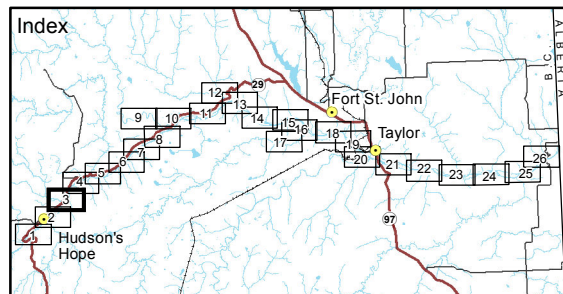
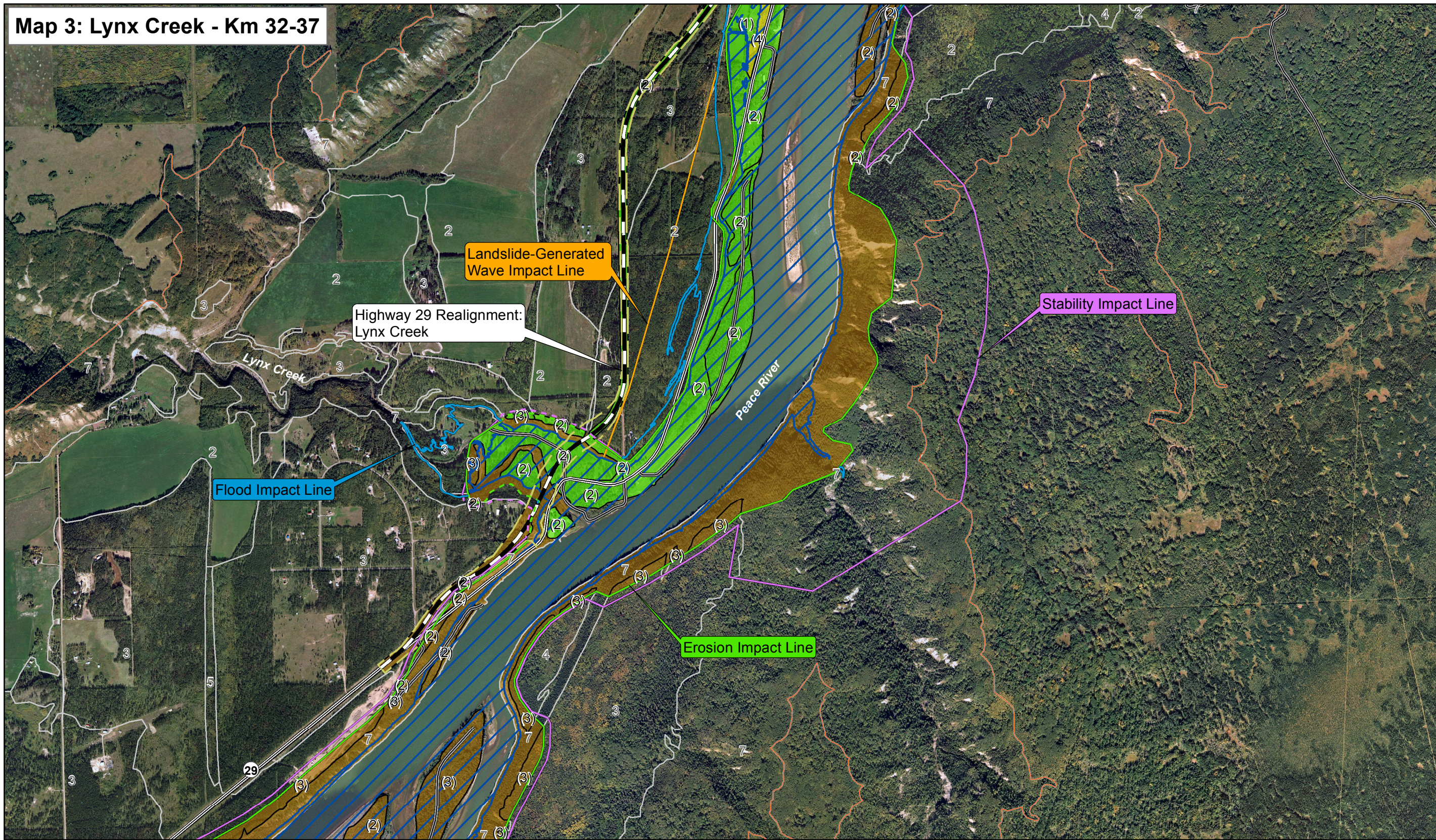


Kilometre	Current Conditions	Reservoir Conditions and Preliminary Impact Lines Related to the Proposed Site C Reservoir
32-37	<p>Location</p> <p>This map sheet covers from approximately river kilometre 32 to 37 (measured downstream from the W.A.C. Bennett Dam).</p> <p>It encompasses lands situated either side of Lynx Creek, located near river kilometre 34.</p> <p>Geology and Topography</p> <p>Upstream of Lynx Creek on the north side of the river, the banks predominantly comprise interbedded sand, silt and clay that, in most locations, are capped by a thick layer of sand and gravel.</p> <p>At and downstream of Lynx Creek on the north bank, the reservoir shoreline would be located in sand and gravel. The slopes on the north bank upstream of Lynx Creek are moderately steep to steep and range from about 25 to 50 degrees. Downstream of Lynx Creek, the slopes tend to be flatter and are not as high. Where the slopes are steeper they are often subject to shallow landslides and erosion.</p> <p>The south bank predominantly comprises interbedded sand, silt and clay that, in most locations, is capped by a thick layer of sand and gravel. Immediately opposite and downstream of Lynx Creek the banks are much higher and there is evidence that large landslides have occurred on these higher slopes in the past.</p> <p>Highway 29 and Other Infrastructure</p> <p>Highway 29 is located along the north bank of the river.</p>	<p>Proposed Reservoir</p> <p>Within this map sheet, the proposed Site C reservoir would have a width ranging from about 350 metres to 800 metres. Based on the river surface elevation at the time of topographic survey, the reservoir would cause an increase in water depth over river conditions ranging from about 14 metres at the upstream end to about 16 metres at the downstream end.</p> <p>Preliminary Impact Lines</p> <p>Due to the steepness of the slopes upstream of Lynx Creek, on the north bank and all along the south bank, the reservoir shoreline and the flood impact line would be located close together in aerial-view when the reservoir is first filled.</p> <p>The flood impact line extends further inland at the upstream end of the inundated section of Lynx Creek and along the low-lying terraces immediately downstream of Lynx Creek. On rare occasions, flooding of these low-lying areas could occur due to wind-generated waves combined with high reservoir levels, or from small landslide-generated waves.</p> <p>Upstream of Lynx Creek, up to approximately 65 metres of shoreline erosion is predicted within the interbedded sand, silt and clay materials over the life of the project and so the position of the flood impact line will move inland over time as the shoreline evolves. The erosion impact line is typically located between 50 and 75 metres from the crest of the slope and the stability impact line is typically located between 75 and 100 metres from the crest of the slope. It is extremely unlikely that sudden landslides will reach the position of the stability impact line within the life of the project.</p> <p>Downstream of Lynx Creek, up to approximately 10 metres of shoreline erosion is predicted within the sand and gravel shoreline materials over the life of the project. The erosion impact line is typically located between 5 and 10 metres from the crest of the slope and the stability impact line is located between 10 and 15 metres from the crest of the slope. Where the banks are very low, the flood impact line extends further inland than the stability impact line.</p> <p>Low-lying terraces downstream of Lynx Creek could also potentially be affected by waves caused by landslides originating from the south bank of the proposed reservoir. Consequently, a landslide-generated wave impact line has been defined in this area. It roughly follows the 472 metre contour located east of Millar Road north of Lynx Creek. The likelihood of landslide-generated waves reaching the landslide-generated wave impact line over the life of the project is considered extremely low.</p> <p>Highway 29 Preferred Realignment – Lynx Creek</p> <p>The highway embankments and causeways associated with the Highway 29 preferred realignment across Lynx Creek will incorporate erosion protection and slope stabilization measures where they are located adjacent to the shoreline. With construction of Highway 29 realignment through these sections, no erosion or stability impacts are predicted as a result of the reservoir. However, natural processes such as shallow landslides and surface erosion are expected to continue.</p>
	<p>Agriculture Assessment</p> <p>Improved (irrigated and/or drained) agricultural land capability ratings are provided for the Site C project component areas where additional soil survey work has been undertaken as part of the Agriculture Assessment.</p> <p>For remaining lands outside the Site C project component areas, including the Peace River valley downstream of the Site C dam, unimproved agricultural land capability ratings are provided. The unimproved ratings reflect published agricultural capability maps from the 1970s, based on an assumed low climatic moisture deficit (CMD) during the growing season in the range of 34 mm. However, subsequent climate studies have confirmed much drier conditions in the Peace River valley, with a CMD in the range of 148 mm, which results in a Class 3 unimproved climatic capability rating. With irrigation, it is likely that Peace River valley soils downstream of the Site C dam historically rated as Class 2 or Class 3 with aridity or soil water holding capacity limitations, which would now be rated as unimproved Class 3 due to climatic limitations, would improve to Class 2 or Class 1 with irrigation.</p>	<p>Land Use Within Preliminary Impact Lines</p> <p><i>BC Hydro has developed an approach to land use on private property within the impact lines. The approach focuses on public safety, maximizing flexibility for land owners, and minimizing the amount of land required by the project. BC Hydro's approach would be as follows:</i></p> <ul style="list-style-type: none"><i>BC Hydro would purchase land between the current river shoreline and the area required for the proposed reservoir, up to the Maximum Normal Reservoir Level (461.8 metres above sea level)</i><i>No new residential structures would be permitted within impact lines</i><i>Non-residential structures could remain, pending site specific geotechnical assessment</i><i>Within the Stability Impact Line, existing residential structures could remain for a period of time, at the owner's request and provided a site-specific geotechnical assessment determines that it is safe to do so</i><i>Within the Flood, Erosion or Landslide-Generated Wave Impact Line, existing residential structures would not be permitted to remain, to protect public safety</i><i>Other activities such as agriculture, grazing and trapping could continue within the impact lines</i> <p><i>The establishment of reservoir impact lines is intended to ensure public safety while maximizing land use flexibility, and to minimize the amount of land required by the project. BC Hydro will purchase the property rights required for the impact lines. Where impacts and implications on zoning, land use and property acquisition cannot be avoided, BC Hydro will identify and evaluate options for mitigation.</i></p> <p><i>BC Hydro is meeting directly with property owners whose land may be impacted to discuss their specific property interests.</i></p>
	<p>Peace River Valley Definition</p> <p>BC Hydro defined the Peace River Valley as a spatial area, reflecting the Peace River mainstem from the Peace Canyon Dam to the B.C.-Alberta border. The upper edge of the Peace River Valley is defined as the crest of the top of high bank slopes, typically between El. 620 and 850m. The purpose of spatially defining the valley was to provide a consistent area for use where relevant in the Environmental Impact Statement.</p>	

Map 3: Lynx Creek - Km 32-37



Map Notes:
1. Datum/Projection: NAD83/UTM Zone 10N.
2. Orthophotos created from 1:40,000 scale photography taken Sept. 2007; 1:20,000 scale photography taken June, 2007; TRIM, Bing Maps Aerial 2012.
3. Proposed maximum normal reservoir level (full supply level-461.8m) from Digital Elevation Models (DEM) generated from LIDAR data acquired July/August, 2006. The surface area of the reservoir will change over time after reservoir filling as a result of shoreline erosion and deposition of sediment.
4. Preliminary flood impact line is based on an elevation of 466 m and is only shown when located outside of the preliminary erosion impact line.
5. Exact extent of Hudson's Hope Berm yet to be determined.
6. The amount of water level fluctuation downstream of the proposed dam will be dependent on factors such as the flow volume, depth, width and slope of the river.

Legend

- Proposed Reservoir
- Peace River Valley Definition
- Highway 29
- Access Routes
- Preferred Highway Realignment
- Preferred Highway Realignment Right-Of-Way

Preliminary Impact Lines

- Preliminary Flood Impact Line
- Preliminary Erosion Impact Line
- Preliminary Erosion Impact Line - Subject to final highway design
- Preliminary Landslide-Generated Wave Impact Line
- Preliminary Stability Impact Line
- Preliminary Stability Impact Line - Subject to final highway design

Agriculture

Agriculture Utility Class

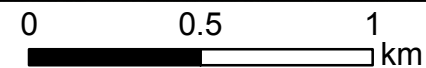
- High
- Moderate
- Low

Agriculturally Improved Capability Class (eg. with irrigation)

Capability Class 1-7 (Dominant)

Unimproved Capability Class

Capability Class 1-7 (Dominant)



		Preliminary Impact Lines, Highway 29 Realignments & Agriculture Assessment		
Date	March 2013	DWG NO	1016-C14-B6192	R 1

The Site C Clean Energy Project requires environmental certification and other regulatory permits and approvals before it can proceed to construction. The information presented in these maps reflects current planning for the Site C Clean Energy Project and is subject to change as the project continues to be further defined.