 - 2022 CIP)</b>	
5519-882111.000-601997-170102	34,000
<b>Salaries Allocation (Not included in FY 2018 - 2022 CIP)</b>	
5519-882111.000-601995-170102	51,000



**6862**

**CIP 170100 Water Treatment / Pump Station Allowance**

To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Allocation of Allowance Budget**

5519-882111.000-616900-170100 (358,500)

**CIP 170107 Belle Isle Water Intake Bridge Improvements**

To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Project was not included in FY 2018-2022 CIP**

5519-882111.000-616900-170107 321,000

**Benefits Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601997-170107 15,000

**Salaries Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601995-170107 22,500

**6864**

**CIP 170100 Water Treatment / Pump Station Allowance**

To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Allocation of Allowance Budget**

5519-882111.000-616900-170100 (500,000)

**CIP 170109 Inspection of Three Water Intakes**

To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Project was not included in FY 2018-2022 CIP**

5519-882111.000-617950-170109 447,400

**Benefits Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601997-170109 21,040

**Salaries Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601995-170109 31,560

**6867**

**CIP 170300 Water Plant Automation Needs Assessment**

To Fund Design Services Salaries, and Benefits related to budgeted program assigned

**Allocation of Program Budget**

5519-882111.000-616900-170300 (1,090,000)

**CIP 170113 Water Plant Automation Needs Assessment**

To Fund Design Services Salaries, and Benefits related to budgeted program assigned

**Benefits Allocation**

5519-882111.000-601997-170113 42,000

**Program Needs Assigned**

5519-882111.000-617950-170113 985,000

**Allocation of Program Salaries**

5519-882111.000-601995-170113 63,000

**6900**

**CIP 170100 Water Treatment / Pump Station Allowance**

To fund Contracted Constructed Services, Materials, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Allocation of Allowance Budget**

5519-882111.000-616900-170100 (192,500)

**CIP 170108 Adams Road Water Booster Isolation Gate**

To fund Contracted Constructed Services, Materials, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Project was not included in FY 2018-2022 CIP**

5519-882111.000-616900-170108 97,000

5519-882111.000-617955-170108 70,000

**Benefits Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601997-170108 10,200

**Salaries Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601995-170108 15,300

**6904**

**CIP 170100 Water Treatment / Pump Station Allowance**

To fund Owner's Rep Service that were not part of FY2018-2022 CIP Plan  
**Allocation of Allowance Budget**

5519-882111.000-616900-170100 (890,000)

**CIP 114001 Resident Project Representative for SP-563**

To fund Owner's Rep Service that were not part of FY2018-2022 CIP Plan  
**Executed Contract in excess of CIP Budget**

5519-882111.000-617950-114001 890,000

**6905**

**CIP 170100 Water Treatment / Pump Station Allowance**

To fund Salaries, Benefits and Construction Services that exceed FY 2018-2022 CIP  
**Allocation of Allowance Budget**

5519-882111.000-616900-170100 (207,000)

**CIP 114013 Professional Engineering Services Springwells WTP**

To fund Salaries, Benefits and Construction Services that exceed FY 2018-2022 CIP  
**Executed Contract in excess of CIP Budget**

5519-882111.000-617950-114013 180,000

**Benefits Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601997-114013 10,800

**Salaries Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601995-114013 16,200

**6923**

**CIP 170100 Water Treatment / Pump Station Allowance**

To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Allocation of Allowance Budget**

5519-882111.000-616900-170100 (500,000)

**CIP 170104 Orion Pumping Station Improvements**

To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Project was not included in FY 2018-2022 CIP**

5519-882111.000-616900-170104 450,000

**Benefits Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601997-170104 20,000

**Salaries Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601995-170104 30,000

**6932**

**CIP 170400 Water Transmission Improvements Program**

To Fund Construction, Inspection, Salaries and Benefits related to budgeted program assigned

**Allocation of Program Budget**

5519-882111.000-616900-170400 (2,529,000)

5519-882111.000-617950-170400 (371,000)

**CIP 170403 Lapeer County Chlorine Booster Stations**

To Fund Construction, Inspection, Salaries and Benefits related to budgeted program assigned

**Benefits Allocation**

5519-882111.000-601997-170403 9,900

**Program Needs Assigned**

5519-882111.000-601998-170403 6,600

**Allocation of Program Salaries**

5519-882111.000-601995-170403 17,500

**Allocation for Design Services Contract**

5519-882111.000-617950-170403 371,000

**Allocation for Construction Services Contract**

5519-882111.000-616900-170403 2,495,000

**6977**

**CIP 170500 Transmission System Valve Assessment and Rehabilitation / Replacement Program**

To Fund Construction, Inspection, Salaries and Benefits related to budgeted program assigned

**Allocation of Program Budget**

	5519-882111.000-601995-170500	(24,000)
	5519-882111.000-601997-170500	(9,000)
	5519-882111.000-601998-170500	(1,000)
	5519-882111.000-616900-170500	(2,896,000)

**CIP 170502 Transmission System Valve Assessment and Rehabilitation and Replacement**

To Fund Construction, Inspection, Salaries and Benefits related to budgeted program assigned

**Allocation for Program Inspection Services**

	5519-882111.000-601998-170502	1,000
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**Allocation for Program Benefits**

	5519-882111.000-601997-170502	10,000
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**Allocation for Program Salaries**

	5519-882111.000-601995-170502	25,000
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**Allocation for Program Design Services**

	5519-882111.000-617950-170502	320,000
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**Allocation for Program Construction Services**

	5519-882111.000-616900-170502	2,574,000
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**9410**

**CIP 111002 Lake Huron Treatment Plant Mechanical Improvements**

To Fund Construction, Inspection, Salaries and Benefits related to budgeted program assigned

**Allocation for Construction Services Contract**

	5519-882111.000-616900-170100	(381,000)
	5519-882111.000-616900-111002	381,000

**Grand Total**

**0**

**WASTEWATER SYSTEM**

**Percent of Spend Compared to Annual Budget and Capital Improvement Plan (CIP) Requests**

The rate of spend is a key performance indicator. The ratios for FY 2017 (twelve months) of 55% and for FY 2018 (nine months) of 50.8% are lower than simple benchmark of 80% and 75% respectively. This is attributable to three reasons. First is the competition for staff priorities during stand-up of the GLWA (primarily during FY 2017). Second, is the alignment of projects identified and staff or contractor resources to carry out the projects. Several key hires occurred primarily during fiscal FY 2017 will improve this performance. Third, is the phasing of CIP activity which is being further refined throughout GLWA.

Wastewater System Projects	FY 2017 Original Plan and Budget (Twelve Months)	FY 2017 Activity	FY 2017 Activity as a Percent of Budget	FY 2018 Amended Budget	FY 2018 Prorated Amended Budget (Nine Months)	FY 2018 Pre-Close Activity (Nine Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Nine Months) (Unaudited)
FY 2017 CIP Project Requests @ 100%	\$ 128,973,000	56,788,123	44.0%				
FY 2017 CIP Net Budget (approx. 80% of request)	103,178,400	56,788,123	55.0%				
FY 2018 CIP Project Requests @ 100%				\$ 160,746,000	120,559,500	49,043,353	40.7%
FY 2018 CIP Net Budget (approx. 80% of request)				128,596,800	96,447,600	49,043,353	50.8%

### Analysis of Projects with Largest Percent of Spend and Otherwise Noteworthy Project

Of the total Wastewater System Construction Bond spend for FY 2018 to date, **four projects account for \$34.7 million or 70.8% of the total spend**. Those projects are summarized in the following table. An analysis of each project and its related CIP summary follow the table. Note that the last page of this report provides a Glossary of Acronyms.

Wastewater System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget per CIP	FY 2018 Pre-Close Activity (Nine Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Nine Months) (Unaudited)
<b>Project 211001: Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery</b>	\$ 51,903,000	\$ 10,243,275	\$ 12,097,000	\$ 10,813,280	22.0%
<b>Project 212003: Aeration System Improvements</b>	\$ 16,203,000	\$ 3,804,993	\$ 11,197,000	\$ 5,310,480	10.8%
<b>Project 212006: PC-797 Rouge River Outfall Disinfection and CS-1781 Oversight Consulting Services Contract</b>	\$ 47,599,000	\$ 6,872,993	\$ 15,800,000	\$ 13,613,228	27.7%
<b>Project 260201: CON-149 Emergency Sewer Repair</b>	\$ 14,880,000	\$ -	\$ 4,795,540	\$ 5,049,993	10.3%
<b>Selected Projects as a Percentage of the Total</b>	<b>\$ 130,585,000</b>	<b>\$ 20,921,261</b>	<b>\$ 43,889,540</b>	<b>\$ 34,786,981</b>	<b>70.8%</b>
<b>Total</b>			<b>\$ 160,746,000</b>	<b>\$ 49,122,396</b>	<b>100.0%</b>

The following analysis provides brief highlights related to these projects.

**Project 211001–Rehabilitation of Primary Rectangular Clarifiers**

	Total Project		FY 2018		FY 2018
	Budget per CIP	Life-to-Date Through	Requested	Activity	Pre-Close
Wastewater System Projects	(Life of Projects)	June 30, 2017	Budget per CIP	(Nine Months)	as a Percent of
				(Unaudited)	Prorated Budget
					(Nine Months)
					(Unaudited)
<b>Project 211001: Rehabilitation of Primary Clarifiers</b>					
<b>Rectangular Tanks, Drain Lines, Electrical/Mechanical</b>					
<b>Building and Pipe Gallery</b>	\$ 51,903,000	\$ 10,243,275	\$ 12,097,000	\$ 10,813,280	22.0%

**Project Engineer/Manager:** Nicolas Nicolas

**Manager:** Philip Kora

**Total Project Budget:** \$51,903,000

**Timeline:** To be completed by May 2020

**FY 2018 Last Pay Estimate Processed:** March 31, 2018

**Key Contracts/Vendors:** PC-757 Tooles Contracting Group

**Project Description:** The Rehabilitation of Primary Rectangular Clarifiers Tanks, Drain Lines, Electrical/Mechanical Building, Pipe Gallery, and Replacement of Rake Arm assembly for Circular Primary Clarifiers 15 and 16 at the Water Resource Recovery Facility (WRRF).

**Purpose:** To improve the operating and maintenance efficiencies that meets the regulatory National Pollution Discharge Elimination (NPDES) Permit and National Electrical code (NEC) requirements.

**Status:** Rehabilitation of Primary rectangular clarifiers 11 and 12 is complete and returned to operation. Rehabilitation work is ongoing for Primary rectangular clarifiers 9 and 10. Primary circular clarifier 15 rehabilitation is complete, and the 30-day testing is ongoing.

**Additional Project Manager Comments:** There are no additional comments to provide at this time.

**Additional Construction Accounting & Financial Reporting Team Comments:** There are no additional comments to provide at this time.



**FY 2018-2022 CIP Page VI-73 for Project 211001–Rehabilitation of Primary Rectangular Clarifiers**

**CIP Number:** CIP 291

**Title:** REHABILITATION OF PRIMARY CLARIFIERS RECTANGULAR TANKS, DRAIN LINES, ELECTRICAL/MECHANICAL BUILDING AND PIPE GALLERY

**Classification:** 211: Wastewater > WRRF > Primary Treatment

**Managing Dept:** WW Eng

**RC Score:** NA

**Contract No.:** PC-757

**Significance:** Rehabilitation for meeting NPDES Permit and NEC requirements

**Location:** WRRF

**Driver:** N/A - Active

**Explanation:** N/A - Active

**Preliminary Scope of Work:**



Pipe gallery

The work to be completed under this project will include installing ventilation and atmospheric control for the pipe gallery; providing new lights and emergency lights, etc.. This work also includes rehabilitation of 12 drain lines from rectangular clarifiers 3-12, circular clarifiers 16 and 16, installation of large manhole with sump pumps to collect drainage and discharge to clarifier, and concrete crack repairs, and rehabilitation work in Electrical/Mechanical Building.

**Challenges:** N/A - Active

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
C	Active	TBD	TBD	\$0	\$10848	\$12097	\$20990	\$7968	\$0	\$0	\$0	\$41055	\$51903
<b>Totals</b>				\$0	\$10848	\$12097	\$20990	\$7968	\$0	\$0	\$0	\$41055	\$51903

**Project 212003-Aeration System Improvements**

	Total Project		FY 2018		FY 2018
Wastewater System Projects	Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	Requested Budget per CIP	Activity (Nine Months) (Unaudited)	Pre-Close as a Percent of Prorated Budget (Nine Months) (Unaudited)
<b>Project 212003: Aeration System Improvements</b>	\$ 16,203,000	\$ 3,804,993	\$ 11,197,000	\$ 5,310,480	<b>10.8%</b>

**Project Engineer/Manager:** Vinod Sharma

**Manager:** Philip Kora

**Total Project Budget:** \$15,985,000

**Timeline:** To be completed by September 2018

**FY 2018 Last Pay Estimate Processed:** March 31, 2018

**Key Contracts/Vendors:** CS-1498, CS-157-Metco Services, PC-796-Weiss Construction

**Project Description:** The Aeration System Improvements will improve the aeration system and provide necessary inter-connections.

**Purpose:** To increase the efficiency of oxygen used in the High Purity Oxygen (HPO) activated sludge process, reduce the risk of mechanical failures with the replacement/rehabilitation of the Influent and Return Activated Sludge(RAS) valves/pipeline would meet regulatory guidelines to comply with NPDES Permit.

**Status:** The rehabilitation work associated with Aeration Basin No. 3 is ongoing.

**Additional Project Manager Comments:** There are no additional comments to provide at this time.

**Additional Construction Accounting & Financial Reporting Team Comments:** There are no additional comments to provide at this time.

**FY 2018-2022 CIP Page VI-83 for Project 212003-Aeration System Improvements**

**CIP Number:** CIP 1194

**Title:** AERATION SYSTEM IMPROVEMENTS

**Classification:** 212: Wastewater > WRRF > Secondary Treatment & Disinfection

**Managing Dept:** WW Eng

**RC Score:** NA

**Contract No.:** CS-1498, PC-796

**Significance:** Improve aeration system and provide necessary inter-connections

**Location:** WRRF

**Driver:** N/A - Under Procurement

**Explanation:** N/A - Under Procurement

**Preliminary Scope of Work:**

The scope of work includes study, design, and construction assistance for the oxygen baffle on Bay 10 of A1 & A2 decks, replacement of influent, Return Activated Sludge (RAS) piping, isolation gate and valves for decks Nos. 3 & 4, replace RAS and influent magmeters for Intermediate Lift Pumps (ILP) Nos. 3, 4 & 7. The work also includes replacement of influent gates and operators on Aeration Deck No. 1 & 2.

**Challenges:** N/A - Under Procurement

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
S/D/CA	Active	2/21/2012	2/28/2018	\$0	\$106	\$97	\$16	\$0	\$0	\$0	\$0	\$113	\$219
C	Under Procurement	TBD	TBD	\$0	\$2242	\$11100	\$2642	\$0	\$0	\$0	\$0	\$13742	\$15984
<b>Totals</b>				\$0	\$2348	\$11197	\$2658	\$0	\$0	\$0	\$0	\$13855	\$16203



Equipment for aeration system

**Project 212006-Rouge River Outfall Project**

Wastewater System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget per CIP	FY 2018 Pre-Close Activity (Nine Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Nine Months) (Unaudited)
<b>Project 212006: PC-797 Rouge River Outfall Disinfection and CS-1781 Oversight Consulting Services Contract</b>	\$ 47,599,000	\$ 6,872,993	\$ 15,800,000	\$ 13,613,228	<b>27.7%</b>

**Project Engineer/ Manager:** Philip Kora and Darrel Field (PMA)

**Manager:** Philip Kora

**Total Project Budget:** \$47,599,000

**Timeline:** To be substantially complete by April 2019

**FY 2018 Last Pay Estimate Processed:** March 31, 2018

**Key Contracts/Vendors:** CS-1781- PMA Consultants and PC-797-CDM Construction

**Project Description/Purpose:** The Rouge River Outfall Disinfection Project (Phase 2) is MDEQ approved to provide chlorination and de-chlorination to the Rouge River Outfall (RRO) effluent during wet weather events.

**Status:** Current work efforts include the construction of the new hypo building and chemical piping, and the installation of the flow meters and diffusers in the primary effluent channel. The west RRO conduit diffuser installation has been completed and is in service.

**Additional Project Manager Comments:** There are no additional comments to provide at this time.

**Additional Construction Accounting & Financial and Reporting Team Comments:** There are no additional comments to provide at this time.

**FY 2018-2022 CIP Page VI-98 for 212006-Rouge River Outfall Project**

**CIP Number:** CIP 1302  
**Title:** ROUGE RIVER OUTFALL (RRO) DISINFECTION (ALTERNATIVE)  
**Classification:** 212: Wastewater > WRRF > Secondary Treatment & Disinfection  
**Managing Dept:** WW Eng  
**RC Score:** NA  
**Contract No.:** PC-797, CS-1781  
**Significance:** Provide project oversight and design build services for alternative disinfection services to meet NPDES Permit requirements at existing Rouge River Outfall  
**Location:** Rouge River Outfall  
**Driver:** 3 – Regulatory (Environmental/Legal)



**Explanation:** In order to be in compliance with its NPDES permit, GLWA’s WRRF must provide disinfection to all effluent flows from the DRO and RRO by April 2019. Only the DRO currently has disinfection; this project will provide chlorination and de-chlorination for RRO effluent during wet weather events.

**Preliminary Scope of Work:**

The consultant shall provide comprehensive professional services for project oversight and Owner’s representation for the PC-797 RRO Disinfection Progressive Design-Build Contract. The scope of work consists of completing basis of design, design and construction services to develop and implement a solution that will result in 100% disinfection of wet weather flow discharged from WRRF to Detroit River outfall and Rouge River Outfall in order to meet NPDES Permit requirements.

**Challenges:** N/A - Under Procurement

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
S/D/C	Under Procure.	2/19/2016	12/31/2019	\$729	\$2690	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3419
CM	Under Procure.	TBD	TBD	\$0	\$1000	\$800	\$520	\$100	\$0	\$0	\$0	\$1420	\$2420
C	Not Yet Started	2/19/2016	12/31/2019	\$0	\$2840	\$15000	\$15000	\$8920	\$0	\$0	\$0	\$38920	\$41760
<b>Totals</b>				<b>\$729</b>	<b>\$6530</b>	<b>\$15800</b>	<b>\$15520</b>	<b>\$9020</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$40340</b>	<b>\$47599</b>

**Project 260201-Emergency Sewer Repair**

Wastewater System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget per CIP	FY 2018 Pre-Close Activity (Nine Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Nine Months) (Unaudited)
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Project 260201: CON-149 Emergency Sewer Repair	\$ 14,880,000	\$ -	\$ 4,795,540	\$ 5,049,993	<b>10.3%</b>
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**Project Engineer/Manager:** Mini Panicker/Todd King

**Manager:** Biren Saparia

**Total Project Budget:** \$14,880,000

**Timeline:** Estimated Completion July 2019

**FY 2018 Last Pay Estimate Processed:** March 31, 2018

**Key Contract/Vendor:** Inland Waters CON-149, FK EngineersCS-168

**Project Description:** Emergency repair/ rehabilitation/replacement of sanitary sewer mains, sewer manholes and sewer structures.

**Purpose:** To provide sewer inspections to locate defects and perform sewer lining and open cut repair of failed sewers for the in-place rehabilitation of sewers on an as needed basis.

**Status:** The rehabilitation of the Northwest Interceptor at Joy Rd and Trinity located in Detroit, Lynch Sewer in Detroit, and the Cured in Place Pipe Lining (CIPP) and EcoCasting of portions of the B-54 sewer outfall located at Warren & Pierson in Detroit are complete. Currently, the ongoing rehabilitation of Fox Creek Relief Sewer and Cadieux Sewer in Detroit are progressing.

**Additional Project Manager Comments:** There are no additional comments to provide at this time.

**Additional Construction Accounting & Financial and Reporting Team Comments:** There are no additional comments to provide at this time.

**FY 2018-2022 CIP Page VI-93 for 260201-Emergency Sewer Repair**

**CIP Number:** CIP 1263

**Title:** SEWER AND INTERCEPTOR EVALUATION AND REHABILITATION PROGRAM

**Classification:** 2602: Wastewater > Programs > Programs

**Managing Dept:** WW Eng

**RC Score:** NA

**Contract No.:** CS-068, PO-005030

**Significance:** Evaluation of the existing condition of the sewers and interceptors, cleaning and rehabilitating are essential to optimize the transportation capacity of the GLWA collection system and to increase its life expectancy.

**Location:** Sewers and Interceptors

**Driver:** 1 - Condition

**Explanation:** Some sewers have sediment deposits that results in transportation capacity limitation. Some have deterioration.

**Preliminary Scope of Work:**

Provide CCTV and or sonar inspection of the GLWA Collection System Interceptors and Trunk Sewers to reveal the existing conditions as per the National Association of Sewer Service Companies' (NASSCO) Pipeline Assessment Certification Program (PACP) standards, evaluate the existing conditions, and provide the necessary cleaning/rehabilitation/replace to optimize the design capacity of the collection system and to minimize the inflow and infiltration into the collection system.

**Challenges:** Very large sewers and interceptors may have flow control challenges for both inspection and rehabilitation.

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY 2016 (Unaudited)	Projected Expenditures FY 2017	Projected Expenditures FY 2018	Projected Expenditures FY 2019	Projected Expenditures FY 2020	Projected Expenditures FY 2021	Projected Expenditures FY 2022	Projected Expenditures FY 2023 & Beyond	2018-2022 CIP Total	Phase Total
S,D,C	Not Yet Started	NA	NA	\$0	\$2464	\$2000	\$0	\$0	\$0	\$0	\$0	\$2000	\$4464
S,D,CA	Under Procure.	NA	NA	\$0	\$148	\$22	\$0	\$0	\$0	\$0	\$0	\$22	\$170
S	Not Yet Started	NA	NA	\$0	\$0	\$218	\$240	\$600	\$600	\$600	\$0	\$2258	\$2258
D	Not Yet Started	NA	NA	\$0	\$0	\$400	\$400	\$1000	\$1000	\$1000	\$0	\$3800	\$3800
C	Not Yet Started	NA	NA	\$0	\$0	\$5360	\$7360	\$18400	\$18400	\$18400	\$0	\$67920	\$67920
<b>Totals</b>				\$0	\$2612	\$8000	\$8000	\$20000	\$20000	\$20000	\$0	\$76000	\$78612



An example interceptor.

### Construction Work-in-Progress Rollforward

The purpose of the construction work-in-progress (CWIP) rollforward is to analyze the current year activity for each project in relation to the overall capital improvement program as well as the project portfolio overall.

The CWIP Rollforward provides a project status for each item.

Future Year:	Project that was included in the CIP with no expenditures (F)
Active:	Project in which procurement process has been initiated and expenditures incurred (A)
Pending Close:	Project that has no projected expenditures for the current fiscal year and has reached substantial completion (PC)
Closed:	Project that has been closed and capitalized (C)

Projects in bold font on the CWIP Rollforward were discussed in further detail previously in this report.

As shown in the summary below, the Wastewater System CWIP Rollforward for FY 2018 thru 2022 identifies 85 projects with a total budgeted value of \$1.1 billion. Of that total, \$201.8 million is in CWIP as of March 31, 2018 as shown in the table beginning on the next page.

The order of the report on the subsequent pages is in ascending order by CIP project number.

Status	Project Count	Total Project Cost	Percent of Total
Future	28	371,444,000	33%
Active	40	694,649,000	62%
Pending Close	5	8,098,000	1%
Closed	12	41,029,000	4%
<b>Grand Total</b>	<b>85</b>	<b>\$ 1,115,220,000</b>	<b>100%</b>



# Wastewater System Construction Work-in-Progress Quarterly Report As of March 31, 2018

Great Lakes Water Authority  
Wastewater Construction Work-in-Progress (CWIP) FY 2018 Rollforward  
(Unaudited), Pre-Close Activity For the Quarter Ended March 31, 2018

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited) Pre-Close							FY 2018 Activity (Unaudited), Pre-Close	(Unaudited), Pre-Close CWIP Balance, as of March 31, 2018
					Construction (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Salary & Wages-Direct (601995)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Employee Benefits (601997)		
4824	DWSD-Reha/Replacement Existing Sewer	PC	-	56,280	-	-	-	-	-	-	-	-	56,280
<b>211001</b>	<b>Project 211001: Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery</b>	<b>A</b>	<b>51,903,000</b>	<b>10,243,275</b>	<b>10,578,450</b>	<b>129,197</b>	-	-	<b>75,468</b>	-	<b>30,164</b>	<b>10,813,280</b>	21,056,555
211002	Project 211002: Pump Station No. 2 Pumping Improvments	A	3,533,000	108,416	141,688	36,361	-	-	8,718	-	3,467	190,234	298,651
211003	Project 211003: Rehabilitation of Primary Clarifiers	A	581,000	1,701,631	-	-	-	-	739	-	296	1,035	1,702,666
211004	Project 211004: Pump Station 1 Rack & Grit and MPI Sampling Station 1 Improvements	A	21,494,000	20,944,123	2,363,732	153,899	-	-	115,121	-	46,020	2,678,772	23,622,895
211005	Project 211005: Pump Station No. 2 Improvements	F	10,800,000	-	-	-	-	-	-	-	-	-	-
211006	Project 211006: Pump Station No. 1 Improvements	F	13,129,000	88	-	-	-	-	-	-	-	-	88
211007	Project 211007: Replacement of Bar Racks and Grit Collection System at Pump Station No. 2	F	9,667,000	-	-	-	-	-	-	-	-	-	-
211008	Project 211008: Rehabilitation of Ferric Chloride Feed systems at the Pump Station -1 and Complex B Sludge Lines	F	9,633,000	-	-	-	-	-	-	-	-	-	-
211009	Project 211009: Rehabilitation of the Circular Primary Clarifier Scum Removal System	F	10,480,000	-	-	-	-	-	-	-	-	-	-
212001	Project 212001: Returned Activated Sludge (RAS) Pumps, Influent Mixed Liquor System and Motor Control Centers (MCC) Improvements for Secondary Clarifiers	C	24,175,000	-	-	-	-	-	-	-	-	-	-
212002	Project 212002: Study, Design, & Construction, Management Services for Modified Detroit River Outfall No. 2 - WRRF	A	8,482,000	10,818,870	-	-	-	-	-	-	-	-	10,818,870
<b>212003</b>	<b>Project 212003: Aeration System Improvements</b>	<b>A</b>	<b>16,203,000</b>	<b>3,804,993</b>	<b>5,137,696</b>	<b>113,141</b>	-	-	<b>42,617</b>	-	<b>17,026</b>	<b>5,310,480</b>	9,115,473
212004	Project 212004: Chlorination/Dechlorination Process Equipment Improvements	A	5,000,000	85,850	-	29,915	-	-	434	-	140	30,489	116,339
212005	Project 212005: Rouge River Outfall No. 2 (RRO-2) Segment 1-WWTP Modifications	C	12,187,000	-	-	-	-	-	-	-	-	-	-
<b>212006</b>	<b>Project 212006: PC-797 Rouge River Outfall Disinfection and CS-1781 Oversight Consulting Services Contract</b>	<b>A</b>	<b>47,599,000</b>	<b>6,872,993</b>	<b>13,038,082</b>	<b>509,265</b>	-	-	<b>47,104</b>	-	<b>18,777</b>	<b>13,613,228</b>	20,486,221
212007	Project 212007: Rehabilitation of the Secondary Clarifiers	F	30,999,000	-	-	-	-	-	-	-	-	-	-
213001	Project 213001: Replacement of Belt Filter Presses for Complex I and Upper Level Complex II	C	1,901,000	-	-	(4,328)	-	-	1,094	-	438	(2,796)	(2,796)
213002	Project 213002: Rehabilitation of Central Offload Facility	A	17,750,000	202,142	-	563,437	-	-	16,656	-	6,612	586,705	788,847
213003	Project 213003: Sewage Sludge Incinerator Air Quality Improvements at WRRF	A	36,043,000	36,153,036	436,443	-	-	-	17,761	-	7,098	461,301	36,614,337
213004	Project 213004: Biosolids Dryer Facility at WRRF	A	135,968,000	2,023,774	165,798	-	-	-	2,899	-	1,159	169,856	2,193,630
213005	Project 213005: Complex I Incinerators Decommissioning and Reusability	A	1,100,000	-	-	29,748	-	-	2,269	-	905	32,922	32,922
213006	Project 213006: Improvements to Sludge Feed Pumps at Dewatering Facilities	A	1,185,000	4,856	-	-	-	-	-	-	-	-	4,856

# Wastewater System Construction Work-in-Progress Quarterly Report As of March 31, 2018

Great Lakes Water Authority  
Wastewater Construction Work-in-Progress (CWIP) FY 2018 Rollforward  
(Unaudited), Pre-Close Activity For the Quarter Ended March 31, 2018

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited) Pre-Close							FY 2018 Activity (Unaudited), Pre-Close	(Unaudited), Pre-Close CWIP Balance, as of March 31, 2018	
					Construction (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Salary & Wages-Direct (601995)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Employee Benefits (601997)			
213007	Project 213007: Construction of the Improved Sludge Conveyance and Lighting System at the WWTP	A	18,922,000	-	-	169,052	-	-	-	4,830	-	1,731	175,612	175,612
213008	Project 213008: Rehabilitation of the Wet and Dry Ash Handling Systems	F	18,316,000	-	-	-	-	-	-	-	-	-	-	-
213009	Project 213009: Phosphorous Recovery Facility at the WRRF	A	15,000,000	-	-	21,905	-	-	-	-	-	-	21,905	21,905
214001	Project 214001: Relocation of Industrial Waste Division and Analytical Laboratory Operations	A	7,000,000	181,500	-	-	-	-	-	350	-	140	490	181,990
215001	Project 215001: Rehabilitation of Combined Sewer Overflow (CSO) Retention Treatment Basins (RTB), Screening and Disinfection Facilities (SDF)	A	31,977,000	763,690	1,039,214	173,954	-	-	-	13,381	-	5,344	1,231,893	1,995,583
216001	Project 216001: Underground Electrical Duct Bank Repair and EB-1, EB-2, and EB-10 Primary Power Service Improvements - WRRF	A	27,144,000	31,636,300	988,905	(423)	-	-	-	13,677	-	5,470	1,007,629	32,643,929
216002	Project 216002: Plant-wide Fire Alarm Systems Upgrade/ Integration and Fire Protection Improvements	A	6,014,000	-	-	-	-	-	-	3,522	-	1,409	4,931	4,931
216003	Project 216003: Repair Potable Water, Screened Final Effluent, natural Gas, and Compressed Air Pipelines at the WWTP	F	5,000,000	-	-	-	-	-	-	-	-	-	-	-
216004	Project 216004: Rehabilitation of Various Sampling Sites and PS# 2 Ferric Chloride System at WWTP	A	5,000,000	311,736	-	39,827	-	-	-	1,658	-	479	41,963	353,699
216005	Project 216005: Rehabilitation of the Main Plant Maintenance Building, Replacement of various Plant Maintenance Areas and Work Environment Improvement	F	12,900,000	-	-	-	-	-	-	-	-	-	-	-
216006	Project 216006: Rehabilitation of the Screened Final Effluent (SFE) Pump Station and Secondary Water System	F	50,000,000	-	-	-	-	-	-	-	-	-	-	-
216007	Project 216007: DTE Primary Electric 3rd Feed Supply Line to the WRRF	A	7,000,000	15,074	292,200	15,000	-	-	-	-	-	-	307,200	322,274
222001	Project 222001: Intercommunity Relief Sewer Modifications in Detroit Oakwood District	F	11,000,000	-	-	-	-	-	-	-	-	-	-	-
222002	Project 222002: Detroit River Interceptor Evaluation and Rehabilitation	A	20,321,000	5,380	320,686	-	-	-	-	3,051	-	1,218	324,955	330,335
222003	Project 222003:North Interceptor East Arm (NIEA) Evaluation and Rehabilitation	F	26,000,000	-	-	-	-	-	-	-	-	-	-	-
222004	Project 222004:Collection System Valve Remote Operation Structures Improvements	F	2,763,000	-	-	-	-	-	-	-	-	-	-	-
222005	Project 222005: Collection System Access Hatch Improvements	F	7,197,000	-	-	-	-	-	-	-	-	-	-	-
222006	Project 222006: GLWA CSO Outfalls Rehabilitation	A	36,000,000	-	-	-	-	-	-	5,224	-	2,082	7,306	7,306
222007	Project 222007: North Interceptor East Arm (NIEA) Evaluation and Rehabilitation from WRRF to Gratiot Ave. and Sylvester St.	F	21,000,000	-	-	-	-	-	-	-	-	-	-	-
232001	Project 232001: Fairview Pumping Station - Replace Four Sanitary Pumps	A	32,400,000	778,162	-	518,432	-	-	-	13,594	-	4,615	536,641	1,314,803
232002	Project 232002: Freud and Connor Creek Pump Station Improvements	A	22,500,000	2,100,803	1,246,581	708,838	-	-	-	4,691	155,539	1,874	2,117,523	4,218,326
232003	Project 232003: Northeast Pump Station Improvements	F	26,328,000	-	-	-	-	-	-	-	-	-	-	-
233001	Project 233001: Collection System Backwater Gates and Regulator Gates Rehabilitation	F	9,301,000	-	-	-	-	-	-	-	-	-	-	-

# Wastewater System Construction Work-in-Progress Quarterly Report

As of March 31, 2018

Great Lakes Water Authority  
Wastewater Construction Work-in-Progress (CWIP) FY 2018 Rollforward  
(Unaudited), Pre-Close Activity For the Quarter Ended March 31, 2018

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited) Pre-Close							FY 2018 Activity (Unaudited), Pre-Close	(Unaudited), Pre-Close CWIP Balance, as of March 31, 2018
					Construction (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Salary & Wages-Direct (601995)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Employee Benefits (601997)		
233002	Project 233002: Collection System In System Storage Devices(ISDs) Improvements	F	3,550,000	-	-	-	-	-	-	-	-	-	-
251002	Project 251002: Wastewater System Wide Instrumentation & Controls Software and Hardware Upgrade	F	5,862,000	-	-	-	-	-	-	-	-	-	-
260100	Project 260100: Water Resource Recovery Facility (WRRF), Lift Station & Wastewater Collection System Allowance	A	52,843,000	-	-	-	-	-	-	-	-	-	-
260101	Project 260101: Plant-Wide Replacement of Emergency Lighting	PC	1,680,000	289,743	870,902	-	-	-	24,482	-	9,790	905,174	1,194,917
260102	Project 260102: Replace Stairs - WWTP	C	500,000	-	-	-	-	-	-	-	-	-	-
260103	Project 260103: Replace 4 DS-706 Centrifuges WWTP	C	600,000	-	-	-	-	-	-	-	-	-	-
260104	Project 260104: Pur Installation of EB-25 Unit WWTP	C	1,195,000	-	-	-	-	-	-	-	-	-	-
260105	Project 260105: Replace Various Air Distribution Equip	C	286,000	-	-	-	-	-	64	-	26	90	90
260107	Project 260107: Pump Station 2 Replacement	F	331,000	-	-	-	-	-	-	-	-	-	-
260108	Project 260108: Sanitary Meter Replacement: Neff Road	C	448,000	-	-	-	-	-	-	-	-	-	-
260110	Project 260110: CS060: Black& Veatch:	A	2,266,000	1,458,339	-	122,208	-	-	8,388	-	3,151	133,747	1,592,086
260111	Project 260111: SCP-PC-015: W-3 Construct: Overhead Door	C	593,000	-	-	-	-	-	-	-	-	-	-
260112	Project 260112: DWS-065: Tooles: Connor Creek	C	345,000	-	-	-	-	-	984	-	394	1,378	1,378
260113	Project 260113: Fire Remediation	A	10,500,000	17,005,859	-	-	-	-	-	-	-	-	17,005,859
260200	Project 260200: Sewer and Interceptor Evaluation and Rehabilitation Program NNB	A	72,320,000	-	-	-	-	-	-	-	-	-	-
<b>260201</b>	<b>Project 260201: Conveyance System Interceptor Rehab</b>	<b>A</b>	<b>1,828,000</b>	<b>90,500</b>	<b>4,465,947</b>	<b>573,179</b>	-	-	<b>7,766</b>	-	<b>3,100</b>	<b>5,049,993</b>	<b>5,140,493</b>
260203	Project 260203: SCP-CON-068: Inland: Sewer Inspection	A	4,464,000	3,306,028	937,665	-	-	-	2,760	-	1,100	941,525	4,247,553
260300	Project 260300: Schedule Replacement Program of Critical Assets NNB	A	23,519,000	-	-	-	-	-	-	-	-	-	-
260301	Project 260301: Roof Replacement of Complex II	A	1,871,000	-	1,672,747	-	-	-	-	-	-	1,672,747	1,672,747
260302	Project 260302: CON 127: Repair HVAC	PC	110,000	56,282	160,329	15,165	-	-	(2,128)	-	(851)	172,515	228,797
260400	Project 260400: Sewage Meter Design, Installation, Replacement and Rehabilitation Program	F	3,000,000	-	-	-	-	-	-	-	-	-	-
331002	Project 331002: Roofing Systems Replacement at GLWA Wastewater Treatment Plant, CSO Retention Treatment Basins (RTB) and Screening Disinfection Effluents (SDF)	F	9,050,000	-	-	-	-	-	-	-	-	-	-
361001	Project 361001: Consolidated Process Control System Upgrades	PC	331,000	173,127	142,500	-	-	-	-	-	-	142,500	315,627

# Wastewater System Construction Work-in-Progress Quarterly Report As of March 31, 2018

Great Lakes Water Authority  
Wastewater Construction Work-on-Progress (CWIP) FY 2018 Rollforward  
(Unaudited), Pre-Close Activity For the Quarter Ended March 31, 2018

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited) Pre-Close						FY 2018 Activity (Unaudited), Pre-Close	(Unaudited), Pre-Close CWIP Balance, as of March 31, 2018		
					Construction (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Salary & Wages-Direct (601995)	Capital Allocation: Non-Personnel (601998)			Capital Allocation: Employee Benefits (601997)	
361002	Project 361002: Data Center Reliability/Availability Improvements	PC	3,163,000	17,253	-	-	-	-	-	-	-	17,253		
361003	Project 361003: SCADA Radio Network Upgrade	PC	2,955,000	852,872	-	-	-	-	-	-	-	852,872		
380400	Project 380400: As-needed CIP Implementation Assistance and Related Services NNB	A	3,135,000	-	-	-	-	-	-	-	-	-		
380401	Project 380401: CS-1433: PMA: As Needed CIP Services	A	3,135,000	105,279	-	159,990	-	-	-	-	-	159,990	265,269	
380500	Project 380500: Department-wide General Engineering Services on an As-needed Basis	A	4,960,000	-	-	-	-	-	-	-	-	-		
380501	Project 380501: CS-1499:MetcoServices:General Engineer	PC	300,000	148,366	-	-	-	-	-	-	-	148,366		
380600	Project 380600: General Engineering Services	A	7,016,000	-	-	-	-	-	-	-	-	-		
380601	Project 380601: CS-1432A:Alfred Benesh:General Engineer	A	250,000	157,929	-	13,816	-	-	-	-	-	13,816	171,745	
380700	Project 380700: As-needed Engineering Services for Concrete Testing, Geotechnical Soil Borings, other Testing Services, and Related Services	C	-	-	-	-	-	-	-	-	-	-		
380701	Project 380701: Engineering Svc Concrete Testing,Soil Borings	A	-	115,388	-	-	-	-	-	-	-	-	115,388	
380800	Project 380800: Geotechnical and Related Services on an As- Needed Basis	F	1,116,000	-	-	-	-	-	-	-	-	-		
380800	Project 380800: Geotechnical and Related Services on an As- Needed Basis	C	(1,201,000)	-	-	-	-	-	-	-	-	-		
380801	Project 380801: CS-1490: Nth Consultants: As needed GIS	A	85,000	82,476	-	-	-	-	-	-	-	-	82,476	
380900	Project 380900: General Engineering Services	A	649,000	-	-	-	-	-	-	-	-	-		
380901	Project 380901: CS-1481:Sigma Assoc: General Engineering	A	270,000	63,426	-	265,367	-	-	-	-	-	265,367	328,793	
381000	Project 381000: Energy Management: Electric Metering Improvement Program	F	3,000,000	-	-	-	-	-	-	-	-	-		
<b>Total # of Projects and Dollars</b>			<b>85</b>	<b>1,115,220,000</b>	<b>152,735,840</b>	<b>43,999,567</b>	<b>4,356,943</b>	<b>-</b>	<b>-</b>	<b>437,173</b>	<b>155,539</b>	<b>173,173</b>	<b>49,122,396</b>	<b>201,858,236</b>
FY 2018 - 2022 Wasterwater CIP Total (Page IV-3)				<u>1,115,218,000</u>	<u>152,735,840</u>									
Difference due to Rounding				<u>(2,000)</u>										
Items to be reclassified to Capital Outlay FY 2018					<u>605,618</u>									
Total CWIP Reported on FY 2017 Financial Statements					<u>153,341,458</u>									

## **CIP Allowance and Program Summary**

Within the FY 2018 - 2022 CIP, GLWA has developed budgets for allowances and programs that provide GLWA flexibility in capital development and improvements.

Allowances are established to provide funding related to unanticipated nature of pipeline and equipment failures that require immediate repair and rehabilitation to continuously meet level of service requirement. Allowances can also be allocated to projects with anticipated or actual spend in excess of the CIP budget.

Programs are established to provide funding related to specific capital improvements that are systemic, reoccurring, and vary from year to year.

Below are the allowances and programs within the Wastewater System.

### **Allowance**

260100: WRRF, Lift Station and Wastewater System Structure Allowance

### **Programs**

260200: Sewer and Interceptor Evaluation and Rehabilitation

260300: Scheduled Replacement of Program of Critical Assets

260400: Sewage Meter Design, Installation, Replacement and Rehabilitation Program



## Wastewater System Construction Work-in-Progress Quarterly Report As of March 31, 2018

Great Lakes Water Authority  
Board Approved CIP Allowance/Program Summary  
Allowance: 260100 Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures

CIP#	Contract Number	Description	Board/Administrative Approved	Current Budget Amendment	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
<b>260100</b>		<b>WRRF, Lift Station and Wastewater Collection System Structures Allowance</b>	<b>Board</b>		<b>12,000,000</b>	<b>12,000,000</b>	<b>15,000,000</b>	<b>15,000,000</b>	<b>12,000,000</b>
260300	Fire Remediation Project at WRRF	Fire Remediation	Board	6992	2,000,000				
260110	CS-060	Study and Design for Modification of Sludge Feeds Systems	Board	6920	(174,000)				
260113	Fire Remediation Project at WRRF	Fire Remediation	Board	9383	(2,000,000)				
211004	CON-250	Rack and Grit at Pump Station No. 1	Board	9023	(1,740,000)				
213007	CON-197	Modify Sludge Feeds Systems in Complex II	Board	9024	(1,709,083)				
260602	DB-261	CSO Facilities Fire Alarm	Administrative	9374	(834,788)				
215001	CON-234	Effluent Gates	Board	9025	(500,000)				
260601	CON-254	Oakwood CSO Control Facility Rehabilitation	Administrative	9373	(200,000)				
213007	CS-060	Study and Design for Modification of Sludge Feeds Systems	Board	Pending	(96,404)				
232002	CON-109	Emergency Refurbishment of Storm Pump #5 and #7, Upgrade of Pump #5 and Motor Control Center Upgrade for Eight Storm Pumps for Freud Pumping Station	Board	9372	(886,684)				
214001	CS-262	Engineer Services for IWCD Relocation	Administrative	9370	(154,040)				
211004	CS-1432A	Rack and Grit at Pump Station No. 1 Design	Administrative	9371	(153,899)				
<b>Total</b>	<b>12 Available Balance</b>				<b>5,551,102</b>	<b>12,000,000</b>	<b>15,000,000</b>	<b>15,000,000</b>	<b>12,000,000</b>

## Wastewater System Construction Work-in-Progress Quarterly Report

As of March 31, 2018

Great Lakes Water Authority  
Board Approved CIP Allowance/Program Summary  
Program: 260200 Sewer and Interceptor Evaluation and Rehabilitation Program

CIP#	Contract Number	Description	Board/Administrative Approved	Current Year Budget Amendment	FY2018	FY 2019	FY 2020	FY 2021	FY 2022
<b>260200</b>		<b>Sewer and Interceptor Evaluation and Rehabilitation Program</b>			<b>8,000,000</b>	<b>8,000,000</b>	<b>20,000,000</b>	<b>20,000,000</b>	<b>20,000,000</b>
260201	PO 5030	DRI Section Inspection, Evaluation, Design							
260201	CS-168	Conveyance Sstem Interceptor Rehab	Board	7013	(1,000,000)	(1,000,000)	(1,000,000)		
260201	CON-149	CON-149 Inland: DRI, Sec Insl, Evaluation, Design	Board	7013	(4,795,540)	(6,600,000)	(3,404,460)		
260203	CS-068	CON-068 Inland: Sewer Inspection	Board	7011	(2,140,460)				
<b>Total</b>	<b>4 Available Balance</b>				<b>64,000</b>	<b>400,000</b>	<b>15,595,540</b>	<b>20,000,000</b>	<b>20,000,000</b>

Great Lakes Water Authority  
Board Approved CIP Allowance /Program Summary  
Allowance: 260300 Scheduled Replacement of Program of Critical Assets

CIP#	Contract Number	Description	Board/Administrative Approved	Current Year Budget Amendment	FY2018	FY 2019	FY 2020	FY 2021	FY 2022
<b>260300</b>		<b>Schedule Replacement Program of Critical Assets</b>			<b>5,000,000</b>	<b>5,000,000</b>	<b>5,000,000</b>	<b>5,000,000</b>	<b>5,000,000</b>
260301	CON-143	Complex II Roof Replacement	Board	6990	(1,567,400)				
260113	Fire Remediation Project at WRRF	Fire Remediation	Board	6992	(2,000,000)				
<b>Total</b>	<b>2 Available Balance</b>				<b>1,432,600</b>	<b>5,000,000</b>	<b>5,000,000</b>	<b>5,000,000</b>	<b>5,000,000</b>

Great Lakes Water Authority  
 Board Approved CIP Allowance/Program Summary  
 Program: 260400 Sewage Meter Design, Installation, Replacement and Rehabilitation

CIP#	Contract Number	Description	Board/Administrative Approved	FY2018	FY 2019	FY 2020	FY 2021	FY 2022
260400		Sewage Meter Design, Installation, Replacement and Rehabilitation Program		500,000	500,000	500,000	500,000	500,000
<b>Total</b>	<b>0</b>	<b>Available Balance</b>		<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>



## **Budget Amendment Reporting**

**Scope:** Budget amendments are being used as an internal management tool to properly allocate funds from the allowance and programs within the Capital Improvement Plan (CIP) for the budgeted years by the reallocation of funds from the budgeted allowance or programs level to the actual project level.

**Process:** Steps are listed below.

- 1) Properly identify projects that utilize funds from the allowance or programs
- 2) Reallocate the funds from the budgeted allowance or programs level through a journal entry
- 3) Attach documents that support the reallocation (CIP funding request, contract transmittal, or change orders)
- 4) Create, review, and approve budget amendment journal entry

Budget Amendment Processed for FY 2018 through March 31, 2018

Budget Amendments/Descriptions/Reasons/GL Strings	Amount
<b>6920</b>	
<b>CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance</b>	
To fund Contracted Construction Services not budgeted for in FY 2018-2022 CIP	
<b>Cost in Excess of CIP Budget</b>	
	5421-892211.000-616900-260100
	(\$174,000)
<b>CIP 260110: CS-060: Upgraded Sludge Conveyance System Design</b>	
To fund Contracted Construction Services not budgeted for in FY 2018-2022 CIP	
<b>Cost in Excess of CIP Budget</b>	
	5421-892211.000-616900-260110
	\$174,000
<b>6990</b>	
<b>CIP 260300: Scheduled Replacement of Program of Critical Assets</b>	
To Fund Contracted Construction Services related to budgeted program assigned	
<b>Fire Remediation-Roof Replacement</b>	
	5421-892211.000-616900-260300
	(\$1,567,400)
<b>CIP 260301: CON-143: Roof Replacement of Complex II</b>	
To Fund Contracted Construction Services related to budgeted program assigned	
<b>Fire Remediation-Roof Replacement</b>	
	5421-892211.000-616900-260301
	\$1,567,400
<b>6992</b>	
<b>CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance</b>	
To Fund Contracted Construction Services related to budgeted program assigned	
<b>Fire Remediation</b>	
	5421-892211.000-616900-260100
	\$2,000,000
<b>CIP 260300: Scheduled Replacement of Program of Critical Assets</b>	
To Fund Contracted Construction Services related to budgeted program assigned	
<b>Fire Remediation</b>	
	5421-892211.000-616900-260300
	(\$2,000,000)

Budget Amendment Processed for FY 2018 through March 31, 2018

**7011**

**CIP 260203: CON-068: Inland: Sewer Inspection**

To Fund Contracted Construction Services related to budgeted program assigned  
**Allocation of Program**

5421-882301.000-616900-260203      \$2,140,460

**CIP 260200: Sewer and Interceptor Evaluation and Rehabilitation**

To Fund Contracted Construction Services related to budgeted program assigned  
**Allocation of Program**

5421-892211.000-616900-260200      (\$500,460)

To Fund Contracted Engineering Services related to budgeted program assigned  
**Allocation of Program**

5421-892211.000-617950-260200      (\$1,640,000)

**7013**

**CIP 260201: CON-149: Inland: DRI, Evaluation, Design**

To Fund Contracted Construction Services related to budgeted program assigned  
**Allocation of Program**

5421-882301.000-616900-260201      \$4,795,540

**CIP 260201: Conveyance System Interceptor Rehab**

To Fund Contracted Engineering Services related to budgeted program assigned  
**Allocation of Program**

5421-882301.000-617950-260201      \$1,000,000

**CIP 260200: Sewer and Interceptor Evaluation and Rehabilitation**

To Fund Contracted Construction Services related to budgeted program assigned  
**Allocation of Program**

5421-892211.000-616900-260200      (\$4,795,540)

To Fund Contracted Engineering Services related to budgeted program assigned  
**Allocation of Program**

5421-892211.000-617950-260200      (\$1,000,000)

Budget Amendment Processed for FY 2018 through March 31, 2018

**9023**

**CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance**

To Fund Contracted Construction Services related to budgeted program assigned

**Cost in Excess of CIP Budget**

5421-892211.000-616900-260100      **(\$1,740,000)**

**CIP 211004: Rack and Grit Pump Station No. 1**

To Fund Contracted Construction Services related to budgeted program assigned

**Cost in Excess of CIP Budget**

5421-892211.000-616900-211004      \$1,740,000

**9024**

**CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance**

To Fund Contracted Construction Services

**Cost in Excess of CIP Budget**

5421-892211.000-616900-260100      **(\$1,709,083)**

**CIP 213007: Modify Sludge Feeds Systems in Complex II**

To Fund Contracted Construction Services

**Cost in Excess of CIP Budget**

5421-892211.000-616900-213007      \$1,709,083

**9025**

**CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance**

To Fund Contracted Construction Services

**Cost in Excess of CIP Budget**

5421-892211.000-616900-260100      **(\$500,000)**

**CIP 215001: Effluent Gates**

To Fund Contracted Construction Services

**Cost in Excess of CIP Budget**

5421-892211.000-616900-215001      \$500,000

Budget Amendment Processed for FY 2018 through March 31, 2018

**9370**

**CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance**

To Fund Contracted Engineering Services related to budgeted program assigned

**Cost in Excess of CIP Budget**

5421-892211.000-616900-260100 (\$154,040)

**CIP 214001: Engineer Services for IWCD Relocation**

To Fund Contracted Engineering Services related to budgeted program assigned

**Cost in Excess of CIP Budget**

5421-892211.000-617950-214001 \$154,040

**9371**

**CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance**

To Fund Contracted Construction Services related to budgeted program assigned

**Cost in Excess of CIP Budget**

5421-892211.000-616900-260100 (\$153,899)

**CIP 211004: Rack and Grit Pump Station No. 1**

To Fund Contracted Engineering Services related to budgeted program assigned

**Cost in Excess of CIP Budget**

5421-892211.000-617950-211004 \$153,899

**9372**

**CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance**

To Fund Contracted Construction Services

**Cost in Excess of CIP Budget**

5421-892211.000-616900-260100 (\$886,684)

**CIP 232002: Emergency Storm Pumps 5 and 7 Upgrade**

To Fund Contracted Construction Services

**Cost in Excess of CIP Budget**

5421-892211.000-616900-232002 \$886,684

Budget Amendment Processed for FY 2018 through March 31, 2018

<b>9373</b>		
<b>CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance</b>		
To Fund Contracted Construction Services		
<b>Cost in Excess of CIP Budget</b>		
	5421-892211.000-616900-260100	(\$200,000)
<b>CIP 260601: Oakwood CSO Control Facility Rehabilitation</b>		
To Fund Contracted Construction Services		
<b>Cost in Excess of CIP Budget</b>		
	5421-892211.000-616900-260601	\$200,000
<b>9374</b>		
<b>CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance</b>		
To Fund Contracted Construction Services		
<b>Cost in Excess of CIP Budget</b>		
	5421-892211.000-616900-260100	(\$834,788)
<b>CIP 260602: CSO Facilities Fire Alarm</b>		
To Fund Contracted Construction Services		
<b>Cost in Excess of CIP Budget</b>		
	5421-892211.000-616900-260602	\$834,788
<b>9383</b>		
<b>CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance</b>		
To Fund Contracted Engineering Services related to budgeted program assigned		
<b>Fire Remediation</b>		
	5421-892211.000-616900-260100	(\$2,000,000)
<b>260113: Fire Remediation</b>		
To Fund Contracted Construction Services related to budgeted program assigned		
<b>Fire Remediation</b>		
	5421-892211.000-616900-260113	\$2,000,000
<b>Grand Total</b>		<b>0</b>

## Glossary of Acronyms

<b>ACRONYM</b>	<b>DEFINITION</b>	<b>ACRONYM</b>	<b>DEFINITION</b>
CCD	Construction Change Directive	NPDES	National Pollution Discharge Elimination System
CSO	Combined Sewer Overflow	RAS	Return Activated Sludge
CIPP	Cured in Place Pipe Lining	RRO	River Rouge Outfall
DCB	Detailed Cost Breakdown	RTB	Retention Treatment Basin
ECR	Equipment Shutdown Request	SDF	Screening and Disinfection Facility
HPO	High Purity Oxygen	SFE	Screened Final Effluent
ISDs	In System Storage Devices	SPW	Springwells Water Treatment Plant
IWC	Industrial Waste Control	VFD	Variable Frequency Drive
MCC	Motor Control Centers	WRRF	Water Resource Recovery Facility
MDEQ	Michigan Department of Environmental Quality	WTP	Water Treatment Plant
NAB	New Administration Building	WWTP	Wastewater Treatment Plant
NIEA	North Interceptor East Arm		