




CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Engineering Services Division+6

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	May 16, 2022
SUBJECT/REPORT NO:	Budget Increase for Dickenson Rd Trunk Sewer (Airport Employment Growth District) (PW22040) (Ward 11)
WARD(S) AFFECTED:	Ward 11
PREPARED BY:	Mike Becke (905) 546-2424 Ext. 4278
SUBMITTED BY:	Susan Jacob Acting Director, Engineering Services Public Works Department
SIGNATURE:	

RECOMMENDATION

- (a) That Council approve the award of C15-11-22 (HSW) Dickenson Road East Sanitary Sewer and Watermain, pursuant to Procurement Policy #5.3 Request for Tenders, to Technicore Underground Inc. in the amount of \$102,151,957.22 (not including Contingency of \$10,000,000 and Non-Refundable HST of \$1,973,875.48);
- (b) That the General Manager, Public Works Department be authorized to negotiate, enter into and execute any required Contract and any ancillary documents required to give effect thereto with Technicore Underground Inc., in a form satisfactory to the City Solicitor;
- (c) That Council approve the single source procurement, pursuant to Procurement Policy #11 – Non-competitive Procurements, for additional construction administration services;
- (d) That the General Manager, Public Works Department be authorized to negotiate and amend the existing Contract and any ancillary documents required to give effect thereto with IBI Group, in a form satisfactory to the City Solicitor;

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

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- (e) That the amended budget and financing plan for the Dickenson Road Trunk Sewer in the Airport Employment Growth District (#5161696452) be approved, resulting in an increase of \$34,680,000, from \$71,800,000 to \$106,480,000 in total budget approved to date, to be funded by Tax Supported Development Charges debt;
- (f) That the General Manager, Finance and Corporate Services, be authorized to negotiate and confirm the terms, placement and issuance of all debenture issue(s), and / or private placement debenture issue(s), in either a public or private market and / or bank loan agreements and debenture issue(s) and / or variable interest rate bank loan agreements and debenture issue(s), in an amount not to exceed \$106,480,000 Canadian currency in Tax Supported Development Charges municipal debt for the Dickenson Road Trunk Sewer project;
- (g) That the General Manager, Finance and Corporate Services, be authorized to engage the services of all required professionals to secure the terms and issuance of the debenture issue(s) described in Recommendation (c) including, but not limited to, external legal counsel, fiscal agents and Infrastructure Ontario's Loan Program and the cost of such services be funded from one of the following sources as deemed appropriate by the General Manager of the Finance and Corporate Services: Development Charge Reserves, Non-Obligatory Reserves, and other approved funding sources;
- (h) That the General Manager, Finance and Corporate Services, is authorized and directed to enter into and administer, on behalf of the City of Hamilton, all agreements and necessary ancillary documents to implement Recommendation (c) and in order to secure the terms and issuance of the debenture issue(s) described in Recommendation (c), on terms and conditions satisfactory to the General Manager, Finance and Corporate Services and in a form satisfactory to the City Solicitor.

EXECUTIVE SUMMARY

A trunk sewer was identified to be constructed along Dickenson Road East from Upper James Street to Trinity Church Road, Trinity Church Road from Dickenson Road East to Golf Club Road and Golf Club Road from Trinity Church Road to Regional Road 56 to support the growth in the Airport Employment Growth District (see Appendix "A" attached to Report PW22040). Along with the trunk sewer the local watermain extension is also being constructed to complete the loop for water quality purposes.

IBI Group was hired in 2018 through a Request for Proposal process to undertake the detailed design, tender and construction services for this project. The total estimated

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approved budget available for Dickenson Road East Sanitary and Watermain project is \$73,600,000. During the detailed design, it was identified that the estimated budget would not be enough. In 2021, the City of Hamilton (City) prequalified four contractors who met the criteria to construct this project. In February 2022, Request for Tenders C15-11-22 (HSW) Dickenson Road East Sanitary Sewer and Watermain was issued, and on April 12, 2022 the tender closed with the City receiving two (2) compliant bids. The lowest compliant bid received was from Technicore Underground Inc. in the amount of \$114,125,832.70, including contingency and non-recoverable HST. An increase of \$33,160,000 for the sanitary sewer component is required in order to award the tender as shown in Appendix "B" attached to Report PW22040. Budget adjustments through transfer of funds for the sanitary sewer section of the contract are required in order to award the Tender C15-11-22 (HSW).

In addition, the scope and size of this construction requires the expertise of a Consultant with the knowledge of sewer tunnelling, construction and project management principles. The project is anticipated to require 5 years of construction. The Consultant assignment will need to move from part-time administration, to full-time administration to ensure a project of this size runs smoothly. The Quality Assurance related to the project can be ensured by using a Consultant for full-time inspection. In addition, the Consultant has committed back up resources to ensure coverage for dedicated staff at all times so that change order management, cost control and project risk management are not impacted. A team of 7 professionals which includes Project Manager, Technical lead, Site Inspector, Contract Administrator, Qualified Personnel for Excess Soil Management and a Hydrogeologist are being proposed for this project and ensures the environmental monitoring and reporting to agencies are also addressed. This change from part-time to full-time administration will require an additional amount of \$1,520,000 to cover the construction administration services of the Consultant. This increase brings the total budget adjustment to \$34,680,000.

Alternatives for Consideration – See Page 7

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: The total required increase to the Dickenson Road Trunk Sewer project is \$34,680,000. As per the 2019 DC Study, 0% of these costs benefit the existing infrastructure and 100% is attributable to development (63% Residential and 37% Non- Residential). In addition to this increase, there is also \$11,300,000 proposed to be approved in the 2023 Capital Budget. The increase will be funded through the issuance of DC supported debt.

Reasons for cost increase:

- (a) The Value Engineering efforts recommended additional geotechnical investigation. The tunnelling was then recommended to be undertaken utilising a combination of tunnelling methodologies. This requires multiple mobilization and demobilization;
- (b) Pipe and appurtenance increase due to supply chain issues; labour force shortages and wage increases have increased costs;
- (c) Increased requirements from Niagara Peninsula Conservation Authority including more ground and surface water monitoring, species at risk study, and mitigation measures;
- (d) From previous experience and bore hole information, ground water intercepted during the tunnelling may require special permitting and the temporary measures of water supply to local residents should local wells be affected. Increased contingency amount to cover these unknowns have been incorporated;
- (e) Provisions for excess soil disposal and contaminated soil and sampling requirements due to the changes in the provincial regulations;
- (f) Adding rescue shafts to remove the tunnelling equipment in case of machinery breakdown, stabilization grouting, culvert replacement; re-establish ditches and full road resurfacing.
- (g) Complexity of the project has required an increase in Contract Administration hours for the Consultant, from 5,792 hours of part time administration to 17,325 full time administration hours.

Staffing: None

Legal: Legal Services provides advice with regard to the City's debt financing transactions. This advice will extend to the various contracts and agreements that will need to be executed in conjunction with the issuance of future DC Debt including the debt for the Dickenson Road Trunk Sewer.

HISTORICAL BACKGROUND

The City completed the Integrated Water and Wastewater Master Plan (WWMP) in November 2006 for the Lake Based Systems to identify the water and wastewater servicing strategy and to support City growth for the next 30 years. The master plan

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supports the preferred growth option identified through the Growth-Related Integrated Development Strategy (GRIDS) adopted by Council on May 24, 2006.

The WWMP recommended a number of future projects to provide sanitary servicing for the Hamilton Airport Employment Growth District (AEGD), including a new Dickenson Road Sanitary Trunk Sewer.

The projects were recommended to service growth in the Airport Lands south of the existing Hydro utility corridor; providing the opportunity for future servicing of areas north of Dickenson Road. A key trigger for the projects is the planned development of the Airport Lands.

The project includes construction of a trunk sanitary sewer using tunnelling methodology for about 10km, watermain construction, road resurfacing and culvert replacements.

IBI Group was hired in 2018 through a Request For Proposal process to undertake the detailed design, tender and construction services for this project. During the detailed design, it was identified that tunnelling is required for sections where the proposed pipe depths do not make open excavation affordable. Further, a combination of tunnelling methods and open cut construction will be required due to the geotechnical investigations. For operational needs the frequency of maintenance holes was also increased. Niagara Peninsula Conservation Authority (NPCA) also required increased Ground and Surface Water monitoring. The project was identified to have a shortfall of budget at the end of detailed design.

Tunnelling is a high-risk project and as such a Value Engineering Process was undertaken in 2020 to review the design, construction methodologies, sufficiency of investigations and to ensure the application of lessons learned from previous tunnelling projects in the area. In 2021, the City prequalified the contractors eligible to participate in the bidding process. Out of the four prequalified contractors, the City received only two responsive and compliant bids. There is a large variation between the two bids received. The lowest bid received from Technicore Underground Inc. was analysed to ensure that it was compliant.

The construction Industry is experiencing high volatility due to the fluctuation in material prices, fuel prices, supply chain demand etc. Excess Soil Management regulation added some challenges as well. This tunnelling project is a multi-year project and as such requires extensive record keeping and documentation. Delays in procuring materials, and labour shortages are also cited as some of the challenges that the industry is facing currently. Large size projects by Provincial Government Agencies such as MTO, Metrolinx etc. add to the competition making it difficult for Municipalities to attract suitable bidders.

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The key findings and recommendations from the recent Auditor's report on Grightmire Arena are acknowledged. Due to the complexity of the project and high-risk potential, it is recommended to increase the oversight on this project during construction. Thus, an increase in Contract Administration hours for the consultant, from 5792 hours of part time administration to 17,325 full time administration hours is being proposed. The IBI Group team provides the continuity needed for this project from design to construction, along with improved record keeping, providing the City with continuous updates on construction schedules and progress payments. The Quality Assurance related to the project can be ensured by using a Consultant for full-time inspection. In addition, the Consultant has committed back up resources to ensure coverage for dedicated staff at all times so that change order management, cost control and project risk management are not impacted. A team of 7 professionals which includes Project Manager, Technical lead, Site Inspector, Contract Administrator, Qualified Personnel for Excess Soil Management and a Hydrogeologist are being proposed for this project and ensures the environmental monitoring and reporting to agencies are also addressed. A dedicated Contract Administrator and Site Inspector will ensure increased construction quality assurance and certification on this project. IBI will prepare Deficiency Reports with remedial requirements, Notice of Substantial Completion and, Record Drawings at the end of construction. Payment Certificates as per Construction Act will be followed. Communication will be the key aspect of the project management of this multi-year endeavour.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

Report PW22040 meets the requirements of Ontario Regulation 403/02 and the City of Hamilton's Debt Policy, whereby Council authority is required to issue debt.

By-Law 21-215 Procurement Policy, Policy #5.3 Request for Tenders and Policy #11 Non-Competitive Procurement

RELEVANT CONSULTATION

Project consultations include Public Works Department, Hamilton Water Division, Environmental Services Division, Forestry & Horticulture Section, Planning and Economic Development Department, Corporate Services Department and other City Departments.

Corporate Services Department, Financial Services and Taxation Division, Procurement Section provided guidance with respect to adherence to the Procurement Policy.

Corporate Services Department, Financial Planning, Administration and Policy Division, Budgets and Finance Planning Section was consulted on the adjusted financing plan

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and recommended debt issuance, along with the adjacent businesses, property owners, utilities and government agencies were also completed.

The Ward Councillor has been advised of this project.

ANALYSIS AND RATIONALE FOR RECOMMENDATION

The Department of Public Works, Engineering Services Division and Corporate Services, Budgets & Financial Policy, Development Programs Policies, provides funding source recommendations in order to allow for the award and completion of Dickenson Rd Trunk Sewer project C15-11-22 (HSW).

According to Ontario Regulation 403/02, Council shall, before giving authorization for capital that would require a long-term debt or financial obligation, have the General Manager Corporate Services and City Treasurer calculate an updated Annual Repayment Limit (ARL) using the most recent Annual Repayment Limit determined by the Ministry. The most recent ARL, determined and sent in writing by the Ministry to the General Manager Corporate Services and City Treasurer, is the 2021 ARL in the amount of \$292.0 M and is based on the 2019 Financial Information Return.

The General Manager Corporate Services and City Treasurer has calculated an updated ARL of \$204.9 M, included as Appendix “C” attached to Report PW22040, which adjusts the 2021 ARL for approximately \$1,076.1 M of debt which has been approved by Council but not yet issued, as well as debt that has been assumed or discharged in 2020 and 2021. The updated ARL of \$204.9 M is the maximum amount that the City has available to commit to annual debt servicing payments before the statutory limit is breached and corresponds to approximately \$2.4 B of additional borrowing that the City could undertake (assuming a 15-year term and 3% interest rate).

Within the City’s Debt Policy, total tax and rate supported debt must not exceed 60% of City own-source revenues. For 2022, the current forecast of the City’s issued long-term debt as a percentage of own-source revenues is 33%. Therefore, the debt required to complete this project will not significantly increase the risk of exceeding the Council approved limit in the short-term.

ALTERNATIVES FOR CONSIDERATION

An alternative for consideration is to not award the tender and defer the project construction to year 2023. However, this is not recommended as any such deferral will result in delaying potential developments, increase the cost, declining service levels and increasing risk and liability. Airport is expected to be completed in 2025. If the award is delayed or not awarded, the cost of the project will be impacted and growth in AEGD

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will be impacted. This project also relieves the Combined Sewer Overflow events on the existing sewer system.

Financial: In this case, existing funds will be maintained and earmarked to fund 2023 construction and the required additional funds will be requested for approval through the 2023 budget process. This may result in the need to alter the timing of other currently proposed projects in the short-term forecast.

Staffing: N/A

Legal: N/A

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Community Engagement and Participation

Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community

Economic Prosperity and Growth

Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.

Built Environment and Infrastructure

Hamilton is supported by state-of-the-art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

Our People and Performance

Hamiltonians have a high level of trust and confidence in their City government.

APPENDICES AND SCHEDULES ATTACHED

Appendix “A” attached to Report PW22040: Location Map – Dickenson Road East

Appendix “B” attached to Report PW22040: Schedule A - Tender Information Summary

Appendix “C” attached to Report PW22040: City of Hamilton Treasurer’s Updated 2021 Annual Repayment Limit