



Yonge Subway Extension – Tunnel Design

Date: June 12, 2018
To: TTC Board
From: Chief Capital Officer

Summary

The purpose of this report is to obtain authorization for the award of Contract Y85-13 for Tunnel Design for the Yonge Subway Extension (YSE). This work is required to prepare the preliminary design of the tunnel and associated structures, including the design and construction of the connection with the existing Finch Station tail track, substations, emergency exit buildings and tunnel underground cross-passages.

The TTC entered into a Memorandum of Understanding (MOU) with Metrolinx, York Region and the City of Toronto to define roles and responsibilities for the TTC to recover the full costs from Metrolinx and York Region for the planning and design work. The work of this contract will advance the preliminary design of the YSE, based on the approved alignment, to a Class 3 cost estimate and schedule. At completion of this stage, a report will be presented to the Board and City Council.

Recommendations

It is recommended that the Board:

1. Authorize the award of Contract Y85-13 for Tunnel Design - Yonge Subway Extension to Hatch Corporation in the upset limit amount of \$16,000,000 on the basis of the highest total weighted score.

Financial Summary

Metrolinx and the Regional Municipality of York are responsible for all costs associated with the preliminary design of the YSE. Metrolinx, City of Toronto, TTC, York Region and York Region Rapid Transit Corporation (YRRTC) have entered into a Memorandum of Understanding, which will ensure the TTC recovers the full costs from Metrolinx and York Region.

The project budget includes \$55 million from Metrolinx and \$36.3 million from York Region which is its Federal Phase 1 Public Transportation Infrastructure Fund (PTIF) allocation.

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

Equity/Accessibility Matters

The YSE will be designed and constructed to be accessible.

Decision History

In 2009, City Council approved the submission of the Environmental Project Report for a 7.4 kilometre extension of the YSE from the current terminus at Finch Station to the Richmond Hill Centre at Highway 7 in York Region. Council also approved several key principles, including:

- The City of Toronto expects the Province of Ontario will be responsible for all capital costs, including property acquisition costs, necessary to implement the YSE;
- The City of Toronto is not responsible for net operating costs resulting from operations of the YSE;
- TTC is responsible for project management and delivery of the YSE;
- TTC will operate and maintain the subway infrastructure (including commuter parking lots) but excluding passenger pick up and drop off and bus terminals located in York Region;
- TTC will own the property, assets and subway facilities within York Region except for bus terminals and passenger pick-up and drop-off facilities/bus terminals located in York Region;
- The cost of measures to address potential capacity constraints at the Yonge-Bloor station and North York Service Road arising from the project be included as project costs; and
- Metrolinx be requested to prioritize the Relief Line noting that it is the first priority for the TTC and City of Toronto and in advance of the YSE in order to accommodate capacity issues resulting from YSE.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2009.EX28.1>

In 2013, City Council reiterated that it would not proceed with the proposed YSE until improvements are made to reduce demand on Line 1:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.EX31.3>

In June 2016, the Province committed \$55 million to Metrolinx to advance the detailed planning, engineering and design work for the YSE project. Subject to York Region Council and Federal Government approvals, York Region will commit its \$36.3 million allocation under the Federal Phase 1 Public Transit Infrastructure Fund (PTIF) to the project:

http://www.metrolinx.com/en/news/announcements/201610_Yonge_North_Subway.aspx
http://www.vivanext.com/project_YongeSubway

In May 2017, City Council approved the following:

- The City Manager and the TTC, in partnership with Metrolinx and York Region to advance the planning and design of YSE at no financial cost to the City of Toronto, and report to City Council at the next decision gate with a Class 3 cost estimate and schedule, anticipated to be in the fourth quarter of 2019, subject to the following:
 - a. City of Toronto/TTC will own, operate, and maintain the future YSE, recognizing it is an extension of Line 1 service, subject to satisfactory cost-sharing agreements with York Region and/or the Province of Ontario;
 - b. TTC will be responsible for project management of project planning and design;
 - c. York Region and/or Metrolinx will be responsible for the costs associated with the planning and design of the project and provide funding to the TTC;
 - d. all parties will agree to a procurement options analysis to assess the best project delivery model for the YSE project; and
 - e. TTC will be responsible for future delivery of the YSE project.
- The City Manager to enter into a Memorandum of Understanding (MOU) with TTC, Metrolinx and York Region, to define roles and responsibilities, and ensure the TTC recovers the full costs from Metrolinx and York Region of undertaking work required to develop a Class 3 cost estimate and schedule for the YSE.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.EX25.1>

At its meeting of May 18, 2017, the Board authorized the CEO to enter into an MOU with Metrolinx, York Region, and City of Toronto to define roles and responsibilities, for the TTC to recover the full costs from Metrolinx and York Region of completing the planning and design work required to develop a Class 3 cost estimate and schedule for the YSE:

http://www.ttc.ca/About_the_TTC/Commission_reports_and_information/Commission_meetings/2017/May_18/Reports/Decisions/13_Advancing_Planning_and_Design_for_the_Relief_Line_Decisio.pdf

At its meeting of April 11, 2018, the TTC's Audit and Risk Management Committee received an update on the details of the MOU for YSE, prior to final execution of the MOU:

http://www.ttc.ca/About_the_TTC/Commission_reports_and_information/Committee_meetings/Audit_Risk_Management/2018/April_11/Reports/1_Yonge_Subway_Extension_and_Relief_Line_MOU.pdf

At its meeting of May 8, 2018, the Board approved the award of Contract Y85-12 for Geotechnical and Hydrogeological Consultant Services for the YSE project:

[http://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2018/May 8/Reports/12 Yonge Subway Extension Geotechnical and Hydrogeological C.pdf](http://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2018/May%208/Reports/12%20Yonge%20Subway%20Extension%20Geotechnical%20and%20Hydrogeological%20C.pdf)

Issue Background

City of Toronto, Metrolinx, YRRTC and TTC staff are collaborating to advance the preliminary design for the YSE project.

The YSE project is approximately 7.4 km in length, and is expected to be underground for its entire length, except possibly at the Don River crossing. Tunnel configuration and construction methods will need to be confirmed and a decision to use a single versus a twin tunnel solution for this project will need to be made, as well as a tunnel versus bridge option at the Don River crossing.

In addition to the subway running structures, this project requires the design and construction of the Don River crossing (tunnel or bridge), emergency exit buildings and tunnel underground cross-passages. The work of this contract is required regardless of the project delivery strategy.

Contract work will be administered on a work plan release basis. As each required task is identified, a work plan is prepared with an estimate. Work will only commence as authorized by TTC staff in the form of a work plan release, and payment for services will be based on the actual work performed at the approved billing rates.

The work of this contract will advance the preliminary design of the YSE, based on the approved alignment, to a Class 3 cost estimate and schedule. At completion of this stage gate, a report is scheduled to be presented to the Board and City Council.

Comments

A Request for Proposals was publicly advertised on the Merx website as well as the TTC's website as of March 23, 2018. Copies of the proposal documents were downloaded by 33 companies, of which four submitted a proposal by the closing date of May 1, 2018.

The evaluation of proposals was based on a two envelope process and consisted of qualitative and pricing components, with 80 points allocated to the qualitative merit and 20 points allocated to the pricing. Proposals were first scored based on qualitative criteria and the associated weightings as set out in the proposal documents. It was pre-determined that the proposals achieving a total minimum of 64 points out of the maximum 80 points (80%) available for the qualitative evaluation would be considered qualified.

The pricing component of all qualified proponents was then evaluated with 15 points allocated to the proposed key consultant staff list, and five points allocated to the unit rates by position list. The all-inclusive hourly billing rate was multiplied by the percentage dedication for both pre-defined key staff positions, and the unit rate by position list to determine the total composite all-inclusive hourly billing rate. The evaluation criteria are described in Appendix 1.

The following three companies achieved a score of 80% or more, based on the qualitative evaluation and had their pricing components evaluated:

- AECOM Canada Ltd.
- CH2M Hill Canada Limited
- Hatch Corporation

Of these, Hatch Corporation had the highest total weighted score and is recommended for award.

Hatch has previously satisfactorily performed work for the TTC of a similar size, nature and complexity in the past and specifically in tunnel design.

By awarding Contract Y85-13, the tunnel design will proceed in order to support the YSE preliminary design.

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Signature

Susan Reed Tanaka
Chief Capital Officer

Attachments

Appendix 1 – Evaluation Criteria

APPENDIX 1

YONGE SUBWAY EXTENSION – TUNNEL DESIGN

EVALUATION CRITERIA

A. Corporate Qualifications

- Background and capabilities
- Number of years in business
- Depth of available resources at Proponent's office, by discipline
- CADD facilities, experience and degree of compliance to TTC CADD standards
- Relevant corporate experience by project

B. Project Team Qualifications/Experience

- Number of years of direct experience
- Technical qualifications
- Capsule CV description/relevant experience by project

C. Proposed Project Methodology

- Project understanding
- The administrative systems in place for estimating and invoicing for work performed as well as reconciling estimates with actual costs.
- The anticipated design challenges associated with completing all the Work described in Division 1 – Scope of Services.
- The design approach and methodology in completing all the Work described in Division 1 – Scope of Services.
- Statement regarding the advantages and benefits that the Proponent provides that other Proponents may not be able to provide, taking into consideration the operating business and political environment in which TTC operates.
- Preliminary resource plan - Detailed responsibility/functions of the Proponent and proposed Sub-Consultants (if applicable) in order to complete all Work described in Division 1 – Scope of Services.
- Preliminary resource plan - High-level of tasks, resources required and estimated hours required to complete all Work described in Division 1 – Scope of Services.

D. Pricing Evaluation

- Proposed Key Consultant Staff List
- Unit Rates By Position List