
Subject: Award of Contract 2020-T-18 DeCew Falls WTP Plant 3 Upgrades Contract 1

Report to: Public Works Committee

Report date: Tuesday, June 16, 2020

Recommendations

1. Contract 2020-T-18 DeCew Falls WTP Plant 3 Upgrades Contract 1 in the City of St Catharines **BE AWARDED** to Kenaidan Contracting Ltd. at their bid price of \$11,889,430.60 (including 13% HST).
2. That the original Contract amount of \$955,572.07 (including 13% HST) awarded to Associated Engineering Ltd. **BE INCREASED** by \$251,727.84 (including 13% HST), for a total revised Contract of \$1,207,299.91 (including 13% HST) for DeCew Falls WTP Plant 3 Upgrades for the provision of Contract Administration and Inspection Services for DeCew Falls WTP Plant 3 Upgrades Contract 1.

Key Facts

- The purpose of this report is to seek Council's approval for the award of Contract 2020-T-18 DeCew Falls WTP Plant 3 Upgrades Contract 1 to Kenaidan Contracting Ltd. at their bid price of \$10,521,620.00 (excluding 13% HST) and to seek Council's approval for the increase in the original contract amount of \$845,639.00 (excluding 13% HST) awarded to Associated Engineering for DeCew Falls WTP Plant 3 Upgrades by \$222,768.00 (excluding 13% HST) for a total revised Contract of \$1,068,407.00 (excluding 13% HST).
- Schedule B of the Niagara Region Procurement By-law 02-2016 as amended February 28, 2019 requires Council approval for all tender awards in excess of \$5,000,000 (Recommendation 1) and for any Single Source award where the increase puts the total award value over \$1,000,000 (Recommendation 2).
- Proposed works include rehabilitation of flocculation and settling tanks, filtration system upgrades, miscellaneous process upgrades, power supply & distribution system and process control & SCADA system upgrades including process control panels to support the process upgrades.
- Construction is scheduled from July 2020 to October 2021 with a substantial completion date of September 13, 2021 and a contract completion date of October 11, 2021.

- Four (4) General Contractors were Prequalified in a competitive public pre-qualification process (2019-RFPQ-176) were invited to bid on 2020-T-18 DeCew Falls WTP Plant 3 Upgrades Contract 1.
- On March 18, 2020, Niagara Region initiated a competitive public tender process (2020-T-18), to solicit bids from those prequalified companies to complete for these works. The tender closed on May 14, 2020 and three (3) bid submissions were received and opened with the lowest compliant bid being received from Kenaidan Contracting Ltd. in the amount of \$10,521,620.00 (excluding 13% HST).
- As part of a competitive bid process (2016-RFP-61), Associated Engineering Ltd. was awarded the contract to provide engineering services for the upgrades of DeCew Falls WTP Plant 3. Associated Engineering has provided revised fees for Contract Administration and Inspection services based on the current construction requirements as well as a scope change request for additional design efforts requested by Niagara Region for a total addition of \$222,768.00 (excluding 13% HST).

Financial Considerations

Project 20000185 DeCew Falls WTP Plant 3 Upgrades has a previously approved capital budget of \$22,250,000 with \$997,794 of actual and committed expenses as of May 12, 2020 as detailed in Appendix 1 – Total Estimated Project Cost.

Due to funding limitations, this project has been split into two distinct construction contracts.

Contract 1 includes rehabilitation of flocculation and settling tanks, filtration system upgrades, miscellaneous process upgrades, power supply & distribution system and process control & SCADA system upgrades for a total estimated cost of \$15,013,905 which can be accommodated within the current budget. This includes an increase to Associated Engineering fees as outlined below, and the award of Contract 1 to Kenaidan Contracting Ltd.

In 2022, Contract 2 of the project is expected to take place, which includes construction of a new building superstructure above the flocculation and settling tanks with three new stairwells, architectural finishes, concrete repair works within the existing structure, new lighting, electrical and HVAC for a total estimated cost of \$22,236,095. From the current budget, \$7,236,095 will be utilized for Contract 2. The remaining funds will be requested as part of the 2022 capital budget in the amount of \$15,000,000. The total estimated cost for both contracts is \$37,250,000.

Associated Engineering (Ont.) Limited was retained by Niagara Region through a competitive bidding process, 2016-RFP-61, to complete detailed design, tendering, contract administration and inspection services. The current contract value for the work is \$860,522 (including 1.76% non-recoverable HST).

During the design phase, development of the construction sequence and schedule resulted in an increase in the expected construction duration from a 10-month period, as stipulated in 2019-RFP-61, to a 14-month construction period for Contract 1. Also, Niagara Region authorized a nominal amount of additional engineering work to add operator accessibility improvements to the design, to split the design into two separate contracts, and to proceed with Contract 1 tender.

The increased construction duration and the added scope of work resulted in a required increase to Associated Engineering's fees to a total value of \$1,087,211 (including 1.76% non-recoverable HST).

The additional engineering fees associated with the increase in construction duration is an extension of the work that was originally competitively bid. The fees now reflect the length of construction necessary to complete Contract 1 and the support and oversight required from the consultant based on the projects complexity.

Analysis

The DeCew Falls Water Treatment Plant (WTP) is the largest WTP in the Niagara Region and serves approximately 181,000 people. The WTP service area includes the City of St. Catharines, the City of Thorold (excluding Port Robinson), the Town of Niagara-on-the-Lake, and the Town of Lincoln (Vineland/ Jordan). The DeCew Falls WTP consist of three conventional water treatment plants (Plant 1, 2 and 3). Plant 3, shown on key plan in Appendix 3, was constructed in 1975 and includes three filters to raise the plant capacity from 145.5 ML/d to 227 ML/d.

DeCew Falls WTP Plant 3 has been in continuous use since construction in 1975 without any major upgrades or renewals. The existing filters and process equipment have reached the end of their service life and require upgrades. In addition to the process equipment upgrades, a Structural Condition Assessment identified visible structural cracking on the filter bridge. In 2016, a DeCew Falls WTP Plant 3 Condition and Process Assessment was completed. The Assessment recommended various rehabilitation requirements as well as process improvements. Currently, Plant 3 represents challenges

for operations and maintenance staff with respect to limited access and poor visibility of flocculation and settling tanks from hatches located on the existing flat roof.

Plant 3 requires sustainability improvements to the existing process equipment. Plant 3 project upgrades will also include the addition of a building superstructure with outside wall extensions and a peaked metal roofing system. These works will open up the existing flat concrete/membrane roof top structure to allow safe access and visibility to all process tanks to improve operations, maintenance, and ultimately water quality produced from the plant. Providing safe, reliable drinking water is a key objective of Niagara Region.

The following is the scope of work for Contract 1 of this project:

- Removal and disposal of existing filter media and underdrains in the three filters in Plant 3 and installation of new underdrains and filter media;
- Structural rehabilitation works within the Filters and Operating Gallery;
- Installation of a new air blower and associated air scour piping to the filters;
- Piping and instrumentation improvements in the Filter Pipe Gallery;
- Installation of a new jet-mixing system for improved coagulant mixing;
- Replacement of the equalization tank unwatering pumps with new;
- Installation of four (4) new sludge collection systems in the two (2) settling tanks;
- Replacement of existing sludge pumps and associated piping and instrumentation with new;
- Installation of new HMI panels, PLC and SCADA upgrades;

The following is the scope of work for Contract 2 of this project:

- Removal of existing roof slab and construction of new floor slab with openings above the flocculation and settling tanks;
- Construction of a new building superstructure above the flocculation and settling tanks and filter building;
- Construction of three new stairwells for access to the new building super structure;
- Removal and disposal of existing architectural cladding and installation of new architectural panels;
- Concrete repair works within the existing concrete structure;
- New lighting, electrical and HVAC for the new building superstructure area.

Associated Engineering was retained by Niagara Region through 2016-RFP-61 to complete the detailed design, tendering and contract administration and inspection

services. Associated Engineering has provided revised fees for Contract Administration and Inspection services based on the current construction requirements as well as a scope change request for additional design efforts requested by Niagara Region. The Request for Proposal (2016-RFP-61) stipulated a 10-month construction period. Through design development, which included detailing the construction sequence, complexity and schedule, the estimated construction duration for Contract 1 has been set to 14 months. During the final stages of design, Niagara Region identified staff accessibility concerns with an existing exterior chamber hatch and chemical room entrance both located alongside DeCew Falls WTP Plant 3 building. Access improvements were added to Associated Engineering's design scope of work. The DeCew Falls WTP Plant 3 Upgrades project was split into two construction contracts. Associated Engineering was requested to modify their design drawing set and contract documents by splitting the scope into two tender packages to accommodate the two construction contracts.

In accordance with Niagara Region Procurement By-law 02-2016 as amended on February 28, 2019 and under the guidance of the Region's Procurement Department, Niagara Region initiated a competitive public tender process (2020-T-18), on March 18, 2020 to solicit bids from those prequalified companies to complete these works. The tender closed on May 14, 2020 and three (3) bid submissions were received and opened with the lowest compliant bid being received from Kenaidan Contracting Ltd. in the amount of \$10,521,620.00 (excluding 13% HST including).

Niagara Region's Procurement Department has reviewed and checked all opened tenders to confirm they included acknowledgement of the correct number of Addenda and requisite Bid Security (tender deposit) and Surety (Agreement to Bond).

A summary of the bid submissions is included in Appendix 2.

Contract award requires resources from Legal Services and Corporate Services in order to execute the required contract documents and amending agreement. Water and Wastewater Engineering staff will be providing resources throughout the project in order to manage the contract with assistance from Corporate Services on contract/project payments.

Alternatives Reviewed

1. Proceed with the Contract Award and Proceed with Contract Amount Increase –
This alternative would enable staff to proceed with contract award to Kenaidan

Contracting Ltd. to construct DeCew Falls WTP Plant 3 Contract 1 upgrades and to proceed with contract amount increase to Associated Engineering Ltd. to meet the Niagara Region's objective of providing safe and reliable drinking water. The project will provide a sustainability upgrade to the existing process equipment, prolong the service life of the existing Plant 3 structure with functional upgrades, reduce energy consumption from obsolete equipment and improve the plant operation performance and water quality.

2. Do Nothing –This alternative does not adequately address the safe and reliable supply of potable drinking water to the communities as sustaining demand and meeting provincial compliance would be as risk.

Staff recommend Alternative 1 to proceed with contract award to Kenaidan Contracting Ltd. and contract amount increase to Associated Engineering Ltd.

Relationship to Council Strategic Priorities

This recommendation is related to the Responsible Growth and Infrastructure Planning, Objective 3.3: Maintaining Existing Infrastructure. Through asset management planning, the DeCew Falls WTP Plant 3 upgrades project is required to ensure sustainable investments in the infrastructure needed to provide safe and reliable potable water to residents and businesses.

Other Pertinent Reports

Not applicable.

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Appendices

Appendix 1	Total Estimated Project Cost
Appendix 2	Summary of Bids
Appendix 3	Key Plan

PW27 - 2020 APPENDIX 1
Total Estimated Project Cost
Contract Award

Contract 2020-T-18 - DeCew Falls WTP Plant 3 Upgrades Phase 1

	Council Approved Budget	Budget Increase/ Reallocation	Revised Council Approved Budget	Expended & Committed as of 5/12/20	Contract Award/ Forecast	Budget Remaining
	(A)	(B)	(C) = (A) + (B)	(D)	(E)	(F) = (C)-(D)-(E)
<u>Total Estimated Project Cost (20000185)*</u>						
(a) Construction (includes contract contingency)**	18,000,000	(18,000,000)	-			-
Contract 1 Construction		10,706,801	10,706,801		10,706,801	-
Contract 2 Construction***		7,236,095	7,236,095		7,236,095	-
(b) Project Contingency	2,612,500		2,612,500		2,612,500	-
(c) Consulting Engineering Services (Design, Contract Administration, & Inspection)	1,125,000	(1,125,000)	-			-
Geotech, Peer Review, DSS		94,894	94,894	94,894		-
Design and Contract Administration & Inspection		1,087,211	1,087,211	860,524	226,687	-
(d) Project Management & Internal Costs	512,500		512,500	42,376	470,124	-
Total Estimated Project Cost	22,250,000.00	(0)	22,250,000	997,794	21,252,206	-

*All costs include 1.76% non-refundable HST

** Total Construction Contract 1 Award is equal to i) \$10,521,620 before tax; ii) \$10,706,801 including 1.76% non-refundable HST; iii) \$11,889,431 including 13% HST

*** Additional funds for Contract 2 in the amount of \$15,000,000 will be requested as part of the 2022 capital budget

PW 27-2020 Appendix 2 – Summary of Bids (2020-T-18)

Vendor	Total Tender Price (excluding HST)
Kenaidan Contracting Ltd.	\$ 10,521,620.00
ROMAG Contracting Ltd.	\$ 10,600,600.00
North America Construction Ltd.	\$ 10,708,300.00

