
Subject: Award of Contract 2018-T-102 Contract RN 18-02 Replacement of Reece Bridge (Structure No. 069205) Regional Road 69 (Twenty Mile Road) Over Twenty Mile Creek in the Township of West Lincoln

Report to: Public Works Committee

Report date: Tuesday, September 25, 2018

Recommendations

That report PW 46-2018 **BE RECEIVED** for information.

Key Facts

- Special Reference
 - Given Section 275 of the Municipal Act, 2001, and Regional Council's delegated authority to the Chief Administrative Officer (CAO) via report GM 8-2018, that the CAO consider and authorize:
 - That this report will incur expenditures or liability which exceeds \$50,000; and
 - That staff proceed with the award of Contract 2018-T-102 (RN18-02) - Replacement of Reece Bridge (Structure No. 069205), Regional Road 69 (Twenty Mile Road) Over Twenty Mile Creek, in the Township of West Lincoln, to Rankin Construction Inc., at their bid price of \$9,376,655.25 (including 13% HST); and
 - That staff proceed with the budget increase for the Replacement of Reece Bridge (Structure No. 069205), project 10RC1022 of \$950,000 to be funded from the Capital Variance – Levy Project
 - Should the CAO incur an expenditure or liability great than \$50,000, then the CAO will report to the new Council all actions taken pursuant to this decision
- The purpose of this report is to inform Council of the basis upon which the CAO is being requested to exercise his authority to approve the award of Contract 2018-T-102 (RN18-02) - Replacement of Reece Bridge (Structure No. 069205), Regional Road 69 (Twenty Mile Road) Over Twenty Mile Creek, in the Township of West Lincoln, to Rankin Construction Inc.
- The Reece Bridge carries Regional Road 69 across Twenty Mile Creek (see Appendix 1 – Project Location). The bridge was constructed around 1950 and is deteriorating significantly, compromising long term public safety and traffic loading capacity. Also, the current road geometrics result in significant safety concerns. Bridge inspections have been completed over the last 15 years and most recently in 2015 that have identified the need for replacement.

- A Municipal Class Environmental Assessment Study was completed for Reece Bridge (Structure No. 069205) and the Environmental Study Report was filed on September 11, 2012, recommending replacement of the bridge and realignment of the adjacent roadway.
- A public tender process was initiated and a total of five bids were received with the lowest being \$8,297,925.00 (excluding taxes).

Financial Considerations

Council has approved \$9,032,500 for the Replacement of Reece Bridge (Structure No. 069205), Regional Road 69 (Twenty Mile Road) Over Twenty Mile Creek, in the Township of West Lincoln. This budget includes construction, detailed design, utility relocations, contract administration & inspection, construction testing, internal staff time and contingency, under project 10RC1022. As outlined in this report, the total estimated cost for the project is \$9,982,500 based on the tenders received (Appendix 2), resulting in a budget shortfall of \$950,000.

The budget shortfall can be attributed primarily to higher tender prices associated with the recent instability of steel prices and the market is at capacity in terms of supply resulting in an upward trend in pricing. Steel prices have been rising continuously over the last few months, related to U.S. trade issues. The Region's consultant has estimated the pricing for the steel caissons, reinforcing steel and structural steel have increased by 20-33% since the tender estimate was prepared. This has increased the project construction cost by approximately \$550,000.

The budget shortfall is proposed to be addressed through Capital Variance – Levy Project.

A full budget breakdown can be found in Appendix 3 – Total Estimated Project Cost.

Analysis

The Reece Bridge carries Regional Road 69 across Twenty Mile Creek, consisting of a two-span reinforced concrete rigid frame structure with a span of 18.3 m, and a deck width of 9.3 m, supported on concrete abutments on a pier and spread footings. The bridge was constructed around 1950, and an asphalt wearing surface was added more recently over the concrete deck. The bridge has an exposed reinforced concrete sidewalk on the east side of the deck and a concrete curb on the west side. The original railings consist of a wooden rail system with concrete posts that run along each side of the structure. Since the railing system is ineffective by current standards, temporary concrete barriers have been placed on each side of the deck in front of the existing railings. Bridge inspections have been completed over the last 15 years and most recently in 2015. A deck condition survey carried out in 2002 found that chlorides from

de-icing salts have penetrated into the concrete and have resulted in corrosion of reinforcing steel.

The Region classifies Regional Road 69 as an important east-west rural arterial undivided road that links the community of Smithville and several communities to the east within the Town of Lincoln and Pelham. West of Reece Bridge, Regional Road 69 runs along the north side of Twenty Mile Creek, and curves to cross the creek at a skew over Reece Bridge. East of the bridge, the road curves and continues along the south side of the creek. Due to the current reverse curve alignment Reece Bridge structure is not visible to approaching vehicular traffic until within approximately 100 m of the structure. Due to the poor alignment of the road the replacement of the structure includes realignment of the adjacent roadway.

Under the guidance of the Region's Procurement Department, a public tender process was initiated. The Tender Call was advertised on Monday, July 16, 2018. A total of five bids were received and publicly opened on Tuesday, August 14, 2018, with the lowest being \$8,297,925.00 (before HST). The Region's Procurement Department and the Region's consultant have reviewed and checked all the tenders received. All five tenders included Addendums No. 1 and 2 and all submitted the necessary tender deposit and Agreement to Bond. Mathematical errors were found in two of the five tenders submitted. There were no errors found in the lowest bid. The corrected totals did not change the overall ranking. Appendix 2 includes the Summary of Bids Received.

Contract award requires resources from Legal Services and Corporate Services in order to execute the required contract documents. Transportation Engineering staff will be providing resources throughout the project in order to manage the contract with assistance from Corporate Services on contract/project payments.

The total tendered amounts (before HST) are listed below in ascending order:

Rankin Construction Inc.	\$8,297,925.00
Eiffage Innovative Canada Inc.	\$8,958,505.00
Dufferin Construction Company	\$9,106,386.00*
Toronto Zenith Contracting Ltd.	\$10,696,838.00
Bob Hendricksen Construction Ltd.	\$11,482,459.00*

*Corrected amount

The Region's consultant, Ellis Engineering Inc., has advised that the tendered unit prices submitted by the low tenderer, Rankin Construction Inc., are competitive and compare favorably with the Region's estimate. Staff therefore recommends that the low tender submitted by Rankin Construction Inc. be accepted.

Alternatives Reviewed

A Municipal Class Environmental Assessment Study was completed for Reece Bridge (Structure No. 069205) and the Environmental Study Report was filed on September 11, 2012, recommending replacement of the bridge and realignment of the adjacent roadway.

In addition to the tendered design two other alternatives were considered during the detailed design as potential replacement structures: 1) Single Span Bridge on a new alignment to the north-east of the existing structure; and 2) Single Span Bridge on the existing alignment.

The tendered design of replacing the existing Reece Bridge with a two-span structure on a new alignment to the east of the existing bridge was chosen based on the benefits and advantages as follows:

1. The structure spans over the soft soils; thereby, avoiding any future settlements and maintenance concerns with building on the poor soils.
2. The bridge will be constructed on a reduced skew angle requiring smaller abutment foundations; thereby, reducing foundations costs.
3. The new bridge will be constructed to the east of the existing structure on a new alignment to allow traffic to be maintained on the existing bridge; thereby, mitigating traffic related impacts.
4. The two-span structure will allow passage for wildlife on the south bank under the structure making it safer for vehicles.

As part of the Municipal Class Environmental Assessment process, two Public Information Centres were held. The first was held on September 28, 2011 and the second was held on January 25, 2012.

An additional Public Information Centre will be held in September at a local community hall to present the construction drawings, details and schedule to local residents that may be affected by the project.

Relationship to Council Strategic Priorities

Improving capacity is an essential part of maintaining the Region's road network and this vital program is very closely tied to strategic priority 1 "Moving people and goods". This road section is a significant corridor and with the improved condition will assist the Region with strategic priority 4 "Positioning Niagara Globally".

Other Pertinent Reports

PW 45-2016 - Project Update for the Replacement of Reece Bridge (Structure No.069205) which carries Regional Road 69 (Twenty Road) over 20 Mile Creek, in the Town of West Lincoln

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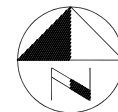
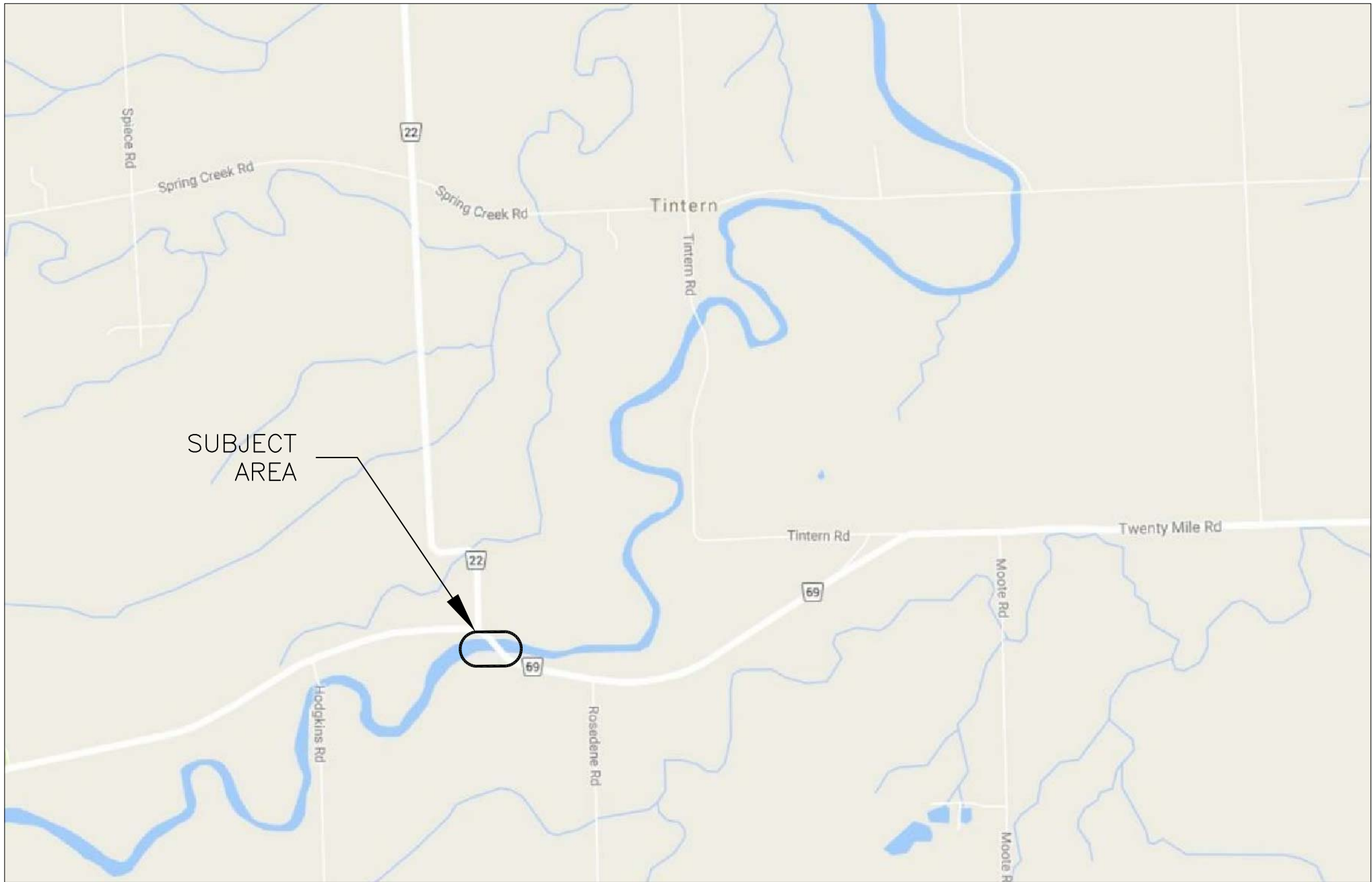
Submitted by:

Carmelo D'Angelo, BSc, MPA
Chief Administrative Officer

This report was prepared in consultation with Frank Tassone, Associate Director Transportation Engineering, and reviewed by Tracie Byrne, Procurement Manager, Brian McMahon, Program Financial Specialist, Sterling Wood, Legal Counsel, and Carolyn Ryall, Director Transportation Services.

Appendices

Appendix 1	Key Plan	6
Appendix 2	Summary of Bids Received	7
Appendix 3	Total Estimated Project Cost	8



TENDER SUMMARY

	RANKIN CONSTRUCTION	BOB HENDRICKSEN CONSTRUCTION	DUFFERIN CONSTRUCTION	EIFFAGE INNOVATIVE CANADA	TORONTO ZENITH CONTRACTING
TOTAL SECTION 1 - GENERAL	\$ 861,002.00	\$ 1,101,220.00	\$ 770,840.00	\$ 844,000.00	\$ 1,439,890.00
TOTAL SECTION 2 - BRIDGE	\$ 6,547,970.00	* \$ 8,811,410.00	* \$ 7,232,687.60	\$ 6,986,275.00	\$ 7,952,548.00
TOTAL SECTION 3 - ROADS	\$ 745,038.00	\$ 1,327,769.00	\$ 963,300.10	\$ 930,410.00	\$ 1,115,168.00
TOTAL SECTION 4 - LANDSCAPING	\$ 140,815.00	\$ 220,314.00	\$ 136,454.50	\$ 194,420.00	\$ 181,052.00
TOTAL SECTION 5 - ELECTRICAL	\$ 3,100.00	\$ 3,746.00	\$ 3,104.00	\$ 3,400.00	\$ 8,180.00
TOTAL TENDER (EXCLUDING HST):	\$ 8,297,925.00	* \$ 11,464,459.00	* \$ 9,106,386.20	\$ 8,958,505.00	\$ 10,696,838.00
Total Tender Price as Printed in 'Form of Tender':	\$ 8,297,925.00	\$ 11,584,459.00	\$ 9,106,386.20	\$ 8,958,505.00	\$ 10,696,838.00

* Corrected Value

**PW 46-2018 APPENDIX 3
TOTAL PROJECT BUDGET
Contract Award**

Contract 2018-T-102 (RN18-02) Replacement of Reece Bridge (Structure No. 069205), Regional Road 69 (Twenty Mile Road) Over Twenty Mile Creek, in the Township of West Lincoln

	Total Council Approved Budget	Budget Increase/ Reallocation	Revised Budget	Expended as of August 1, 2018	Contract Award/Forecasted Spend	Budget Remaining
<u>Total Estimated Project Cost (10RC1022)</u>						
(a) Construction (including Construction Contingency and non-refundable HST 1.76%)*	7,700,000	750,000	8,450,000	-	8,443,968	6,032
(b) Project Contingency	350,000		100,000	-	100,000	-
(c) Property Acquisition	50,000		50,000	50,000	-	-
(d) Consulting Engineering Services						
i. Detailed Design	430,000		420,000	418,376	-	1,624
ii. Contract Administration & Inspection		200,000	425,000	-	425,000	-
ii. Geotechnical Service-Quality Control			100,000	-	100,000	-
(e) Project Management (In-House) and Operations	150,000		75,000	15,466	55,000	4,534
(f) Utility Relocation	200,000		40,000	35,170	-	4,830
(g) Subsurface investigation	50,000		50,000	50,000	-	-
(i) Miscellaneous	102,500		272,500	251,456	38,064	(17,020)
Total Estimated Project Cost	9,032,500	950,000	9,982,500	820,468	9,162,032	0

* Total Contract Award is equal to i) \$8,297,925 before tax; ii) \$8,443,968 including non-recoverable HST of 1.76%; iii) \$9,376,655 including 13% HST