

COMMISSION FILE NO: 20-135-9 **DATE INTRODUCED:** September 14, 2020

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

REFERRED BY COMMISSION CHAIRPERSON TO: Operations Committee

RELATING TO: Rescind Resolution 20-108-07 for Award of Contract S02016C02, Ceramic Plate Aeration Basin Repair at South Shore Water Reclamation Facility, and Direct the Executive Director to Reject Bids for Contract S02016C02

SUMMARY:

The Commission is requested to rescind Resolution 20-108-07 for Award of Contract S02016C02, Ceramic Plate Aeration Basin Repair at South Shore Water Reclamation Facility (SSWRF), and to authorize and to direct the Executive Director to reject all bids for Contract S02016C02.

SSWRF uses a conventional activated sludge system to biologically treat wastewater. The activated sludge process involves growing microorganisms in the aeration basin with organic material in wastewater as the food source. To survive, the microorganisms must be continuously fed organic material and oxygen. Successful operation of an activated sludge system relies upon keeping a balance of microorganisms with nutrients in the wastewater and oxygen in the aeration basis. If oxygen or nutrients limit the health of the microorganisms, system performance suffers.

SSWRF has 28 aeration basins. Each basin is 378 feet long by 30 feet wide by 15 feet deep, holding approximately 1.25 million gallons. The total volume of all aeration basins is approximately 35 million gallons. Aeration basins 3 through 26 have been in service since 1974. Aeration basins 1, 2, 27, and 28 have been in service since 1982.

The aeration basins are equipped with fine bubble diffused air systems with approximately 2,500 diffusers in each basin. These systems supply the aeration basins with oxygen. 14 basins have ceramic plate diffusers, while the other 14 have flexible membrane diffusers. These diffuser systems are all about 17 years old.

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

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COMMITTEE ACTION: _____ **DATE:** _____

COMMISSION ACTION: _____ **DATE:** _____

SUMMARY (Cont'd)

Rescind Resolution 20-108-07 for Award of Contract S02016C02, Ceramic Plate Aeration Basin Repair at South Shore Water Reclamation Facility, and Direct the Executive Director to Reject Bids for Contract S02016C02

Under Contract S02016C02, the contractor was to remove and replace approximately 2,500 ceramic plate diffusers, support bars, and grout and to make some repairs to the concrete floor. The Commission, under Resolution 20-108-07, awarded and directed the Executive Director to execute on behalf of the District Contract S02016C02 to Broadway Construction, LLC, in the amount of \$370,444 on July 27, 2020. This contract has not yet been executed.

After the District received bids for Contract S02016C02 and prior to the Commission awarding the contract, District staff identified a potential method to revitalize the ceramic plate diffusers (versus replacing the diffusers) for approximately one-fifth of the cost of Contract S02016C02 (~\$63,000 versus ~\$370,000); however, this revitalization method had not yet been demonstrated or proven on a large scale on District facilities.

This revitalization methodology offered a potentially low cost means to restore diffuser performance at significantly lower cost as compared to plate diffuser replacement. As District staff proceeded with awarding Contract S02016C02, staff simultaneously further investigated this methodology. Ultimately, staff executed a contract with Environmental Dynamics International (EDI) in the amount of \$62,900 to perform revitalization of one basin. After the Commission awarded Contract S02016C02, EDI performed the revitalization on one basin. The results of this revitalization demonstrated diffuser performance restoration, as it achieved uniform air transfer to almost 100% of the ceramic plate diffusers.

Given that there is an alternative method to restore diffuser performance at a significantly lower cost, staff recommends rescinding the award of Contract S02016C02 and rejecting all bids for Contract S02016C02. Staff intends to publicly advertise, bid and award a contract to perform diffuser revitalization on two additional basins in 2020. This represents a potential cost savings to the District of approximately \$900,000 for the three basins (one completed and two to be completed).

RESOLUTION

Rescind Resolution 20-108-07 for Award of Contract S02016C02, Ceramic Plate Aeration Basin Repair at South Shore Water Reclamation Facility, and Direct the Executive Director to Reject Bids for Contract S02016C02

RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that Resolution 20-108-07 for Award of Contract S02016C02, Ceramic Plate Aeration Basin Repair at South Shore Water Reclamation Facility, is rescinded, and that the Executive Director is authorized and directed to reject all bids for Contract S02016C02.