



CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Hamilton Water Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	June 3, 2019
SUBJECT/REPORT NO:	Woodward Upgrade Project - Services During Construction (PW17092(a)) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	John Helka (905) 546-2424 Ext. 2826
SUBMITTED BY:	Cari Vanderperk Acting Director, Hamilton Water Public Works Department
SIGNATURE:	

RECOMMENDATION(S)

That Purchase Order #49555 be expanded in the amount of \$4.5 million pursuant to Procurement Policy #11 - Non-competitive Procurements, to CH2M Hill Canada Limited, for contract C11-28-09, Engineering Services for the Woodward Avenue Wastewater Treatment Plant Expansion from account 5160866801 Woodward Wastewater Treatment Plant - Clean Harbour, and that the General Manager, Public Works Department be authorized to negotiate and amend the existing Contract with CH2M Hill Canada Limited including any ancillary documents required to give effect thereto, in a form satisfactory to the City Solicitor.

EXECUTIVE SUMMARY

The Woodward Upgrade Project (WUP) is large capital investment at the Woodward Wastewater Treatment Plant (WWTP) focused on improving effluent quality and supporting the Hamilton Harbor Remedial Action Plan. The approximately \$315M program is being delivered through three construction projects:

- Contract 1 – Main Pumping Station Project;
- Contract 2 – Electrical and Chlorination Project;
- Contract 3 – Tertiary Treatment Project.

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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On November 17, 2017 Information Report (PW17092) was discussed at General Issues Committee. The report identified a need to extend consulting engineering fees for services during construction but suggested waiting until all three contracts were awarded. In April 2019, the WUP reached a significant milestone in that the third and final contract (Tertiary Treatment Project) was awarded providing the necessary information to validate actual construction duration and finalize the services during construction (SDC) requirements with the consulting engineering firm CH2M Hill Canada Limited.

Throughout 2018, the City monitored the efforts required for SDC. Contracts 1 and 2 have reached the half way point of construction and a number risks have been retired resulting in a \$500K reduction from the 2017 anticipated SDC requirements. Leveraging these program efficiencies, a \$4.5M expansion of Purchase Order #49555 is required to support SDC. Sufficient funds are available within the WUP capital account (5160866801) to support the recommendations in this report.

Alternatives for Consideration - See Page 4

FINANCIAL - STAFFING - LEGAL IMPLICATIONS

Financial: The Project remains on budget and scheduled to be completed on time. The Purchase Order expansion of \$4.5M through Procurement Policy #11 - Non-Competitive Procurements is required for SDC. Sufficient funds exist in the Council approved project account 5160866801 Woodward WWTP - Clean Harbour to support this recommendation.

Staffing: There are no staffing implications associated with the proposed recommendations.

Legal: There are no legal implications associated with the proposed recommendations.

HISTORICAL BACKGROUND

The Project was defined through a Water and Wastewater Master Plan and subsequent Environmental Study Report as approved by Council on November 14, 2007 (PW06121a). The City of Hamilton (City) received a \$200 million funding commitment for the Project from both the Federal and Provincial governments under the Green Infrastructure Fund (GIF) Program. Direction was provided by Council through Report PW08131/FCS08107 to proceed with retaining engineering consulting services using the Request for Proposals (RFP) process. As such, RFP C11-28-09 was tendered and awarded to CH2M HILL Canada Limited (CH2M) in 2009 for a total purchase order value of \$43,570,793 for engineering services related mainly to project management, design, tendering and SDC in support of the Woodward Upgrade Project (WUP).

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Considering the unknowns associated at the time of developing the engineering consulting services RFP relating to items such as, contract durations, number of contracts and level of effort for each, a stipulated hours approach was applied within the form of proposal for the associated SDC. This approach is standard practice for RFPs of this type as it provides a consistent and fair basis when comparing proposal bids. At the time of the proposal, the City had stipulated hours that were based on an assumed 30 month construction period.

As the program moved through detailed design, independent constructability reviews, construction phasing plans, and construction scheduling, the total construction duration was defined at 54 months. Therefore, adjusting the relevant costs of the SDC fees to compensate for increased construction duration of 24 months, results in a total increase of \$6.3M.

As a result of the above, and based on some existing unused project contingency, an adjustment of \$4.5M to CH2M's purchase order through Procurement Policy #11 - Non-competitive Procurements is required.

It should be noted that as part of the 2018 and 2019 Water, Wastewater and Storm Rate Budget process, surplus funds from the favourable tenders totalling \$8.4M have been used to offset capital requests.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

The recommendations of this report comply with Procurement Policy #11 - Non-competitive Procurements.

RELEVANT CONSULTATION

In developing this Report, the following internal consultation was undertaken:

- Procurement Section, Financial Services Division, Corporate Services Department;
- Capital Budgets Section, Financial Planning and Policy Division, Corporate Services Department.

ANALYSIS AND RATIONALE FOR RECOMMENDATION(S)

In developing the proposed recommendations, staff analysed the impact of increasing the construction period from 30 months to 54 months. This increase in project duration was identified as a result of several key activities including, detailed constructability reviews through design and independent constructability workshops with industry experts which defined the actual required construction period.

When comparing the engineering services requirements for the WUP against industry benchmarks, the total value of engineering services equates to 14.6% of the construction value. This value is consistent with Industry guidelines as published by Ontario Society of Professional Engineering Fee Guideline (2015) of 14% and is consistent with other projects delivered by the City.

In addition to being in-line with industry standards, it represents good value to the City when considering the complex nature of the specific work. Once complete the Woodard Wastewater Treatment Plant tertiary treatment disk filter facility will be the largest in North America. Furthermore, construction activities are widely dispersed across the entire site, and the requirement to work around and ensure the continued operation of the existing wastewater treatment plant is paramount to our continued operational compliance.

ALTERNATIVES FOR CONSIDERATION

An alternative for consideration would be to reduce the level of effort for services during construction. However, this approach is not recommended as it would significantly increase risk in construction oversight exposing the City to potentially significantly larger risk. Risk elements include but are not limited to:

- Delay in responding to required site direction and coordination of the general contractor causing schedule delay and associated claims;
- Works being completed by the Contractor without adequate oversight from the Engineer resulting in potential re-work and risk of cost being transferred to the City;
- Increased risk in schedule delay, jeopardizing GIF funding;
- Delay in processing payment certificates. At peak, it is estimated that monthly payment certificates will be in the range of \$10 million and any payment delay brings risks that could be transferred to the City;
- Lack of proper site records and accuracy of Record Drawings being recorded and provided to the City;
- Lack of support to adequately manage contract changes and review and manage claims; and
- Reduced effort for reviewing and then monitoring and controlling contractor schedule can lead to delays to the overall contract and/or contract overlap in time and space requiring the City to take on the role of Constructor.

This alternative is not recommended as the risk in reducing the level of services far exceeds any perceived savings.

ALIGNMENT TO THE 2016 - 2025 STRATEGIC PLAN

Clean and Green

Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

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

Not Applicable