

Commission Number: 9642636

June 24, 2016

LNG Canada Development Inc.
400 – 4th Avenue SW
Calgary, AB T2P 0J4

Attention: Surface Land Administrator

Re: Authorization for Changes in and About a Stream

AUTHORIZATION

1. The Oil and Gas Commission (Commission), under section 11 of the *Water Sustainability Act*, hereby authorizes LNG Canada Development (the "permit holder") to occupy and use the Crown land area identified in plan number 04-034-001_REVB, sheet 1 of 1, revision B, dated May 16, 2016 (the "construction plan"), submitted to the Commission dated May 25, 2016 (hereinafter referenced together as the "operating area") to make changes in and about a stream for the purposes of carrying out oil and gas or related activities as defined in the *Oil and Gas Activities Act*, subject to the conditions set out below.

CONDITIONS

2. A notice of construction start must be submitted to the Commission a minimum of 48 hours prior to the commencement of activities under this authorization. Notification must be sent to OGC.ExternalNotifications@bcogc.ca.
3. Within 60 days of the completion of construction activities under this authorization, the permit holder must submit to the Commission a post-construction plan as an ePASS shape file and PDF plan accurately identifying the location of the total area actually disturbed under this authorization. The shape file and plan must be submitted to postconstructionplan@bcogc.ca.
4. Any substance, sediment, debris or material that could adversely impact the stream
 - (1) must not be allowed or permitted to enter or leach or seep into the stream from an activity, construction, worksite, machinery or from components used in the construction of any works, or
 - (2) must not be placed, used or stored within the stream channel;
5. Spawning gravels must not be disturbed when redds that contain eggs or alevins are present
6. The permit holder must verify that no adult salmon are present prior to installation of fish exclusion fencing.
7. Activities associated with this permit must be completed by August 1, 2016 or in accordance with authorization or written advice from Fisheries and Oceans Canada
8. The permit holder must notify the Haisla Nation a minimum of five (5) days prior to project commencement.
9. The permit holder must ensure that riparian management areas are maintained

10. During the restoration of a change in and about a stream, the authorization holder must ensure that:
 - a. any structures constructed to cross the stream are removed, and
 - b. the channel is restored to its natural state, to the extent practicable
11. Equipment used while conducting works must be situated in a dry stream channel or operated from the top of the bank.

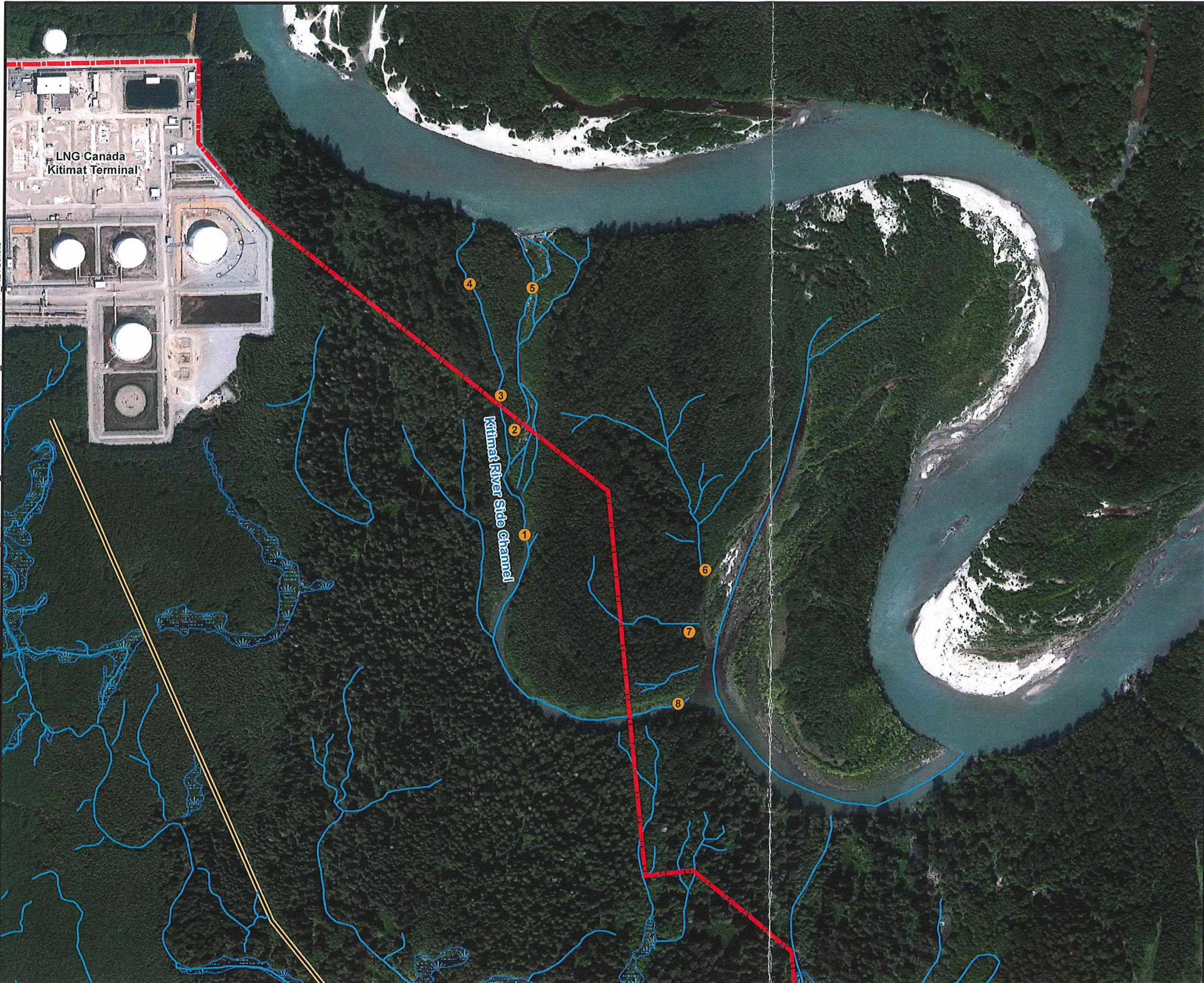
The attached plan(s) form an integral part of this authorization



Ashley Istead
Natural Resource Officer

pc: Worley Parsons Canada (for AMEC Foster Wheeler) Attn: Mike Drake
Commission Number: 9642636
FN Community: Haisla Nation

T:\LNG Canada\407011-00306 LNG Canada\10_Eng\16_Geomatics\07_ESRI_Projects\MXD\WORKING\04_REGULATORY_PERMITTING\04-034-001_REV\04-034-001_REV.B.mxd



Legend

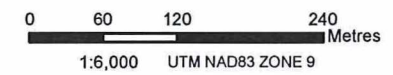
- Proposed Fish Fence
- Facility Boundary (OGC Facility Permit Application)
- Watercourse
- Existing RioTinto Dyke and Road
- Wetlands

Fish Fence	UTM 9 N Easting (m)	UTM 9N Northing (m)
1	521148	5986280
2	521131	5986451
3	521108	5986507
4	521056	5986689
5	521158	5986682
6	521443	5986223
7	521418	5986122
8	521400	5986005

Notes:
1. Wetlands and watercourse data provided by Stantec January 27, 2016.

B.C.G.S Map Sheet 103I.007
N.T.S. Map Sheet 103I-2-SE-2

ePASS #: 10056345



B	REVISION	LK	MD			16/05/16
A	INITIAL DRAFT	LK	MD			27/04/16
REV. NO.	DESCRIPTION	BY	CHKD	APVD	APVD	DATE

REVISIONS



LNG CANADA PROJECT

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TITLE:

KITIMAT RIVER SIDE CHANNEL
FISH FENCES

UNIT:
LOCATION: KITIMAT PLANT:

FIG No.: 1 SIZE: B REV: B

FILE NAME:
04-034-001_REV.B

9642636

OGC File: 9642636

LNG Canada Development Inc.
400-4th Avenue SW,
Calgary, AB T2P 0J4

Attention: LNG Canada Development Inc.

Re: Approval for Changes in and About a Stream

Date of issuance: September 22, 2015

The Oil and Gas Commission hereby authorizes the holder under section 9 of the *Water Act* to make changes in and about streams, at the locations identified on the Proposed Instream Work Areas For Early Works (October- December) drawing, dated August 28, 2015, subject to the following conditions:

1. Any substance, sediment, debris or material that could adversely impact the stream
 - a. must not be allowed or permitted to enter or leach or seep into the stream from an activity, construction, worksite, machinery or from components used in the construction of any works, or
 - b. must not be placed, used or stored within the stream channel;
2. Temporary material, fill, bridge, culvert, pump, pipe, conduit, ditch or other structure used in the construction of any works must be constructed and maintained only during the period of construction, and must be removed upon completion of the works;
3. During the temporary ford of a stream the authorization holder must ensure that:
 - a. the construction occurs at a time of the year during which the construction can occur without causing harm to fish, wildlife or habitat,
 - b. the 1 in 10 year maximum daily flow over the ford is accommodated without the loss of the ford and without scouring the stream,
 - c. a stream culvert, if used, is designed and installed to pass the average low flow during the period of use,
 - d. the stream channel is protected against erosion during the period of construction and use of the ford, and
 - e. the temporary ford is removed at the end of the period of use at a time, before the next freshet, when the removal can proceed without causing serious harm to fish, wildlife or habitat.
4. During the restoration of a change in and about a stream, the authorization holder must ensure that:
 - a. any structures constructed to cross the stream are removed,
 - b. the channel is restored to its natural state, to the extent practicable,
 - c. the site of the crossing and associated approaches (including cut and fill slopes and ditch lines) are restored by:
 - i. stabilizing any waste materials removed from the site to above the high water mark to prevent them from entering the stream,
 - ii. re-vegetating disturbed areas associated with the crossing using seed or vegetative propagules of an ecologically suitable species,

-
- iii. redistributing coarse wood debris in a manner that aids soil stabilization, and
 - iv. ensuring that surface drainage associated with approaches will not transport sediments into the stream.

Additional Conditions:

1. The permit holder will notify the Haisla Nation two (2) working days prior to project commencement.
2. The permit holder must notify the Commission a minimum of 48 hours prior to the commencement of activities under this permit. Notification must be sent to OGC.ExternalNotification@bcogc.ca.

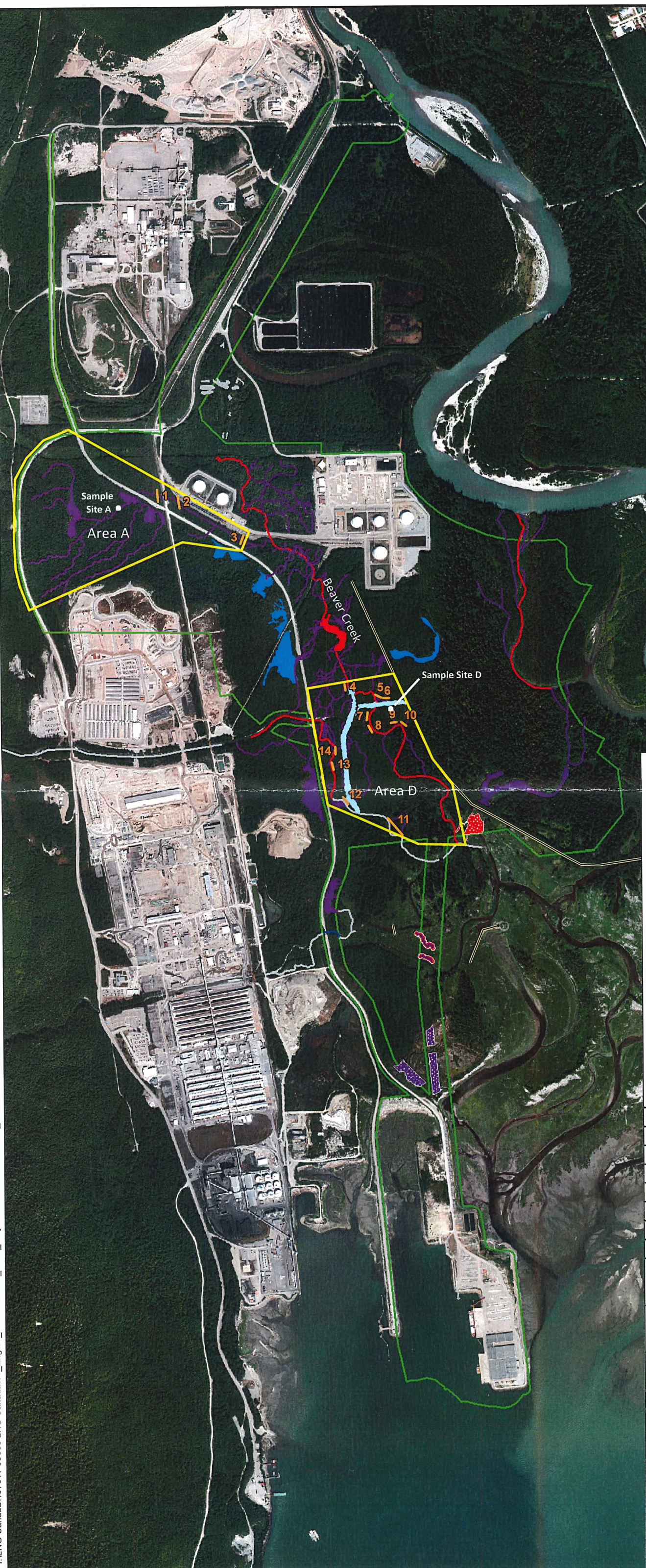
The attached plan(s) form an integral part of this authorization



Justin Anderson
Review Approval Resource Officer

cc: Roy Northern Land Service Ltd.
cc: OGC File No. 9642636
cc. Haisla Nation

T:\LNG Canada\407011-00306 LNG Canada\10_ENVIRONMENTAL\10-012-001_REVA\10-012-001_REVA.mxd



Fence	Easting	Northing
1	519484	5986870
2	519583	598 16
3	519872	5986660
4	520341	5985980
5	520489	5985941
6	520525	5985929
7	520441	5985846
8	520455	5985787
9	520566	5985818
10	520610	5985810
11	520566	5985337
12	520338	5985460
13	520281	5985617
14	520293	5985686

Legend

- Proposed Fish Fences
- Existing Dyke
- Proposed Instream Work Areas For Early Works
- Temporary Stream Realignment
- Certified Project Area

Affected Freshwater Fish Habitat Streams

Status

- Freshwater mainstem residual serious harm to fish*
- Freshwater off-channel residual serious harm to fish*
- Freshwater mainstem not residual serious harm to fish*
- Not affected by the project
- Residual serious harm to fish (estuarine aquatic habitat)*
- Freshwater off-channel residual serious harm to fish (estuarine aquatic habitat)*

NOTES:
* Residual serious harm to fish likely to result in a localized effect on a fish population, and for which a Fisheries Act authorization as well as fish habitat offsetting is considered to be required.
1. Freshwater & riparian habitat data provided by Stantec (July 2015).
2. Certified Project Area boundary as per EAO's Draft Certified Project Description (April 2015).

0 100 200 400
m
1:17,000 UTM NAD83 ZONE 9



A	INITIAL DRAFT	AK				28/08/15
REV. NO.	DESCRIPTION	BY	CHKD	APVD	APVD	DATE

REVISIONS



LNG CANADA PROJECT

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TITLE:					
PROPOSED INSTREAM WORK AREAS FOR EARLY WORKS (OCTOBER - DECEMBER)					
UNIT:					
LOCATION:			PLANT:		
KITIMAT					
FIG No.:				SIZE	REV.
1				B	A
9642636					

OGC File: 9642636

LNG Canada Development Inc.
400-4th Avenue SW,
Calgary, AB T2P 0J4

Attention: LNG Canada Development Inc.

Re: Approval for Changes in and About a Stream

Date of issuance: July 27, 2015

The Oil and Gas Commission hereby authorizes the holder under section 9 of the *Water Act* to make changes in and about streams, at the locations identified on the Project Overview (Figure No. 1) drawing, dated June 24, 2015, and the Project Location Of Infill Site On Kitimat River Sidechannel With Detail Of Fish Spawner Exclusion Fences (Figure No. 2) drawing, dated June 24, 2015, subject to the following conditions:

1. Any substance, sediment, debris or material that could adversely impact the stream
 - a. must not be allowed or permitted to enter or leach or seep into the stream from an activity, construction, worksite, machinery or from components used in the construction of any works, or
 - b. must not be placed, used or stored within the stream channel;
2. Temporary material, fill, bridge, culvert, pump, pipe, conduit, ditch or other structure used in the construction of any works must be constructed and maintained only during the period of construction, and must be removed upon completion of the works;
3. During the temporary ford of a stream the authorization holder must ensure that:
 - a. the construction occurs at a time of the year during which the construction can occur without causing harm to fish, wildlife or habitat,
 - b. the 1 in 10 year maximum daily flow over the ford is accommodated without the loss of the ford and without scouring the stream,
 - c. a stream culvert, if used, is designed and installed to pass the average low flow during the period of use,
 - d. the stream channel is protected against erosion during the period of construction and use of the ford, and
 - e. the temporary ford is removed at the end of the period of use at a time, before the next freshet, when the removal can proceed without causing serious harm to fish, wildlife or habitat.
4. During the restoration of a change in and about a stream, the authorization holder must ensure that:
 - a. any structures constructed to cross the stream are removed,
 - b. the channel is restored to its natural state, to the extent practicable,
 - c. the site of the crossing and associated approaches (including cut and fill slopes and ditch lines) are restored by:
 - i. stabilizing any waste materials removed from the site to above the high water mark to prevent them from entering the stream,
 - ii. re-vegetating disturbed areas associated with the crossing using seed or vegetative propagules of an ecologically suitable species,

- iii. redistributing coarse wood debris in a manner that aids soil stabilization, and
- iv. ensuring that surface drainage associated with approaches will not transport sediments into the stream.

Additional Conditions:

1. Spawning gravels must not be disturbed when redds that contain eggs or alevins are present.
2. The permit holder must verify that no adult salmon are present prior to installation of fish exclusion fencing.
3. Activities associated with this permit must be completed by August 1, 2015 or in accordance with an authorization or written advice from Fisheries and Oceans Canada.
4. The permit holder must notify Haisla Nation prior to commencement of activities.

The attached plan(s) form an integral part of this authorization



Justin Anderson
Review Approval Resource Officer

cc: Roy Northern Land Service Ltd.
cc: OGC File No. 9642636
cc. Haisla Nation



Existing Oil & Gas Facility

Railway

Road

Watercourse

Direction of Flow

S2 Stream Width > 5-20m

Dyke

Wetland / Pond

First Nations Reserve

BCGS Map Sheet 1031.007

NTS Map Sheet 103102

Fish Spawner Exclusion Fence

ePASS No.: 10052720

PROJECT OVERVIEW

LNG CANADA EXPORT TERMINAL

KITIMAT, BRITISH COLUMBIA

Stantec

LNGCANADA

Opportunity for British Columbia. Energy for the world

Fish and fish habitat assessment completed on June 20th, 2015 by Stantec Consulting Ltd., 4623 Park Avenue, Terrace BC V8G 1V5 (250) 638 0498

*This figure was prepared on June 23rd, 2015 by Stantec Consulting Ltd., 500-4730 Kingsway, Burnaby BC V5H 0C6 (604) 436-3014. Land ownership is based on online cadastral data and does not rely on legal survey data

*Oil & Gas facilities: DataBC, Government of British Columbia (GovBC). No Oil & Gas facilities from BC Oil & Gas Commission presented in the area.

PROJECTION: UTM 9

DATUM: NAD 83

DRAWN BY: SS

CHECKED BY: SW

DATE: 24-JUN-15

FIGURE NO: 1

9642036



Photo 1: Upstream location of fish spawner exclusion fence. UTM 9, E 521056 N 5986689



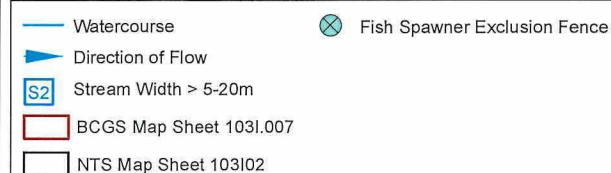
Photo 2: Flood channel #1. Location of exclusion fence to prevent spawner access during a high water event. Fence will be constructed on terrestrial area as line indicates. UTM 9, E 521108 N 5986507



Photo 3: Flood channel #2. Location of exclusion fence to prevent spawner access during a high water event. Fence will be constructed on terrestrial area as line indicates. UTM 9, E 521131 N 5986451



Photo 4: Downstream location of fish spawner exclusion fence. UTM 9, E 521148 N 5986280



PROJECT LOCATION OF INFILL SITE ON KITIMAT RIVER SIDECHANNEL WITH DETAILS OF FISH SPAWNER EXCLUSION FENCES

LNG CANADA EXPORT TERMINAL
KITIMAT, BRITISH COLUMBIA

*Fish and fish habitat assessment completed on June 20th, 2015 by Stantec Consulting Ltd., 4623 Park Avenue, Terrace BC V8G 1V5 (250) 638 0498
*This figure was prepared on June 23rd, 2015 by Stantec Consulting Ltd., 500-4730 Kingsway, Burnaby BC V5H 0C6 (604) 436-3014. Land ownership is based on online cadastral data and does not rely on legal survey data



B ip	PROJECTION:	UTM 9	DRAWN BY:	SS	DATE:	24-JUN-15
	DATUM:	NAD 83	CHECKED BY:	SW	FIGURE NO:	2

ePASS No.: 10052720

9642036