

April 19, 2018

Coastal GasLink Pipeline Ltd.
450 - 1st Street SW
Calgary, AB T2P 5H1

Attention: Coastal GasLink Pipeline Ltd.

RE: Determination of Application Area Number 100100769

Permit Holder: Coastal GasLink Pipeline Ltd.

Date of Issuance: April 19, 2018

Effective Date: April 19, 2018

Application Submitted Date: February 2, 2017

Application Determination Number: 100100769

Approved Disturbance Footprint: 16.716 ha

ACTIVITIES APPROVED

Associated Oil & Gas Activity No.: 00156725	Type: Storage Area
Changes In and About a Stream: 0003777	

GENERAL PERMISSIONS, AUTHORIZATIONS and CONDITIONS

PERMISSIONS

Petroleum and Natural Gas Act

1. The BC Oil and Gas Commission (the "Commission") pursuant to section 138 of the *Petroleum and Natural Gas Act* hereby permits the Permit Holder referenced above to construct and operate a related activity(s) as detailed in Activities Approved table above and the Activity Details table(s) below, when applicable, for the purposes of carrying out oil and gas activities as defined in the *Oil and Gas Activities Act* (OGAA); subject to the conditions set out herein.
2. The permissions and authorizations granted under this permit are limited to the area identified in the spatial data submitted to the Commission in the permit application as identified and dated above; herein after referred to as the 'activity area'.
3. The Commission, pursuant to section 138(1) of the *Petroleum and Natural Gas Act*, hereby permits the occupation and use of any Crown land located within the activity area.
 - a) The permission to occupy and use Crown land expires two years from the date of issuance, unless the Commission has received notice of construction start, or this permit is otherwise extended, suspended, cancelled, surrendered or declared spent.
 - b) The permission to occupy and use Crown land does not entitle the Permit Holder to exclusive possession of the activity area.

- c) The total disturbance within the activity area must not exceed the total approved disturbance footprint as referenced above.

AUTHORIZATIONS

Forest Act

4. The Commission, pursuant to section 47.4 of the *Forest Act*, hereby authorizes the removal of Crown timber from the activity area under the cutting permits associated with the Master Licence(s) as follows:

Master Licence to Cut No.: M02342

Cutting Permit No.: 12

Timber Mark No.: MTC012

Total New Cut: 11.27

Forest District: (DVA) Vanderhoof Natural Resource District

Region: Interior

5. The cutting permits are deemed spent upon the submission of the post-construction plan or upon either the cancellation or expiry of the activities approved under the permit.

Water Sustainability Act

6. The Commission, pursuant to section 11 of the *Water Sustainability Act*, authorizes the changes in and about a stream, as detailed in the Activities Approved table above, within the activity area for construction and maintenance activities, unless otherwise restricted by this authorization
- a) Instream works must be carried out in accordance with the methods and any mitigations, as specified in the application.

CONDITIONS

Notification

7. A notice of construction start must be submitted, as per the relevant Commission process at the time of submission, at least 48 hours prior to the commencement of activities under this permit.
8. Within 60 days of the completion of construction activities under this permit, the Permit Holder must submit to the Commission a post-construction plan as a shapefile and PDF plan accurately identifying the location of the total area actually disturbed under this permit. The shapefile and plan must be submitted via eSubmission.
9. At least 5 (five) working days prior to the commencement of construction, the Permit Holder must provide a notice of works to any First Nation(s) who may have Aboriginal Interests identified, as per the BC First Nations Consultative Areas Database, within the area in which the works are to occur.

General

10. The rights granted by this permit in relation to unoccupied Crown land are subject to all subsisting grants to or rights of any person made or acquired under the *Coal Act, Forest Act, Land Act, Mineral Tenure Act, Petroleum and Natural Gas Act, Range Act, Water Sustainability Act* or *Wildlife Act*, or any extension or renewal of the same.
11. The Permit Holder must not assign, sublicense or permit any person, other than its employees, contractors or representatives, to use or occupy any Crown land within the activity area without the Commission's written consent.
12. The Permit Holder must ensure that the activity area is maintained in a condition so as to minimize hazards, including but not limited to hazards associated with storage of materials and equipment.
13. The Permit Holder must ensure that the activity area is free of garbage, debris and unused equipment.

Environmental

14. Construction activities must not result in rutting, compaction or erosion of soils that cannot be reasonably rehabilitated to similar levels of soil productivity that existed on the activity area prior to the construction activities taking place.
15. Any temporary access must be constructed and maintained in a manner that provides for proper surface drainage, prevents pooling on the surface, and maintains slope integrity.
16. The Permit Holder must make reasonable efforts to prevent establishment of invasive plants on the activity area associated with the related activities set out in the Authorized Activities table above resulting from the carrying out of activities authorized under this permit.
17. Following completion of construction associated with the associated activities set out in the Authorized Activities table above, the Permit Holder must, as soon as practicable
 - a) decompact any soils compacted by the activity;
 - b) if natural surface drainage pattern was altered by the carrying out of the activity, the Permit Holder must restore, to the extent practicable, to the drainage pattern and its condition before the alteration; and
 - c) re-vegetate any exposed soil on the activity area including, where necessary, using seed or vegetative propagules of an ecologically suitable species that
 - (i) promote the restoration of the wildlife habitat that existed on the area before the oil and gas activity was begun, and
 - (ii) stabilize the soil if it is highly susceptible to erosion.
 - d) Following completion of construction activities authorized herein, any retrievable surface soils removed from the activity area must be redistributed so that the soil structure is restored, to the extent practicable, to its condition before the activity was begun.

Clearing

18. The Permit Holder is permitted to fell any trees located on Crown land within 1.5 tree lengths of the activity area that are considered to be a safety hazard according to *Workers Compensation Act* regulations and must be felled in order to eliminate the hazard. Trees or portions of these trees that can be accessed from the activity area without causing damage to standing timber may be harvested.
19. The holder of the cutting permit must pay to the government, stumpage and any waste billing determined in accordance with the terms of this authorization.
20. The authorized cutting permit does not grant the Permit Holder the exclusive right to harvest Crown timber from the activity area. Authority to harvest some or all of the timber may be granted to other persons. The Permit Holder's right to harvest timber applies to any timber found on the site at the time they undertake harvesting activities.
21. All harvested Crown timber must be marked with the cutting permit's associated timber mark.
22. Stumpage for Cutting Permit No.12 will be calculated in accordance with the Interior Appraisal Manual as amended from time to time.
23. Any waste assessments applied under the Master Licence to Cut are subject to the merchantability specifications and monetary waste billing requirements in the Provincial Logging Residue and Waste Manual specific to the region associated with the cutting permit authorization.

Water Course Crossings and Works

24. Stream, lake and wetland crossings must be constructed in accordance with the methods and any mitigations, as specified in the application.
25. In-stream activities within a fish bearing stream, lake or wetland must occur:
 - a) during the applicable reduced risk work windows as specified in the Region 7 Omineca – Reduced Risk Timing Windows for Fish and Wildlife; or
 - b) in accordance with alternative timing and associated mitigation recommended by a qualified professional and accepted by the Commission; or

- c) in accordance with an authorization or letter of advice from Fisheries and Oceans Canada that is provided to the Commission.
26. At any time, the Commission may suspend instream works authorized under this permit. Suspensions on instream works will remain in place until such time as the Commission notifies Permit Holders that works may resume. Reasons for suspension of works may include, but are not limited to, drought conditions and increased environmental or public safety risks.
27. Mechanical stream crossings must be constructed, maintained and deactivated according to the following requirements, as applicable:
- a) Only bridges, culverts, ice bridges or snow fills may be constructed at stream crossings;
 - b) The Permit Holder must ensure that permanent bridges are designed and fabricated in compliance with
 - i. the Canadian Standards Association Canadian Bridge Design Code, CAN/CSA-S6; and
 - ii. soil property standards, as they apply to bridge piers and abutments; set out in the Canadian Foundation of Engineering Manual.
 - c) Except with leave of the Commission, the Permit Holder must ensure that:
 - i. any culverts used are designed and fabricated in compliance with the applicable:
 - (a) Canadian Standards Association CSA G401, Corrugated Steel Pipe Products; or
 - (b) Canadian Standards Association Standard CSA B1800, Section B182.2, Plastic Non-pressure Pipe Compendium, or
 - ii. Any pipe installed in lieu of a culvert is of at least equivalent standard and strength as any culvert as specified above.
 - d) Except with leave of the Commission, the Permit Holder must ensure that bridges and culverts meet the criteria set out in (i), (ii), or (iii) below:
 - i. The bridge or culvert is designed to pass the highest peak flow of the stream that can reasonably be expected within the return periods set out in column 2 the table below for the period the Permit Holder anticipates the structure will remain on site, as set out in column 1 in the table below:

Column 1 Anticipated period crossing structure will remain on site	Column 2 Peak flow period
Bridge or culvert, 3 years or less	10 years
Bridge other than a bridge within a community watershed, more than 3 years but less than 15	50 years
Bridge within a community watershed, more than 3 years	100 years
Bridge, 15 years or more	100 years
Culvert, more than 3 years	100 years

- ii. The bridge, or any component of the bridge:
 - (a) is designed to pass expected flows during the period the bridge is anticipated to remain on the site;
 - (b) is constructed, installed and used only in a period of low flow; and
 - (c) is removed before any period of high flow begins.
- iii. The culvert:
 - (a) is a temporary installation, and the Permit Holder does not expect to subsequently install a replacement culvert at that location;
 - (b) is not installed in a stream, when the stream contains fish;

- (c) is sufficient to pass flows that occur during the period the culvert remains on the site;
 - (d) is installed during a period of low flow; and
 - (e) is removed before any period of high flow begins.
 - e) Ice bridges on fish bearing streams may only be constructed where sufficient water depth and stream flows prevent the bridge structure from coming in contact with the stream bottom;
 - f) Water applied to construct an ice bridge on a water body must be sourced in accordance with the *Water Sustainability Act* unless
 - i. the water body is a stream with a stream channel width of at least 5 metres and is not designated as a sensitive stream under the *Fish Protection Act*, or has a riparian class of W1, W3, or L1,
 - ii. the water is sourced from the same water body proximal to the location on which the ice bridge is constructed,
 - iii. the water body is not within the boundaries of a public park,
 - iv. pump intakes do not disturb beds of streams or wetlands and are screened with a maximum mesh size and approach velocity in accordance with the Fisheries and Oceans Canada Freshwater Intake End-of-Pipe Fish Screen Guideline, and
 - (a) where the water body is a stream, the flow of water in the stream at the time and location of pumping exceeds 60 litres per second and the instantaneous pumping rate does not exceed 1% of the water flowing in the water body at the time and location the pumping occurs, or
 - (b) where the water body is a lake or pond, the cumulative volume of water withdrawn does not exceed 10 cm of lake or pond depth, calculated as the product of lake or pond surface area x 10 cm;
 - g) Records of water withdrawal and corresponding streamflow measurements are maintained by the Permit Holder and provided to the Commission upon request;
 - h) Snow fills must consist of clean snow and may only be located on streams that are dry or frozen to the bottom during the period of construction, maintenance and use. Where periodic thaws are anticipated, culverts must be installed to allow meltwater to pass through. Snow fill and any installed culverts must be removed prior to spring snow melt;
 - i) Bridge or culvert abutments, footings and scour protection must be located outside the natural stream channel and must not constrict the channel width;
 - j) Equipment used for activities under this approval must not be situated in a stream channel unless it is dry or frozen to the bottom at the time of the activity.
- 28. Following initial construction, stream, lake and wetlands crossings are **authorized** for necessary pipeline maintenance activities on the activity area except for:
 - a) works within the boundary of a provincial park;
 - b) stream bank or stream bed revetment works in a stream classified as S1, S2, S3, S4 or S5;
 - c) pipe replacement within the stream channel where the original application specified a trenchless crossing method and the planned works involve a trenched crossing method;
 - d) permanent alteration of a stream bank;
 - e) works within a Temperature Sensitive Stream established by order under s. 27 of the Environmental Protection and Management Regulation; or
 - f) works within a Fisheries Sensitive Watershed established by order under s. 28 of the Environmental Protection and Management Regulation.
- 29. The Permit Holder must ensure any instream works related to pipeline maintenance are planned and overseen by a qualified professional. This individual must assess and determine whether planned works

pose a risk to any of the features listed below, and is responsible for developing and implementing mitigation measures to reduce any potential impacts on these features, as required:

- a) Fish or important fisheries habitat;
- b) Species identified as special concern, threatened, or endangered under the federal *Species at Risk Act*; or
- c) Species identified by Order as a species at risk under the *Forest and Range Practices Act* or the *Oil and Gas Activities Act*.

This assessment must be provided to the Commission upon request.

30. Wetland crossings must be constructed, maintained and removed in accordance with the following:

- a) Organic cover within and adjacent to the wetland must be retained;
- b) Minimize erosion or release of sediment within the wetland;
- c) Any padding materials must be placed on the wetland surface only and must not be used for infilling;
- d) Any padding materials must be removed as soon as practicable following construction, considering weather and ground conditions; and
- e) The wetland, including banks and bed, must be restored, to the extent practicable, to the condition that existed before the crossing was initiated.

31. Open cut crossings and works within streams, lakes or wetlands must be planned and conducted in accordance with the following requirements:

- a) An open cut of a stream classified as S1, S2, S3 or S4 must not occur, unless the stream is frozen to its bed or is completely dry with no evidence of subsurface flow;
- b) Where the streambed or substrate consists of rocks, pebbles or coarse gravel overlaying finer material, this material must be removed and stockpiled separately above the high water mark of the stream for replacement during restoration;
- c) Materials referred to in (b) above must be excavated and stockpiled in a manner that minimizes sediment dispersal within the stream, lake or wetland and must be replaced in a manner that minimizes disturbance to the stream, lake or wetland following pipeline installation;
- d) Unless otherwise authorized by Fisheries and Oceans Canada, spawning gravels must not be disturbed when redds that contain eggs or alevins are present. The authorization must be provided to the Commission;
- e) Channels, banks and beds of wetlands, including any disturbed stable natural material, must be restored, to the extent practicable, to the structure and conditions that existed before the crossing construction was initiated;
- f) Excavated materials must be contained using appropriate techniques, so that that sediment-laden water and spoil do not re-enter the stream lake or wetland;
- g) Any sediment-laden trench water must be pumped onto stable surfaces in a manner that does not cause erosion of soils or release of suspended sediments to watercourses.
- h) Where feasible, aquatic vegetation and organic debris removed from the construction area must be salvaged and returned following trench backfilling; and channels, banks and beds of streams, including any disturbed stable natural material must be restored, to the extent practicable, to the structure and conditions that existed before the crossing construction was initiated.

32. Flow isolation crossings and works must be planned and conducted in accordance with the condition above regarding open cut crossings, and the following additional requirements:

- a) Construction of the crossing or works, including the location and operation of any equipment, must be isolated from water flowing in the stream;
- b) Welding, coating, weighting and, where applicable testing, of the pipe must be completed prior to commencement of trenching within fish-bearing water bodies;

- c) Water from flumes, pump-arounds, diversions, or other methods must be released to downstream areas in a manner that avoids erosion or sediment release;
 - d) Pump intakes must not disturb beds of fish bearing streams, lakes or wetlands except as necessary to ensure safe installation and operation of equipment, and must be screened with maximum mesh sizes and approach velocities in accordance with the Fisheries and Oceans Canada Freshwater Intake End-of-Pipe Fish Screen Guideline;
 - e) Water flows downstream of in-stream construction sites must be maintained at volume and discharge consistent with upstream flows; and
 - f) Ditch plugs must be maintained at or near the banks of the crossing and left in place until the crossing has been initiated.
33. Except to facilitate a crossing, the permit holder must not undertake construction or significant maintenance activities within 10m of any stream, wetland or lake.
34. The Permit Holder must ensure that the activities authorized under this approval do not result in any deleterious materials being deposited into a stream, wetland or lake.

Archaeology

35. An AIA report must be submitted to the Commission as soon as practicable.
36. If artifacts, features, materials or things protected under section 13(2) of the Heritage Conservation Act are identified the permit holder must, unless the permit holder holds a permit under section 12 of the Heritage Conservation Act issued by the Commission in respect of that artifact, feature, material or thing:
- a) immediately cease all work in the vicinity of the artifacts, features, materials or things;
 - b) immediately notify the Commission and the Archaeology Branch of the Ministry of Forests, Lands and Natural Resource Operations
 - c) refrain from resuming work in the vicinity of the artifacts, features, materials or things except in accordance with an appropriate mitigation plan that has been prepared in accordance with the Heritage Conservation Act and approved by the Archaeology Branch of the Ministry of Forests, Lands and Natural Resource Operations.

ADVISORY GUIDANCE

1. Construction plan CGW4703-MCSL-G-MP-837-CLEAR_CREEK_STOCKPILE_SKETCH-Rev1.pdf is for the Permit Holder's internal reference only and was not reviewed as a decision tool for this permit, nor does it form an integral part of this permit.
2. Unless a condition or its context suggests otherwise, terms used in this approval have the same meaning as the Environmental Protection and Management Regulation under the *Oil and Gas Activities Act*.
3. Appropriate tenure will be issued upon acceptance of the post-construction plan. Submission of the original application and submission of the post-construction plan is considered an application for all subsequent applicable *Land Act* tenures. Upon the Commission's acceptance of the post-construction plan no further applications for replacement tenure are required.

All pages included in this permit and any attached documents form an integral part of this permit.



Jacqueline Bourke
Authorized Signatory
Commission Delegated Decision Maker

Copied to:

First Nations – Carrier Sekani Tribal Council, Nak'azdli First Nation (CSTC), Nadleh Whut'en First Nation (CSTC), Saik'uz First Nation (CSTC)
Ministry of Forests District Office – (DVA) Vanderhoof Natural Resource District