



**Navid H. Mehram**  
Chief Operating Officer  
Wastewater Operating Services  
9300 W. Jefferson  
Detroit, Michigan 48209  
Phone: 313-297-4300

## Memorandum

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**To: The Honorable Board of Directors**

**From: Navid H. Mehram, P.E., Chief Operating Officer – Wastewater Operating Services**  
**Sonya Collins, Chief Procurement Officer**

**CC: GLWA Executive Leadership**

**Date: March 11, 2026**

**RE: T2 48 (REQ-0004591) - Review and Recommission Critical Plant Instruments**

This memorandum is to inform the Board of Directors that this Task Order Engineering Services (TOES) project exceeds the \$500,000.00 threshold set up for TOES projects. However, we would like to proceed with awarding the project to Wade Trim for a total value of \$579,900.00. GLWA has identified 24 critical instruments at the Water Resource Recovery Facility (WRRF) that inform operations on key parameters for decision making to successfully operate the facility. The scope of this will complete a comprehensive review and validation of the current instruments and deploy an autonomous verification process that will inform our Reliability and Maintenance Engineering to properly respond and restore instrumentation in the event of failure.

### **Background**

The WRRF processes approximately 600 million gallons of wastewater per day during dry weather, and processes over 1.7 billion gallons of wastewater per day during wet weather. The WRRF consists of a complex array of pumping systems, screening, grit handling, solids disposal and clarifying systems to produce a high-quality effluent before discharging into the Detroit River in accordance with the National Pollution Discharge Elimination System (NPDES) permit.

Compliance with our NPDES permit at the WRRF essentially requires proper management of system hydraulics throughout the facility. In other words, we must regulate the levels and flows at the WRRF to prevent disrupting the wastewater treatment processes within the facility. For example, excessive high levels in our clarifiers could lead to weir submergence, resulting in permit violation, or excess flow to the clarifiers could lead to solids washout and, again, violating our NPDES permit. In addition to the treatment processes, many structures/channels/outfalls used at the WRRF leverage water heights to protect the system from being overwhelmed and allow overflow to the river. Having unreliable or incorrect

instrument information increases the likelihood of uncontrolled discharges through these weirs and structures.

Ensuring these critical level and flow instruments are functioning properly and are fit for purpose is critical to maintaining reliable wastewater treatment operations at the WRRF. Therefore, a project was required to ensure these critical flow and level instruments at the WRRF are installed properly, maintained properly, and properly selected to ensure compliance with our NPDES permit.

### **Project**

This TOES project is intended to review, document, and implement autonomous verification of critical process instrumentation located at the WRRF. A total of 24 instruments (14 level instruments, 10 flow meters, and 4 level + flow instruments) will be evaluated within this scope of work.

The project will review each of the 24 instruments and verify they are the correct type of instrument, that they are installed correctly, and that they are maintainable. If the instrument is not of the correct type, this project will select the correct instrument and provide a design for the new instrument. However, the replacement of the instrument would be completed under a separate contract. If the instrument is not installed correctly, this project would create drawings of how it should be installed, with the implementation of the correction under a separate contract. If the instrument is not maintainable, this project would create drawings and design of a new installation for the instrument which would be maintainable, and again with the implementation under a separate contract.

For instruments found to be working, properly selected, and maintainable, the project will document the instrument's configuration, wiring, accuracy, and calibration procedures. preventive maintenance procedures and calibration procedures will also be verified and/or added to the GLWAs' Computer Maintenance Management System NEXGEN. Lastly, the project will develop an "autonomous verification" algorithm that will be used to identify when the instrument is performing outside its intended range and therefore cannot be relied upon for plant control in those moments.

### **Proposals**

Originally, this project was advertised as an invitation to quote to TOES consulting firms. As a result, GLWA received two proposals (Brown and Caldwell, and Wade Trim). The proposals received exceeded the allocated budget for this project, and therefore both vendors were asked to modify the scope of work as a cost-reducing measure.

The scope was reduced from 83 instruments to 24 critical instruments. Of the two firms, one declined to reduce the scope and withdrew their proposal, and the other, Wade Trim, collaborated with GLWA to reduce the effort necessary for this project and reduced their costs from \$990,000.00 to \$579,900.00. This reduced cost includes a provisional allowance of \$50,000.00.

### **Summary**

Wade Trim was selected based on the revised costs as well as its previous experience in implementing the autonomous verification system used by the Conveyance Team to detect data anomalies with key conveyance instruments, and furthermore, the work they provided under the Combined Sewer Overflow Level Sensor Program that was implemented as a result of the 2021 Resiliency Study performed as a response to system flooding in 2021.