SITE C CLEAN ENERGY PROJECT

Component Application Package - Peace River Side Channel Crossings 18-1 A, B, C, D

For Canadian Navigable Waters Act

March 2, 2020

Submitted to:
Transport Canada
Suite 620 - 800 Burrard Street
Vancouver BC V6Z 2J8

Submitted by:
BC Hydro and Power Authority
Site C Clean Energy Project
PO Box 49260
Vancouver BC V7X 1V5
# TABLE OF CONTENTS

1. INTRODUCTION ........................................................................................................... 2
2. RESERVOIR CLEARING ............................................................................................... 2
3. CROSSING DESCRIPTIONS ............................................................................................. 2
   3.1 Location and land description .................................................................................. 3
4. OPERATIONAL CONSIDERATIONS .............................................................................. 3
5. CONSULTATION ........................................................................................................... 4
6. REFERENCES .................................................................................................................. 4

List of Appendices

Appendix A Peace River crossing map

Appendix B Peace River crossing drawings
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 submitted to Transport Canada for review.

This application package describes four temporary, all-season causeway crossings proposed for side channels on the Peace River, upstream of the Halfway River. The crossings are scheduled for installation in April 2020 would create a periodic restriction to navigation on a navigable waterway (Peace River), and as such requires CNWA approval.

2 RESERVOIR CLEARING

The future Site C reservoir will operate between elevations 460.0m – 461.8m. Forested areas in the future reservoir will be cleared in accordance with the Site C Vegetation Clearing and Debris Management Plan.

3 CROSSING DESCRIPTIONS

The proposed causeways would be constructed to allow machine access between the north bank of the Peace River and an island (18-1 A, D), as well as crossings across the island (ID #18-1 C, D). A map figure showing the locations of each crossing are included in Appendix A. Engineering drawings for each crossing are in Appendix B. Details on each crossing are described below:

Crossing ID: 18-1_A: The crossing is a ~90 m long constructed causeway with five culvert cross-drains (18 m long, 1 m diameter, corrugated steel pipe). The crossing spans a back channel on the north bank of the Peace River. Wetted widths in this channel range from <5 m to >65 m depending on the Peace River flow. The causeway would have a 5.0 m wide running surface and a top elevation of 419.8 m. The normal highwater elevation at this location is estimated to be 419.5 m. Details on the causeway materials and design profile are included Appendix B.

Crossing ID: 18-1_B: This causeway connecting the north bank of the Peace River and the island would be 160 m long with a 5 m wide running surface. Flows on either side of the causeway would be passed by eight, corrugated steel pipe culverts (CSP) (1 m diameter, 16 m long). The top of causeway elevation would be 419.8 m. The estimated high water elevation at this location is 419.5 m.

Crossing ID: 18-1_C: A 65 m causeway would be constructed across an ephemeral channel across the mid-channel island the Peace River. This causeway would have a 5 m wide running surface with 3 CSP culverts (1 m
diameter, 17.0 m long) to ensure flows would pass under it. The top of causeway and estimated high water mark at this location are 419.0 and 419.3 m, respectively.

**Crossing ID: 18-1_D:** This crossing of an ephemeral channel on a mid-channel island on the Peace River would be 115 m long, 5 m wide, with a top elevation of 419.3 m. The estimated high water elevation at this location is estimated to be 419.0 m. A set of engineering design drawings, inclusive of elevations and profile design information, is included in Appendix A.

Each causeway would be left in place following completion of the clearing work and inundated by the future reservoir.

### 3.1 Location and land description

The side channel crossings are located on the Peace River, approximately 2 km upstream of the Halfway River confluence. All crossings are located on Crown land where BC Hydro holds an Occupant Licence to Cut to clear the land (OLTC application #17; Licence #L51376). The location coordinates and land description for each crossing is listed in Table 1.

**Table 1.** Location and land description of each crossing.

<table>
<thead>
<tr>
<th>Crossing ID</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Land Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-1_A</td>
<td>56.206539</td>
<td>-121.476101</td>
<td>Crown Foreshore covered by water between and within the high water boundary being part of the bed of the Peace River and the Peace River lying within Those Portions of Parcel A (J26233) of the West 1/2 of the West 1/2 of Section 19 Township 83 Range 22 West of the 6th Meridian Peace River District as shown on Plan 26887 Except Plan 33505 and Unsurveyed (theoretical) Crown Land of the Remainder South West 1/4 Section 19 Township 83 Range 22 West of the 6th Meridian Peace River District</td>
</tr>
<tr>
<td>18-1_B</td>
<td>56.200484</td>
<td>-121.48903</td>
<td>Crown Foreshore covered by water and within the high water boundary being part of the bed of the Peace River and the Peace River lying within the North East 1/4 Section 13 Township 83 Range 23 West of the 6th Meridian Peace River District and Unsurveyed (theoretical) Crown Land Islands within Section 13 Township 83 Range 23 West of The 6th Meridian Peace River District</td>
</tr>
<tr>
<td>18-1_C</td>
<td>56.196659</td>
<td>-121.483049</td>
<td>Unsurveyed (theoretical) Crown Land Islands within Section 13 Township 83 Range 23 West of The 6th Meridian Peace River District</td>
</tr>
<tr>
<td>18-1_D</td>
<td>56.196335</td>
<td>-121.485321</td>
<td>Unsurveyed (theoretical) Crown Land Islands within Section 13 Township 83 Range 23 West of The 6th Meridian Peace River District</td>
</tr>
</tbody>
</table>

### 4 OPERATIONAL CONSIDERATIONS

Each crossing has been designed to be free-draining, so backwatering is not expected to occur. All causeway crossings would be marked in accordance with CNWA approval documents issued for the works.
5 CONSULTATION

The crossings described herein were initially designed as winter-only crossings for the Site C Middle Reservoir clearing plans. Due to changes in the reservoir clearing schedule, these crossings are required for months when air temperature low enough for snow making is not expected. The middle reservoir clearing plans, including access routes and side channel crossings were presented as part of the permit bundle presented to local indigenous groups at the Site C Permitting Forum #11 held February 14, 2019.

6 REFERENCES

Appendix A
Peace River Crossing Map
Construction of the Site C Clean Energy Project is subject to required regulatory and permitting approvals.

Map Notes:
1. Datum: NAD83
2. Projection: UTM Zone 10N
3. Base Data: Province of B.C.
4. Imagery: ESRI Online Basemapping.

© BC Hydro 2020 - all rights reserved. This map is for information purposes only and accuracy is not guaranteed.

Site C Middle Reservoir Clearing Bridges
CWNA Approval Application

DRAFT - FOR DISCUSSION PURPOSES ONLY
Appendix B

Peace River Crossing Drawings
## SITE -C
### MIDDLE RESERVOIR
#### 18.1-A

### DRAWING LIST

<table>
<thead>
<tr>
<th>DRAWING NO</th>
<th>DRAWING TITLE</th>
<th>REVISION</th>
</tr>
</thead>
<tbody>
<tr>
<td>17PG0123-900-100</td>
<td>SITE PLAN AND PROFILE</td>
<td>A</td>
</tr>
<tr>
<td>17PG0123-900-101</td>
<td>PROFILE AND SECTIONS</td>
<td>A</td>
</tr>
<tr>
<td>17PG0123-900-102</td>
<td>CAUSEWAY OPTION - GENERAL ARRANGEMENT</td>
<td>A</td>
</tr>
<tr>
<td>17PG0123-900-103</td>
<td>CAUSEWAY OPTION - PROFILE AND NOTES</td>
<td>A</td>
</tr>
</tbody>
</table>

### DESCRIPTION:

**ISSUED FOR REVIEW**

**ISSUE DATE:** 20/02/12
GENERAL ARRANGEMENT

NOT FOR CONSTRUCTION
### DRAWING LIST

<table>
<thead>
<tr>
<th>DRAWING NO</th>
<th>DRAWING TITLE</th>
<th>REVISION</th>
</tr>
</thead>
<tbody>
<tr>
<td>17PG0123-1000-1960-001</td>
<td>SITE PLAN AND PROFILE</td>
<td>B</td>
</tr>
<tr>
<td>17PG0123-1000-1960-002</td>
<td>PROFILE AND SECTIONS</td>
<td>B</td>
</tr>
<tr>
<td>17PG0123-1000-1960-003</td>
<td>CAUSEWAY OPTION GENERAL ARRANGEMENT</td>
<td>B</td>
</tr>
<tr>
<td>17PG0123-1000-1960-004</td>
<td>CAUSEWAY OPTION PROFILE AND NOTES</td>
<td>B</td>
</tr>
</tbody>
</table>
# SITE - C
## MIDDLE RESERVOIR
### 18.1-C

**DRAWING LIST**

<table>
<thead>
<tr>
<th>DRAWING NO</th>
<th>DRAWING TITLE</th>
<th>REVISION</th>
</tr>
</thead>
<tbody>
<tr>
<td>17PG123-500-1960-100</td>
<td>SITE PLAN AND PROFILE</td>
<td>A</td>
</tr>
<tr>
<td>17PG123-500-1960-101</td>
<td>PROFILE AND SECTIONS</td>
<td>A</td>
</tr>
<tr>
<td>17PG123-500-1960-102</td>
<td>CAUSEWAY OPTION - GENERAL ARRANGEMENT</td>
<td>A</td>
</tr>
<tr>
<td>17PG123-500-1960-103</td>
<td>CAUSEWAY OPTION - PROFILE AND NOTES</td>
<td>A</td>
</tr>
</tbody>
</table>

**DESCRIPTION:**

**ISSUED FOR REVIEW**

**ISSUE DATE:** 20/02/12

© BC Hydro 2021

Allnorth 2021

CONSTRUCTION

NOT FOR

print

Ansible "B"

革命时刻