

COMMISSION FILE NO: 25-096-7 **DATE INTRODUCED:** July 14, 2025

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

REFERRED BY COMMISSION CHAIRPERSON TO: Operations Committee

RELATING TO: Change Order Request, Contract P01005C06, Pipeline Cleaning Phase 2 – Interplant Sludge System Improvements, and Approve Changes in Total Project Cost

SUMMARY:

The Commission is requested to authorize the Executive Director to execute a change order to Contract P01005C06, Pipeline Cleaning Phase 2 – Interplant Sludge (IPS) System Improvements, with Terra Engineering & Construction Corporation (Terra) in an amount not to exceed \$1,200,000.

Further, the Commission is requested to increase the total project cost (TPC) for Project P01005, Interplant Pipeline Improvements – Phase II, by \$1,200,000 for an amended TPC of \$34,025,000 and to make a corresponding change to the TPC of Project M99001, Allowance for Cost and Schedule Changes.

The IPS System allows for the transfer of sludge (or biosolids) between the Jones Island Water Reclamation Facility (JIWRF) and the South Shore Water Reclamation Facility (SSWRF). The IPS System is critical for processing biosolids and producing Milorganite®. An IPS System outage can result in operational challenges, lost opportunities to create digester gas, and significant increases in operating costs.

The IPS System consists of a pump station located at JIWRF, a pump station located at SSWRF, and four parallel ductile iron pipelines connecting the two facilities. Each pipeline is 12 miles long for a total length of 48 miles. Two of the pipelines are 12-inch diameter, and the other two are 14-inch diameter. The IPS System has been in service for approximately 30 years.

ATTACHMENTS: BACKGROUND ☐ KEY ISSUES ☐ RESOLUTION ☒
FISCAL NOTE ☒ S/W/MBE ☐ OTHER ☐ _____

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COMMITTEE ACTION: _____ **DATE:** _____

COMMISSION ACTION: _____ **DATE:** _____

SUMMARY (Cont'd)

Change Order Request, Contract P01005C06, Pipeline Cleaning Phase 2 – Interplant Sludge System Improvements, and Approve Changes in Total Project Cost

The transfer of biosolids between JIWRf and SSWRF has been reasonably reliable; however, there has been a reduction in pipeline flow capacity since the system began operation. The cause of the reduced flow capacity is a buildup of settled solids in the pipeline, primarily at low points. The decrease in flow capacity increases the amount of energy needed to transfer biosolids between facilities. The overall purpose of this project is to restore the reliability, operational capability, and energy efficiency of the IPS System.

In January 2022, the Commission awarded Contract P01005C06 to Terra in the amount of \$8,453,660. Under this contract, Terra is:

- Preparing each pipeline for cleaning by removing valves and fittings on various pipeline valve vaults and venting the pipeline.
- Draining and disposing liquid from each pipeline.
- Jet cleaning the pipeline low points with disposal of cleaning water and solids.
- Televising each pipeline.
- Performing final pipeline cleaning using a pipeline insertion gauge (PIG).
- Installing new PIG-compatible valves, piping, supports, and fittings in the vaults.
- Improving pipe bonding in each vault to maximize performance of the pipeline cathodic protection system.
- Abating existing lead-based paint coatings and recoat the existing piping and valves in each vault.
- Returning each pipeline back to service.

Following is a summary of the change orders executed under the Executive Director's authority:

- Providing 148 additional pipe spool pieces in pipeline valve vaults.
- Cleaning and removing existing debris from the bottom of four valve vaults.
- Replacing existing isolation valves in one valve vault.
- Modifying the existing valve vault pipe supports.
- Adjusting pipeline cleaning unit quantity.
- Providing flushing connections on existing valves.
- Providing new snubbers at the PIG receiving stations at JIWRf and SSWRF.
- Providing handwheel operators on two pipeline drain valves.
- Filling pits on the exterior of pipes in one valve vault.
- Bonding the joints in valve vaults on pipeline number 1 to improve cathodic protection during construction.
- Additional jet cleaning to remove a stuck PIG in pipeline number 2.
- Additional PIG cleaning runs in pipeline number 2.
- Providing temporary sound barriers at select valve vaults during jet cleaning.
- PIG cleaning of pipeline number 3.

SUMMARY (Cont'd)

Change Order Request, Contract P01005C06, Pipeline Cleaning Phase 2 – Interplant Sludge System Improvements, and Approve Changes in Total Project Cost

Following is a summary of change orders authorized under Commission action:

- Providing 20 additional pipe spool pieces in pipeline valve vaults.
- Additional jet cleaning to remove a second stuck PIG in pipeline number 2.
- Providing up to five additional PIG cleanings of pipelines.

Terra successfully cleaned pipeline number 3 without significant issue. To successfully clean pipeline number 2, the District processed nearly \$1,200,000 in change orders for Terra to perform additional cleaning with specialized equipment due to highly solidified material in the pipeline.

Work on pipeline number 2 is complete, and Terra is now working on pipeline number 4. Pipeline number 1 will follow number 4. Staff visually inspected one location on pipeline number 4 and identified a significant buildup of vivianite on the inside of the pipeline. Vivianite is a mineral formation of iron and phosphorus that can occur in sludge pipelines under certain conditions.

Staff is evaluating two primary ways to remove the vivianite: chemical treatment and jet cleaning. As of the writing of this Commission document, staff has not yet identified the best option nor has it determined the cost to remove the vivianite.

As soon as the vivianite removal method is determined, staff desires to restart cleaning pipeline number 4 with the preferred cleaning method. This work will continue over the next several months. Recognizing the Commission's August recess and the costs for additional cleaning in pipeline number 2, it is possible that the additional costs for cleaning pipeline number 4 will exhaust the Executive Director's delegated contract change authority before the September Commission cycle; therefore, staff requests the Commission authorize the Executive Director's to execute change orders totaling no more than \$1,200,000. Providing this authority now will avoid costs associated with Terra's demobilizing, remobilizing, and idle equipment costs if staff had to wait until September for Commission action to restore delegated authority. The total amount requested is based on the additional cleaning costs needed for pipeline number 2.

SUMMARY (Cont'd)

Change Order Request, Contract P01005C06, Pipeline Cleaning Phase 2 – Interplant Sludge System Improvements, and Approve Changes in Total Project Cost

CONTRACT COST CHANGES

	AMOUNT	PERCENTAGE INCREASE OVER ORIGINAL CONTRACT	AUTHORIZED BY	SWMBE
Original Contract	\$8,453,660		Commission	21%
Previous Authorized Change Orders	\$2,112,049	25%	Executive Director and Commission	3.2%
Requested Change Order	\$1,200,000	14%	Request of Commission	2.6%
Total Change Orders	\$3,312,049	39%		3.0%
TOTAL	\$11,765,709			16.0%

Additionally, staff requests the Commission increase the TPC by \$1,200,000 to account for the additional cleaning in pipeline number 4.

RESOLUTION

Change Order Request, Contract P01005C06, Pipeline Cleaning Phase 2 – Interplant Sludge System Improvements, and Approve Changes in Total Project Cost

RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that the Executive Director is authorized to execute a changer order to Contract P01005C06, Pipeline Cleaning Phase 2 – Interplant Sludge System Improvements, with Terra Engineering & Construction Corporation in an amount not to exceed to \$1,200,000.

FURTHER RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that the total project cost for Project P01005, Interplant Pipeline Improvements – Phase II, is increased by \$1,200,000 for an amended total project cost of \$34,025,000, and that a corresponding change is made to the total project cost for Project M99001, Allowance for Cost and Schedule Changes.