



Meeting Date: April 5, 2023

Submitted by: Rob Cascaden, P.Eng – Director – Public Works and Engineering

Prepared by: Andrew Giesen, C.E.T, PMP Transportation Manager

Report No: PWE 18-2023

Subject: Budget Overage for Bridge B-301 Rehabilitation

Recommendation:

THAT Council receive report PWE 18-2023 Budget Overage for Bridge B-301 Rehabilitation be received for Information;

AND THAT Council approve the Overage to Capital budget 23-3117 as contained in this report in the amount of \$165,000 for a total budget of \$522,500;

AND THAT Council approve the change in funding source from the Canada Community Benefit Fund to the Roads Capital Reserve Fund for project 23-3117.

Purpose:

To seek Council approval for a budget overage.

Background:

Council approved as part of the 2023 budget \$357,500 for the design and rehabilitation of bridge B-301 located on Carriage Road just north of Harris Road. The rehabilitation work was identified in the recently completed Ontario Structure Inspection Manual (OAIM), which is a legislated bi-annual inspection of the municipality's structures.

Analysis:

Staff have awarded the design work for this rehabilitation in accordance with the municipalities procurement policy.

The consultant as part of the assignment has undertaken a detailed inspection of the structure to confirm the scope of rehabilitation as initially identified in the bi-annual OSIM inspection. Through this inspection it was noted the north bearings (connection between bridge superstructure and bridge sub structure), were in poor conditions with deformation, cracking and uneven loading.



While no immediate structural concern exists, it is likely that there will continue to be premature deterioration of the girder ends if no action is taken. Replacement of the bearings and correction of the uneven loading of the bearings will increase the overall life of the superstructure.

All bridge elements have varying expected service lives. In reviewing the structure as a whole, it is commonly accepted that a bridge superstructure will have an expected service life of approximately 50 years, the service life can be extended to 70 years with regular maintenance and periodic rehabilitation before complete replacement is required. B-301 was constructed in 1978 which makes it 45 years old. Several existing bridge elements within the bridge superstructure are likely approaching the end of service life. If bearing replacement is completed now it is expected an increase of remaining service life in the +10-20-year range. If bearing replacement is not completed now it is likely the municipality may need to consider superstructure replacement within the next 10 years.

Undertaking the bearing replacement as part of this project is estimated to cost \$165,000 but expected to extend the life of the superstructure by 10 years. If this work is not completed and the superstructure needs to be replaced within the next 10 years, the estimated cost is \$950,000. It is recommended that the bearing replacement proceed as part of this project in order to extend the life of this important component of the transportation network and realise an opportunity to undertake this work as part of planned bridge rehabilitation work minimizing future impacts to residents and realising economies of scale. This will require a budget increase of \$165,000.

Financial Implications:

The capital budget overage would be covered from the Road Capital Reserve Fund in the amount of \$165,000 for a total budget for 23-3117 of \$522,500.

The original funding source for this project was the Canada Community Benefit fund, however, with this increase, the 2023 allocated funds will not cover the entire project

costs and the other projects identified for funding in 2023. Therefore, staff are recommending that the entire project be funded from the roads capital reserve fund.

Strategic Plan:

This matter aligns with following strategic priorities:

- Responsive Municipal Government
- Sustainable Infrastructure and Services

This capital budget overage is in response to unforeseen degradation and deterioration of a critical bridge component. Timely replacement of this component will delay the need for bridge superstructure replacement providing a cost-effective measure to ensure the long-term viability of this critical transportation asset.

Attachments:

Appendix A- Bearing Replacement Memo