

Municipality of Chatham-Kent

Infrastructure and Engineering Services

Engineering and Transportation Division

To: Mayor and Members of Council

From: Jason Cikatricis, C.E.T.,
Engineering Technologist

Date: February 7, 2020

Subject: Contract T17-206 Fifth Street Bridge over the Thames River –
Structure Rehabilitation - Community of Chatham.

Recommendations

It is recommended that:

1. The Contract amendment in the amount of \$787,535.77 (including HST) for the construction work associated with Contract T17-206; Fifth Street Bridge over the Thames River – Structure Rehabilitation – Community of Chatham, be paid to Looby Builders (Dublin) Limited, Dublin Ontario.
2. The Contract amendment in the amount of \$325,100.53 (including HST) for the consulting work associated with Contract T17-206; Fifth Street Bridge over the Thames River – Structure Rehabilitation – Community of Chatham, be paid to Dillon Consulting Limited, Chatham Ontario.
3. The Mayor and Clerk be authorized to enter into the recommended agreements.

Background

The Fifth Street Bridge reconstruction project started in July 2017 and was completed in November 2019. This project consisted of the removal of the existing Fifth Street Bridge superstructure, rehabilitation of the existing concrete abutments and piers, and installation of new structural steel, new asphalt on concrete decking, new concrete sidewalks, new steel tube railings, new roadway reconstruction in the vicinity of the structure, and the reconstruction of the traffic signals at the corner of King Street and Fifth Street.

Prior to the bridge reconstruction, there were existing Bell cables below the Thames River that terminated in Bell maintenance holes located in the existing concrete bridge abutments. As part of the bridge project, the existing Bell maintenance holes (located in the existing bridge abutments) were being abandoned and removed. Therefore, new Bell infrastructure had to be installed from the Bell maintenance hole on at the

intersection of King Street and Fifth Street to the Bell maintenance hole at the intersection of Thames Street and Fifth Street.

In order to accommodate the replacement of the Bell infrastructure across the Thames River, the new Bell cables had to be installed on the underside of the new Fifth Street Bridge. The new cables were installed by a Bell approved sub-contractor as part of the bridge construction. The existing Bell cables had to remain in service, and accessible at the existing Bell maintenance holes, in the bridge abutments, until the new cables were installed and spliced into the live system. The new Bell cables had to be spliced to the existing cables in the maintenance holes located at the intersections of Thames Street and Fifth Street and King Street and Fifth Street.

Additionally, existing Bell infrastructure from the maintenance hole at the intersection of Thames Street and Fifth Street to the maintenance hole at the intersection of Thames Street and Victoria Avenue had to be replaced due to broken conduits. This additional work caused further delays; as it was not part of the original contract.

The cable splicing work was completed by Bell independent of the bridge contractor. Due to regulations, the bridge contractor and Bell could not be on site at the same time. This meant that the bridge contractor had to wait for Bell's splicing work to be completed before they could finish the bridge project.

Due to the fact that the Bell splicing work was not completed until November 30, 2018, the contractor could not complete the project because of the cold seasonal weather conditions, and the type of work that had to be completed.

Comments

Even though construction was extended by approximately one year due to environmental and construction issues, the functionality and quality of the bridge was a success.

Due to a number of unforeseen issues that were not part of the original contract, and change orders that could not be contained in the original contract, the costs exceeded the Tender amount approved by Council.

A summary of some of the unforeseen issues are listed below:

- Northeast retaining wall had to be reconstructed from the ground up (approx. 2.4m high) instead of just the top 0.6m being replaced.
- Pier reconstruction complications, including the steel cofferdam surrounding the piers.
- Unacceptable fill materials removed from site that had to be disposed at landfill
- Roadway shoring protection system to maintain Bell maintenance hole access south of the bridge.
- Additional work on Simcoe Lane

- Additional mobilizations and demobilizations for General Contractor and Sub-Contractors.
- Additional Bonds and Insurance required to cover the time extension.
- Field and office overhead costs required to cover the time extension.
- The Third Street Bridge was closed from August 3, 2018 to October 26, 2018 and a 10 tonne weight restriction imposed upon opening. During this time, the Fifth Street Bridge had to have a minimum of 2 lanes open for public traffic and Emergency vehicles; therefore construction efforts were substantially slower due to the volume of traffic using the bridge on a daily basis.
- February 2018 Flood damages

In order to properly manage these additional issues, the consulting engineering firm had to increase the amount of work required and extend the time they were working on the project, which increased consulting fees.

Areas of Strategic Focus and Critical Success Factors

The recommendations in this report support the following areas of strategic focus:

- Economic Prosperity:
Chatham-Kent is an innovative and thriving community with a diversified economy
- A Healthy and Safe Community: Chatham-Kent is a healthy and safe community with sustainable population growth
- People and Culture:
Chatham-Kent is recognized as a culturally vibrant, dynamic, and creative community
- Environmental Sustainability:
Chatham-Kent is a community that is environmentally sustainable and promotes stewardship of our natural resources

The recommendations in this report support the following critical success factors:

- Financial Sustainability:
The Corporation of the Municipality of Chatham-Kent is financially sustainable
- Open, Transparent and Effective Governance:
The Corporation of the Municipality of Chatham-Kent is open, transparent and effectively governed with efficient and bold, visionary leadership
- Has the potential to support all areas of strategic focus & critical success factors
- Neutral issues (does not support negatively or positively)

Financial Implications

Additional project fees associated with this contract will be funded as summarized in the following table:

Contract Amendment - Financial Implications
T17-206 Fifth Street Bridge over the Thames River – Structure Rehabilitation,
Community of Chatham.
Project Costs

Recommended Contract Amendment - Construction (Including HST and rebate)	\$ 787,535.77
Recommended Contract Amendment - Consulting (Including HST and rebate)	\$ 325,100.53
Total Amendment Project Costs	\$1,112,636.40
Total Amendment Project Funding	\$1,112,636.40

Note: Contract completion penalties have been imposed on the contractor in the amount of \$ 124,000.00. Legal Services will provide legal advice to Council in Closed Session regarding delays caused by Bell's work on the bridge.

The amendment costs represent 15% of the total contract value.

The total current project costs listed above will be funded from the Bridge Lifecycle Reserve, which includes funds under the Association of Municipalities of Ontario (AMO) Federal Transfers of Federal Gas Tax Funding Agreement.

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(RTC:\Infrastructure & Engineering\I&ES\2020\4207 – Contract Amendment to Contract T17-206 Fifth Street Bridge over the Thames River – Structure Rehabilitation)