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Department of Utilities  
Wastewater Treatment Plant  
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**To:** Chairperson Brad Firkus and Members of the Finance Committee

**From:** Utilities Interim Director, Chris Stempa

**Date:** January 31, 2024

**Re: Finance Committee Action:** Award "AWWTP Sludge Piping and Digester Heat Exchanger Replacement" Base Bid with Alternate Bid to Rohde Brothers Inc. in the amount of \$1,612,000 with 15% contingency of \$241,800 for a project total not to exceed \$1,853,800

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## **BACKGROUND**

The Appleton Wastewater Treatment Plant (AWWTP) operates two 2.2-million-gallon primary anaerobic digesters which biologically convert organic materials in sludges to methane and carbon dioxide. The micro life within the egg-shaped vessels feed on the organic materials in the absence of oxygen and effectively reduce and stabilize the volatile solids fraction by greater than 38% (required by Wisconsin Pollutant Discharge Elimination System Permit). This stabilization process not only reduces odor potential of biosolids but pathogen causing organisms. To facilitate the necessary environment for this micro life to grow and thrive, the digester contents are maintained at 95°F (mesophilic). A preliminary tube-in-shell heat exchanger (HEX) located in MK Tunnel is used to pre-heat comingled primary sludge, thickened waste activated sludge, receiving station waste, and grease scum which is conveyed from the raw sludge blending tank. Each digester is equipped with a HEX system and recirculation pump which is used to maintain the 95°F (+/- 1°F) temperature setpoint.

After 30 years of use, there is evidence of piping erosion and corrosion within the HEXs, sludge recirculation piping, and isolation valves. It should be noted that this is an area of treatment where complete redundancy is not available. The anaerobic digestion process would need to be removed from service if a catastrophic failure were to occur with one of the primary HEXs or associated recirculation piping. The consequence of a shutdown would be the loss of waste and revenue from the Hauled Waste Program which exceeds \$3 million annually. This project scope will also include the replacement of remaining ductile iron sludge pipe in MK-Tunnel where similar impacts from corrosion have occurred. The new specified replacement pipe will have a corrosion resistant interior coating to match was utilized in pipe replaced as part of the 2019 AWWTP Improvements Project.

**BIDS:**

On January 10, 2024, bids were received via QuestCDN.com for the above referenced project. Four (4) bids were received, ranging in price from \$1,612,000 to \$2,125,000 (bid tabulation enclosed). The Alternate Bid includes all labor, materials, and equipment necessary to complete upgrades to the existing Blended Sludge which include the following:

1. Replacement of existing aluminum cladding with finished metal wall panels.
2. New thermoplastic polyolefin roof.
3. The addition of an exterior access ladder and fall protection railing system.

McMahon Associates, Inc reviewed the bids to verify conformance with the bid specifications. Based upon the bids received, it was recommended that the contract be awarded to the least cost bidder, Rohde Brothers, Inc., in the amount of \$1,612,000. The Award is for the Base Bid and Alternate Bid combined.

**RECOMMENDATION:**

I am recommending award of the AWWTP Sludge Piping and Digester Heat Exchanger Replacement Base Bid with Alternate Bid to Rohde Brothers Inc. in the amount of \$1,612,000 with 15% contingency of \$241,800 for a project total not to exceed \$1,853,800.

Please contact me at 920-832-5945 if you have any questions or require additional information regarding this project.