



Department Source: City Utilities - Sewer/Stormwater

To: City Council

From: City Manager & Staff

Council Meeting Date: November 5, 2018

Re: Public Hearing – Waste Water Treatment Plant Phase 2 Improvements – Digester Complex Project.

Executive Summary

Public Hearing for the construction of the Waste Water Treatment Plant (WWTP) Phase 2 Improvements – Digester Complex Project. The proposed sewer improvement project will update the existing WWTP Digester Complex. The project is located in the southwest part of Columbia at the Columbia Regional Wastewater Treatment Plant as shown on the attached map. The cost estimate for this sewer project is \$7,000,000, and payment shall be paid from Sewer Utility revenue bond funds, enterprise revenue and other such funds as may be lawfully appropriated.

Discussion

In 2007, the City retained Black & Veatch to provide the Conceptual Design Report for the Columbia Regional Wastewater Treatment Plant Improvements. In that report, it was recognized that upgrades and rehabilitation to the Digester Complex would be necessary and should be considered separately from the Phase 1 improvements. Phase 1 improvements were completed in 2014 using Sewer Bonds approved by voters in 2008 and included two new process trains and upgrades to most of the existing plant except the Digester Complex. The Digester Complex rehabilitation project was included as a project to be partially funded by bonds approved by voters in 2013.

The digester complex was originally constructed in 1983. The purpose of a digester is to perform anaerobic reduction of organic solids in the wastewater process. The process produces a stable biosolid that is land applied to agricultural property as a fertilizer. Digestion of the solids also produces methane gas, this gas is used to provide heat to maintain the operating temperature of the digesters and to provide heat for some of the buildings on site. Roofs on two of the four digesters are original (1983) and the other two were replaced in the 1990s, all are in need of rehabilitation or replacement. The mixing system for the digesters is outdated and inefficient and needs to be replaced.

Black & Veatch was retained in June 2018 to perform detailed assessments of the existing digester facilities that are in need of upgrades and rehabilitation. Based on these assessments and discussions with City staff, Black & Veatch has compiled a preliminary basis of design memorandum for the project identifying the selected improvements for implementation and the associated costs. Black & Veatch will provide final design and construction plans for the selected improvements to the digester complex. The preliminary design includes using Vertical Linear Motion as the mixing system and replacing covers or roofs on the three primary digesters, then further evaluating the roof of the secondary



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digester for rehabilitation. Proposed work will include replacing the roof of the Digester Complex, upgrading controls and piping, rehabilitating brick work and other miscellaneous items.

An Interested Parties (IP) meeting was held on September 27, 2018, to present the findings of the assessments and the preliminary design.

It is anticipated that the Construction Manager at Risk type of design-build process will be used for the construction of this project.

The resolution estimate for this project is \$7,000,000.00, which includes design and construction costs. This project will be funded with Sewer Utility revenue bond funds, enterprise revenue and other such funds as may be lawfully appropriated.

Fiscal Impact

Short-Term Impact: The total project cost, including design and construction, is estimated at \$7,000,000.00 and will be paid from the Sewer Utility funds.

Long-Term Impact: It is anticipated that this project will have minimal impact to the Sewer Utility's annual operating cost.

Strategic & Comprehensive Plan Impact

Strategic Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Operational Excellence, Tertiary Impact: Not Applicable

Comprehensive Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Environmental Management, Tertiary Impact: Not Applicable

Legislative History

Date	Action
10/01/2018	(R151-18) Setting a public hearing: proposed construction of Phase 2 improvements to the digester complex at the Columbia Regional Wastewater Treatment Plant.
09/27/2018	Interested Parties (IP) meeting
06/04/2018	(Ord23559) Authorizing the City Manager to execute an agreement with Black & Veatch Corporation to provide professional engineering services for WWTP Phase 2 Improvements – Digester Complex.
04/03/2017	(Ord23139) Authorizing the issuance of Sewerage System Revenue Bonds, Series 2017 in an amount on not to exceed \$16,405.00.



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03/20/2017	(R37-17) Authorizing the public sale of Sewerage System Revenue Bonds, Series 2017 in an amount on not to exceed \$16,405.00.
04/16/2015	(Ord22383) Authorizing the issuance of Sewerage System Revenue Bonds, Series 2015, in the aggregate principal amount on not to exceed \$20,500.00
03/03/2015	(R11-15A) Authorizing the offering for sale of not to exceed \$20,500.00 principal amount of Sewage System Revenue Bonds, Series 2015, of the City of Columbia, Missouri.
07/22/2014	(R125-14) Transferring funds to offset expenditures relating to the November 2013 Special Bond Election for sanitary sewer improvements.
01/02/2014	(Ord21742) Declaring the results of the Special Election held in the City of Columbia, Missouri on November 5, 2013.
08/05/2013	(Ord 21760) Calling a special election on whether to issue the Sewer System Revenue Bonds in the amount of \$32,340,000 for constructing, improving, repairing, rehabilitating, replacing, equipping, expanding, and extending the city-owned sewerage system.
07/01/2013	Pre-Council Meeting – General Obligation Bond Projects – Infrastructure Ballot Presentation
05/20/2013	Pre-Council Meeting – November Storm Water / Sewer Ballot Issue – Sewer Utility Presentation – Storm Sales Tax Presentation

Suggested Council Action

Following public input direct staff to proceed with the WWTP Phase 2 Improvements – Digester Complex.