

COMMISSION FILE NO: 25-113-9 **DATE INTRODUCED:** September 8, 2025

INTRODUCED BY: Executive Director (Signature on File in the Office of the Commission)

REFERRED BY COMMISSION CHAIRPERSON TO: Operations Committee

RELATING TO: Contract K01017D01, Engineering Services – Conveyance Supervisory Control and Data Acquisition Upgrade

SUMMARY:

The Commission is requested to authorize the Executive Director to execute on behalf of the District Contract K01017D01, Engineering Services – Conveyance Supervisory Control and Data Acquisition (SCADA) Upgrade, with Carollo Engineers, Inc., (Carollo) in an amount not to exceed \$9,898,795. Carollo was the highest scoring proposer based on a qualifications-based selection method among three proposals received.

The District has a SCADA system that allows operators to control and receive real time information concerning the status of the District's conveyance system. The SCADA system provides primary remote control, monitoring, and alarm capability for equipment and conditions at approximately 225 sites within the conveyance system. The sites include flow monitoring manholes, inline storage system shafts, diversion structures and chambers, pump stations, bypass structures, and weather stations. This SCADA system transmits this data to and from the Jones Island Water Reclamation Facility. The types of information transmitted include flow level, equipment status, equipment control, alarms, communication status, rainfall, and site security. Veolia Water Milwaukee, LLC, (VWM) continuously monitors the conveyance system via the SCADA system. During wet weather events, District staff can remotely review the conveyance SCADA system to make operational decisions with VWM. The SCADA system is critical to properly operate the conveyance system and to reduce the risk of overflows and basement backups.

ATTACHMENTS: BACKGROUND ☐ KEY ISSUES ☐ RESOLUTION ☒

FISCAL NOTE ☒ S/W/MBE ☒ OTHER ☐ _____

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SUMMARY (Cont'd)

Contract K01017D01, Engineering Services – Conveyance Supervisory Control and Data Acquisition Upgrade

The SCADA system includes Siemens programmable logic controllers (PLC's) and a human machine interface (HMI) system, installed in the early 2000's. The system communicates over a network installed in the late 2010's, consisting of network firewalls and switches, a microwave radio ring pointed to multipoint radios, and cellular modems. Critical sites have two modes of communication.

The purpose of this project is to maintain the District's ability to achieve permit compliance and customer safety through continued reliable operation of the conveyance SCADA system. The Siemens PLC's have reached the end of their lifecycle. Replacement parts are no longer available, and support from the manufacturer will cease near the end of this project's anticipated completion. The existing HMI system was developed over 20 years ago, and software advancements necessitate an upgrade to modern practices.

Under Contract K01017D01, Carollo will:

- Perform project management.
- Review existing reference information.
- Perform engineering evaluations and preliminary design of the new SCADA system.
- Analyze and recommend construction strategies to minimize disruption of conveyance system operations.
- Deliver a design report.
- Prepare bid and construction documents (plans and specifications).
- Perform engineering services during construction and delivery of record drawings.
- Provide updates to facility operation and maintenance (O&M) manuals, O&M staff training, and startup services.
- Perform applications engineering (during construction phase). The applications engineering scope is extensive and includes:
 - Reprogramming the new system to replicate existing controls.
 - Updating HMI screens.
 - Transitioning from the existing SCADA system to the new.
 - Running existing and new systems simultaneously to ensure proper operation.
 - Performing detailed testing at each site to demonstrate the new system operates as required.

After design work is complete, the District will publicly bid the construction contract.

The duration of this contract is approximately 82 months.

RESOLUTION

Contract K01017D01, Engineering Services – Conveyance Supervisory Control and Data Acquisition Upgrade

RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that the Executive Director is authorized to execute Contract K01017D01, Engineering Services – Conveyance Supervisory Control and Data Acquisition Upgrade, with Carollo Engineers, Inc., in an amount not to exceed \$9,898,795.