

COMMISSION FILE NO: 19-025-2 **DATE INTRODUCED:** February 25, 2019

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

REFERRED BY COMMISSION CHAIRPERSON TO: Operations Committee

RELATING TO: Award of Contract J06076C01, Turbine Waste Heat Expansion Joint 12 & 13 Replacement at Jones Island Water Reclamation Facility and Approve Changes in Total Project Costs

SUMMARY:

The Commission is requested to award and to direct the Executive Director to execute on behalf of the District Contract J06076C01, Turbine Waste Heat Expansion Joint 12 & 13 Replacement at Jones Island Water Reclamation Facility (JIWRF), to Butters-Fetting Co., Inc., in the amount of \$399,900. Butters-Fetting Co., Inc., was the lowest responsible, responsive, and only bidder.

Further, the Commission is requested to increase the total project cost (TPC) for Project J06076, JIWRF Turbine Waste Heat Expansion Joint 12 & 13 Replacement, by \$149,000 for an amended TPC of \$634,349 and to make a corresponding change to the TPC for Project M99001, Allowance for Cost and Schedule Changes.

The District uses four turbines at JIWRF fueled either by natural gas or landfill gas to generate electricity for plant use. The waste heat from the turbines is used to heat dry biosolids and produce Milorganite®. The waste heat is conveyed through a large, 11-foot diameter stainless steel duct system from the Powerhouse to the Dewatering and Drying Facility, where the heat drying occurs. The waste heat system includes multiple expansion joints to allow the stainless steel duct to expand or contract as it heats or cools.

In June 2016, waste heat duct expansion joint 12 failed causing turbine waste heat gases to be released into the Powerhouse. The District performed a temporary repair of this joint. Staff then performed an engineering evaluation to determine the cause of the failure.

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

*OP_Award_J06076C01_Waste_Heat_EJ12&13_Replac_legislative_file
02-12-19*

COMMITTEE ACTION: _____ **DATE:** _____

COMMISSION ACTION: _____ **DATE:** _____

SUMMARY (Cont'd)

Award of Contract J06076C01, Turbine Waste Heat Expansion Joint 12 & 13 Replacement at Jones Island Water Reclamation Facility and Approve Changes in Total Project Costs

The engineering evaluation revealed that a modified joint and joint support would better handle the heat stresses as compared to the existing joint. Additionally, the investigation revealed that expansion joint 13 was in poor condition and likely to fail, and that joint and joint support should also be modified.

Expansion joint 13 subsequently failed in November 2018. The District performed a temporary repair of this joint.

Expansion joint failures result in costs for temporary repairs plus the cost to purchase natural gas to dry Milorganite® instead of utilizing waste heat. Further, expansion joint failures are safety issues that allow exhaust gases to be released inside the building.

Under this proposed construction contract, the contractor will:

- Replace waste heat duct expansion joints 12 and 13 with improved joints.
- Modify the duct supports adjacent to the new expansion joints.

The contract duration is 191 days.

The low bid received by the District is more than budgeted, and staff requests to increase the TPC accordingly.

RESOLUTION

Award of Contract J06076C01, Turbine Waste Heat Expansion Joint 12 & 13 Replacement at Jones Island Water Reclamation Facility and Approve Changes in Total Project Costs

RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that Contract J06076C01, Turbine Waste Heat Expansion Joint 12 & 13 Replacement at Jones Island Water Reclamation Facility, is awarded to Butters-Fetting Co., Inc., in the amount of \$399,900, and that the Executive Director is directed to execute a contract on behalf of the District.

FURTHER RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that the total project cost for Project J06076, Jones Island Water Reclamation Facility Turbine Waste Heat Expansion Joint 12 & 13 Replacement, is increased by \$149,000 for an amended total project cost of \$634,349, and that a corresponding change is made to the total project cost for Project M99001, Allowance for Cost and Schedule Changes.