

Award of Request for Proposal Document Number 2913757955 to Black & Veatch Canada Company for the Preliminary Design of the Black Creek Class EA Solution and Detailed Design, Construction Services and Post Construction Services for Phase One Works

Date: November 18, 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: 4 (Parkdale-High Park), 5 (York South-Weston), 6 (York Centre), 7 (Humber River-Black Creek), 9 (Davenport)

SUMMARY

The purpose of this report is to advise of the results of Request for Proposal, Ariba Document Number 2913757955, Contract Number RFP-21ECS-LU-05TT, for the provision of Professional Engineering Services for the Preliminary Design of the Black Creek Class EA Solution and Detailed Design, Construction Services and Post Construction Services for Phase One Works, and to request authority to award the contract to Black & Veatch Canada Company, in the amount of \$51,601,017 net of all applicable taxes and charges (\$52,509,195 net of HST recoveries).

RECOMMENDATIONS

The Chief Engineer and Executive Director, 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 195-8.4A of the Toronto Municipal Code Chapter 195 (Purchasing By-Law), grant authority to award Request for Proposal Ariba Document Number 2913757955, Contract Number RFP-21ECS-LU-05TT, to Black & Veatch Canada Company, having submitted the highest scoring proposal meeting the requirements of the Request for Proposal, for the provision of Professional Engineering Services for the Preliminary Design of the Black Creek Class EA Solution and Detailed Design, Construction Services and Post Construction Services for Phase One Works, which includes a new Keele Relief

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Sanitary Trunk Sewer - South Section and Jane-Wilson Relief Sanitary Trunk Sewer, in the amount of \$51,601,017 net of all applicable taxes and charges, \$52,509,195 net of HST recoveries, including disbursements, provisional allowances and contingency, where the agreements are established by major task categories as follows:

a) Preliminary Design of the Black Creek Class EA Solution and Detailed Design of Phase 1 Works which include, a new Keele Relief Sanitary Trunk Sewer - South Section and Jane- Wilson Relief Sanitary Trunk Sewer, in the amount of \$32,038,175 net of HST, including labour, disbursements, provisional allowances and contingencies. This amount includes a contingency allowance of \$3,628,863 net of HST, for additional services, if necessary and authorized by the Chief Engineer and Executive Director, Engineering and Construction Services.

b) Services during Construction for Phase 1 Works, which includes, a new Keele Relief Sanitary Trunk Sewer - South Section and Jane-Wilson Relief Sanitary Trunk Sewer, in the amount of \$19,051,344 net of HST, including labour, disbursements, provisional allowances and contingencies. This amount includes a contingency allowance of \$2,270,199 net of HST, for additional services, if necessary and authorized by the Chief Engineer and Executive Director, Engineering and Construction Services.

c) Post Construction services of Phase 1 Works, in the amount of \$511,499 net of HST, including labour, disbursements and contingency. This amount includes a contingency allowance of \$66,717 net of HST, for additional services, if necessary and authorized by the Chief Engineer and Executive Director, Engineering and Construction Services.

For each of a), b) and c), all agreements are to be in accordance with the terms and conditions as set out in the Request for Proposal and any other terms and conditions satisfactory to the Chief Engineer and Executive Director, Engineering and Construction Services, in a form satisfactory to the City Solicitor, and the services and dollar amounts set out to be executed as three (3) distinct consulting agreements and the issuance of three (3) Purchase Orders.

FINANCIAL IMPACT

The total value of the contract award for Request for Proposal Ariba Document Number 2913757955, Contract Number RFP-21ECS-LU-05TT for the Provision of Professional Engineering Services for the Preliminary Design of the Black Creek Class EA Solution and Detailed Design, Construction Services and Post Construction Services for Phase One Works is \$58,309,150 including HST and all applicable charges. The total potential cost to the City for this contract is \$52,509,195 net of HST recoveries.

Funding for this contract award is included in the 2022 Recommended Capital Budget and 2023-2031 Recommended Capital Plan for Toronto Water under account code CWW014-20. Funding details with forecasted expenditures (net of HST recoveries) are provided in Table 1.

Table 1: Financial Impact Summary of Recommended Contract

Year	Forecasted Expenditures CWW014-20 (Black Creek Sanitary Trunk Sewer Design and Construction)
2022	\$5,500,000
2023	\$8,000,000
2024	\$8,000,000
2025	\$6,600,000
2026	\$6,400,000
2027	\$3,900,000
2028	\$3,800,000
2029	\$3,800,000
2030	\$3,586,000
2031	\$2,923,195
Total (net of HST recoveries)	\$52,509,195

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

DECISION HISTORY

Not applicable

COMMENTS

Background

The existing Black Creek Sanitary Trunk Sewer, built in the 1960s, is a 15 km, 0.85 to 1.65 metre diameter, sanitary trunk sewer that runs parallel to Black Creek, from Finch Avenue (between Jane Street and Keele Street), to the Humber Sanitary Trunk Sewer, near Scarlett Road and Dundas Street, which ultimately conveys wastewater to the Humber Wastewater Treatment Plant (as shown in Attachment 1). The Black Creek Sanitary Trunk Sewer drainage area extends on both sides of Black Creek (generally from Highway 400 and Jane Street to the west and Dufferin Street to the east), and is bounded by Steeles Avenue to the north and St. Clair Avenue to the south. The Black Creek Sanitary Trunk Sewer services approximately 5,500 hectares of sanitary and three combined sewer drainage areas. The combined sewer trunk drainage area serviced by three combined sewer trunk sewers: Hillary Combined Trunk Sewer, Mt.

Dennis Combined Trunk Sewer and St. Clair Combined Trunk Sewer, in total, represents approximately 20% of the Black Creek Sanitary Trunk service area.

The Black Creek Sanitary Trunk Sewer is almost completely surcharged during a 1 year return storm event and is completely surcharged during a 5 year return storm event. The surcharge of the Black Creek Sanitary Trunk Sewer results in the back-up of local sewers contributing to basement and surface flooding. During major storm events, the referenced three combined trunk sewers discharge 2.5 times the dry weather flow to the Black Creek Sanitary Trunk Sewer and the balance of the flows, during these high flow events, discharge directly to Black Creek through eight (8) combined sewer overflows (shown in Attachment 1), resulting in impaired water quality in Black Creek and the Humber River. Moreover, as shown in Attachment 1, and in accordance with the City's 2041 Official Plan there is significant growth projected within the Black Creek Sanitary Trunk Sewer service area including the Downsview and York University areas, which will require additional sanitary servicing capacity.

In 2015, Toronto Water initiated the Black Creek Sanitary Drainage Area Long Term Sanitary Servicing Improvements Municipal Class Environmental Assessment Study to address the following objectives:

- Reduce surcharge levels in the existing Black Creek Sanitary Trunk Sewer during wet weather events.
- Reduce the frequency of combined sewer overflow discharges to one overflow per outfall location per typical rainfall year, exceeding the requirements set by the Ministry of Environment, Conservation and Parks Procedure F-5-5, consistent with the City of Toronto's Wet Weather Flow Master Plan.
- Reduce inflow and infiltration to the Black Creek Sanitary Trunk Sewer.
- Limit and control sanitary flow to the Humber Sanitary Trunk Sewer and Humber Wastewater Treatment Plant.
- Provide additional sanitary servicing capacity for the projected 2041 population and employment growth and, include spare capacity for growth beyond 2041; and to address the impacts of climate change.

The Municipal Class Environmental Assessment Study considered a number of options to achieve the above-referenced objectives. Three Public Information Events were held at various phases of the study in August 2016, April 2019 and December 2019, to consult with the public and various stakeholders. During the Study, the project team also consulted Provincial Ministries, First Nations and Metis Communities, the Toronto and Region Conservation Authority, other City Divisions, York University, Canada Lands Company, Hydro One, Toronto District School Board, Toronto Lands Corporation, impacted property owners and other stakeholders. Through this process, the Study was completed in early 2021 and an integrated (dry and wet weather) solution was selected as the preferred option to manage sanitary and combined sewer servicing needs.

This integrated system of sanitary sewer and wet weather flow control upgrades referred to as the "Long Term Sanitary Servicing in the Black Creek Sewershed Area", is presented in Attachment 2 and is summarized in the following:

Sanitary Trunk Sewer System Upgrades

- Keele Relief Trunk Sewer - South Section (shown as the solid blue in Attachment 2), consisting of an 11.6 km long, 2-3 metre diameter sewer by tunneling in soft ground and rock up to 82 metres below ground.
- Keele Relief Trunk Sewer - North Section (shown as the solid purple line in Attachment 2), consisting of a 4.2 km long, 1.5 metre diameter sewer by micro-tunneling.
- Jane-Wilson Relief Trunk Sewer (shown as the solid red line in Attachment 2), consisting of a 3.4 km long, 1.8 metre diameter sewer by micro-tunneling up to 72 metres deep below ground.
- Flow diversion structures to divert flow to new Keele and Jane-Wilson Relief sewers.
- Real time control systems to monitor various sewer flows and to manage sewer flow to the Humber Sanitary Trunk Sewer.

Wet Weather Flow Control Upgrades

- A 39,000 cubic metre combined sewer overflow storage tank at Rockcliffe Court to reduce combined sewer overflows.
- Upsize the existing combined sewer on Keele Street, south of Eglinton Avenue West.
- Implementation of real time control systems within the existing and new sewer and storage upgrades, to maximize the use of combined sewer overflow and tunnel storage.

The total cost of the recommended solution is estimated at \$690 million. However, due to the scale and funding implications, the system will be constructed in two Phases as outlined below and shown in Attachment 2.

Phase 1 Works: Keele Relief Trunk Sewer - South Section, Jane-Wilson Relief Trunk Sewer and Flow Diversion Structures

This phase of work will reduce surcharging of the Black Creek Sanitary Trunk Sewer, provide servicing capacity for future growth and mitigate flooding concerns in the study area. This includes the construction of the:

- Keele Relief Trunk Sewer - South Section, consisting of an 11.6 km long, 2 to 3 metre diameter sewer by tunneling in soft ground and rock up to 82 metres deep;
- Jane-Wilson Relief Trunk Sewer work consisting of a 3.4 km long, 1.8 metre diameter sewer by micro-tunneling up to 72 metres deep;
- Flow diversion structures to divert flow from the existing Black Creek Sanitary Trunk Sewer to new relief trunk sewers; and
- The implementation of real time control systems to manage sewer flow to the Humber Sanitary Trunk Sewer and ultimately to the Humber Wastewater Treatment Plant.

The Phase 1 work is estimated at \$520 million, with construction expected to begin in 2025 and completed by 2030.

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Phase 2: Keele Relief Trunk Sewer - North Section, Rockcliffe Court Combined Sewage Overflow Storage and other ancillary work

This phase of work will reduce the combined sewer discharges to Black Creek to one overflow per outfall location per typical rainfall year, exceeding the requirements set by the Ministry of Environment, Conservation and Parks Procedure F-5-5, consistent with the City's Wet Weather Flow Master Plan, and will improve water quality in Black Creek and Humber River. This work includes the construction of the:

- Keele Relief Trunk Sewer - North Section (shown as the solid purple line in Attachment 2), consisting of a 4.2km long, 1.5 metre diameter sewer by micro-tunneling;
- A 39,000 cubic metre combined sewage overflow storage tank at Rockcliffe Court to store the wet weather flow and release it to the sanitary sewer system at a controlled rate after the flow in the sanitary system subsides, following rainfall events;
- Upsizing of an existing combined sewer on Keele St, south of Eglinton Avenue West; and
- The implementation of real time control systems to maximize the additional storage provided by the combined sewer overflow storage tank and the new Keele Relief Trunk Sewer.

The Phase 2 work is estimated at \$170 million, and subject to funding availability, the design for Phase 2 will commence in 2026 and construction is planned to begin in 2029 and completed by 2032.

Request for Proposal Ariba Document Number 2913757955, Contract Number RFP-21ECS-LU-05TT "Professional Services for Black Creek Class EA Solution and Design, Construction and Post Construction for Phase 1"

A Request for Proposal was prepared for the Long Term Sanitary Servicing solution by Toronto Water and Engineering and Construction Services staff, in conjunction with the Purchasing and Materials Management Division, for the following tasks:

- Preliminary design of the entire Municipal Class Environmental Assessment, recommended preferred solution, referenced as the Phase 1 and Phase 2 Works above.
- Detailed design for Phase 1 - Keele Relief Trunk Sewer South Section, Jane-Wilson Relief Trunk Sewer and associated flow diversion works.
- Construction Administration Services for the Phase 1 Works.
- Post Construction Services for the Phase 1 Works.

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A Fairness Monitor, Robinson Global Management Incorporated was engaged by the City to oversee the entire procurement process. This resulted in a total of six (6) submissions being received on June 8, 2021 from the following suppliers:

- AECOM Canada Limited
- Black & Veatch Canada Company
- CH2M Hill Canada Limited
- EXP Services Incorporated and Arcadis Canada Incorporated (Joint Venture)
- Parsons Incorporated
- WSP Canada Incorporated

The evaluation process consisted of three (3) stages:

- Stage 1 - Mandatory Submission Requirements
- Stage 2 - Technical Proposal Evaluation Process
- Stage 3 - Cost of Services

On June 9, 2021, Purchasing and Materials Management determined that all six (6) submissions complied with the mandatory requirements stated in the call document (Stage 1) and the proposal submissions were released to the Selection Committee for evaluation (Stage 2).

A formal Selection Committee comprising of four (4) members from Engineering and Construction Services and Toronto Water, evaluated each of the six (6) Technical Proposals based on the evaluation criteria set out in the Request for Proposal. A maximum of 85 points were allocated for the technical proposals and 15 points for the Cost of Services. A minimum threshold score of 59.50 points or 70 % for the technical evaluation must have been met by the Supplier in order for the Cost of Services (Stage 3) to have been opened and evaluated.

The Supplier's Technical Proposals were first evaluated and scored independently by all Selection Committee members, and then jointly reviewed by all members of the Selection Committee under the guidance and oversight of Purchasing and Material Management and the Fairness Monitor.

Five (5) of the six (6) technical proposals met the minimum threshold score of 59.50 points and their Cost of Services submission (Stage 3) was opened and scored in accordance with the evaluation criteria stated in the Request for Proposal call document. The Joint Venture submission from EXP Services Incorporated and Arcadis Canada Incorporated did not meet the minimum technical score and the Cost of Services was not opened and reviewed.

The Cost of Services scores were added to the technical scores for the five (5) Suppliers to determine the overall ranking of the Suppliers. This resulted in Black & Veatch Canada Company, being ranked first with the highest overall total score and, therefore, being recommended for the contract award.

The selection committee concluded that the proposal submitted by Black & Veatch Canada Company, met the requirements of the Request for Proposal and demonstrated an appropriate level of effort for the proposed work. Additionally, the contract award value of \$51,601,017 (including contingency) net of all applicable taxes and charges is comparable to the pre-procurement engineering estimate of \$48,000,000 (including contingency) net of all applicable taxes and charges.

The suppliers' scores by criteria, price comparison and a staff analysis of the evaluation results can be provided in a closed session presentation if requested by Committee Members.

The Fair Wage Office has reported that the recommended supplier has indicated it has reviewed and understands the Fair Wage Policy and Labour Trades requirements and has agreed to comply fully with both.

Application of the City's Social Procurement Policy

This Request for Proposal was selected by the Purchasing and Materials Management Division, Social Procurement unit, as a project to implement the City's Social Procurement Policy.

The Request for Proposal required the Suppliers to submit a proposal on workforce development. Black & Veatch Canada Company, detailed a Workforce Development Plan that is aligned with the City's objectives and provides a good basis for working together towards successful Workforce Development outcomes, within the Social Procurement framework.

In particular, Black & Veatch Canada Company, focused on implementation of the Diversity Policy, Workforce Development requirements including; local hiring from Neighbourhood Improvement Areas, engagement with Social Purpose Enterprises for subcontracts, and the potential for trades and apprenticeship training projects, which have all been proposed as part of their plan.

Fairness Monitor

The firm, Robinson Global Management Incorporated was retained through a competitive bidding process to act as a Fairness Monitor for this Request for Proposal. The Fairness Monitor's scope of work included the following:

- Addressing any concerns relating to accountability/fairness (monitoring the level of openness, transparency and competitiveness of the procurement process);
- Independent assurance of integrity of the procurement process with a signed attest statement for the Request for Proposal;
- Preparing a Final Attest Report for the City;
- Presenting report findings to committee members, if required.

The Fairness Monitor concluded that the Request for Proposal process satisfied the principles of openness, fairness, consistency and transparency. The Attestation Report from the Fairness Monitor on the Request for Proposal Evaluation Process is included as Attachment 3.

CONTACT

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SIGNATURE

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ATTACHMENTS

Attachment 1: Black Creek Sanitary Trunk Sewer Servicing Area Map
Attachment 2: Map of Environmental Assessment Study Recommended Solution and Phase 1 and Phase 2 Works
Attachment 3: Fairness Monitor Report