



WATER ENGINEERING  
10100 E JEFFERSON AVENUE  
DETROIT, MICHIGAN 48214

## IntraDepartmental

### MEMORANDUM

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**TO:** Joan Byrne, Procurement Group

**FROM:** Tim Kuhns, Water Supply Operations Engineering

**COPY:** Grant Gartrell, Water Engineering

**SUBJECT:** Design Build Contract 1803258 (Northeast Flow Control Facility) – Phase 1 Water Works Park to Northeast Transmission Main Project (CIP 122003)

**DATE:** May 20, 2019

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This memorandum serves to provide background information and a gap analysis of the variance between the GLWA board requested-contract value and the original funds approval form that was submitted to GLWA finance on September 1, 2018.

#### **Background**

Design Build Contract No. 1803258 for the construction of the Northeast Flow Control Facility is phase 1 of 3 phases for the construction of the new transmission main between the Water Works Park Water Treatment Plant (WTP) and the Northeast WTP. The new transmission main between the Water Works Park WTP and the Northeast WTP will serve to provide treated water to the Northeast Site from the Water Works Park WTP when the low lift pumping and treatment facilities at the Northeast WTP are decommissioned. On July 18, 2018, the overall Water Works Park to Northeast transmission main project was ranked high enough on the Michigan Department of Environmental Quality's (MDEQ) project priority list such that the project would receive low interest loans for FY2019 through the Drinking Water Revolving Fund (DWRF). The MDEQ DWRF loan funding schedule significantly accelerated this project as it meant that a construction contract for the first phase of the project (Northeast Flow Control Facility) would have to be ready for bid by January 1, 2019. In October 2018, GLWA water supply operations engineering updated the FY2020-2024 CIP for the first phase of the project in the amount of \$12,200,000. This funds request form included design build services for the construction of only the Northeast Flow Control Facility with no connecting yard piping to the existing transmission within the City of Detroit (Garland Main). At the time of the funds request form, it was anticipated that the connective yard piping would be completed as part of phase 2 of the overall Water Works Park to Northeast transmission main. During 30% preliminary design, GLWA

water supply operations engineering conferred with GLWA systems control and identified two key issues of constructing the Northeast Flow Control Facility without constructing connective yard piping to the Garland Main:

1. If connective piping to the existing transmission was not provided, there would be no way to test and commission the new Northeast Flow Control Facility.
2. The connective piping would enable GLWA systems control to provide a backup finished water supply to Northeast (where one currently does not exist), and provide immediate additional redundancy to the system.

It is important to note that the connective yard piping to the Garland Main was always part of the overall project and would have been constructed under phase 2 of the overall Water Works Park to Northeast transmission main project. Because of the two issues identified above, GLWA water supply operations engineering elected move the connective yard piping from phase 2 of the project to the design build contract for the Northeast Flow Control Facility (phase 1) of the larger Water Works Park to Northeast Transmission Main transmission main project.

### **Gap Analysis**

The fee proposal that GLWA water supply operations engineering is requesting approval from the GLWA board is in the amount of \$24,443,619. Recognizing that the CIP budget is in the amount of \$12,200,000, GLWA water supply operations worked with the selected contractor (Walsh Construction Company) to break down the costs to identify the costs associated with the yard piping that was moved from phase 2 to phase 1 of the project as described in the background section. Of the \$24,443,619 total contract fee proposal, \$7,219,200 is attributable to the yard piping that was moved from phase 2 to phase 1 of the project. Subtracting out this amount from the total proposed contract value results in a value of \$17,224,419, which is attributed to the construction of only the flow control facility. This value is directly comparable and more closely in alignment with the original flow control facility FY2020-2024 CIP budget in the amount of \$12,200,000. It should be re-iterated that the incremental cost of \$7,219,200 for the yard piping was always part of the overall cost for the proposed Water Works Park to Northeast transmission main project, but this work was moved forward to phase 1 of the project for the operation advantages outlined in the background section.