

**Great Lakes Water Authority
96-inch Water Transmission Main Relocation Project
Drinking Water State Revolving Fund Project Plan
PUBLIC HEARING
June 23, 2021**



Jacobs



Proposed Improvements

Great Lakes Water Authority (GLWA) is proposing to relocate approximately 2.5 miles of 96-inch Water Transmission Main (WTM) around the closed G&H industrial landfill (Landfill) located south of 23 Mile Road and west of Ryan Road. The new, relocated 96-inch WTM will connect to the existing water transmission system near the intersection of 24 Mile Road and the Macomb Orchard Trail to the north and at the intersection of Dequindre Road and Hamlin Road to the south. Included in the project is the installation of several isolation valves and the abandonment of a portion of existing 96-inch WTM under the landfill.

Summary of Project Need

The main purpose of the project is to relocate the portion of the existing 96-inch WTM that is currently located within the closed Landfill property near the intersection of 23 Mile Road and Ryan Road. The Landfill was placed on the USEPA Superfund National Priorities List in 1983, and approximately 1,660 feet of the existing 96-inch WTM falls within its limits.

Implementation Alternatives

Eleven implementation alternatives were developed that were narrowed to 4 alternatives (Alternatives 2, 7, 10, 11) considered for final selection.

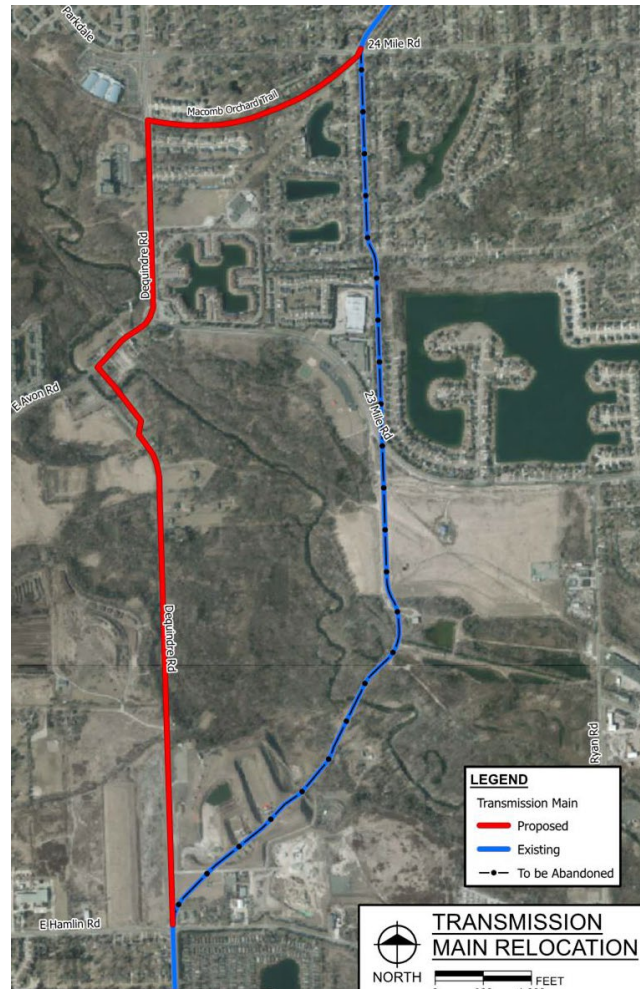


Table 1 –Implementation Alternatives Considered for Final Selection

Component	Alternative 2	Alternative 7	Alternative 10	Alternative 11
Relocate 96-inch WTM	X	X	X	X
Abandon Existing 96-inch WTM	X	X	X	X
96-Inch Main Appurtenances Rehabilitation	X	X	X	X
East Pond Creek Discharge Facility (EPCDF)	X		X	X
Plumbrook Drain Discharge Facility (PDDF)	X	X	X	X
72-inch WTM Discharge Facility	X	X	X	X
Temporary Chesterfield Loop Booster Station		X	X	
Permanent Chesterfield Loop Booster Station	X			
Isolation Valve: Romeo	X	X	X	X
Isolation Valve: 26 Mile Road	X		X	X
Isolation Valve: North Service Center	X	X	X	X
Full Parallel Main - Rochester BPS to BU-01		X		
Rochester Loop/Adams Rd Pipeline				X
Rochester West and WG-02 Laterals-Main				X

Alternative 2 - CLBPS with 26 Mile Road Pump Station

The concept is to install a new 25-mgd capacity pump station on the Chesterfield Loop Water Main between the Clinton River and Hall Road (M-59, or approximately 20 Mile Road). An existing 42-inch WTM in 24 Mile Road connects to the Rochester Booster Pump Station, which will allow the new Chesterfield Loop Booster Station to supply flows to the Rochester Booster Pump Station during non-growing season shutdown periods.

Alternative 7 - Parallel Main

The concept is to construct the parallel main from 33 Mile Road to the Rochester Booster Pump Station and the new 24 Mile Road Isolation Valve bypass piping before the relocated section of the 96-inch WTM is tied into the existing system. That way, drinking water could be supplied to all member partners using the new 36-inch parallel main while the existing 96-inch WTM is taken out of service to make the connections to the relocated 96-inch WTM.

Alternative 10 - 96-inch Relocated Main "North Service Center Feed"

This alternative is identical to Alternative 2 except the Chesterfield Loop Booster Pump Station is a temporary versus a permanent pumping facility. All other aspects of this alternative are identical to Alternative 2.

Alternative 11 - Extended Adams to Rochester Loop

The concept is to install a new 36-inch pipeline to supply backup flow to the Rochester Booster Pump Station from the existing GLWA water transmission system served by the Adams Road Booster Pump Station, located several miles to the west. The new 36-inch pipeline would extend east along Walton Boulevard from an interconnection with an existing GLWA water main at Waltonshire Court and Walton Boulevard. The pipeline would jog north through Rochester and return to 24 Mile Road and then lead to the Rochester Booster Pump Station.

Table 2. Project Costs of Final Implementation Alternatives

Category	Alternative 2	Alternative 7	Alternative 10	Alternative 11
Total Project Cost	\$186,803,000	\$253,921,000	\$170,361,000	\$269,262,000
Selected Alternative	No	No	Yes	No

Table 3. Estimated Planning-level Cost of Selected Implementation Alternative

Item	Estimated Planning-level Cost (\$)
Member Partner Backup Systems	\$2,169,000
Design, Permitting, Assistance During Construction	\$26,635,000
CMAR Pre-Construction Services	\$500,000
Opinion of Probable Construction Cost	\$141,057,000
Total Project Cost	\$170,361,000

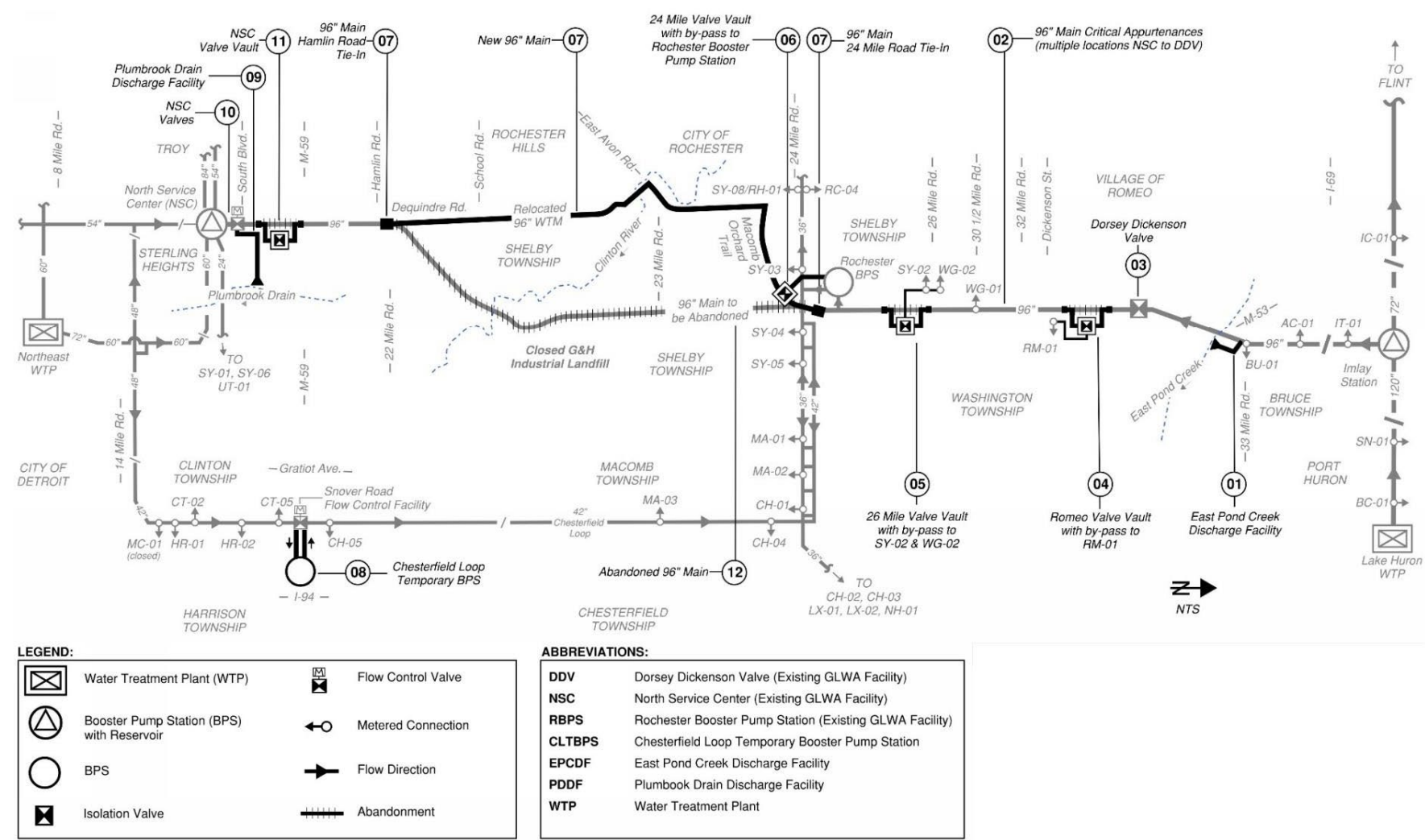
Table 4. User Cost Impact

Item	Cost
Total Cost of Project	\$170,361,000
Annualized Cost of Project (using DWSRF interest rate of 1.875% over 20 years)	\$10,293,500
Service Area Households	1,136,500
Estimated Household User Cost Per Year	+/- \$9.06 / household

Selected Alternative Analysis

The selected alternative, Alternative 10, is shown in the figure below.

Alternative 10 - 96-inch Relocated Main “North Service Center Feed”



Environmental Evaluation

The Project is unlikely to have any adverse impacts on any adjacent properties surrounding the WTM route.

- Precautions will be taken during construction to address traffic, dust, noise, and safety concerns.
- Discussion with environmental agencies are underway to ensure that this project does not impact water quality or affect any state or federally protected species in the area.
- Detailed plans are being incorporated into the design to maintain uninterrupted drinking water to the surrounding communities during construction.

Implementation Schedule

The Project is currently in the design phase.

GLWA has decided to proceed with a Construction Manager At Risk (CMAR) project delivery method using a single prime contracting approach to minimize risks. GLWA plans to select a CMAR Firm to deliver the project in 2021. The CMAR Firm will be contracted during the design phase to provide pre-construction services and to provide a guaranteed maximum price at 90% Design. A portion of the construction will begin in January 2022 while the design is ongoing.

Following is list of key project milestones:

- Award of Construction Contract (CMAR): Q3 2021
- Pipeline Construction Start: January 2022
- Final Design Package to GLWA: Q1 2022
- Start First Pipeline Shutdown: October 15, 2024
- New, Relocated Pipeline in Full Service: April 15, 2025
- Contract Completion: November 2027 (includes 1 year of project closeout)