



The Corporation of the Municipality of Wawa

Fabrication and Installation of New HDPE Feed Tanks

Office of Infrastructure Services

Prepared For: Committee of the Whole	Report No.: DB-RW 2023-12
Agenda Date: August 15, 2023	File No.: C11


Report Purpose

The purpose of this report is to seek Mayor and Council’s permission to have new high-density polyethylene (HDPE) feed tanks fabricated and installed at the water treatment plant (WTP), as the existing tanks have surpassed their useful life and are losing structural integrity. This report aims to provide the Mayor and Council with the information necessary to support the emergency purchase of new HDPE feed tanks.

Background

The Municipality’s Water Treatment Plant is equipped with state-of-the-art Pall branded membrane filtration systems. Prior to water entering the filtration system, water is first pumped into HDPE feed tanks which then flows into the filters. The feed tanks not only deliver raw water to the filters, but act as tank for chemical mixing during various filter cleaning processes. As the membranes become clogged with particulates, the filters are cleaned through an automated Enhance Flux Maintenance (EFM) process, which is a method of backwashing the filters to remove particulates. Further, to ensure longevity of membrane modules, clean in place (CIP) procedures are completed by Operations Staff. CIPs rely on chemicals such as citric acid, caustic soda, and chlorine to dislodge particulates and disinfect the membranes to ensure that water can effectively pass through the membranes to the chlorine contact chamber.

HDPE tanks typically have a useful life of approximately 10-years. This past year, splits in the feed tank walls were repaired by plastic welders, Sure Craft Plastics, from Thunder Bay. Despite repairing the existing splits in the tank walls, the tanks have continued to deteriorate and new splits in the plastic have emerged. Upon Consultation with Pall service technicians, it was determined that Sure Craft Plastics could fabricate the tanks and assist with tank installation more economically than Pall. For Sure Craft Plastics to fabricate, ship, and assist with installation each tank will cost \$11,895.50 + HST (total of \$35,686.50). Sure Craft Plastics has also included a two (2) year warranty on their tanks.

Respectfully Submitted By: 	Prepared By: Dan Beach / Rebecca Weatherall Infrastructure Services
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It is prudent that the tanks be replaced as soon as possible to ensure the integrity of the filtration system.

Staff Recommendation

To expedite the replacement of the HDPE tanks that have reached the end of their useful life, Municipal Staff recommends moving forward with Sure Craft Plastics for the supply and installation of the feed tanks.

Recommended Next Steps

If Council finds it agreeable with procuring Sure Craft Plastics for the supply and installation of the feed tanks, the next steps are as follows:

- 1) Site visit with Sure Craft Plastics at the Water Treatment Plant to go over tank specifications in detail, including the tank's unique design elements to accommodate plant instruments
- 2) Order and fabricate the HDPE tanks
- 3) Tank installation

Attachments

None.