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TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON MAY 26, 2014**
FROM:	**EDWARD SOLDO, P. ENG. DIRECTOR, ROADS AND TRANSPORTATION**
SUBJECT:	**BLACKFRIARS BRIDGE ENVIRONMENTAL ASSESSMENT APPOINTMENT OF CONSULTING ENGINEER**

RECOMMENDATION

That, on the recommendation of the Director, Roads and Transportation, the following actions **BE TAKEN** in respect to the Blackfriars Bridge Environmental Assessment Study:

a) Dillon Consulting Limited **BE APPOINTED** Consulting Engineers to complete the Environmental Assessment Study, in the amount of $194,564.70 excluding HST, in accordance with Section 15.2 (e) of the Procurement of Goods and Services Policy;

b) the financing for this project **BE APPROVED** as set out in the Source of Financing Report attached hereto as Appendix 'A';

c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;

d) the approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract with the consultant for the work; and,

e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

- July 9, 2007 – ETC – Blackfriars Street Community Concerns
- February 8, 2010 – ETC - Appointment of Consulting Engineers – Bridge Rehabilitation Program and Traffic Studies, Meadowlily Bridge Evaluation and Blackfriars Bridge Risk Assessment;
- April 26, 2010 – ETC - Appointment of Consulting Engineers - Traffic Study - Blackfriars Bridge Risk Assessment
- March 18, 2013 – CWC – Blackfriars Bridge Detailed Structural Inspection
- September 9, 2013 – CWC – Blackfriars Bridge – Structural Repairs and Temporary Closure

BACKGROUND

Purpose

This report seeks the approval of Council to retain an engineering consultant to undertake the Blackfriars Bridge, Schedule 'C' Class Environmental Assessment (EA) study to determine the preferred course of future action for this historic structure.

Context

Structural deterioration required the closure of Blackfriars Bridge in the summer of 2013. In September 2013, Council approved interim repairs to the bridge to enable re-opening to pedestrian and cyclist traffic only. Council also provided authorization to proceed with an Environmental Assessment to determine the long term plans for this structure. The interim

repairs were completed, and Blackfriars Bridge was re-opened to pedestrian/cyclist traffic on December 22, 2013.

This report recommends the appointment of a Consulting Engineer to proceed with the Environmental Assessment to determine the City's path forward with this bridge. Several options for the bridge will be considered through the EA.

Over the years, Blackfriars Bridge has provided a route for traffic on Blackfriars Street and along the Thames Valley Parkway. It is a heritage structure which is recognized by Londoners, and the EA will provide the opportunity for input by all interested parties.

DISCUSSION

Heritage

Blackfriars Bridge is 138 years old. It was designed and constructed in the time of the horse and buggy. The installation of this bridge pre-dates the invention of the telephone (1876); moving pictures, the phonograph (1877); and the light bulb (1879). It was designated as a Heritage Structure under the Ontario Heritage Act (Part IV) on April 21, 1992. It is listed on the Ontario Heritage Bridge List and is included on the Canadian Register of Historic Places http://www.historicplaces.ca/en/pages/register-repertoire.aspx

Blackfriars Bridge is the third distinct structure built in this location. The first and second structures, built in 1831 and 1851, were destroyed by flooding in 1851 and 1875, respectively. The current structure was constructed in 1875. The superstructure was supplied and erected by the Wrought Iron Bridge Company (WIBC) on two stone abutments constructed by Isaac Crouse. Bow string arch trusses like Blackfriars were common in the 1870's but by 1885 were largely replaced by parallel chord trusses which were easier to fabricate. The use of wrought iron as a building material for bridges was replaced by steel in the 1890's. There are only nineteen (19) WIBC bowstring truss bridges still in existence in the United States and Canada, of which only five (5) are open to pedestrian traffic and three (3) carry one lane of vehicle traffic. With the exception of the Blackfriars Bridge, the remaining ten (10) are stored, closed or abandoned. Blackfriars Bridge is the only WIBC structure remaining in Canada.

In 2012 and 2013, the City of London completed a Risk Assessment exercise for this structure. As part of this work, an information gap was identified, noting that the Blackfriars Bridge had not been the subject of a detailed structural inspection in more than 25 years. In 2013, Dillon Consulting along with McLean Taylor Construction Ltd. completed a detailed inspection that included the installation of scaffolding under the bridge allowing for unprecedented access to areas not normally visible to inspectors. As a result of structural deterioration identified during the inspection, the bridge was closed to all traffic until emergency repairs could be completed. Upon completion of repairs in December 2013, the bridge was reopened with a restricted passageway for pedestrians and cyclists only, until such time as a more complete rehabilitation of the bridge could be planned and completed.

Environmental Assessment

The Blackfriars Bridge is a 138 year old Heritage structure. The Municipal Engineers Association Class Environmental Assessment (EA) – October 2000 (amended 2007 and 2011) process applies to the reconstruction or alteration of structures over 40 years old when alteration of the basic structural system, overall configuration or appearance of the structure is considered. In order to consider alternatives such as undertaking a long term rehabilitation of the structure, changing its function/use (vehicle to pedestrian only), removing the bridge or replacing with a replica bridge, the City must undertake a Schedule 'C' EA.

Maintaining any form of traffic on the bridge in the long term (vehicle or pedestrian/cyclist access) will require a major rehabilitation. The anticipated major rehabilitation would be similar to work completed on London's other century old steel bridges, such as the King Street Bridge and Meadowlily Footbridge.

The EA would confirm the problem/opportunity, generate and assess alternative planning solutions, document the natural, historical, technical, socio- economic and cultural environments in the area, complete an impact assessment of all alternatives and identify the preliminary preferred alternative.

Consistent with the Ontario Heritage Bridge Program, the typical "hierarchy" of actions to be considered are listed below. The hierarchy goes from the least to the most disruptive actions, and each step would be evaluated using professional judgment and public consultation in terms of feasibility, practicality, safety, value, etc. as to reasonableness of each alternative. The eight (8) conservation options to be considered are:

1. Retention of existing bridge with no major modifications undertaken;

2. Restoration of missing or deteriorated elements where physical or documentary evidence (e.g. photographs or drawings) exists for their design;

3. Retention of existing bridge with sympathetic modification;

4. Retention of existing bridge with sympathetically designed new structure in proximity;

5. Retention of existing bridge no longer in use for vehicular purposes but adapted for a new use. For example, prohibiting vehicle or restricting truck traffic or adapting for pedestrian walkways, cycle paths, scenic viewing, etc.;

6. Retention of bridge as a heritage monument for viewing purposes only;

7. Relocation of smaller, lighter single span bridges to an appropriate new site for continued use (see 4) or adaptive re-use (see 5); and,

8. Bridge removal and replacement with a sympathetically designed structure.

Consultant Selection

The consultant procurement process for this assignment began with public advertisement of an Expression of Interest / Request for Qualifications on February 12, 2014. Seven (7) consultants submitted packages for the City's review. The selection committee (comprised of representatives from Transportation Planning & Design, Parks Planning and the City Heritage Planner) short listed the selection to four (4) consulting firms for proposal submission. Proposals were received from the shortlisted consultants on April 22, 2014. The committee evaluation of the proposals identified that the Dillon Consulting Limited submission provides the best value to the City.

Dillon Consulting Limited has an experienced project team which has a clear understanding of the project scope and requirements. Dillon's past involvement with the ongoing maintenance of the Blackfriars Bridge over the last 50+ years, their involvement in the Blackfriars Bridge Risk Assessment exercise (2012) and the detailed structural assessment (2013) combined with a project proposal that demonstrated a thorough understanding of the goals and objectives demonstrate Dillon's suitability for this undertaking.

CONCLUSION

The need for this EA has been identified as a result of the Detailed Structural Inspection completed in December, 2013. The EA recommendations will set the strategy direction for the future of this iconic structure.

Recommendation

Based on the technical evaluation of the proposals, in accordance with Section 15.2 (e) of the Procurement of Goods and Services Policy, Civic Administration is recommending that Dillon Consulting Limited be be awarded the consulting assignment for the Blackfriars Bridge Schedule 'C' Class Environmental Assessment study at an upset amount of $194,564.70 excluding HST.

Acknowledgements

This report was prepared with assistance from Jane Fullick, C.E.T., Technologist II, and Karl Grabowski, P. Eng., Transportation Design Engineer of the Transportation Planning and Design Division.

PREPARED BY:	**RECOMMENDED BY:**
DOUG MACRAE, P. ENG. **DIVISION MANAGER** **TRANSPORTATION PLANNING & DESIGN**	**EDWARD SOLDO, P. ENG.** **DIRECTOR, ROADS AND TRANSPORTATION**

REVIEWED AND CONCURRED BY:
JOHN BRAAM, P. ENG. **MANAGING DIRECTOR,** **ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**

Attach: Appendix 'A' – Sources of Financing

c. Pat Shack
Dillon Consulting Limited