

## **SITE C CLEAN ENERGY PROJECT**

# **Component Application Package – Halfway River Temporary Access Bridge Crossings 19.2F, G, H & I**

**Notification of Work (Public Resolution)**

**For Canadian Navigable Waters Act**

**November 10, 2020**

**Submitted to:**

Transport Canada  
Navigation Protection Program  
Suite 1100 - 1166 W Pender Street  
Vancouver, BC V6E 2R9

**Submitted by:**

BC Hydro and Power Authority  
Site C Clean Energy Project  
9<sup>th</sup> Floor – 1111 West Georgia Street.  
Vancouver BC V6E 4M3

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**Site C Clean Energy Project – Halfway River Temporary Access Bridges  
Design for Crossings 19.2F, G, H & I**

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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. Works required for construction and operation of the Site C Clean Energy Project (the Project) that occur on, over, under or through navigable waterways, as defined by the CNWA, must be permitted.

The Halfway River is a Peace River tributary between Fort St John and Hudson's Hope, BC and is not named in the CNWA Schedule of navigable waters. However, once the Site C reservoir is filled, the Halfway River lower reaches will become part of the Peace River, a Schedule waterbody under the CNWA.

This application is being submitted as a Notification of Work (Public Resolution) for the construction of four (4) temporary bridge and causeway crossings over the Halfway River.

## **2 HALFWAY RIVER TEMPORARY CROSSINGS – RESERVOIR CLEARING**

Site C Reservoir clearing in the lower Halfway River drainage requires machine access to both banks of the river and the construction of new access roads. There are seven bridge/causeway crossings that cross the mainstem of the Halfway River, with four back channel crossings, that are part of the new access road development. BC Hydro has submitted the following Notifications of Work for the mainstem bridge/causeway crossings: Registry #1493, #1846, #1851, #1852, #1853, #1855, #1846, #1851, #1852, #1853 and #1855.

This Notification of Work request is for two mainstem and two backchannel crossings over the Halfway River, labelled as 19.2F, 19.2G, 19.2 H and 19.2I, as shown in Attachment A maps. These four crossing replace the 19.7A multi-crossing design, previously submitted under Registry #1846, #1851, #1852, #1853 and #1855. The redesign is required due to changes in the slope of the north bank of the Halfway River caused by a recent high rain fall event.

The crossings span portions of the Halfway River that are Crown Land and are within the Occupant Licence to Cut (OLTC 19) area held by BC Hydro. The dimensions and approximate location of each crossing at site 19.2 are provided in Table 1.

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## Site C Clean Energy Project – Halfway River Temporary Access Bridges Design for Crossings 19.2F to 19.2I

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**Table 1. Location, dimensions and land descriptions for revised Halfway River crossings at 19.2F, 19.2G, 19.2H & 19.2I.**

Halfway River Crossing ID	Bridge Length (m)	North Causeway Length (m)	South Causeway Length (m)	Latitude	Longitude	Land Description of Halfway River Crossing
19.2F	60.96 (2 x 30.480 m)	10	206	56.245644	-121.543624	Crown Foreshore, bed of the Halfway River and the Halfway River located within the North 1/2 of Section 34 Township 83 Range 23 West of The 6th Meridian Peace River District.
19.2G	1 x 36.576	10	19	56.243827	-121.541807	
19.2H	1 x 36.576	45	27	56.242464	-121.542580	
19.2I	73.152 (2 x 36.576 m)	56	15	56.236174	-121.553038	

### 2.1 DESIGN OF CROSSING 19.2F, G, H & I

The general arrangement, dimensions and specifications for crossing 19.2F to 19.2I are provided in the drawing package in Attachment B. Each bridge will be designed by an engineering professional. Each crossing will have the capacity to pass the daily average flow estimated for the seasonal (September - April), 1 in 10-year return period (124 m<sup>3</sup>/s).

The causeways and bridge approaches would be constructed from local river bed materials and supplemented with imported granular material and riprap rock. Alternatively, snow or a combination of snow and granular material, may be used to develop the approaches and causeways. This option is likely due to construction occurring during winter conditions. Due to the timing of the construction, riprap will be placed only where required during final field fit.

A centre pier to support the bridge over the widest section of the channel, would be constructed out of concrete lock blocks placed on a riprap base to provide a platform, outside of the river flow, for the lock blocks. The riprap base will be capped with granular material to ensure the platform is level and can be compacted to provide stability for the structures.

### 2.2 CONSTRUCTION SEQUENCE AND SCHEDULE

Construction of the Halfway River temporary access crossings began in October 2020 at the downstream end (Site ID 19.3A) and is progressing upstream as each crossing is built. Construction of the bridge/causeway crossings at 19.2F to 19.2I is planned to begin mid-December 2020.

Minor changes to location and bridge sizing may be required in order to field fit each crossing to site conditions that exist during construction. These changes may be required due to the dynamic changes in gravel bar and channel locations that occur frequently in this drainage.

Decommission of the crossings will involve bridge deck, abutment and pier removal such that navigation access can be reinstated by May 1, 2021. Causeway materials will remain in place, unless minor openings are required for fish migration. The future Site C reservoir would cover the causeway materials after reservoir filling is completed in 2024, and each causeway would be shown in future reservoir maps.

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### **3 PUBLIC BOATER ACCESS**

Construction of temporary crossings in the Halfway River channel is expected to block boater access to lower portions of the Halfway River between September 1, 2020 and April 30, 2021. A map showing the river blockage extent has been included in Attachment A.

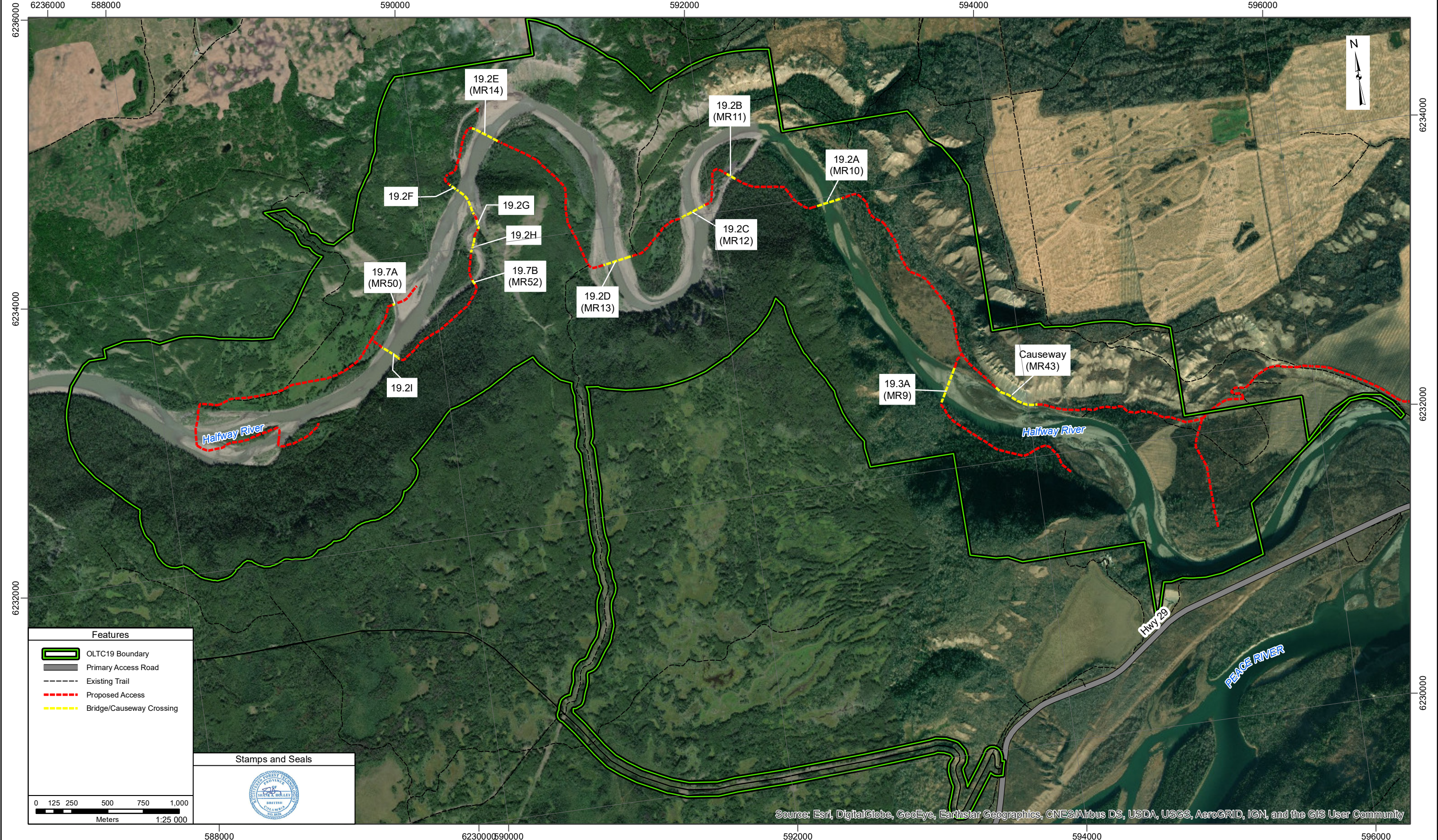
Crossings would be removed in April 2021 and boating access would be reinstated on or before May 1, 2021. The Halfway River boat launch would remain open during this period.

Communication to boaters ahead of river closures has been done in accordance with the Site C Boater Communication Protocol (Site C [Construction Safety Management Plan](#), Section 5.3.4.2). Signs that are visible to boaters are installed in various locations along the Halfway River alerting them to the upcoming blockage and potential hazard.

**Attachment A – Maps**

**Overview Map of Halfway River Temporary Access Crossings  
Map of Halfway River Blockage Extent**

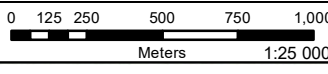
No.	Revisions	Made	Chkd	Appd	Date



**Features**

- OLTC19 Boundary
- Primary Access Road
- Existing Trail
- Proposed Access
- Bridge/Causeway Crossing

**Stamps and Seals**





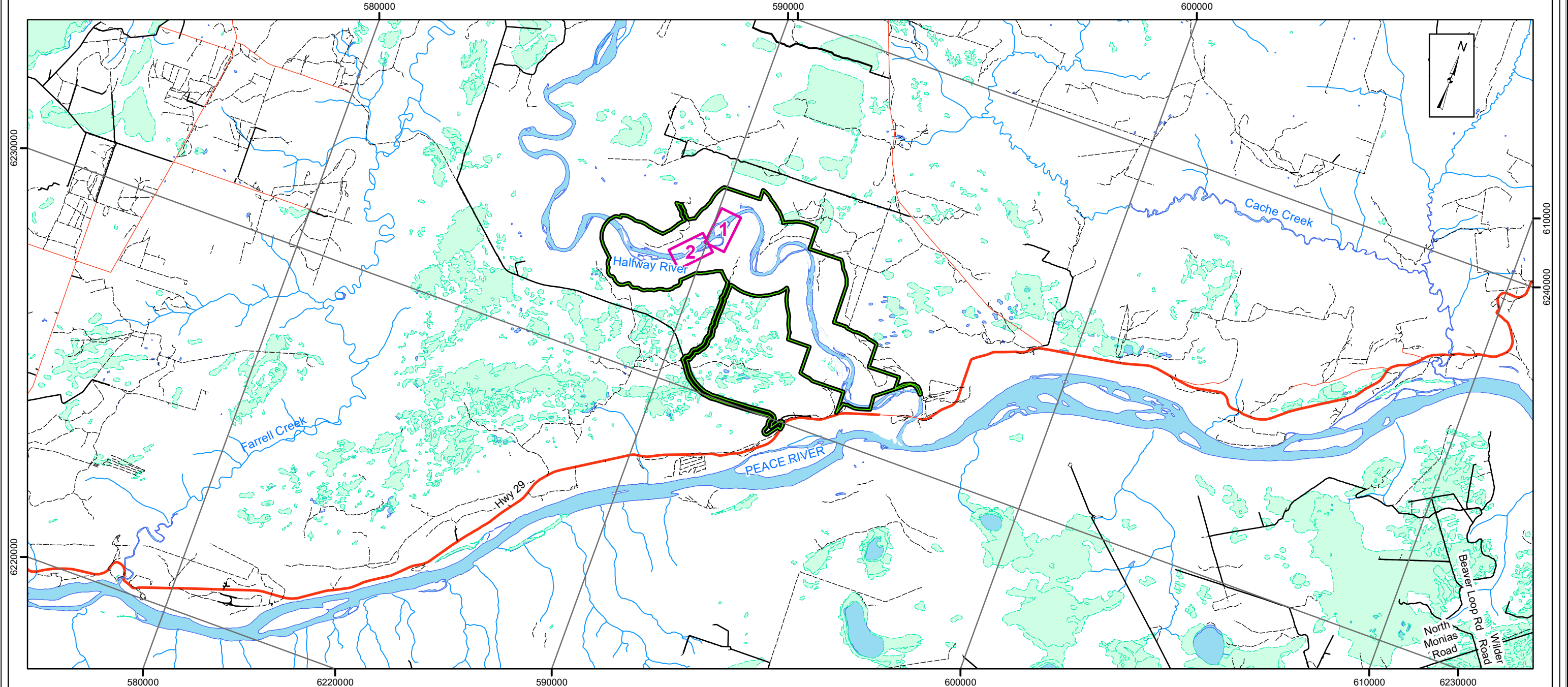
Projection: UTM Zone 10, NAD83  
 Geographic Center of Map:  
 E: 592,703 Longitude: 121°30'17.73"W  
 N: 6,231,905 Latitude: 56°13'22.81"N

No.	Revisions	Made	Chkd	Appd

Mapsheet Ref.: 94A.023  
 Location: Halfway River  
 Resource District: Peace

Drawing No.: OLTC19-N11-000011B  
 Revision: 1  
 Date: 21 Oct 20

Site C Clean Energy Project  
 Middle Reservoir  
 OLTC19 - Halfway River  
 Crossing ID: 19.2F, G, H, I; 19.7B Location  
 Index Map

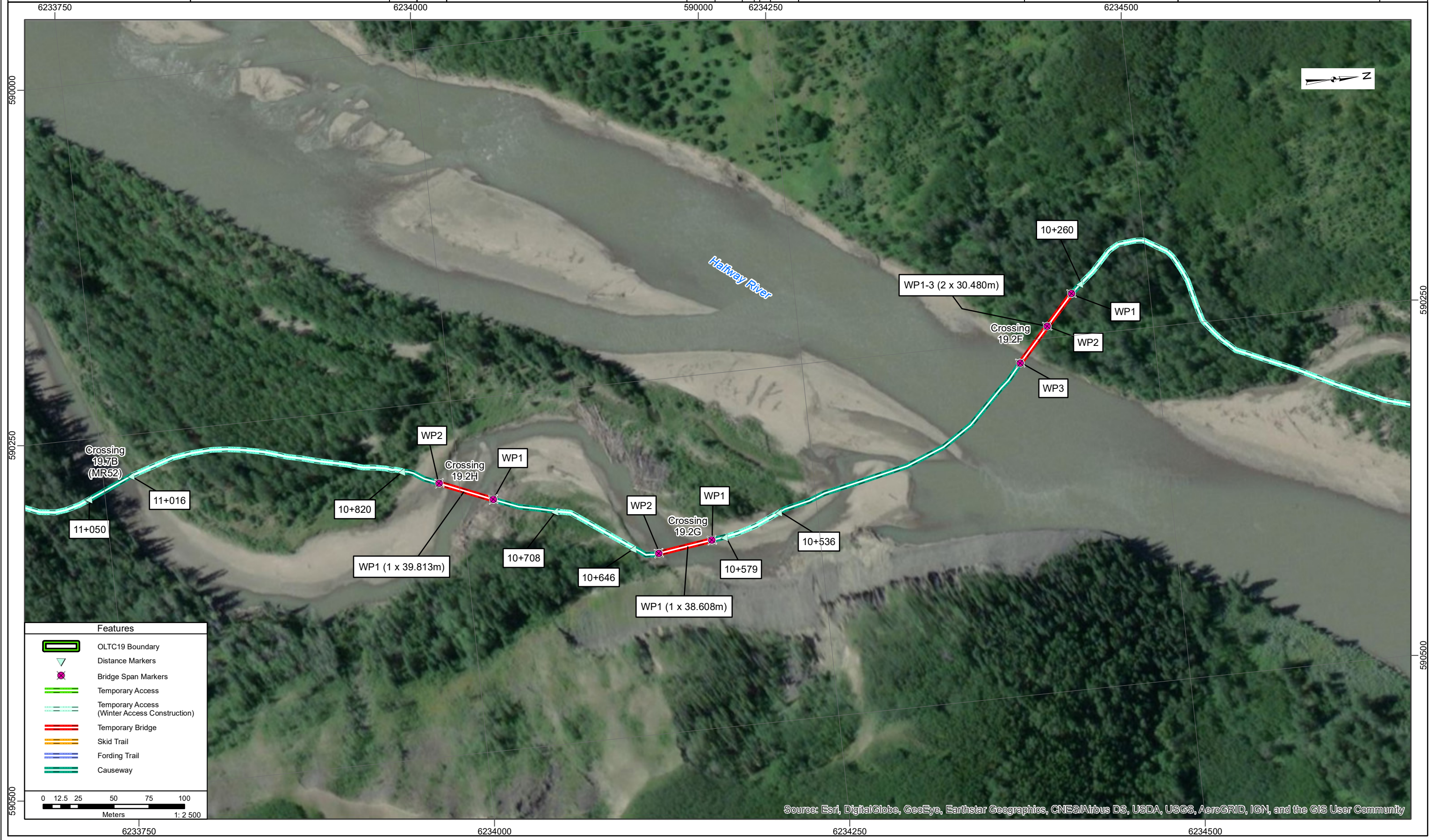


Strip Maps / Clearing Limit	Roads	Water
OLTC19 Boundary	Highway	Stream/Creek
1: 2500 Map Sheets	Paved road	River/Lake
	Road Permit / Tenure	Wetland
	Gravel or non-status	

0 1 2 4 6 8  
 Kilometers 1:100 000



No.	Revisions	Made	Chkd	Appd	Date

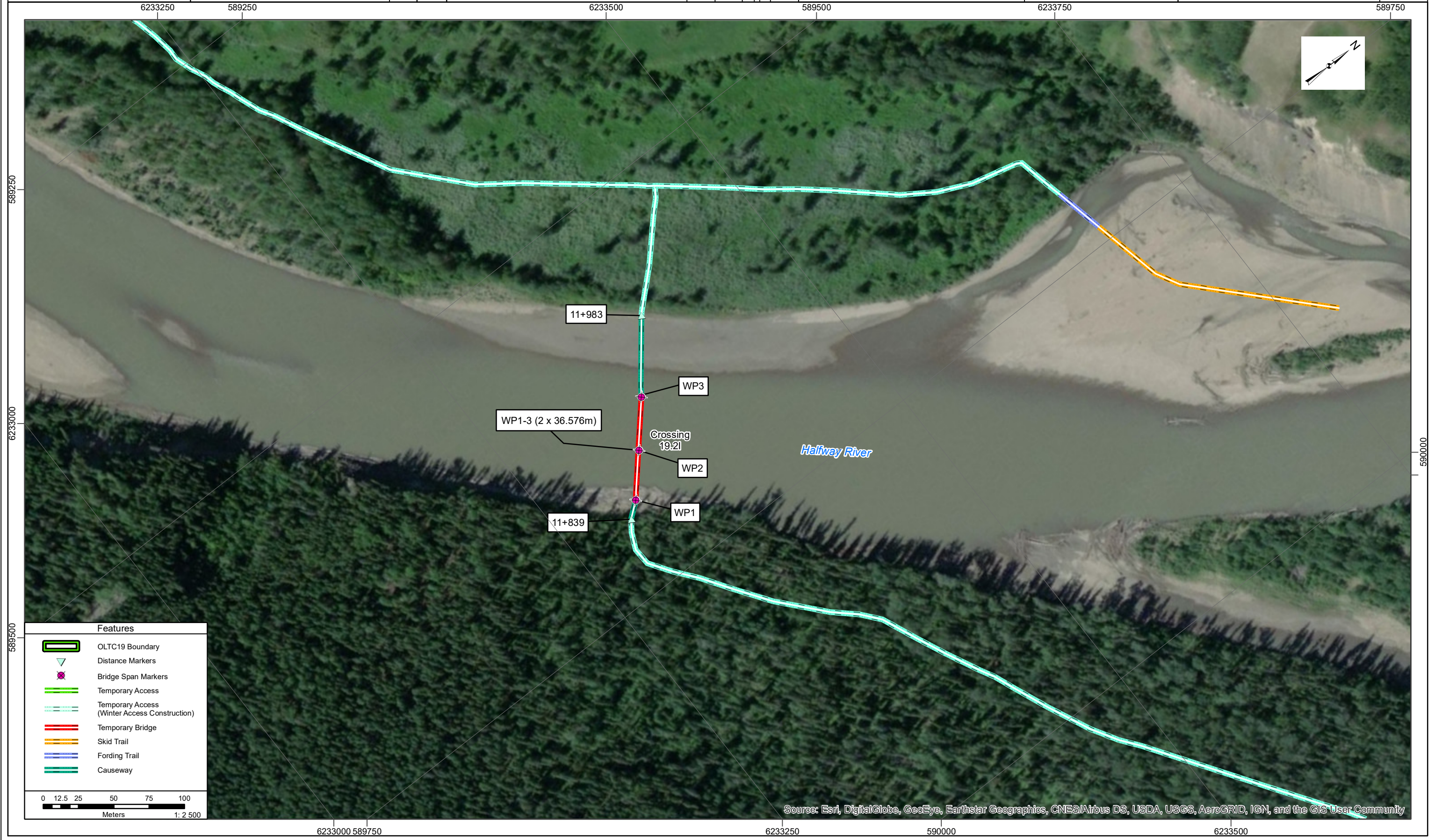


**Features**










- OLTC19 Boundary
- Distance Markers
- Bridge Span Markers
- Temporary Access
- Temporary Access (Winter Access Construction)
- Temporary Bridge
- Skid Trail
- Fording Trail
- Causeway

0 12.5 25 50 75 100  
 Meters 1:2,500

No.	Revisions	Made	Chkd	Appd	Date

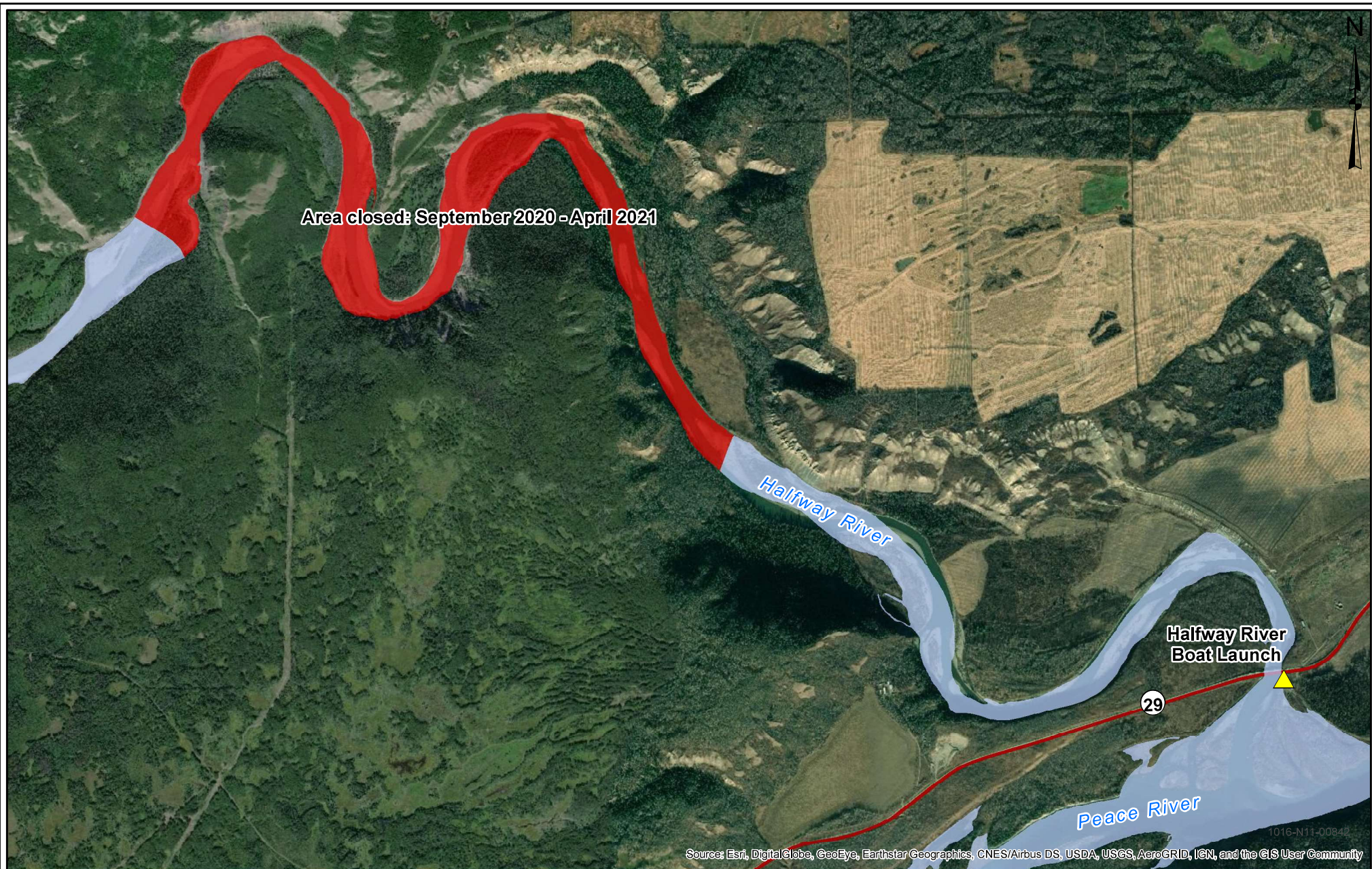


**Features**

-  OLTC19 Boundary
-  Distance Markers
-  Bridge Span Markers
-  Temporary Access
-  Temporary Access (Winter Access Construction)
-  Temporary Bridge
-  Skid Trail
-  Fording Trail
-  Causeway

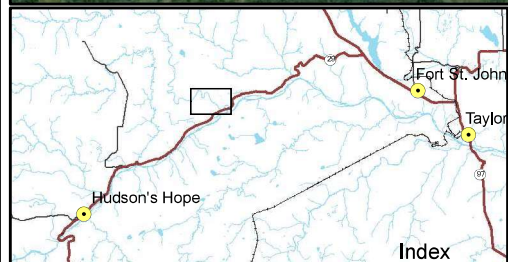
0 12.5 25 50 75 100  
 Meters 1: 2,500

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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1016-N11-00842



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

**Legend**

- Area closed: September 2020 - April 2021
- ▲ Halfway River Boat Launch
- Highway

1:30,000 0 1 km



**Halfway River Closure Area**

DATE	May 14, 2020	1016-N11-00842	R 0
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X:\ArcGIS\Projects\Public Affairs\Halfway River\Closure - 1016-N11-00842.mxd

**Attachment B**

**Design Drawings, Plan and Profile Views of Revised Temporary Access Crossings at  
19.2F, 19.2G, 19.2H and 19.2I over Halfway River**