Item 7

**COMMISSION FILE NO:** 26-011-1 **DATE INTRODUCED:** January 12, 2026

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

**REFERRED BY COMMISSION CHAIRPERSON TO:** Operations Committee

**RELATING TO**: Contract S01013D03, AquaPrime Disk Cloth Filter, and Contract S01013D04, Proteus Upflow Media Filter

**SUMMARY:**

The Commission is requested to authorize the Executive Director to execute on behalf of the District Contract S01013D03, AquaPrime Disk Cloth Filter, with Aqua-Aerobic Systems, Inc., (Aqua-Aerobic) for the purchase of primary filtration equipment and services in the amount not to exceed $1,133,500. This is a sole source procurement.

Further, the Commission is requested to authorize the Executive Director to execute on behalf of the District Contract S01013D04, Proteus Upflow Media Filter, with Tomorrow Water, Inc., (Tomorrow Water) for the purchase of primary filtration equipment and services in the amount not to exceed $2,826,000. This is a sole source procurement.

Primary clarification is a key unit process used to remove biological oxygen demand (BOD) and total suspended solids from the influent wastewater stream. At the South Shore Water Reclamation Facility (SSWRF), the existing primary clarification system consists of 16 rectangular primary clarifiers, sludge removal equipment, scum removal system, scum pumping equipment, and associated controls.

The purpose of Project S01013, Primary Clarifier System Improvements, is to improve the reliability and performance of the primary clarifier system located at SSWRF both in the near term and to meet future primary clarifier performance goals as outlined in the 2050 Facilities Plan (FP). The primary clarifiers originally went into service in 1968. Equipment has been replaced since then, with most equipment being installed over 20 years ago. This equipment is nearing the end of its useful life. The existing equipment has experienced warped scum beaches, warped and misaligned longitudinal and transverse collectors, and corroded drives.

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

*OP_Award_Contract_S01013D03_AquaPrime_Disk_Cloth_Filter_Contract_S01013D04_legislative_file 12-19-25*

**COMMITTEE ACTION:** _____ **DATE:** _____

**COMMISSION ACTION:** _____ **DATE:** _____

To ensure long-term plant performance under projected future loadings, the FP evaluated ways to achieve plant performance goals. For the primary clarification process, the FP recommended achieving a 50% BOD removal rate in the primary treatment process using chemically enhanced primary treatment (CEPT). The existing BOD removal rate averages 40% and is highly variable. While the FP recommended CEPT, there are other technologies available that can achieve the 50% BOD removal rate and do so in a consistent manner.

The District contracted Black & Veatch (B&V) to perform alternatives evaluation and engineering design services for this project. Through the alternative analysis, it was determined that converting from primary clarification to primary filtration technology is the most efficient, sustainable, cost effective way to achieve the project's goal of 50% BOD removal.

Primary filtration is an emerging technology for primary wastewater treatment and has limited full scale operations in the United States. The wastewater treatment facilities using primary filtration in the United States are not at the same scale as SSWRF. Two viable systems are currently available: Proteus by Tomorrow Water and AquaPrime by Aqua-Aerobic. While both fall under the category of primary filtration, they utilize different treatment approaches, each with advantages and limitations in terms of performance, operations, and maintenance. B&V has determined that Aqua-Aerobic and Tomorrow Water are the only two manufacturers capable of meeting the project's requirements.

Given the innovative nature of these technologies and the substantial capital investment required to implement it at SSWRF, District staff recommend a large scale pilot test prior to final system selection. A pilot test will allow the District to evaluate technology performance under site-specific conditions, quantify treatment efficiency, and reliability and to identify potential operational and maintenance requirements. It will also generate data on long-term costs and resource needs that cannot be fully determined from vendor data alone. The results of the pilot will inform a final decision between the two systems and guide the basis of design, construction, and ongoing operations and maintenance. Staff anticipates a two-year pilot testing program to ensure that performance can be evaluated across a range of seasonal and loading conditions.

To perform pilot testing at this scale, the District plans to construct a dedicated pilot testing facility. After evaluating options ranging from temporary setups to permanent buildings, the District has decided to construct a permanent 9,500-square-foot, two-story research facility that will support both the proposed primary filtration pilot test and future optimization testing once a system is implemented.

Initially, staff will use this building for the proposed primary filtration pilot test and to perform optimization testing after the final primary clarification system is fully implemented.

Long term, staff and other outside entities can use the facility to perform wastewater treatment research, including bench scale testing, skid mounted pilots, testing new technologies, and process optimization in a controlled, safe-to-fail environment at a cost effective yet representative scale.

B&V is proceeding with final design of the research facility, and staff anticipates advertising the public bid package in the first quarter of 2026.

Prepurchasing the pilot filter equipment will significantly shorten the research facility's overall construction schedule. Because some filters take up to a year to produce, waiting to purchase them through the construction contract would delay the project. Buying them in advance reduces the overall timeline by about eight months, allowing pilot testing to start sooner.

Under these proposed equipment purchase contracts, Aqua-Aerobic and Tomorrow Water will furnish pilot filter equipment and associated services as follows:

- Pilot primary filtration systems consisting of filtration tanks, media, mechanical equipment, electrical equipment, and controls.
- Equipment testing support for duration of the pilot.
- Deliver the equipment by March 2027.

The research facility contractor will be responsible for installing the equipment.

## RESOLUTION

Contract S01013D03, AquaPrime Disk Cloth Filter, and Contract S01013D04, Proteus Upflow Media Filter

---

**RESOLVED**, by the Milwaukee Metropolitan Sewerage Commission, that the Executive Director is authorized to execute on behalf of the District Contract S01013D03, AquaPrime Disk Cloth Filter, with Aqua-Aerobic Systems, Inc., for the purchase of primary filtration equipment and services in the amount not to exceed $1,133,500.

**FURTHER RESOLVED,** by the Milwaukee Metropolitan Sewerage Commission, that the Executive Director is authorized to execute on behalf of the District Contract S01013D04, Proteus Upflow Media Filter, with Tomorrow Water, Inc., for the purchase of primary filtration equipment and services in the amount of $2,826,000.