



## **Amendment to Purchase Order No. 6049351 for Contract Administration Services at the R.C. Harris Water Treatment Plant**

**Date:** September 22, 2020

**To:** Infrastructure and Environment Committee

**From:** Chief Engineer and Executive Director, Engineering and Construction Services and Chief Procurement Officer, Purchasing and Materials Management Division

**Wards:** 2

### **SUMMARY**

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The purpose of this report is to request authority to amend Purchase Order No. 6049351 with Associated Engineering (ON) Ltd., to provide additional contract administration services for the Filter Upgrade and Rehabilitation Project at the R.C. Harris Water Treatment Plant (The Plant).

The total value of the Purchase Order Amendment being requested is \$319,192 net of HST and all applicable charges, revising the value of the Purchase Order from \$472,014 to \$791,206 (net of HST).

This revises the total value of the work awarded to Associated Engineering (ON) Ltd., from \$1,044,088 to \$1,363,280 net of HST and all applicable charges.

### **RECOMMENDATIONS**

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The Chief Engineer and Executive Director of Engineering and Construction Services and the Chief Procurement Officer recommend that:

1. The Infrastructure and Environment Committee, in accordance with Section 71-11.1. C of the City of Toronto Municipal Code Chapter 71 (Financial Control By-Law), grant authority to amend Purchase Order No. 6049351 with Associated Engineering (ON) Ltd., to provide contract administration services for the Filter Upgrade and Rehabilitation Project at the R.C. Harris Water Filtration Plant by an additional amount of \$319,192 net of HST and all applicable charges, revising the current Purchase Order value from \$472,014 to \$791,206 net of HST and all applicable charges.

## FINANCIAL IMPACT

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The total value of this Purchase Order Amendment is \$319,192 net of HST and all applicable charges (\$324,810 net of HST recoveries), revising the value of the Purchase Order from \$472,014 to \$791,206 net of HST and all applicable charges (\$805,132 net of HST recoveries). The Purchase Order Amendment request included in this report will increase the total value of the work awarded to Associated Engineering (ON) Ltd., from \$1,044,088 to \$1,363,280 net of HST and all applicable charges (\$1,387,274 net of HST recoveries).

Funding for the contract amendment is available in the Toronto Water 2020 Approved Capital Budget and 2021-2029 Approved Capital Plan for Toronto Water under WBS Cost Element CPW061-15 (Harris Filters Rehabilitation - Pilot), with forecasted expenditures of \$172,170 for 2020 and \$152,640 for 2021, net of HST recoveries. The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial impact information.

## DECISION HISTORY

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At its meeting of October 8, 2015, the Bid Award Panel granted authority to enter into an agreement with Associated Engineering (ON) Ltd., for the provision of Professional Engineering Services during design, construction and post construction for the Rehabilitation & Upgrades to Filter 19 and 24 at the R.C. Harris Water Filtration Plant, being the highest scoring proponent meeting the requirements of Request for Proposal (RFP) 9117-15-7183, in the amount of \$748,824 net of all applicable taxes and charges (\$762,003 net of HST recoveries). The total award value is made up of three (3) Purchase Orders, one for design, one for services during construction and one for post construction services.

A copy of the Bid Award Panel Decision Document can be found at:  
<http://www.toronto.ca/legdocs/mmis/2015/bd/bgrd/backgroundfile-84921.pdf>

At its meeting of July 3, 2019, the Bid Award Panel granted authority to enter into an agreement with Bennett Mechanical (2001) Ltd., for the provision of Construction Services for the R.C. Harris Water Treatment Plant Filter Upgrades for Prequalified contractors through Request to Prequalify (RTP) No. 3907-18-7090. The call number 70-2019, contract number 18ECS-MI-02HA was issued on March 14, 2019 and closed on May 23, 2019. The contract award value was \$10,827,250 net of all applicable taxes and charges (\$11,017,810 net of HST recoveries).

A copy of the Bid Award Panel Decision Document can be found at:  
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.BA32.5>

## COMMENTS

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### Background

The R.C. Harris Water Filtration Plant is one of four water treatment plants operated by the City of Toronto. The Plant has a rated capacity of 950 megalitres per day and operates 24 hours per day, 365 days per year. The Plant, designed in a classical version of the Art Deco Style, was initially constructed in the 1930s and was expanded in the 1950s. The Plant has 40 filters that are part of the water treatment process and filters 1 to 20 were constructed as part of the original plant and filters 21 to 40 were constructed with the Plant expansion in 1950s.

The Plant's finished water quality meets all regulatory requirements. To ensure the Plant continues to meet the water quality standards in accordance with Toronto Water's Water Quality Master Plan 2015-2035, the City is undertaking the Filter Upgrade and Rehabilitation Project.

In 2009/2010, as part of the Plant's state of good repair program, the City inspected the condition of Filter 19, representative of the original plant filters. The assessment included inspection of the structural condition of the concrete filter box and the integrity of the cast iron pipe underdrain system and associated process equipment. The inspection report recommended that all deteriorated concrete be repaired and all corroded metal components be replaced or rehabilitated and the filter underdrains, which collect the water passing through the filter media, be replaced.

In response to the 2009/2010 inspection findings, the City retained Associated Engineering (ON) Ltd., (Associated Engineering), in 2015, to provide professional engineering services for the design, contract administration and post construction services for the Filter Upgrade and Rehabilitation Project. The original scope of work consisted of the repair and upgrades for Filters 19 and 24. Filter 24 was included in the scope to provide a representative filter from the 1950's expansion for comparison to the original Plant filters.

The work on these representative Plant filters is considered a pilot in advance of undertaking the rehabilitation and upgrade of the remaining filters in future years.

In addition to the scope identified in the filter system condition assessment, Toronto Water recommended the installation of a central blower to supply pressurized air to all filters, as part of an air scour system, to improve the efficiency of the filter backwash system, and to minimize the loss of filter media during the filter backwashing cycle.

## **Previous Purchase Order Amendments for Engineering Design and Construction Contract Administration Services**

### **Engineering Design Services**

In August 2017, the engineering design Purchase Order to Associated Engineering was amended by \$190,000, net of HST, increasing the total assignment value from \$748,824 to \$938,824 net of all applicable taxes and charges (\$955,347 net of HST recoveries). The additional engineering design work associated with this Purchase Order amendment (POA) is summarized as follows:

- a) The original scope of the project was based on designing one type of filter underdrain system for both Filters 19 and 24, respectively. During the pre-design phase, it was determined that two different underdrain systems should be designed and constructed for operational and cost comparison purposes. It was further determined that this comparison should be undertaken in both the original and expansion sections of the Plant. This effectively expanded the scope of work from two (2) filters to four (4) filters.
- b) The original scope of work included the engineering design for the installation of an air scouring system to improve the efficiency and operation of the filters' backwash cycle. This required the installation of a blower to supply pressurized air to the filter underdrains. Five alternative locations were assessed and it was determined that the location above Filter 22 would be the most appropriate since it eliminated potential issues related to Heritage Building compliance, excessive excavation and size constraints for the new blower. However, this required the design and installation of a new blower room and enclosure for sound attenuation.
- c) Under the base scope, Associated Engineering was required to design a supplemental backwash system using water from the district mains near the plant to tie into the backwash supply pipe. Toronto Water requested during design, the installation of new magnetic flow meters as part of the backwash system to assist with proper flow control during a backwash. The magnetic flow meters were not included as part of the original scope and Associated Engineering was requested to provide additional design work to incorporate them into the system.
- d) During the design phase Toronto Water identified, through their regular maintenance and inspection program, that the existing backwash supply tanks appeared to be leaking and showing signs of deterioration. Since the backwash tanks operate as part of the filter system, it was beneficial to include these works within the contract and Associated Engineering was requested to design the rehabilitation works to be included in the construction contract.

### **Contract Administration Services**

The original RFP considered a scope of work that included 36 weeks of construction contract administration service which formed the basis of the Contract Administration Purchase Order to Associated Engineering. However, the significant additional scope of

work referenced above added a level of complexity and time to the construction schedule. The added scope resulted in the need for additional support services to review shop drawings as well as inspect and administer the site works.

In August 2020, a POA of \$105,264, net of HST, was subsequently issued to Associated Engineering to provide for the additional contract administration services, beyond their original base scope of services. This increased the value of the contract administration services Purchase Order from \$366,750 to \$472,014, net of HST.

### **Additional Contract Administration Services Required to Complete the Construction**

With the additional scope of work identified above, the duration of the construction contract, as submitted by the low bidder, Bennett Mechanical (2001) Ltd., (Bennett Mechanical) at the time of tender was 65 weeks.

Bennett Mechanical has advised of unforeseen major equipment delivery delays beyond their control. The US based manufacturer, due to COVID-19, reduced their work force by 50%, thereby delaying the manufacturing of the blower. As a consequence, the construction duration has increased by a further 15 weeks for a total duration of 80 weeks. The projected substantial completion date of the project is now May 3, 2021.

Based on the revised substantial completion date, Associated Engineering has requested an additional 44 weeks of contract administration services to complete the construction (80 weeks projected duration minus the 36 weeks in the original RFP). A contingency of an additional 12 weeks is also being recommended in the event of unforeseen construction delays in the future, for a total of 56 additional weeks of contract administration services. Staff will monitor the activities on site and coordinate with Associated Engineering to adjust the inspection time on site accordingly if there are periods of reduced activity due to the equipment delays.

The additional services will be extended, at the weekly rate of \$5,471.39 (including disbursements) to account for a CPI based rate adjustment in accordance with the RFP terms and conditions, which amount to \$306,398. An amount of \$12,794 is also included for CPI adjustment for the original 36 weeks as the rate adjustment was effective at the start of construction in October 2019. The total for the additional services is in the amount of \$319,192, net of HST.

With this amendment, Purchase Order No. 6049351 will be increased from \$472,014 to \$791,206 (net of HST).

## **CONTACT**

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## **SIGNATURE**

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