

## Report to Council

<b>Report Title:</b>	Riversdale Bridge Replacement Structure Letter of Recommendation		
<b>Prepared By:</b>	Gregg Furtney, Director of Operations		
<b>Department:</b>	Public Works		
<b>Date:</b>	November 23, 2021		
<b>Report Number:</b>	PW2021-30	<b>File Number:</b>	C11PW, T11RI
<b>Attachments:</b>	GM BluePlan Riversdale Bridge Recommendation Letter		

### Recommendation:

That the Council of the Municipality of Brockton hereby receives Report Number PW2021-30 - Riversdale Bridge Replacement Structure Letter of Recommendation, prepared by Gregg Furtney, Director of Operations, and in doing so approves Option #1 – Prefabricated Steel Panel Bridge as the approved structure for design, drawings and future project tendering purposes as recommended by GM BluePlan.

### Report:

#### Background:

The Riversdale Bridge (Greenock Bridge No. 2) is a steel truss, single span bridge supported at each end by concrete abutments. It has a timber deck with a gravel approach from the east and an asphalt approach from the west. It is approximately thirty-seven (37) meters long and approximately four (4) meters wide. The bridge structure has been recommended for replacement since 2014 and has had repair work already done to it in 2003 and 2008, including the replacement of several steel truss members, steel stringers, steel crossbeams, and the timber deck.

On May 12, 2020, Report No. PW2020-13 was brought to Brockton Municipal Council requesting the immediate closure of the Riversdale Bridge. GM Blue Plan provided their recommendation of closure.

On June 23, 2020, Report No. PW2020-17 to Brockton Municipal Council providing Council information regarding correspondence that had been received by staff from residents in the Riversdale area. GM Blue Plan provided their recommendation with regards to Load Restrictions. The possibility of keeping the bridge open but lowering the Load Restrictions, a request by residents, was reviewed. The recommendation was to keep the bridge closed.

On October 13, 2020, Report No. PW2020-29 was brought to Brockton Municipal Council which provided Council with an update on the process.

On November 9, 2020, Municipal Staff and GM BluePlan held a virtual public meeting.

November 23, 2020, was the final day for the public to make comments on the Schedule 'B' Municipal Class Environmental Assessment.

On February 9, 2021, Report No. PW2021-02 was brought to Brockton Municipal Council, following a delegation presentation by GM BluePlan, where GM BluePlan and staff outlined all of the options reviewed for and during the Schedule 'B' Environmental Assessment. Municipal staff and staff from GM BluePlan provided Brockton Municipal Council with a recommendation on the "Preferred Solution". Council decided to move forward with replacing the bridge, Option 3 "One- or Two-Lane Vehicular Bridge". The decision, however, to go with a one- or two-lane bridge structure was deferred.

On March 23, 2021, Report No. PW2021-07 was brought to Brockton Municipal Council, following the end of the Class B Municipal Environmental Assessment, to decide on whether they wished to adopt a single or double lane bridge in order to close out the Environmental Assessment process. Council confirmed by resolution to go with a double lane bridge structure.

### **Analysis:**

This report is not to gain pre-budget approval. This project will be a part of the 2022 Budget presentation and discussion. Approving the "design structure" will allow for timely preparation of the tender documents for early release in 2022 should this project be advanced in the upcoming budget year.

Staff are bringing this report to Council to have them decide on a "design structure" so that GM BluePlan can start on the design drawings and start to draft the Tender package. The chosen design structure will narrow the scope of the project so that companies bidding on the project have a fair and equal opportunity to bid with the same information provided.

GM BluePlan Staff have outlined the design structure options within their attached Recommendation Letter.

### **Option #1 – Prefabricated Steel Panel Bridge**

- Estimate Cost - \$2.15M to \$2.25M
- Quotation for bridge superstructure provided by Algonquin Bridge and Iron Bridge Fabrication Inc.
- Exposed laminated timber deck system.
- Three beam barriers fastened to steel panel trusses.

### **Option #2 – Precast Girder Bridge with CIP Deck Top**

- Estimated Cost - \$2.45M to \$2.55M.
- Quotation for precast girders provided by DECAST.
- Cast-in-place (CIP) concrete deck top with asphalt wearing surface.
- Prefabricated steel barrier system o Requires significant roadway raising to ensure girders stay above Regional Storm elevation.

### Option #3 – Prefabricated Timber Truss Bridge

- Estimated Cost - \$2.7M to \$2.8M.
- Quotation for bridge superstructure provided by Timber Restoration Services of New Brunswick (TRS).
- Exposed laminated timber deck system.
- Three beam barriers fastened to timber trusses.

Based on the updated budget estimates provided by GM BluePlan, the lowest project budget option is Option #1 – Prefabricated Steel Panel Bridge, \$2.15 Million to \$2.25 Million. As GM BluePlan Staff point out in their letter, “the use of a steel superstructure provides a construction method known to most local contractors which will reduce costs in the future when maintenance is required. The steel superstructure will be lighter in weight than the precast girder option which will reduce the loading requirements on the new foundations. In addition, given that the structure uses a steel truss panel system, the depth of the structure below the deck top will be shallow. This will reduce the requirements of raising the existing roadway to ensure that the new structure stays above the water elevation for the Regional Storm Event.”

Please note that the estimated budget presented by GM BluePlan are only estimates and they may be different after tender submissions have been received. Also, the cost estimates only represent the estimated superstructure costs. They do not reflect additional costs related to the project (i.e. ground work, road work, engineering costs, taxes, etc.).

Municipal Staff are recommending that Council adopt Option #1 – Prefabricated Steel Panel Bridge for the replacement of the existing Riversdale Bridge. If Option #1 is adopted and approved by Council, then Municipal staff will ask GM BluePlan to start to prepare the Shop Drawings and Tender Package. The Tender Package would be released only after Council has approved the project in a future budget.

### **Sustainability Checklist:**

What aspect of the Brockton Sustainable Strategic Plan does the content/recommendations in this report help advance?

- |   |     |
|---|-----|
| • Do the recommendations help move the Municipality closer to its Vision? | Yes |
| • Do the recommendations contribute to achieving Cultural Vibrancy?       | N/A |
| • Do the recommendations contribute to achieving Economic Prosperity?     | Yes |
| • Do the recommendations contribute to Environmental Integrity?           | Yes |
| • Do the recommendations contribute to the Social Equity?                 | Yes |

### **Financial Impacts/Source of Funding:**

- Do the recommendations represent a sound financial investment from a sustainability perspective? Yes

Engineering and Draft Tender Package expenditures associated with this project will be borne by the remaining 2021 Public Works Operating Budget and future costs have been included in the 2022 Public Works Operating budget. Capital expenditures after that will be borne by the approved Public Works Capital Budget (Riversdale Bridge Replacement).

**Reviewed By:**

A handwritten signature in black ink, appearing to read 'Trish Serratore', with a stylized, looping flourish at the end.

**Trish Serratore, Chief Financial Officer**

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**Respectfully Submitted by:**

A handwritten signature in blue ink, appearing to read 'Gregg Furtney', with a stylized, looping flourish at the end.

**Gregg Furtney, Director of Operations**

**Reviewed By:**

A handwritten signature in black ink, appearing to read 'Sonya Watson', with a stylized, looping flourish at the end.

**Sonya Watson, Chief Administrative Officer**