

**COMMISSION FILE NO:** 16-111-9 **DATE INTRODUCED:** September 12, 2016

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

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

**RELATING TO:** Amend the 2016 Capital Budget, Create Project S03003, Post-Secondary Capacity Improvements, and Authorize Contract S03003D01, Engineering Services for South Shore Water Reclamation Facility Post-Secondary Capacity Improvements

**SUMMARY:**

The Commission is requested to amend the 2016 Capital Budget and create Project S03003, Post-Secondary Capacity Improvements, with a total project cost of \$5,847,696, and to make a corresponding decrease to the total project cost of Project S02008, South Shore Capacity Improvements.

Further, the Commission is requested to authorize the Executive Director to execute on behalf of the District Contract S03003D01, Engineering Services for South Shore Water Reclamation Facility (SSWRF) Post-Secondary Capacity Improvements, with Arcadis U.S., Inc., (Arcadis) in an amount not to exceed \$643,002. Arcadis was the highest scoring proposer, based on a qualifications-based selection method, among four proposals received.

The District's 2020 Facility Plan (2020 Plan) projected population increases and land development and established a plan to meet (among other requirements) sanitary sewer overflows requirements. To achieve these requirements under projected population and land use changes, the 2020 Plan, as adopted by the Commission and approved by the Wisconsin Department of Natural Resources (WDNR), recommended increasing the capacity of SSWRF to 450 million gallons per day (MGD), from its current capacity of 300 MGD.

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

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

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

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

Amend the 2016 Capital Budget, Create Project S03003, Post-Secondary Capacity Improvements, and Authorize Contract S03003D01, Engineering Services for South Shore Water Reclamation Facility Post-Secondary Capacity Improvements

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The 2020 Plan recommended the following regarding capacity at the SSWRF:

- The most cost effective means of achieving the 450 MGD capacity is by adding capacity via a high rate treatment process.
- The District should build and operate a two- to three-year high rate treatment demonstration plant (which has been completed) to evaluate high rate treatment options.
- The District should perform a capacity analysis study to see, if based on operating history, the SSWRF “name plate” capacity can be increased, resulting in a reduction in the amount of additional capacity would need to be constructed.

The District completed the capacity analysis study in 2011. This study determined current SSWRF capacity to be 300 MGD, but also identified some improvements that could cost effectively (when compared to high rate treatment) achieve capacity increases up to 320 MGD. In 2013, WDNR put a target completion date of December 31, 2017, to complete design of capacity improvements to achieve 320 MGD in the District’s Wisconsin Pollutant Discharge Elimination System Permit.

The District completed preliminary engineering to clarify and refine the improvements identified in the capacity analysis study. The next step to achieve the 2017 design deadline is to initiate design of the capacity improvements recommended in the Project S02008 preliminary engineering report. The District has identified two projects that will result in the 320 MGD capacity: Project S02008, South Shore Capacity Improvements, and proposed Project S03003, SSWRF Post-Secondary Capacity Improvements.

The current scope of Project S02008, South Shore Capacity Improvements, includes modifications to several unit process elements across the entire wet treatment train to achieve 320 MGD. To assist in managing the project, staff requests splitting the original Project S02008 into two separate projects as follows:

1. Existing Project S02008, South Shore Capacity Improvements, will now focus on design and construction of capacity improvements to just the preliminary and secondary treatment processes. Staff tentatively plans to present a request to award an engineering design contract for this project in October 2016.
2. Proposed Project S03003, SSWRF Post-Secondary Capacity Improvements, will focus on design and construction of capacity improvements to processes downstream of the secondary treatment process, including effluent pumping and disinfection.

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

Amend the 2016 Capital Budget, Create Project S03003, Post-Secondary Capacity Improvements, and Authorize Contract S03003D01, Engineering Services for South Shore Water Reclamation Facility Post-Secondary Capacity Improvements

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Work under proposed Contract S03003D01 includes:

- Increasing the capacity of the effluent pumping system, designing pump upgrades or replacements, new pump motors, new variable frequency drives, control upgrades, and conducting physical hydraulic modeling.
- Increasing the capacity of the disinfection system, designing improvements to the chemical pumping system, possibly relocating chemical addition points, and mixing.
- Ensuring that SSWRF has the ability to process high flows during a total power outage and designing a new generator system to provide emergency backup power for the effluent pump sluice gates and the disinfection system.
- Providing bid and construction documents for all designed improvements.
- Providing engineering services during the project construction phase.

The duration for this contract is approximately 60 months.

This matter requires a two-thirds affirmative vote of the Commission for adoption.

## **RESOLUTION**

Amend the 2016 Capital Budget, Create Project S03003, Post-Secondary Capacity Improvements, and Authorize Contract S03003D01, Engineering Services for South Shore Water Reclamation Facility Post-Secondary Capacity Improvements

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**RESOLVED**, by the Milwaukee Metropolitan Sewerage Commission, that the 2016 Capital Budget is amended and that Project S03003, Post-Secondary Capacity Improvements, is created with a total project cost of \$5,847,696, and that a corresponding reduction is made to the total project cost for Project S02008, South Shore Capacity Improvements.

**FURTHER RESOLVED**, by the Milwaukee Metropolitan Sewerage Commission, that the Executive Director is authorized to execute Contract S03003D01, Engineering Services for South Shore Water Reclamation Facility Post-Secondary Capacity Improvements, with Arcadis U.S., Inc., in an amount not to exceed \$643,002.