

May 11, 2020
Our File: 212326

Via Email: jstrader@brockton.ca

Municipality of Brockton
100 Scott Street, Box 68
Walkerton, ON N0G 2V0

Attention: Mr. John Strader

Re: Bridge Condition Assessment
Greenock Bridge Structure. No. 2 -
Riversdale Bridge
Municipality of Brockton

Dear John,

Pursuant to your request, the undersigned attended the above noted site on March 24, 2020 to review the condition of the Riversdale Bridge located on the Side Road 20. The single span bridge consists of a steel truss superstructure supported at each end by concrete abutments. The structure is included in the 2020 Bridge Inspection Program for the Municipality of Brockton (Municipality) which has been completed GM BluePlan Engineering (GMBP) since 1977. Based on our records, the bridge structure has been recommended for replacement since our 2014 report and has received repairs in 2003 and 2008 which included replacement of several steel truss members, steel stringers, some of the steel cross beams, and the timber deck.

Currently, the Municipality has retained GM BluePlan Engineering Limited (GMBP) to complete a Municipal Class Environmental Assessment (MCEA) on the bridge to determine the most suitable alternative for this river crossing (including replacement, rehabilitation or permanent closure). It is expected that the MCEA will be completed by the end of 2020 allowing the project to move forward to the detailed design and construction phase in 2021.

A load evaluation was completed on the bridge in 2016 by GMBP which determined that the existing triple load posting (8, 13, 21 tonnes) was appropriate at that time. A report was provided to the Municipality dated January 13, 2017 outlining the results of the load evaluation and recommending that the bridge be re-evaluated in 2019 (not completed).

Based on our recent site visit, the condition of the bridge structure has continued to deteriorate since the last load evaluation in 2016. Overall, the steel superstructure is in fair to poor condition with extensive surface corrosion throughout and signs of permanent deformation of secondary support members (vertical and diagonal webs). The steel floor beams supporting the deck are in poor condition with severe corrosion and section loss noted. The first and third floor beam from the west have large perforations in the web and have significant section loss along the top flange. The west abutment wall and wingwalls are in poor condition with severe concrete spalling and deterioration. Wide vertical cracks have been noted at each end of the abutment (adjacent to the wingwalls) extending from grade to the top of the wall. It is expected that the cracks in the abutment extend fully through the thickness of the wall.

Given that the upcoming construction schedule (2021) and the low traffic volume on the bridge, it is our opinion that performing an additional load evaluation on the structure in 2020 would not be cost beneficial to the Municipality. We expect that the new load evaluation would result in a similar conclusion (i.e. bridge closure) or at the very least, would impose a significantly lower load limit on the bridge. Since the bridge is located in an agricultural community which utilizes heavy farm equipment, it is our opinion that a reduced load posting would be impractical, and would offer little benefit to light vehicle traffic. Based on the condition of the structure, we are recommending that the bridge be closed to all vehicle traffic until remedial work can be completed.

Pedestrian and all-terrain vehicles may continue to use the bridge when there is no snow accumulation on the deck. However, during the winter months, a significant weight of snow could accumulate on the deck, rendering the bridge unsafe, unless the snow is cleared regularly with a light blower or plow.

Should you have any questions, please do not hesitate to contact me, and thank you for choosing GM BluePlan Engineering for your engineering needs.

Yours truly,

GM BLUEPLAN ENGINEERING LIMITED

Per:

A handwritten signature in blue ink, appearing to read 'Jesse Borges'.

Jesse Borges, P.Eng.
JB/mr



cc: Municipality: Gregory Furtney - gfurtney@brockton.ca
GMBP: Brent Willis, P.Eng. - brent.willis@gmblueplan.ca
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