




CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Hamilton Water Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	September 20, 2021
SUBJECT/REPORT NO:	Old Dundas Road (HC005) Wastewater Pumping Station Upgrades (PW20018(a)) (Ward 12)
WARD(S) AFFECTED:	Ward 12
PREPARED BY:	Stuart Leitch (905) 546-2424 Ext. 7808
SUBMITTED BY:	Mark Bainbridge Director, Water and Wastewater Planning and Capital Public Works Department
SIGNATURE:	

RECOMMENDATION

- (a) That procurement, pursuant to Procurement Policy #7 – Construction Contracts, for construction services at Old Dundas Road (HC005) Wastewater Pumping Station at the upset limit of \$650,000 be awarded to E.S. Fox Limited and be added to Project ID No.5161267270 from Project ID No. 5162067275;
- (b) That procurement, pursuant to Procurement Policy #7 – Construction Contracts, for consultancy services including; project management, contract administration during construction, site inspection and commissioning / warranty services for the Old Dundas Road (HC005) Wastewater Pumping Station improvements, at the upset limit of \$75,000 be awarded to AECOM Canada Ltd. and be added to Project ID No.5161267270 from Project ID No. 5162067275; and,
- (c) That the General Manager of Public Works, or their designate, be authorized and directed to negotiate, enter into and execute contracts and any ancillary documents required to give effect thereto with E.S. Fox Limited and AECOM Canada Ltd. in a form satisfactory to the City of Hamilton 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.

EXECUTIVE SUMMARY

The Old Dundas Road (HC005) Wastewater Pumping Station (WWPS) was constructed in 1974 and is located on Old Dundas Road between Millcreek Court and Montgomery Drive in Ancaster. Due to its age and condition, the station requires major upgrades to bring it up to existing safety and environmental standards.

This report provides a recommendation to increase the project contract administration/site inspection and construction budget, to address unforeseen issues that have resulted in delays to the project completion date.

The Old Dundas Road (HC005) Wastewater Pumping Station Upgrades project commenced in May 2020 and was originally scheduled for completion in July 2021.

During construction, unforeseen issues were encountered with the following:

1. Rock excavation: a large boulder required removal to accommodate the proposed swab-launch chamber and existing forcemain.
2. Temporary station bypass: the original plan for bypassing included connection of the temporary piping to the existing station wet well, however, the condition of the wet well opening did not allow for a proper seal. In lieu of this issue, a revised bypass plan was developed to facilitate wet well refurbishment by utilizing an upstream manhole on Old Dundas Road.

Due to these unforeseen challenges, the construction schedule was delayed from July to October 2021. As such, additional contract administration / inspection fees and contractor delay impact costs are anticipated as a result of the extra time on site.

In order to complete this project in the most efficient and timely manner, this report recommends Procurement Policy #7 – Construction Contracts for both the contractor (E.S. Fox), and the consultant (AECOM), whom are already mobilized on the site. The value of this additional work is estimated up to \$650,000 for construction and \$75,000 for contract administration/site inspection, based on the additional projected time onsite of four (4) months, extended from July 2021 to October 2021.

Alternatives for Consideration – Not Applicable

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: This report is recommending that \$650,000 be added to Project ID No. 5161267270 (HC005 Old Dundas Road Station Upgrades) from Project ID No. 5162067275 (FC001 Elgin Street Sewage Pumping Station) for construction services to the Contractor (E.S. Fox) C13-29-19. In order to

**SUBJECT: Old Dundas Road (HC005) Wastewater Pumping Station Upgrades
(PW20018(a)) (Ward 12) - Page 3 of 6**

create efficiencies, a Procurement Policy #7 - Construction Contracts with E.S. FOX is recommended in order to ensure timely completion of the project.

E.S. Fox - original Purchase Order No. 94580 for construction \$4.4M:

- Requested funds to be added to E.S. Fox Purchase Order No. 94580 pursuant to Procurement Policy #7 – Construction Contracts: estimated \$650,000
- Total E.S. Fox proposed value for construction: estimated \$5.05M

This report is recommending that an estimated \$50,000 be added to Project ID No. 5161267270 (HC005 Old Dundas Road Station Upgrades) from Project ID No. 5162067275 (FC001 Elgin Street Sewage Pumping Station) for project management, contract administration during construction, and site inspection to the consultant (AECOM) C11-11-17. In order to create efficiencies, a Procurement Policy #7– Construction Contracts with AECOM is recommended in order to ensure timely completion of the project.

AECOM current Purchase Order No. 86524 for design and construction administration services \$609,138:

- Requested funds to be added to AECOM Purchase Order No. 86524 pursuant to Procurement Policy #7 – Construction Contracts: estimated \$75,000
- Total AECOM proposed value for design and construction administration: estimated \$684138

Note: Project ID No. 5162067275 FC001 Elgin Street Sewage Pumping Station is a project that is not required due to a recently completed project at FC001 Elgin Street that resolved the asset condition, and as such is recommended to supply financing to Project ID No. 5161267270 (HC005 Old Dundas Road Station Upgrades).

Staffing: There are no known staffing implications for the recommendations put forward in this report.

Legal: There are no known legal implications for the recommendations put forward in this report.

HISTORICAL BACKGROUND

The Old Dundas Road (HC005) WWPS is located on Old Dundas Road between Millcreek Court and Montgomery Drive in Ancaster, adjacent to the Ancaster Old Mill Inn. The station was originally constructed in 1974 and is a single storey building. The site has emergency back-up power and wastewater lift pumping associated process equipment.

The objective of this Project is to design and construct upgrades to the Old Dundas Road (HC005) WWPS to bring the station up to existing safety codes and environmental requirements, to maintain sustainable and reliable service for the next 20 to 30 years. The upgrades include: civil, structural, architectural, mechanical, process, electrical, and instrumentation and control modifications.

AECOM (under Contract C11-11-17) was retained in August 2017 by the City of Hamilton (City) for engineering services for upgrades to the Old Dundas Road (HC005) WWPS.

A competitive Request for Tender for General Contractors was issued in 2019 and formally closed in January 2020. Contract C13-29-19 – Old Dundas (HC005) Wastewater Pumping Station Upgrades was awarded to the lowest compliant bid submitted by E.S. Fox.

During construction, unforeseen issues were encountered related to underground obstruction as well as issues that required changes to the bypass plan allowing continued wastewater services during construction. The analysis section of this report provides more details on the issues leading to the recommendation for additional financing to pay additional unforeseen contracting and consultant costs.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

The policies affecting or impacting this Report include:

- By-law No. 20-205 Procurement Policy #2, Section 4.2 Approval Authority
- By-law No. 20-205 Procurement Policy #5.3 – Request for Tenders (\$100,000 and greater)
- By-law No. 20-205 Procurement Policy #7 – Construction Contracts

RELEVANT CONSULTATION

The following groups have been consulted on the recommendations in this report:

- Finance, Corporate Services

- Procurement, Corporate Services has provided guidance as to adherence to the Procurement Policy.

ANALYSIS AND RATIONALE FOR RECOMMENDATION

The Old Dundas wastewater pumping station upgrade project is capital work planned and executed to address an ageing facility in order to improve assets and reflect modern safety requirements in addition to the goal of securing reliable service at this location into the future. While complex capital works are planned with a focus on as many constructability issues as possible, it is not uncommon to discover unexpected circumstances when actual site activities take place that need to be solved during construction.

Challenges were experienced during construction of this project as a result of a large boulder encountered during the excavation of a new swab launch chamber and challenges were also faced associated with the setup of the temporary station bypass pumping system. As a result, the Consultant (AECOM) and Contractor (E.S. Fox) experienced unforeseen delays on this project and as such, compensation for the additional time onsite is recommended. Some more details on each of these two (2) issues are outlined below to support the need for additional financing:

1) Large Boulder Found in Swab Chamber Excavation:

A large excavation was required to build a swab launch chamber to facilitate future maintenance of the station forcemain and to accommodate planned bypassing of the station for future upgrades. At the commencement of excavating (February 2021), large boulders were found in conflict with the station forcemain and shoring required for construction of the chamber. The boulders were not located by the geotechnical investigation and as such were not anticipated by the Contractor at the time of Tender. Additionally, the Contractor experienced delays in finding an approved City site to dispose of excess clean soils according to the City's Site Alteration Bylaw (19-286).

2) Station Bypass Challenges:

The station must be bypassed to safely drain and bypass the station wet well so that construction workers can clean and refurbish the equipment and structure. The initial attempt at bypassing the station was unsuccessful due to a poor seal at the wet well wall opening. This was in part due to ambiguities with the original as-built drawings for the wall opening into the station, additional benching, and deterioration of the sewer conditions exposing aggregate.

The unexpected nature of these issues is the basis for the recommendations put forward.

ALTERNATIVES FOR CONSIDERATION

N/A

Built Environment and Infrastructure

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

APPENDICES AND SCHEDULES ATTACHED

N/A