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Staff Report

Infrastructure & Public Works

Report To: Committee of the Whole
Meeting Date: May 15, 2017
Report Number: CSPW.17.054
Subject: Black Bridge Rehabilitation – Steel Railing Design
Prepared by: Jim Mc Cannell, Manager of Roads and Drainage

A. Recommendations

THAT Council receive Staff Report CSPW.17.054 entitled “Black Bridge Rehabilitation – Steel Railing Design”;

AND THAT Council approve the rehabilitation work and the installation of metal guide railings to the heritage structure known as Black Bridge as described in Report CSPW.17.054;

B. Overview

On January 30, 2017 Committee of the Whole received Report CSPW.17.017 and recommend to Council to proceed with the installation of metal guide railings to eliminate the need for posted load restrictions.

This work is a Schedule Class A+ project under the Municipal Class Environmental Assessment process, and as such, notice of the work will be issued to neighboring residents and property owners prior to commencement. A Public Information Centre is scheduled for Thursday May 18, 2017 to be held at the Town hall.

C. Background

At the January 30th 2017 meeting Committee recommended to Council to install the steel railing system as described in the following recommendation wording is provided below. THAT Council receive Staff Report CSPW.17.017 entitled “Black Bridge Rehabilitation – Railing Selection”;

AND THAT Council authorizes rehabilitation work to the heritage structure known as Black Bridge as described in Report CSPW.17.017;

AND THAT Council approves the installation of the steel guide railings shown as Option #2 in Report CSPW.17.017. The Black Bridge is located on Clark Street in Clarksburg. The Bridge is identified as Number 17.

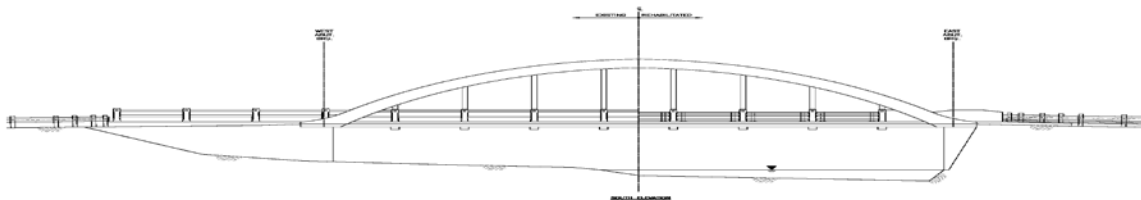
The bridge, constructed in 1923, is a single lane reinforced concrete bow string arch structure with an asphalt wearing surface placed over the concrete deck. The overall span length of the bridge is 25.3 m. The structure has railings between the roadway and the concrete sidewalk and a hand railing on the north side. Refer to Photo #1.



Photo #1: Black Bridge Structure

In 1991 the Bridge was declared a Heritage structure having architectural and heritage significance. Following the creation of the associated Bylaw 1991-13, the Town undertook repairs to the structure. Since the bridge is a designated Heritage Structure, under the Ontario Heritage Act Council must specifically approve repairs or to rehabilitation to the structure.

The proposed works will include two types of metal guide rails. Adjacent to the traveled lane will be crash rated guide rails that resemble the current concrete railings. These can be seen in the sketch below. These sections will have horizontal beams matching the concrete railings. Refer to sketch #1. The sketch shows both the original guiding and the proposed metal guide railing.



Sketch #1: Black Bridge with original and proposed metal guide railing.

Adjacent to the walkway a second metal guide railing type will be installed. This guide rail section needs to be non-climbable and will have vertical metal sections. The look of this railing has been included in the picture below. Refer to Photo #2.



Photo #2: Black Bridge with vertical metal sections

All metal or steel guide railing on the bridge will be galvanized and then power coated in grey to match with the concrete finish.

D. Analysis

Committee did consider 3 different options for guide rails in Report CSPW.17.017. These include replacing the current concrete railing, installing a crash rated concrete guide railing or installed a light weight steel guide railing. The steel or metal guide railing were considered as they would not result in load restrictions being placed on the Bridge and provide a crash test rated railing system. Although the bridge has not shown signs of distress from overloading in the past, the bridge will be monitored regularly as part of the bi-annual bridge inspection program. If signs of distress from overloading become evident, load restrictions will need to be considered.

E. The Blue Mountains Strategic Plan

Goal #5: Ensure Our Infrastructure is Sustainable

F. Environmental Impacts

The environmental impacts of the bridge repairs will be minimal. The Contactor will be required to capture all debris to not let any enter the Beaver River.

Permits are not required from the Grey Sauble Conservation Authority or the Ministry of Natural Resources and Forestry to undertake the rehabilitation work.

G. Financial Impact

Staff have made application to the Ontario Community Infrastructure Fund (OCIF) for a Top-Up Component. The application has been submitted.

This bridge is a 90 year old heritage structure. It is unclear if any additional works will be required until after the poor quality concrete has been removed. Staff have included a 25% contingency on this project in the event that areas of weak or unsound concrete are greater than anticipated.

H. Consultation with

Sam Dinsmore, Deputy Treasurer/ Manager of Accounting and Budgets.

I. Attached

None,

Respectfully submitted,

Jim McCannell

Jim McCannell
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