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Great Lakes Water Authority

CIP Project Updates
Water Engineering

June 13, 2023 | Tim Kuhns

Agenda

- CIP #: 111001 – Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System Improvements
- CIP #: 115001 – Water Works Park Water Treatment Plant Yard Piping, Valves, and Venturi Meter Replacement.
- CIP # 122004 – 96-inch Water Transmission Main Relocation and Isolation Valve Installation.

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Water CIP Project STATUS

CIP #: 111001 LH WTP Low-Lift, High Lift and Filter Backwash Project

Project Manager: Eric Kramp

Project Delivery Method: Design-Bid-Build

Project Status: Design Phase

CIP Score: 80.7

We Are Here

Master Plan → BCE/CIP → Study → RFP → Design → Procurement → Construction

Contract	Contractor	Contract Amount	Earned Value	% Complete	Start	End	% Elapsed Time
•1803769 (Design) •TBD (Construction)	•**Arcadis** •TBD	•$15,003,356.11 •TBD	•$3,100,391.10 •$0	•21% •0%	•Match 12, 2020 •DATE	•July 31, 2028 •DATE	•34% •TBD

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Water CIP Project INFO

CIP #: 111001 LH WTP Low-Lift, High Lift and Filter Backwash Project

- **Project Scope of Work / Goals**
  - **Replace aging Switchgear**
  - **Replace Low Lift, High Lift, and Wash Water Pumps that align better with current system demands**
  - **Replace Phosphoric Acid Feed System**
- **Significance / Need / Background**
  - **Lake Huron's Switchgear is antiquated, and parts are no longer available.**
  - **Both High and Low Lift pumps are not aligned with current system demands**
  - **Wash Water Pumping system is being simplified.**

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Water CIP Project PHOTOS

CIP #: 111001 LH WTP Low-Lift, High Lift and Filter Backwash Project

High Lift Pump 8

Low Lift Pump 2

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Water CIP Project STATUS

CIP #: 115001 WWP WTP Yard Piping, Valves, and Venturi Meter

Project Manager: Jacob Mangum

Project Delivery Method: Design-Bid-Build

Project Status: Construction Phase

CIP Score: 78.1

We Are Here

Master Plan → BCE/CIP → Study → RFP → Design → Procurement → Construction

Contract	Contractor	Contract Amount	Earned Value	% Complete	Start	End	% Elapsed Time
•CS-055 (Design)	•**AECOM**	•$5,598,493.75	•$3,054,858.82	•55%	•June 26, 2017	•February 26, 2026	•65%
•2000610 (Construction)	•LGC	•$49,467,913.00	•$20,035,630.24	•41%	•October 19, 2020	•September 3, 2025	•47%

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Water CIP Project INFO

CIP #: 115001 WWP WTP Yard Piping, Valves, and Venturi Meter

Project Scope of Work / Goals

The scope of this project involves the replacement of four of the header pipes with spiral welded steel pipe, four venturi meters, and twenty-seven isolation valves. The new pipe configuration provides a simplified layout that increases redundancy in piping and metering. Two new pressure regulating stations provide an interconnect between the intermediate- and low-pressure districts. Piping, valve, and venturi meter replacement is broken down into the eastern portion and western portion to ensure consistent water supply to the system during the entire construction duration. Also included in the project scope is a new WWP site entrance and security station.

Significance / Need / Background

Water Works Park Water Treatment Plant services the low- and intermediate-pressure districts in the GLWA water transmission system. Finished water leaves the high lift pumping station via six header pipes and connects to fifteen distinct water transmission mains. Due to the age and unknown condition of a significant portion of this yard piping and associated isolation valves, the convoluted existing pipe configuration, and unreliable metering of finished water flow into the transmission system, it was necessary to replace the yard piping, valves, and venturi meters at WWP.

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Water CIP Project PHOTOS

CIP #: 115001 WWP WTP Yard Piping, Valves, and Venturi Meter

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Water CIP Project STATUS

CIP #: 122004 96-inch Water Transmission Main Relocation

Project Manager: Corey Brecht

Project Delivery Method: Design-Bid-Build

Project Status: Construction Phase

CIP Score: 83.5

We Are Here

Master Plan → BCE/CIP → Study → RFP → Design → Procurement → Construction

Contract	Contractor	Contract Amount	Earned Value	% Complete	Start	End	% Elapsed Time
•1900741 (Design)	•**Jacobs**	•$31,510,086.87	•$15,067,456.07	•48%	•June 15, 2020	•Nov 6, 2027	•36%
•2004825 (CMAR)	•Kiewit (Phase 1)	•$36,342,500.00	•$10,615,753.03	•29%	•February 28, 2022	•August 25, 2028	•14%

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Water CIP Project INFO

CIP #: 122004 96-inch Water Transmission Main Relocation

Project Scope of Work / Goals

- The project involves the addition of isolation valves and the relocation of approximately 2.5 miles of 96-inch water transmission main (WTM) currently located within the influence of the decommissioned G&H Industrial Landfill site. The relocated 96-inch WTM will connect to GLWA's existing WTM system between North Service Center and Rochester Hills Booster station. Along with the relocation of the 96-inch WTM, GLWA in conjunction with the local road commission, will be participating in roadway enhancements/improvements along the pipeline alignment.

Significance / Need / Background

- The 96-inch relocation project will provide improved access for future operations and maintenance of the WTM and will increase resiliency of the system with the installation of the isolation valve stations containing bypasses to serve adjacent member partner communities in the future.

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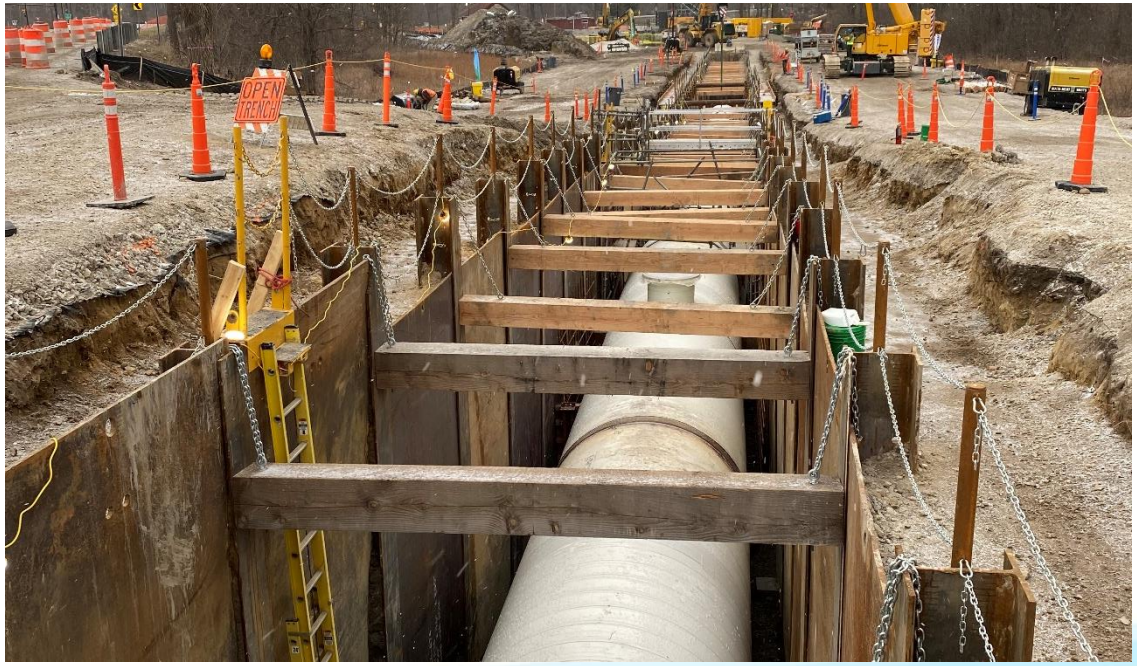
Water CIP Project PHOTOS

CIP #: 122004 96-inch Water Transmission Main Relocation

Pipe Installation

Pipe Installation



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Water CIP Project PHOTOS

CIP #: 122004 96-inch Water Transmission Main Relocation

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Questions and Contact

Tim Kuhns, PE

Great Lakes Water Authority – Director Water Engineering

P: 313-530-1826

E: Timothy.Kuhns@glwater.org

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