

## **Amendment to Purchase Order Number 6046731 for the D Building Phase 2 Upgrades Design Services at the Ashbridges Bay Treatment Plant**

**Date:** March 9, 2021

**To:** Infrastructure and Environment Committee

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

**Wards:** 14 (Riverdale)

### **SUMMARY**

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The purpose of this report is to request authority to amend Purchase Order Number 6046731 with GHD Limited, to provide additional professional engineering services during detailed design for the D Building Phase 2 Upgrades at Ashbridges Bay Treatment Plant, in the amount of \$1,141,464 net of all applicable taxes and charges (\$1,161,554 net of HST recoveries), revising the current Purchase Order value from \$1,949,936 net of all applicable taxes and charges (\$1,984,255 net of HST recoveries) to \$3,091,400 net of all applicable taxes and charges (\$3,145,808 net of HST recoveries).

This revises the total value of the work awarded to GHD Limited, from \$3,654,900 to \$4,816,454 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, Purchasing and Materials Management 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 Number 6046731 with GHD Limited, to provide additional professional engineering services during detailed design for the D Building Phase 2 Upgrades at the Ashbridges Bay Treatment Plant in the amount of \$1,141,464 net of all applicable taxes and charges, (\$1,161,554 net of HST recoveries), revising the current Purchase Order value from \$1,949,936 net of all applicable taxes

and charges (\$1,984,255 net of HST recoveries) to \$3,091,400 net of all applicable taxes and charges (\$3,145,808 net of HST recoveries) and extend the delivery date from December 31, 2021 to March 31, 2023.

## FINANCIAL IMPACT

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Funding for this Purchase Order Amendment is included in the Toronto Water's Approved 2021 Capital Budget and 2022-2030 Capital Plan under WSB Element CWW019-34 (D Building Phase 2) with forecasted expenditures as shown in the Table 1 (net of HST recoveries).

**Table 1. Projected Cash Flows for Amendment to Purchase Order Number 6046731**

Year	Design Services for D Building Phase 2 Upgrades
2021	\$565,000
2022	\$596,554
Total	\$1,161,554

The Chief Financial Officer and Treasurer has received this report and agrees with the financial impact information.

## DECISION HISTORY

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At its meeting held on February 21, 2018, the Bid Award Panel granted authority to enter into an agreement with GHD Limited, for the provision of Professional Engineering Services during design, construction, and post construction for D Building Phase 2 Upgrades at Ashbridges Bay Treatment Plant, being the highest scoring proponent meeting the requirements of Request for Proposal 9117-17-7281, in the amount of \$3,591,686 net of all applicable taxes and charges (\$3,654,901 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.

A copy of the Bid Award Panel Decision can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.BA64.2>

## COMMENTS

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### Background

The Ashbridges Bay Treatment Plant receives and treats wastewater from approximately 1.6 million people before discharging treated water to Lake Ontario. D Building receives approximately half of the wastewater flow and houses preliminary treatment (removal of heavy grit and screened material) of the influent wastewater and primary treatment (removal of suspended solids via large settling clarifiers).

In 2017, a Request for Proposal (Number 9117-17-7281) was issued for professional engineering services for the D Building Phase 2 Upgrades at the plant. This Request for Proposal was awarded to GHD Limited, in February 2018. The Phase 2 Upgrades include three key areas: 1) primary treatment, 2) preliminary treatment, and 3) electrical works. A summary of the work scope in each area is summarized below.

### Area 1: Primary Treatment

The D Building primary clarifiers (Tanks 10, 11, 12) were constructed in 1974. Each clarifier tank is approximately 95 m long by 35 m wide by 5 m deep. Influent wastewater flows into the clarifiers at a very slow rate, to maintain still water conditions in the clarifier tanks and promote solids settling. The primary clarifiers are equipped with traveling bridges which slowly travel back and forth across the length of the clarifiers to convey settled solids (i.e., sludge) and floating scum to the ends of the clarifiers for subsequent removal. Clarified wastewater is sent to downstream processes for further treatment before discharging treated and disinfected effluent to Lake Ontario.

The existing traveling bridges are reaching the end of their service life, are deteriorating quickly, and require complete replacement. As part of the Phase 2 Upgrades, the existing traveling bridge mechanisms will be replaced with new traveling bridges.

### Area 2: Preliminary Treatment

Preliminary treatment was recently upgraded under the Phase 1 Upgrades Project (completed in 2014). After peer review of the Phase 1 project by GHD Limited, a number of items were identified to further improve the ergonomics, operations, and maintenance aspects of preliminary treatment areas of D Building. These items included: channel improvements to reduce grit accumulation; modification of the existing grit piping system to prevent future pipe failures; application of chemically enhanced primary treatment during wet weather flow conditions; improved ergonomic access to equipment; and installation of a new building elevator.

### Area 3: Electrical Works

Various D Building electrical equipment will be upgraded to address the findings of a previously completed electrical condition assessment (2011). To achieve state of good repair, the electrical upgrades will include replacement and/or relocation of D Building

electrical equipment such as motor control centers, primary distribution panels, remote processing units, and transformers.

Construction of the Phase 2 Upgrades is scheduled to commence in 2022, with a construction duration of approximately two years. The preliminary budget estimate for the construction contract (based on original base scope of work) is valued at \$40,000,000.

### **Additional Project Scope Identified During Design**

Since 2014, D Building has received a greater proportion of total plant flows due to construction disruptions at the plant's other primary treatment building (P Building). The increased flow volumes through D Building has resulted in accelerated equipment wear of the sludge and scum pumping systems. Plant staff have concluded that the sludge and scum pumping systems are approaching the end of useful life. GHD Limited, assessed and recommended replacement of the sludge and scum pumping systems (versus rehabilitation) due to the asset age and deteriorating performance. It is important for the Plant to resolve the current issues with the primary sludge and scum pumping systems at the earliest opportunity. Plant staff believe there is a high risk of system failures if the work is delayed and are recommending to incorporate the work into the Phase 2 Upgrades. The preliminary capital cost estimate for replacement of the pumping systems is approximately \$12,000,000.

Under the base scope of the D Building Phase 2 Upgrades project, the travelling bridges of each Primary Clarifier (Tanks 10, 11, 12) will be replaced one at a time by taking each tank out of service. It would be advantageous to also replace the corresponding sludge/scum pumping systems for each tank while it is already out of service for travelling bridge replacement work.

A Purchase Order Amendment to GHD Limited is, therefore, being requested to undertake the design for this additional work.

### **Consultant Purchase Order Amendment**

Through execution of the base scope of work, GHD Limited, is knowledgeable with D Building infrastructure and process equipment, and can efficiently combine delivery of the additional scope with their current base scope in the D Building. The additional scope of work would be performed at the submitted rates of their 2017 Request for Proposal.

GHD Limited, submitted a Request for Change quotation (October 2020) for the amount of \$791,464 (net of all taxes and charges) in additional funds for design of the new scope. The costs are considered to represent fair value to the City. Staff are also recommending an additional project contingency allowance of \$350,000 to address any future unforeseen design issues which may arise and therefore the total recommended amendment is \$1,141,464. With this amendment, Purchase Order Number 6046731 will be increased from \$1,949,936 to \$3,091,400 net of all applicable taxes and charges.

It is also recommended to extend the Purchase Order delivery date to March 31, 2023, to allow for the extended design duration.

## **CONTACT**

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## **SIGNATURE**

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