SITE C CLEAN ENERGY PROJECT

Component Application Package – Peace River Construction Bridge Pier Scour Protection

For Canadian Navigable Waters Act

July 28, 2020

Submitted to:
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1 INTRODUCTION

The Canadian Navigable Waters Act (CNWA) came into force on August 28, 2019. The CNWA includes a Schedule of navigable waters requiring regulatory approval for works that risk a substantial interference with navigation.

The Peace River is named in the schedule of navigable waters. Works required for construction and operation of the Site C Clean Energy Project (the Project) that occur on, over, under or through this named navigable waterway as defined by the CNWA must be permitted.

This application package describes proposed installation of protective riprap around the instream piers of the Peace River Construction Bridge. This work is necessary to prevent further scour of the river bed around the piers, and to ensure the structural integrity of the bridge. A map showing the location of the works in included in Appendix A.

1.1 Peace River Construction Bridge Pier Scour Protection

BC Hydro has an ongoing program to monitor scour at the Peace River Construction Bridge by taking side-scan sonar measurements of the Peace River bed elevation monthly. A scour elevation of 405 m at any one or several piers has been determined to be the point at which riprap installation is required to ensure safety of the bridge and personnel and equipment that use the bridge.

Four of the in-river bridge piers (piers 12 through 15) are armoured with 50 kg riprap. This application is for the placement of additional 1.0 m thick, 100 kg riprap around a total of 15 bridge piers (piers 2 through 16). The design drawing for these works is included in Appendix B.

Table 1 below outlines the approximate quantities of riprap to be installed. The area of protective riprap around each pier is approximately 16.8 m x 9 m; which results in an instream footprint of approximately 150 m² per pier. The estimated new instream footprint for the placement of riprap around all 15 bridge piers is approximately 2,250 m².

Table 1: Approximate Quantities of Protective Riprap for Peace River Construction Bridge Piers

<table>
<thead>
<tr>
<th>Riprap area per pier</th>
<th>150 m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total area / in-stream footprint</td>
<td>2,250 m²</td>
</tr>
<tr>
<td>Riprap volume per pier</td>
<td>115 m³</td>
</tr>
<tr>
<td>Total volume</td>
<td>1,725 m³</td>
</tr>
</tbody>
</table>

Riprap will be trucked in and stockpiled on the bridge deck (no more than 16 m³ at one time). An excavator, positioned on the bridge deck above the pier, will select riprap from the stockpile and place it on the riverbed around the bridge pier. Excavation of bed material will not be required. Riprap shall first be placed on the upstream side of the pier, followed by placement in the downstream direction, in accordance with the shape specified in the design drawing (Appendix B).

The top elevation of the riprap will not exceed 406.5 m. The normal water level of the Peace River is 410.5 m, therefore the depth of water above the riprap would be 4.0 m.
A side-scan sonar survey of the bridge pier will be completed to confirm that all riprap has been placed in accordance with the specifications.

1.2 Location and Land Description
The centrepoint coordinates of the Peace River Construction Bridge are: 56.191778, -120.897653.
The works are located on BC Hydro owned lands with the following description:
- District Lot 4425 Peace River District as shown on Plan EPP85446

2 PUBLIC BOATER ACCESS
The Peace River Construction Bridge is contained within the dam site construction area and does not affect navigation access to any key destinations for water-based users. Debris booms situated approximately 4 km upstream of the Peace River Construction Bridge impede navigation upstream of the bridge. The bridge provides a minimum 4.5 m vertical x 17 m horizontal navigation channel between piers during a 50-year flood event to enable passage by vessels. A white light at the centerline of the main navigation channel, on the underside of the bridge deck, directs marine traffic through the site.

3 CONSULTATION
BC Hydro will provide information on the Peace River Construction Bridge pier scour protection works to Indigenous groups through one-to-one meetings, group discussion, or written correspondence, and will be available to respond to any questions or comments. Riprap rock placement around piers of a widened version of the Peace River Construction Bridge was proposed in TC letter to local Indigenous groups sent out March 12, 2018 (Navigation Protection Act file #2014-500336-001) and presented at Permitting Forum #8 held March 14, 2018 in Fort St. John. This application for riprap and the widening of the bridge resulted in a letter from TC stating that the work is not likely to substantially interfere with navigation. The bridge widening project was never initiated, however the scour protection proposed herein, represent no adverse effects to navigation as compared to the widening project.
Appendix A. Location Overview - Peace River Construction Bridge Pier Scour Protection
Construction of the Site C Clean Energy Project is subject to required regulatory and permitting approvals.

Peace River

Legend

- Pier Scour Protection

Map Notes:
1. Datum: NAD83
2. Projection: UTM Zone 10N
3. Base Data: Province of B.C.
4. Dam Site Imagery © Digital Globe
Appendix B. Design Drawing - Peace River Construction Bridge Pier Scour Protection