



*“ting community needs...enhancing quality of life.”*

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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 Deputy Director, Chris Stempa

**Date:** August 16, 2023

**Re: Finance Committee Action:** Award “AWWTP Grit System & Raw Sludge Pump Replacement Project” Base Bid to August Winter and Sons Inc., in the amount of \$573,355 with 10% contingency of \$57,336 for a project total not to exceed \$630,691

**Finance Committee Action:** Approve positive fund balance transfer of \$405,668 from the AWWTP Sludge Storage Building Addition Project

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The Appleton Wastewater Treatment Plant (AWWTP) preliminary treatment system is comprised by three mechanical bar screens and two vortex grit chambers. Raw wastewater enters the Grit and Screenings Building from which it flows through one of three mechanical bar screens where objects larger than 1/4 inch in diameter are removed. The wastewater then flows into one or both of the vortex grit removal chambers. Air can be diffused into the channels ahead of the grit chambers to keep most of the particulate organic material in suspension. Wastewater enters the vortex chamber tangentially, flows around the conical tank and exits parallel to the inlet. The heavy mineral solids or grit settle out within the lower hopper from which it is transferred by self-priming centrifugal pumps to the washing and classification system located inside of B-Building. With sloping sides and specially arranged impeller, the grit vortex trap provides maximum separation of heavier or denser grit while rejecting larger and lighter solids, which remain in the water flow for further treatment. Removing these heavy solids protects the rest of the downstream plant from wear, ensuring greater efficiency and reduced maintenance for the rest of the plant.

The original grit vortex system drive units are over 25 years old and have reached their useful life. Continuous operation has contributed to wear on interior drive gears and bearings including the exterior of components (i.e. impellor or paddles) that are in direct contact with abrasive grit. The “AWWTP Grit System & Raw Sludge Pump Replacement Project” will replace these components with in-kind original equipment manufacturer (OEM) equipment that has proven to be robust and reliable. The project scope shall also address compromised piping that has deteriorated over the years including various supporting electrical components. The aforementioned project includes the replacement of a 1980’s vintage primary sludge

pump. This piston style primary sludge pump (one of four) removes sludge which settles and is collected at the base of each of the six circular primary clarifiers. The 1980's belt driven style pump slated for replacement will be upgraded with a direct drive motor and enclosed "euro" style gear box. The new pump design is more compact, efficient, and quieter than old belt driven units.

**BIDS:**

On August 2, 2023 the City opened and reviewed the bids from three contractors which are summarized in the Table 1 below. Each bid met the submittal requirements with August Winter and Sons, Inc. being the least cost responsible bidder. August Winter and Sons, Inc. has successfully completed project work for the Department of Utilities in the past.

**Table 1: Grit System & Raw Sludge Pump Replacement Project Bid Tab Summary**

<b>Company</b>	<b>August Winter &amp; Sons</b>	<b>Rhode Brothers, Inc.</b>	<b>Staab Construction Corp.</b>
Base Bid	\$573,355	\$587,300	\$643,000

The 2022 CIP budget originally included \$258,750 for a Grit Trap Vortex System Drive Replacement project. That project scope focused solely on the grit drive units and with no other improvements or upgrades which the current biddable scope includes (e.g., raw sludge pump replacement and new grit system pump). The costs solicited for that equipment were secured in mid-2021 and did not include the inflationary increases seen since then. In 2022, the grit drive replacement work was bundled with the AWWTP Blended Sludge Piping and Preliminary Heat Exchanger Replacement Project with the expectation that economy of scale would help lower costs. The public bids for that project were opened on September 8, 2022 but were rejected because of insufficient available funding. Sustained high demand for products and services elevated the bid amounts last year and most recently and will likely continue to impact future project work over the next few years. The requested budget transfer of \$405,668 in remaining funds from the Sludge Storage Addition Project covers the shortfall between the total bid price and the original 2022 budget so this important work can proceed without additional delay.

**RECOMMENDATION:**

I am requesting the approval to transfer \$405,668 in remaining funds from the AWWTP Sludge Storage Building Addition Project to cover the deficit between the total bid price and the original 2022 CIP budget. The Finance Department was consulted and to help provide this recommendation.

I am requesting an award of the "AWWTP Grit System & Raw Sludge Pump Replacement Project" Base Bid to August Winter and Sons Inc., in the amount of \$573,355 with 10% contingency of \$57,336 for a project total not to exceed \$630,691.

If you have any questions or require additional information regarding this project please contact Chris Stempa at 920-832-5945.