Corporation of the Municipality of Brockton

Report to Council

Report Title: Walkerton Pollution Control Plant UV Disinfection System Project

Prepared By: Gregory Furtney, Director of Operations

Department: Utilities

Date: March 10, 2020

Report Number: UT2020-05 **File Number:** C11UT

Attachments: Walkerton Wastewater Treatment Plant Preselected Equipment Quotations - UV

Recommendation:

That the Council of the Municipality of Brockton hereby receives Report Number UT2020-05 - Walkerton Pollution Control Plant UV Disinfection System Project, prepared by Gregg Furtney, Director of Operations, and in doing so approves a By-Law coming forward to accept the UV Disinfection System tender from Trojan in the amount of $242,858.47 as recommended by B.M. Ross and Associates Limited.

Report:

Background:

Under the Wastewater Systems Effluent Regulations (SOR/2012-139) under the Federal Fisheries Act, Pollution Control Plants, such as the one in Walkerton, are not permitted to "deposit or permit the deposit of effluent that contains any of the deleterious substances prescribed in section 5 via the system's final discharge point in any water or place" (Section 6(1)). One of the listed deleterious substances is chlorine. The Walkerton Pollution Control Plant uses small doses of Chlorine to maintain a "Chlorine Residual", a final disinfection dose to destroy any remaining bacteria in the wastewater prior to it being released to the Saugeen River. Under the Wastewater Systems Effluent Regulations (Section 6 (1 C) and Section 28 (1 C) the Municipality is required to still disinfect the wastewater prior to its release into the Saugeen River, but are not allowed to use Chlorine. Another approved method needs to be in place by December 31st, 2020.

In order to meet this requirement, Municipal Staff and Veolia Staff have been working with BM Ross and Associated Limited for the past two years to get the proper environmental approvals to make this change over and to design and engineer a new solution. The preferred method of treatment is UV disinfection.

With help from BM Ross and Associates and Fairtax Grants and Incentives Inc., staff have recently been awarded (2020) with a Green Municipal Fund (GMF) Grant. The Grant is for $78,000 and the low interest loan is for $520,000. The total estimated price of the project is $747,500. $150,000 was set aside in the non-taxable Utilities budget (approved) in 2020 to cover the Municipality's portion of the project. A media event in

Walkerton will be announced in the near future to celebrate this very generous financial contribution to this project.

BM Ross and Associates are leading the project and have prepared and sent out a Request For Quotation (RFQ) for pricing on the UV Disinfection Units. Three companies submitted quotes. Please see the attached letter from BM Ross and Associates with their recommendation. Given that the deadline for commissioning these new units is fast approaching, staff will need to order these preferred units very quickly as they have a significant lead time to build and ship.

Analysis:

As per the Municipality's Purchasing/ Procurement Policy, BM Ross and Associates wrote and sent out a Request For Quotation (RFQ) and received three (3) quotations back. The results of the RFQ and BM Ross' recommendation are attached to this report.

The recommendation is to proceed with the Trojan UV Units at a cost of $242,858.47.

As BM Ross points out in the recommendation letter, "all supplier quotations indicated conformance to the treatment and design flow rate requirements of the specifications. Installation requirements vary among the equipment of the three manufacturers, but notable differences are:

- The Trojan equipment may be installed as a retrofit in the existing chlorine contact tanks, saving the need for construction of a new concrete UV Structure.
- The Trojan equipment may be installed in outdoor conditions, while the Wedeco and Calgon Carbon equipment each require some degree of shelter."

BM Ross goes on to say, "Although the Wedco proposal is the lowest price purchase cost, we note that the need to install a new concrete channel and modify plant outlet piping accordingly would cost several $10,000s more." Furthermore, the Wedco unit is a single UV bank unit which limits operational flexibility during maintenance and they have no demonstrated Canadian/ Ontario experience.

The Calgon Carbon system does have a number of demonstrated Canadian/ Ontario projects but like the Wedeco system there are additional costs to making the changes to the existing layout of the wastewater treatment plan and providing some degree of shelter.

Trojan did submit a second proposal for a UV Disinfection System that provided a lower mj/cm2 UV dosage rate. This unit is installed and maintained with the same benefits of the higher Trojan dosage system, without the need for major infrastructure upgrades. This system achieves the regulatory requirements under the Regulations and is cheaper, a cost savings of $28,148.30. This unit costs $242,858.47 (HST included).

It is therefore recommended by staff to accept BM Ross' recommendation to purchase and install the second proposed unit submitted by Trojan in the amount of $242,858.47.

Sustainability Checklist:

What aspect of the Brockton Sustainable Strategic Plan does the content/recommendations in this report help advance?

- Do the recommendations help move the Municipality closer to its Vision? Yes
- Do the recommendations contribute to achieving Cultural Vibrancy? Yes
- Do the recommendations contribute to achieving Economic Prosperity? Yes
- Do the recommendations contribute to Environmental Integrity? Yes
- Do the recommendations contribute to the Social Equity? Yes

Financial Impacts/Source of Funding:

- Do the recommendations represent a sound financial investment from a sustainability perspective? Yes

The overall estimated cost for the project is $747,500. The Green Municipal Fund has approved our request for a $78,000 Grant and a $520,000 loan. $150,000 was approved in the Utilities budget for 2020 to cover the Municipality's portion of the GMF Grant. The proposed Trojan UV Disinfection Until will cost $242, 858.47. The remaining money allocated to this project will go towards further engineering, installation, commissioning and testing of the final system.

Reviewed By:

Trish Serratore, Chief Financial Officer

Respectfully Submitted by:

Gregg Furtney, Director of Operations

Reviewed By:

Sonya Watson, Chief Administrative Officer