

Award of Request for Tender Ariba Document Number 3320202763 for the Biosolids Master Plan Implementation Project and South Facility Upgrades Project at the Highland Creek Treatment Plant, and Amendment to Purchase Order Number 6052723 with CH2M Hill Canada Limited for Contract Administration Services

Date: June 22, 2022

To: Infrastructure and Environment Committee

From: Chief Engineer and Executive Director, Engineering and Construction Services, General Manager, Toronto Water and Acting Chief Procurement Officer

Wards: 25 (Scarborough-Rouge Park)

SUMMARY

The purpose of this report is to advise of the results of Request for Tender Ariba Document Number 3320202763, for the Biosolids Master Plan Implementation Project and South Facility Upgrades Project at the Highland Creek Treatment Plant and to request authority to award the contract to Maple Reinders Constructors Limited, in the amount of \$266,655,654 net of all applicable taxes and charges (\$271,348,793 net of HST recoveries).

Authority is also being requested to reallocate project costs and cash flows within Toronto Water's Approved 2022 Capital Budget and Approved 2023-2031 Capital Plan in the amount of \$70,500,131 from a project that will be deferred and a project that will be awarded under budget to support the cost for this contract award.

Authority is also being requested to amend Purchase Order Number 6052723 with CH2M Hill Canada Limited, for the provision of Contract Administration Services in the amount of \$8,844,340 net of all applicable taxes and charges (\$9,000,000 net of HST recoveries).

Authority is also being requested to reallocate project costs and cash flows within Toronto Water's Approved 2022 Capital Budget and Approved 2023-2031 Capital Plan in the amount of \$6,000,000 from a project that will be deferred to support the amendment of Purchase Order Number 6052723 with CH2M Hill Canada Limited for the provision of Contract Administration Services.

RECOMMENDATIONS

The Chief Engineer and Executive Director of Engineering and Construction Services, the General Manager of Toronto Water and the Acting Chief Procurement Officer recommend that:

1. City Council, in accordance with Section 195-8.5 of the Toronto Municipal Code Chapter 195 (Purchasing By-Law), grant authority to award Ariba Document Number 3320202763, for the Biosolids Master Plan Implementation Project and South Facility Upgrades Project at Highland Creek Treatment Plant, in the amount of \$266,655,654 net of all applicable taxes and charges (\$271,348,793 net of HST recoveries) to Maple Reinders Constructors Limited, having submitted the lowest compliant bid and meeting the specifications in conformance with the Tender requirements, subject to Recommendation 2 below.
2. City Council authorize the reallocation of project costs and cash flows within Toronto Water's Approved 2022 Capital Budget and 2023-2031 Capital Plan in the amount of \$5,008,000 from Biosolids Master Plan Implementation - Enhancements, which will be awarded under budget and \$65,492,131 from Ashbridges Bay Treatment Plant Polymer Upgrades Project, which will be deferred to support the award of Ariba Document Number 3320202763, for the Biosolids Master Plan Implementation Project and South Facility Upgrades Project at Highland Creek Treatment Plant, as presented in Table 2 of the Financial Impact Statement, with zero Budget impact to Toronto Water.
3. City Council grant authority to amend the Purchase Order Number 6052723 with CH2M Hill Canada Limited for Contract Administration Services by increasing the value by \$8,844,340 net of all applicable taxes and charges (\$9,000,000 net of HST recoveries), from \$10,790,027 net of all applicable taxes and charges (\$10,979,931 net of HST recoveries) to \$19,634,367 net of all applicable taxes and charges (\$19,979,931 net of HST recoveries), subject to approval of Recommendation 4 below.
4. City Council authorize the reallocation of project costs and cash flows within Toronto Water's Approved 2022 Capital Budget and 2023-2031 Capital Plan in the amount of \$6,000,000 from Ashbridges Bay Treatment Plant Polymer Upgrades Project, which will be deferred to support the amendment to Purchase Order Number 6052723 with CH2M Hill Canada Limited for the provision of Contract Administration Services, as presented in Table 4 of the Financial Impact Statement, with zero Budget impact to Toronto Water.

FINANCIAL IMPACT

1) Award for Contract Number 21ECS-MI-02HC

The total value of the contract award for Ariba Document Number 3320202763 for the Biosolids Master Plan Implementation Project and South Facility Upgrades Project at Highland Creek Treatment Plant, is \$301,320,889 including HST and all applicable charges. The total cost to the City is \$271,348,793 including contingency and provisional sums and net of HST recoveries.

Funding details with forecasted expenditures (net of HST recoveries) are summarized in Table 1 below under three (3) accounts: CWW047-03 Biosolids Master Plan Implementation (Construction), CWW047-04 Biosolids Master Plan Implementation Enhancements (United States Environmental Protection Agency Emission Standards Compliance) and CWW048-01 Building Rehabilitation and Improvements (South Facility Upgrades).

Table 1: Financial Impact Summary of Recommended Contract Award

WBS Element	CWW047-03 (Biosolids Master Plan Implementation - Construction)	CWW047-04 (Biosolids Master Plan Implementation Enhancements - USEPA Emission Standards Compliance)	CWW048-01 (Building Rehabilitation and Improvements - South Facility Upgrades)	TOTAL (net of HST recoveries)
2022	\$9,437,000	\$100,000	\$7,000,000	\$16,537,000
2023	\$28,245,000	\$2,000,000	\$8,438,000	\$38,683,000
2024	\$47,237,266	\$3,000,000	\$18,900,865	\$69,138,131
2025	\$35,000,000	\$6,000,000	\$3,238,000	\$44,238,000
2026	\$47,720,000	\$3,500,000	\$3,238,000	\$54,458,000
2027	\$15,502,000	\$400,000	\$4,000,000	\$19,902,000
2028	\$8,000,000	\$1,442,000	\$6,184,000	\$15,626,000
2029	\$7,517,000	\$599,747	\$4,649,915	\$12,766,662
Total	\$198,658,266	\$17,041,747	\$55,648,780	\$271,348,793

Account CWW047-03 Biosolids Master Plan Implementation includes an Equipment Purchase Contract which was approved by the Infrastructure and Environment Committee on May 23, 2019, adopted under IE5.3, with a total award value of

\$40,932,000 net of all applicable taxes and charges (\$41,652,403 net of HST recoveries), including disbursements and contingencies to SUEZ Water Technologies and Solutions Canada. To date, a total amount of \$7,681,455 net of all applicable taxes and charges (\$7,816,648 net of HST recoveries) has been spent for the detailed design work by SUEZ Water Technologies and Solutions Canada. Maple Reinders Constructors Limited will take over responsibility for the execution of the remaining portion of the scope of work of the Equipment Purchase Contract through the execution of a Novation Agreement. The Novation Agreement value is \$32,747,257 net of all applicable taxes and charges (\$33,323,608 net of HST recoveries). The Novation Agreement value has been included in the overall total of CWW047-03 Biosolids Master Plan Implementation - Construction.

Currently, there is insufficient funding in Toronto Water's Approved 2022 Capital Budget and 2023-2031 Capital Plan to support the award of Ariba Document Number 3320202763. Additional funding is required to accommodate costs as shown in Table 1 above.

The approval of Recommendation 2 of this report will authorize the reallocation of funding for the additional project costs to support the award Ariba Document Number 3320202763 as outlined in Table 2 below. The additional costs for the award will be offset from funds available from CWW047-04 Biosolids Master Plan Implementation - Enhancements which will be awarded under budget and from CWW019-27 Ashbridges Bay Treatment Plant Polymer Upgrades Project. The Polymer Upgrade Project is currently deferred due to coordination with other initiatives at the Ashbridges Bay Wastewater Treatment Plant, and the feasibility of proceeding to construction will be reassessed in 2023. Funding for this Project will be reviewed as part of Toronto Water's 2023 Capital Budget Process. There are no additional costs to the City as a result of the approval of this report.

Table 2: Budget Adjustment Reallocations (net of HST recoveries)

Program Area	Highland Creek Wastewater Treatment Plant	Highland Creek Wastewater Treatment Plant		Highland Creek Wastewater Treatment Plant	Ashbridges Bay Wastewater Treatment Plant	
Account Number	CWW048-01	CWW047-03		CWW047-04	CWW019-27	
SAP Description	Building Rehabilitation and Improvements - South Facility Upgrades	Biosolids Master Plan Implementation - Construction		Biosolids Master Plan Implementation Enhancements - USEPA Emission Standards Compliance	Polymer Upgrade	
			Sub-Total			Sub-Total
2023 Proposed Reallocation	4,960,000	9,600,000	14,560,000	0	(14,560,000)	(14,560,000)

Program Area	Highland Creek Wastewater Treatment Plant	Highland Creek Wastewater Treatment Plant		Highland Creek Wastewater Treatment Plant	Ashbridges Bay Wastewater Treatment Plant	
Account Number	CWW048-01	CWW047-03		CWW047-04	CWW019-27	
SAP Description	Building Rehabilitation and Improvements - South Facility Upgrades	Biosolids Master Plan Implementation - Construction		Biosolids Master Plan Implementation Enhancements - USEPA Emission Standards Compliance	Polymer Upgrade	
			Sub-Total			Sub-Total
2024 Proposed Reallocation	15,552,865	10,737,266	26,290,131	0	(26,290,131)	(26,290,131)
2026 Proposed Reallocation	0	24,642,000	24,642,000	0	(24,642,000)	(24,642,000)
2027 Proposed Reallocation	0	2,600,000	2,600,000	(2,600,000)		(2,600,000)
2028 Proposed Reallocation	1,058,000	0	1,058,000	(1,058,000)		(1,058,000)
2029 Proposed Reallocation	1,350,000	0	1,350,000	(1,350,000)		(1,350,000)
Total	22,920,865	47,579,266	70,500,131	(5,008,000)	(65,492,131)	(70,500,131)

Subject to approval of the reallocation of funding outlined in Table 2, funding for the award of Ariba Document Number 3320202763 will be included in Toronto Water's Approved 2022 Capital Budget and 2023-2031 Capital Plan, with forecasted expenditures outlined in Table 1 above.

2) Purchase Order Amendment for Purchase Order Number 6052723 for Contract Administration Services

The request to amend the Purchase Order Number 6052723 with CH2M Hill Canada Limited for providing Contract Administration Services during Construction will increase the total contract value by \$8,844,340 net of all applicable taxes and charges (\$9,000,000 net of HST recoveries), revising the current Purchase Order value from \$10,790,027 net of all applicable taxes and charges (\$10,979,931 net of HST recoveries) to \$19,634,367 net of all applicable taxes and charges (\$19,979,931 net of HST recoveries).

The total cost to the City is \$9,000,000 net of HST recoveries. Funding requirements with forecasted expenditures (net of HST recoveries) are summarized in Table 3 below.

Table 3: Financial Impact Summary of Purchase Order Amendment for Contract Administration Services (net of HST recoveries)

Year	CWW047-02 (Biosolids Master Plan Implementation Project - Contract Administration Services)
2022	\$ 100,000
2023	\$ 2,300,000
2024	\$ 2,500,000
2025	\$ 500,000
2026	\$ 2,500,000
2027	\$ 600,000
2028	\$ 300,000
2029	\$ 200,000
Total	\$ 9,000,000

Currently, there is insufficient funding in Toronto Water's Approved 2022 Capital Budget and 2023-2031 Capital Plan to permit the amendment to Purchase Order Number 6052723 with CH2M Hill Canada Limited for providing Contract Administration Services during Construction. Additional funding is required to accommodate costs as shown in Table 3 above.

The approval of Recommendation 4 of this report will authorize the reallocation of funding to support the amendment of Purchase Order Number 6052723 as outlined in Table 4 below. The additional costs for the amendment will be offset from funds available from CWW019-27 Ashbridges Bay Treatment Plant Polymer Upgrades Project. The Polymer Upgrade Project is currently deferred due to coordination with other initiatives at the Ashbridges Bay Wastewater Treatment Plant, and construction is now planned for award in 2023. Funding for this Project will be reviewed as part of Toronto Water's 2023 Capital Budget Process. There are no additional costs to the City as a result of the approval of this report.

Table 4: Budget Adjustment Reallocations (net of HST Recoveries)

Program Area	Account Number	2023 Proposed Reallocation	2024 Proposed Reallocation	2026 Proposed Reallocation	Total Reallocation
Highland Creek Wastewater Treatment Plant	CWW047-02 (Biosolids Master Plan Implementation Project - Contract Administration Services)	\$2,000,000	\$2,000,000	\$2,000,000	\$6,000,000
Ashbridges Bay Wastewater Treatment Plant	CWW019-27 (Polymer Upgrade)	(\$2,000,000)	(\$2,000,000)	(\$2,000,000)	(\$6,000,000)
Total		\$0	\$0	\$0	\$0

Subject to approval of the reallocation of funding outlined in Table 4, funding for the amendments of Purchase Order Number 6052723 will be included in Toronto Water's approved 2022 Capital Budget and 2023-2031 Capital Plan under account CWW047-02 – Biosolids Master Plan Implementation – Contract Administration Services, with forecasted expenditures outlined in Table 3 above.

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

DECISION HISTORY

Schedule B Class Environmental Assessment

At its meeting of November 13, 14, 15 and 18, 2013, City Council approved the preparation of a Schedule B Class Environmental Assessment to examine all reasonable and feasible biosolids management alternatives for the Highland Creek Wastewater Treatment Plant. The Council decision document can be found at: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.PW25.6>

At its meeting of May 3, 4 and 5, 2016, City Council approved and requested that the General Manager, Toronto Water, finalize the Schedule B Class Environmental Assessment report associated with the implementation of the preferred biosolids management alternative for the Highland Creek Treatment Plant and submit it to the Ontario Ministry of Environment, Conservation and Parks in accordance with the requirements of the Environmental Assessment Act. Council also directed that the General Manager, Toronto Water, include enhanced emissions scrubbing technologies for the proposed Fluidized Bed Incinerators in order to meet United States Contract Award for the Biosolids Master Plan Implementation Project and South Facility Upgrades Project at the Highland Creek Treatment Plant

Environmental Protection Agency requirements with respect to air emissions. The Council-adopted decisions can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.PW11.4>

Biosolids Master Plan Implementation Project

At its meeting held on December 20, 2017, the Bid Award Panel adopted the recommendations in the staff report from the Director of Purchasing and Materials Management dated November 24, 2017, and authorized the retention of CH2M Hill Canada Limited to provide Engineering services during design and construction for the Biosolids Master Plan Implementation Project at the Highland Creek Treatment Plant. The scope included the replacement of aging obsolete incinerators with modern Fluidized Bed Incinerators including state of the art emissions scrubbing technology. The Bid Award Panel decision can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.BA55.2>

Biosolids Master Plan Implementation Project - Equipment Purchase

At its meeting held on May 23, 2019, the Infrastructure and Environment Committee adopted the recommendations in the staff report from the Chief Procurement Officer dated May 7, 2019, and authorized the retention of SUEZ Water Technologies & Solutions Canada to provide design, fabrication, supply, supervision of installation and commissioning of Fluidized Bed Incinerators and associated air emissions monitoring and control equipment at the Highland Creek Treatment Plant. The Equipment Purchase includes two units and associated peripherals including emissions monitoring and control equipment. The Infrastructure and Environment Committee decision can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.IE5.3>

Building Rehabilitation and Improvements (South Facility Upgrades Project)

At its meeting held on April 8, 2020, the Bid Committee adopted the recommendations in the staff report from the Chief Procurement Officer dated March 23, 2020, and authorized the retention of CH2M Hill Canada Limited to provide Engineering services during design and construction for the South Facility Upgrades Project at the Highland Creek Treatment Plant. The South Facility Upgrades Project scope includes state-of-good-repair work to the aging treatment process infrastructure. The Bid Award Panel decision can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2020.BA75.7>

COMMENTS

Background

The Highland Creek Treatment Plant receives and treats wastewater servicing a population of approximately 500,000, with a rated treatment capacity of 219,000 cubic meters per day before discharging treated water to Lake Ontario. As part of the treatment process, sludge is thickened prior to being processed in two existing multiple hearth incinerators, which were built in 1975 and commissioned in 1976. The resulting inorganic non-hazardous ash from the incinerators is stored onsite in lagoons and

hauled by trucks once annually over a week long period to the City's Green Lane Landfill Site.

The existing multiple hearth incinerators, are considered old technology, nearing the end of their service life and are located in the Plant's Multiple Hearth Building. The sludge pumping system is located to the east of this building, in the Heat Treatment Building. These two buildings, are located in an area of the Highland Creek Treatment Plant that is south of the Metrolinx tracks, referred to as the South Facility as shown in Figure 1.

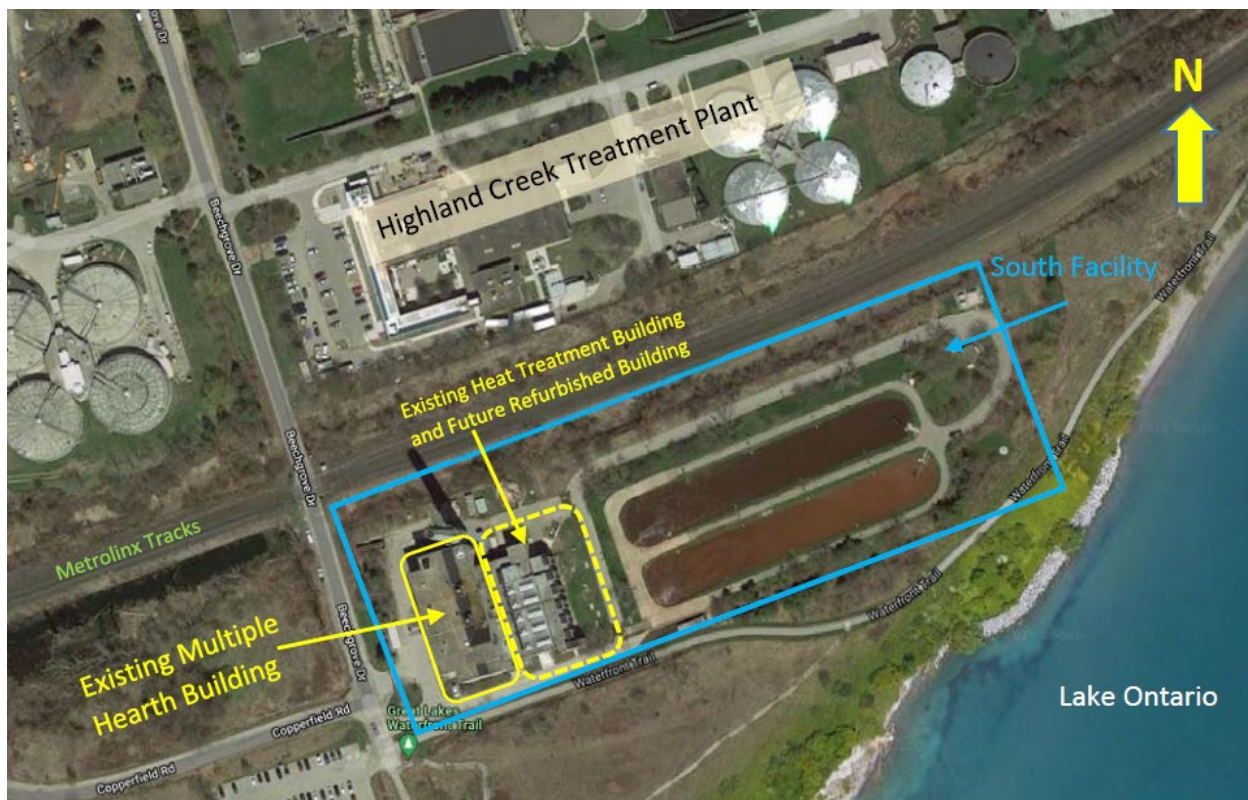


Figure 1: Aerial Photograph showing the South Facility at the Highland Creek Treatment Plant and the locations of the existing Multiple Hearth Building and Heat Treatment Building, and the future Fluidized Bed Incinerator Building.

Biosolids Master Plan Implementation Project

In 2002, the Toronto Water initiated the development of a Biosolids and Residuals Master Plan (i.e. later referred to as the Biosolids Master Plan) that was to provide direction on the future management of biosolids generated by the City's wastewater treatment plants to the year 2025. The Biosolids Master Plan was undertaken in accordance with the Municipal Engineers Association Class Environmental Assessment process as defined in the Province of Ontario's Environmental Assessment Act.

In 2005-2006, during the preparation of the Biosolids Master Plan, the existing Highland Creek Treatment Plant incinerators were found to be in urgent need of repair. During this same time, the Ontario Ministry of the Environment issued an Order requiring the

City to expeditiously undertake repairs. To ensure the continued and safe operation of the aging equipment and to meet the requirements of the Ontario Ministry of the Environment Order, City staff developed and implemented critical repairs to improve the reliability and operability of the existing multiple hearth incinerators, extending their service life for up to 10 years. Implementation of these repairs was completed in 2017 and are expected to enable the facility to safely operate until 2027 / 2028.

In November 2013, City Council approved the preparation of a Schedule B Class Environmental Assessment for the development and implementation of a biosolids management strategy specifically for the Highland Creek Treatment Plant.

In 2014, through a Request for Proposal issued in November 2013, the City retained CIMA Canada Inc. to undertake the Biosolids Schedule B Class Environmental Assessment for the Highland Creek Treatment Plant. The Project Team for this Class Environmental Assessment included staff from Toronto Water, Engineering and Construction Services, Toronto Public Health, and the Toronto Energy and Environment Division. The Class Environmental Assessment Study was completed in February 2016 and concluded that the preferred biosolids management option for the Plant was the replacement of the existing old technology multiple hearth incinerators with current state-of-the-art fluidized bed incinerators, to be housed within the existing Multiple Hearth Building.

In May 2016, City Council adopted this preferred option and directed staff to implement the project using United States Environmental Protection Agency air emissions standards which are significantly more stringent than the Ontario standards as governed by O. Reg 419/05. The O. Reg 419/05 standards were used as the basis for the environmental and health impact assessments conducted as part of the Schedule B Class Environmental Assessment and as such the implementation of the advanced emission scrubbing technologies included in this project will achieve air emissions quality well in excess of all other facilities of its kind in Canada.

In April 2017, the Ontario Ministry of Environment, Conservation and Parks approved the Class Environmental Assessment recommended solution thereby allowing the City to proceed with the implementation of the works recommended in the Biosolids Schedule B Class Environmental Assessment for the Highland Creek Treatment Plant, subsequently referred to as the Biosolids Master Plan Implementation Project.

In 2017, Engineering and Construction Services engaged CIMA Canada Inc. to prepare a Conceptual Design Report. This report was a detailed study of the potential layouts for the new fluidized bed incineration process, looking at three different building layout options: a) construction within the existing multiple hearth building, b) construction within a new refurbished building, and c) construction within a completely new building in a new location. The Conceptual Design Report was completed in July 2017 and concluded that the City should proceed with option b). Option b) was recommended because it makes use of the largely unused area of the existing Heat Treatment Building, through the construction of a new superstructure and utilization of the existing building footprint. Option b) also consolidated the dewatering operations to one building and had a lower operational risk to the existing incinerators which must remain operational until the new fluidized bed incinerators are commissioned.

The City accepted the recommendation on the layout option in the Conceptual Design Report, concluding that the Biosolids Master Plan Implementation Project will remove the existing dewatering system from the existing Heat Treatment Building and move it into the existing Multiple Hearth Building, so that the existing Heat Treatment Building can be partially demolished to make way for the new fluidized bed incinerators in a new refurbished building. Further, this new building will provide the operations and maintenance staff with ergonomically acceptable access to all new equipment.

In December 2017, through a Request for Proposal, the City retained CH2M Hill Canada Limited to undertake the Preliminary Design, Detailed Design, Construction Contract Administration and Post-Construction Services for the new Fluidized Bed Incinerator Facility and related enhancements. The design phase was initiated in December 2017 and was completed in December 2021. It is estimated that the construction of the new facilities will be completed in 2028.

In summary, the Biosolids Master Plan Implementation Project involves the replacement of the existing 40 year old multiple hearth incinerators with state-of-the-art fluidized bed incinerators incorporating ultra-advanced air quality emission controls. This will be a world class facility and the most modern and technologically advanced facility of its kind in Canada.

Once commissioned, the Biosolids Master Plan Implementation Project will provide a reliable, robust and long term biosolids/sludge management system for Highland Creek Treatment Plant, providing capacity with 100% redundancy to process all the biosolids/sludge generated at the existing rated Plant capacity of 219 million litres per day.

Equipment Purchase - Fluidized Bed Incinerators

In 2018, during the Preliminary Design of the Biosolids Master Plan Implementation Project, the City issued a Request for Proposal to procure two new fluidized bed incinerator process trains and associated air emissions monitoring and control equipment for the Highland Creek Treatment Plant. The scope of the Request for Proposal included design, fabrication and supply, supervision of installation and commissioning of equipment. The Vendor retained for the equipment purchase was SUEZ Water Technologies & Solutions Canada. The equipment design phase was initiated in June 2019 and was completed in March 2021.

As contemplated under the equipment purchase Request For Proposal, the City will enter into a Novation Agreement with SUEZ Water Technologies and Solutions Canada and Maple Reinders Constructors Limited. This will have the effect of assigning, novating, transferring and conveying to Maple Reinders Constructors Limited all of the City's interest in any Agreement arising out of the equipment purchase Request for Proposal. Maple Reinders Constructors Limited, therefore, is required to take over responsibility for the execution of the remaining portion of the scope of the pre-purchased equipment contract through the Novation Agreement with SUEZ Water Technologies & Solutions Canada.

The outstanding portion of the SUEZ Water Technologies & Solutions Canada work including the delivery of equipment to site, construction of the fluidized bed incinerator reactors, and the supervision of installation and commissioning of all SUEZ Water Technologies & Solutions Canada supplied equipment will be novated to Maple Reinders Constructors Limited, as per the contract award being recommended in this report.

The remaining scope of the equipment purchase contract, representing a value of \$32,747,257 net of all applicable taxes and charges (\$33,323,608 net of HST recoveries), will be completed by SUEZ Water Technologies & Solutions Canada upon execution of the Novation Agreement with Maple Reinders Constructors Limited. The cost of the remaining scope of work will be paid to SUEZ Water Technologies & Solutions Canada by Maple Reinders Constructors Limited. The value of the remaining scope of the equipment purchase contract, \$32,747,257 net of all applicable taxes and charges (\$33,323,608 net of HST recoveries) is included in the Fixed Bid Price, and has been included in the Financial Impact Summary in Table 1 above under CWW0047-03 Biosolids Master Plan Implementation – Construction.

South Facility Upgrades Project: Building Rehabilitation and Improvements

In 2018, Toronto Water initiated a condition assessment program for various facilities across the City. As part of this program, condition assessments of the existing Dewatering Building and associated tunnels were completed at Highland Creek Treatment Plant. The findings of this assessment and recommendations were documented in the Facility Condition Assessment Program Volume 2 Report (Morrison Hershfield, 2018), which recommended that critical non-process upgrades to the existing Highland Creek Treatment Plant Dewatering Building needed to be completed by 2027 to address health and safety concerns.

In 2019, through a Request for Proposal, the City retained CH2M Hill Canada Limited to undertake the Preliminary Design, Detailed Design, Construction Contract Administration and Post-Construction Services to implement the recommendations of the Facility Condition Assessment Program, for a project referred to as the Building Rehabilitation and Improvements Project (South Facility Upgrades Project). The design phase was initiated in December 2019 and was completed in December 2021.

The South Facility Upgrades Project includes state-of-good-repairs and the implementation of critical upgrades to the existing Dewatering Building to be in compliance with the current building code requirements. The key components of this Project include the: a) replacement of the entire roofing assembly; b) construction of new building facility spaces; c) replacement of all doors, windows; d) replacement of heating, ventilation and air conditioning systems; e) installation of lighting, security and communication systems; and f) the complete replacement of asphalt paving.

Combined Construction Contract: Biosolids Master Plan Implementation Project and South Facility Upgrades Project

Since the work zones and schedules for the construction of the Biosolids Master Plan Implementation Project and South Facility Upgrades Project are the same, undertaking

this combined work as a single contract was determined to be optimal, as this would result in overall construction and construction management efficiency. Further, this ensures only one contractor is designated as "Constructor" in compliance with the Province of Ontario's Occupational Health and Safety Act.

The combined construction contract Request for Tender Ariba Document Number 3320202763 was advertised on the City's website on January 25, 2022, and closed on June 3, 2022.

1) Award of Contract Number 21ECS-MI-02HC, Ariba Document Number 3320202763

Prequalification of Contractors

Due to the complex nature of the construction contract, the City pre-qualified the General Contractors by requesting that they demonstrate experience in successfully delivering projects of similar scope and complexity.

Request for Supplier Prequalification Ariba Document Number 3040037069 for the Pre-qualification of Contracting Services for the Biosolids Master Plan Implementation Project and South Facility Upgrades Project was issued by the Purchasing and Materials Management Division, and was advertised on the City's website on July 19, 2021.

Request for Supplier Prequalification Ariba Document Number 3040037069 closed on September 15, 2021 with an issuance of eight (8) addenda. The following three (3) General Contracting firms met the minimum technical threshold outlined in the Request for Supplier Prequalification and pre-qualified to bid on the subsequent Tender Call.

1. Alberici Constructors Limited
2. Maple Reinders Constructors Limited
3. Kenaidan Contracting Limited

Request for Tender

Ariba Document Number 3320202763 was issued to select the lowest qualified Supplier meeting specification and requirements of the solicitation for the Biosolids Master Plan Implementation Project and South Facility Upgrades Project for Engineering and Construction Services Division.

Request of Tender, Ariba Document Number 3320202763 was issued by Purchasing and Materials Management Division and was advertised on both the City's and Ariba Discovery websites on January 25, 2022, with a closing date of June 3, 2022, and an issuance of 21 addenda. A total of two (2) prequalified suppliers submitted their fixed priced bid as listed in Table 5 below.

Table 5: Suppliers and Fixed Bid Prices for Ariba Document Number 3320202763

Supplier Name	Bid Price excluding HST *
Maple Reinders Constructors Limited	\$ 240,161,864
Kenaidan Contracting Limited	\$ 265,169,427

*Pursuant to the Request for Tender document the contract award price includes contingency.

The bids were reviewed and evaluated by staff from Purchasing and Materials Management Division, Engineering and Construction Services and the Engineering Consultant and were found to be in conformance with the Tender Call requirements. The recommended supplier for Contract Number 21ECS-MI-02HC is Maple Reinders Constructors Limited.

Engineering and Construction Services staff compared the bids to the pretender-engineering estimate of \$196,997,656 net of all applicable taxes and charges. The low bid price for the recommended supplier in the amount of \$240,161,864 net of all applicable taxes and charges is twenty-two percent higher than the pretender engineering estimate. Given that two (2) competitive bids were received, the higher than expected bid price is reflective of the current construction market for complex works which is experiencing an unprecedented rate of inflation and commodity price volatility driven by national and global circumstances. The market continues to be impacted by the global pandemic and conflict in Europe creating supply chain issues, escalation in raw material costs and non-guaranteed pricing. The market uncertainty has, in particular, caused increased pricing for imported equipment and technology.

A contingency allowance of \$26,493,789 net of all applicable taxes and charges on the base scope of work has been added to the proposed contract award for additional work and/or services which may be required to address any unforeseen conditions which may arise during construction. This level of contingency is deemed necessary to address the significant risks associated with the relocations work for an older, operating plant such as Highland Creek Treatment Plant, and the construction of a new industrial facility utilizing existing infrastructure. The construction of the new industrial facility and relocations will be undertaken while the plant remains fully operational, and must at all times meet regulatory compliance requirements. The construction area is in the south end of the Highland Creek Treatment Plant and will interact with adjacent construction projects and operating areas. The total contract price is \$271,348,793 (net of HST recoveries).

The Fair Wage Office reported that the recommended Supplier indicated they have reviewed and understand the Fair Wage Policy and Labour Trades requirements and the recommended Supplier has agreed to comply fully.

The Tender submission from Maple Reinders Constructors Limited, for Ariba Document Number 3320202763 includes their agreement to complete the works within 2370 calendar days from the date that the written order to commence work is issued by the City.

A single Purchase Order will be issued to Maple Reinders Constructors Limited for Ariba Document Number 3320202763 in the amount of \$266,655,654 net of all taxes with funding from the Toronto Water 2022 Approved Capital Budget and 2023-2031 Approved Capital Plan.

Fairness Monitor

The City retained the services of a Fairness Monitor to ensure that the entire bidding process provided equal opportunities to all parties both during the prequalification process and throughout the tender process. The Fairness Monitor's scope of work included:

- Providing oversight on the evaluation process for the purpose of ensuring adherence to high standard, objectivity and transparency of evaluation.
- Addressing any concerns relating to accountability/fairness (monitoring the level of openness and competitiveness of the procurement process).
- Independent assurance of the integrity of the evaluation process with a signed attestation statement.
- Preparing a Final Attestation Report for the City.

The Fairness Monitor concluded that the procurement process satisfied the principles of openness, fairness, consistency and transparency. The attestation reports for both the prequalification process and the tender process provided by the Fairness Monitor are included as Attachment 1.

2) Amendments to Purchase Order Number 6052723 for Contract Administration Services

In 2017, the City of Toronto issued Request for Proposal 9117-17-7198, and CH2M Hill Canada Limited was retained to provide Engineering Services during design and construction for the Biosolids Master Plan Implementation Project. The scope of the Contract Administration Services assignment included the following:

- Provide general engineering services for administering the contract and site inspection of the work during the construction phase;
- Monitor and inspect the contractors work to ensure that the contractor carries out the work as designed per the contract specifications, and to confirm that the constructed facility will perform and function as intended.

The Contract Administration Services Purchase Order Number 6052723 with CH2M Hill Canada Limited in the amount of \$10,790,027 net of all taxes and charges, provided for contract administration services for a construction duration of 5 years (260 weeks) for the Biosolids Master Plan Implementation Project.

The existing Contract Administration Services Purchase Order with CH2M Hill Canada Limited needs to be amended in order to adequately respond to the requirements of the Biosolids Master Plan Implementation Project construction contract. The following factors contributing to the amendment are:

1. At the time of the Agreement Execution in December 2017, there were insufficient funds available in the Toronto Water 2018 Capital Budget to include funding for Provisional or Contingency Allowances in the Contract Administration Services Agreement. To avoid delays associated with budget reallocation, the Services during Construction Agreement with CH2M Hill Canada Limited was issued without a Contingency. Due to the duration and nature of the Biosolids Master Plan Implementation Project, there is a need for a Contingency Allowance for Contract Administration Services to address unforeseen changes during construction to be addressed by the Contract Administrator, and therefore an Amendment is required for this Purchase Order Number 6052723 to provide for a Contingency Allowance. The financial impact is estimated to be \$2,400,000 net of HST recoveries.
2. Complex multi-disciplinary retrofit projects require a much more intense level of effort from field staff in order to adequately address the complexities and time sensitive nature of this type of construction. Experience on recent and current large complex projects has resulted in utilization of larger site engineering teams to monitor the extensive contractor activities and co-ordinate with other projects and Plant Operations. Engineering and Construction Services staff have reviewed CH2M Hill Canada Limited's revised proposal for a larger site Contract Administration team, and agree that the revised proposal is in line with similar complex multi-disciplinary retrofit projects currently ongoing. The financial impact is estimated to be \$3,500,000 net of HST recoveries.
3. Inflationary Impacts – The fee schedule submitted during the Request for Proposal process requires adjustment to reflect current charge out rates for Engineering Consultant staff employed on this assignment. The original Request for Proposal was issued and awarded in 2017. According to the terms of the agreement, those proposal rates are no longer applicable in 2024. The proposal from the Engineering Consultant for the construction period of the contract has revised rates that will be applicable from 2024 through 2029. The Agreement for the engineering services will be amended to reflect the revised schedule and rate in 2024. All other terms will remain the same. The financial impact is estimated to be \$1,100,000 net of HST recoveries.
4. An amendment to the Contract Administration Services Purchase Order with CH2M Hill Canada Limited is required to provide for an additional 44 weeks of Contract Administration Services, beyond the 260 weeks originally provided in the Request for Proposal, to align with the contract schedule of 304 weeks specifically for the Biosolids Master Plan Implementation Project. The financial impact is estimated to be \$2,000,000 net of HST recoveries.

The total value of the Purchase Order Amendment for Purchase Order Number 6052723 is in the amount of \$8,844,340 net of all applicable taxes and charges (\$9,000,000 net of HST recoveries), revising the current Purchase Order value from \$10,790,027 net of all applicable taxes and charges (\$10,979,931 net of HST

recoveries) to \$19,634,367 net of all applicable taxes and charges (\$19,979,931 net of HST recoveries).

CONTACT

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ATTACHMENTS

Attachment 1: Fairness Monitor Attestation