

**COMMISSION FILE NO:** 16-143-11 **DATE INTRODUCED:** November 14, 2016

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

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

**RELATING TO:** Contract J04046D01, Engineering Services – Jones Island Water Reclamation Facility Milorganite® Dryer Induced Draft Fan Variable Frequency Drive Project

**SUMMARY:**

The Commission is requested to authorize the Executive Director to execute on behalf of the District Contract J04046D01, Engineering Services – Jones Island Water Reclamation Facility (JIWRF) Milorganite® Dryer Induced Draft (ID) Fan Variable Frequency Drive (VFD) Project, with Graef-USA, Inc., in an amount not to exceed \$155,222. Graef-USA, Inc., was the highest scoring proposer, based on a qualifications-based selection method, among three proposals received.

At JIWRF, the Dewatering and Drying Facility is equipped with 12 large rotary dryers that heat dry dewatered biosolids to produce Milorganite®. Each dryer is equipped with a dedicated ID fan, with the purpose to provide the energy necessary to move the dryer exhaust gas through the dryer exhaust system and maintain a negative pressure in the dryer. The 125-horsepower ID fans are presently operated at full speed. A control damper located upstream from the ID fan controls the flow and pressure within the system.

The purpose of this project is to realize electrical energy savings. Energy savings can be achieved by adding a VFD at each dryer. Adding a VFD will provide for the ability to control the speed, volume, and pressure output of each ID fan to match system needs, resulting in reduced energy consumption. The existing motors driving the ID fans have been in continuous service for over 20 years and are not compatible with VFD's. These motors will be replaced.

Staff estimates that the total capital project cost will be offset by electrical energy savings after 10 to 12 years of operation.

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

*OP\_Award\_J04046\_Milo\_Dryer\_ID\_Fan\_VFD\_legislative\_file.docx*  
10-21-16

**COMMITTEE ACTION:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**COMMISSION ACTION:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

## **SUMMARY (Cont'd)**

Contract J04046D01, Engineering Services – Jones Island Water Reclamation Facility  
Milorganite® Dryer Induced Draft Fan Variable Frequency Drive Project

---

The scope of work for this proposed contract includes engineering design and producing bid and construction documents for the following:

- Adding new VFD's to the ID fan motors.
- Replacing the ID fan motors.
- Control system modifications to accommodate the VFD's.

The scope of work also includes engineering services during the project construction phase.

After the design work under this contract is complete, the construction contract will be publicly bid.

The duration for this contract is 24 months.

## **RESOLUTION**

Contract J04046D01, Engineering Services – Jones Island Water Reclamation Facility  
Milorganite® Dryer Induced Draft Fan Variable Frequency Drive Project

---

**RESOLVED**, by the Milwaukee Metropolitan Sewerage Commission, that the Executive Director is authorized to execute Contract J04046D01, Engineering Services – Jones Island Water Reclamation Facility Milorganite® Dryer Induced Draft Fan Variable Frequency Drive Project, with Graef-USA, Inc., in an amount not to exceed \$155,222.