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Staff Report PW2022-016

Title of Report: PW2022-016 Dundalk Wastewater Treatment Facility Expansion Recommendation of Supplier Proposal

Department: Public Works

Branch: Water & Wastewater

Council Date: April 6, 2022

Recommendation:

Be it resolved that Council receive Staff Report PW2022-016 for information; and

That Council approve the Dundalk Wastewater Treatment Facility Expansion recommendation of supplier proposal as part of the on-going Environmental Assessment process; and

That Council approve on going further detailed design with Triplepoint

That Council approve Triton Engineering Services Limited to continue in depth detailed design concepts with Triplepoint; and

That Council approve The Township, Triton Engineering and Triplepoint to enter into an Intent of Agreement to further those detailed design concepts; and

That Council approve Triton Engineering Ltd. to submit the final design to the Ministry of Environment, Conservation and Parks completing the Dundalk Wastewater Treatment Facility Expansion Environmental Assessment process.

Background:

A Schedule C Municipal Class Environmental Assessment for the Dundalk Wastewater Treatment Facility Expansion commenced in May 2016.

A Request For Information (RFI) for Dundalk Wastewater Treatment Facility Equipment Proposal was released by Triton Engineering in June 2019 for solutions aimed at upgrading/expanding the wastewater treatment system with additional and/or new technologies and processes. Based on RFI submissions, specific technologies/processes were identified that may be compatible with the existing lagoons and treatment facility. These treatment systems were analyzed/explored further as part of the RFP process.

Southgate staff and Triton have also been involved with the Grand River Conservation Authority Wastewater Optimization team, Dr. David Chapman (Comprehensive Process Optimization Inc.) and the Ministry of Environment, Conservation and Parks (MECP) on various special studies and a Comprehensive Performance Evaluation of the Dundalk Wastewater Treatment Plant. The Foley Drain Assimilative Capacity Study was conducted by consultant Doug Huber and submitted to the MECP by Triton for review.

Staff Report PW2021-045 September 15, 2021 Council approved the release of the Request For Proposal (RFP) for the Dundalk Wastewater Treatment Facility Expansion by Triton Engineering Services Limited on behalf of the Township to increase the treatment capacity as part of the on-going Environmental Assessment process.

The current Dundalk Wastewater Environmental Compliance Approval (ECA) has a rated capacity of an Average Daily Flow (ADF) of 1,832 m³/day.

The RFP is structured to increase the treatment capacity in a phased approach. The first phase will increase the treatment capacity to an ADF of 3,025 m³/day and expected to start implementation within the next year, which is expected to provide treatment capacity sufficient to service the projected population up to the 10-to-15year planning horizon. The second phase will increase the treatment capacity to 4,200 m³/day, which is expected to provide sufficient treatment capacity to service the projected population to at least the 25-year planning horizon. Implementation of the second phase will be contingent on additional receiver monitoring and assessment for the increased effluent discharge.

An ECA amendment for the Dundalk Wastewater Treatment Facility for this project, will also consider changes to effluent water quality parameters and limits which will have to be approved by MECP.

PW Report 2022-001 Department Report, January 19,2022, stated a short list of wastewater technologies submission companies for completing the Dundalk Wastewater Treatment EA process is being finalized with Triton Engineering. A more detailed evaluation has been requested to be completed by the end of January.

The successful RFP bidder will then form the preferred alternative criteria to pursue and finalize the submission in the EA process along with Public Meetings for MECP approval.

Staff Comments:

The evaluation of the short list of supplier technologies has been reviewed and assessed by Triton and the Township as outlined in the Triton Engineering Services Limited document dated March 8, 2022. (Attachment #1)

The recommended supplier technologies of evaluation has been determined as the Triplepoint submission. Triplepoint's treatment system including the Ares 750T Aerator, NitrOx MBBR and AquaDisk Filter system.

The NitrOx system has been successfully implemented in cold weather condition climate locations and the system is MECP approved.

The AquaDisk Filter has also successfully been installed in Dochester, Kitchener and Orillia, Ontario with average daily flow capacities of 1,199m³/day, 123,025m³/day and 27,300m³/day respectively.

Factors that were prevalent in the assessment were:

Effluent Discharge Targets & Limits – The treatment technologies are expected to meet effluent criteria parameters for Carbonaceous Biochemical Oxygen Demand (cBOD₅), Total Suspended Solids (TSS), Total Phosphorous (TP) and Un-Ionized Ammonia.

Operational Energy Usage & Costs – The Triplepoint calculated energy usage in Phase 1 is 468,868 kWh annually, adding Phase 2 would be 645,581 kWh annually with assumed hydro cost at \$0.10/kWh, annual cost of \$46,887.00 in Phase 1 and total cost in Phase 2 being \$64,558.00.

Chemical Costs -

Operation & Maintenance -

An Intent of Agreement will be drafted by Triton and the Township and entered into with Triplepoint to complete the design and detail for completion of the EA, submission to the MECP, and tendering for construction.

Triton has provided an estimated timeline to finalize design, Public Meetings, EA completion, tendering and construction as outlined below:

Award of RFP to Supplier: **March 2022**

Preliminary Design Concept of Complete System: **March 2022 and April 2022**

1st Public Information Centre: **May 2022**

Preliminary Submission to the MECP: **June 2022**

Detailed Design of Complete System: **July to September 2022**

2nd Public Information Centre: **September 2022**

Notice of Completion & EA Design Report: **September to October 2022**

Detailed Design Submission to MECP for ECA: **October 2022**

Preparation of Contract Documents: **September – November 2022**

Tendering: **December 2022- January 2023**

Construction: **March 2023 – Summer 2023**

Financial Implications:

The Southgate 2021 10-year Capital Budget forecasted Wastewater Treatment Facility upgrades in 2022 for \$16,286,200.00 for a full mechanical plant. The project was anticipated to be funded 10% or \$1,628,620 (as the benefit to existing development) from Wastewater Reserves, \$3,664,395 from a grant, and the balance to be funded by debt. The debt repayments would be funded from development charges.

The proposed RFP upgrades is projected to be in the \$2 to 5 million range for additional / new technologies.

Communications & Community Action Plan Impact:

Goal 5 - Upgrading our "Hard Services"

Action

5:

The residents and businesses of Southgate recognize our linear services - roads, bridges, water and sewer works, for example - to be a fundamental purpose of municipal government. This infrastructure needs to be serviceable and sustainable so that our businesses and communities can thrive and grow.

Strategic Initiatives:

5-B - The Township will have adopted a long-term asset management plan for the timely repair, replacement, and expansion of the Township's infrastructure, facilities, and other assets.

5-C - The Township will have increased wastewater treatment capacity in Dundalk to support growth

Concluding Comments:

Staff recommends that Council receive Staff Report PW2021-045 for information, and that Council approve the release of the RFP for the Dundalk Wastewater Treatment Facility Expansion as part of the on-going Environmental Assessment process.

Respectfully Submitted,

Dept. Head: *Original Signed By*
Jim Ellis, Public Works Manager

Treasurer Approval: *Original Signed By*
William Gott, CPA, CA Treasurer

CAO Approval: *Original Signed By*
Dave Milliner, CAO

Attachments: