Eagle Mountain - Woodfibre Gas Pipeline Project

Amendment Application No. 2: Temporary Workforce Accommodation

Rev. 2

April 5, 2022

FortisBC Energy Inc.

Eagle Mountain - Woodfibre Gas Pipeline Project

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Table of Concordance

Table 0-1 summarizes the Amendment Application Requirements included in the British Columbia Environmental Assessment Office's (BC EAO's) 2020 Environmental Assessment Certificate (EAC) and Exemption Order Amendment Policy and where they are addressed in this Amendment Application.

Table 0-1. Concordance with the Amendment Application Requirements (EAC and Exemption Order Amendment Policy 2020)

Item No.	Amendment Application Requirements	Amendment Application Section
1	EAC#, Exemption Order # (if applicable), project name and current name of EAC or Exemption Order Holder	Section 1
2	Number and short summary of prior amendments	Section 1
3	Short, descriptive name for the proposed amendment (amendments will not be given a number until made)	Section 1
4	The reason for the proposed amendment	Section 2
5	Short description of the substance of the proposed EAC or Exemption Order changes (not proposed EAC or Exemption Order wording changes). That is, what the Holder is proposing to have amended and the rationale for it, including specifics of which sentence or condition is proposed for change, if applicable	Sections 1 and 2
6	If the EAC or Exemption Order was issued under a Former Act, a request for conditions for the transfer of "project", an "interest in a project", or "a significant interest in a project" to be removed.	Section 1
7	A description of potential project amendment interactions with any identified Indigenous interests	Section 10
8	The effect of the revised project on relevant valued components and Indigenous interests assessed in the project's environmental assessment or exemption application and proposed mitigation measures	Sections 8 and 10
9	A description of any Indigenous Knowledge that was used in developing the Application and confirmation that appropriate permissions are in place	Subsection 10.3
10	A table showing the valued components that have the potential to be affected by the proposed amendment, and required assessment matters (*Section 25* of the Act). The table should include a rationale if the Holder asserts that any required assessment matter is not relevant. For more information see the *Effects Assessment Policy* on BC EAO's website	Section 7
11	Any benefits or positive effects that would result from the revised project	Subsection 8.1
12	Any studies or assessments that would be relevant to the revised project that were submitted during the environmental assessment or exemption process	Section 4
13	Details of Indigenous nation, Stakeholder, public and agency engagement respecting the proposed amendment. That is, with whom did the Holder engage, what did it hear, what responses were provided, and how does the Holder propose to address any issues raised?	Subsection 3.3, Sections 10 and 11

Table 0-1. Concordance with the Amendment Application Requirements (EAC and Exemption Order Amendment Policy 2020)

Item No.	Amendment Application Requirements	Amendment Application Section
14	Government approvals that are related to the requested amendment including any permits or licences that are expected to also need amendment	Section 5
15	Proposed timeline for supplementary submissions in support of the application, and the parties, such as Indigenous nations, that may be engaged in this work	Section 12
16	For a potential simple amendment: rationale why the change is minimal, why there is no possibility of a significant adverse effect, why public interest is unlikely to be affected and why there is limited need for Indigenous or public engagement	Section 13

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Acronyms and Abbreviations

AIA	Archaeological Impact Assessment
AIR	Application Information Requirement
ALR	Agricultural Land Reserve
AMP	Access Management Plan
AOGA	Associated Oil and Gas Activities
ARD	acid rock drainage
BC	British Columbia
BC EAO	British Columbia Environmental Assessment Office
BC MFLNRORD	British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development
BC MoTI	British Columbia Ministry of Transportation and Infrastructure
BC OGC	British Columbia Oil and Gas Commission
CAC	criteria air contaminant
CEA	cumulative effect assessment
CPC	Certified Pipeline Corridor
CPD	Certified Project Description
CSIMP	Community Services and Infrastructure Management Plan
EA	Environmental Assessment
EAC	Environmental Assessment Certificate
EAC Application	Environmental Assessment Certificate Application
FortisBC	FortisBC Energy Inc.
FSE Working Group	FortisBC-Squamish Nation Environmental Working Group
FSR	forest service road
GHG	greenhouse gas
ha	hectare(s)
HCA	*Heritage Conservation Act*
IAAC	Impact Assessment Agency of Canada
km	kilometre(s)
KP	Kilometre Post
kt CO_2e	kilotonne(s) carbon dioxide equivalent
LAA	Local Assessment Area
m	metre(s)
m^2	square metre(s)

MMIWG	Missing and Murdered Indigenous Women and Girls
NPS	Nominal Pipe Size
OCP	Official Community Plan
OGAA	*Oil and Gas Activities Act*
OGMA	Old Growth Management Area
PAG	potentially acid generating
Q	Quarter
RAA	Regional Assessment Area
RUP	Road Use Permit
SARA	*Species at Risk Act*
SLRD	Squamish-Lillooet Regional District
SNEAA	Squamish Nation Environmental Assessment Agreement
TCMP	Traffic Control Management Plan
the *2002 Act*	*Environmental Assessment Act*, S.B.C. 2002, c. 43
the *2018 Act*	*Environmental Assessment Act*, S.B.C. 2018, c. 51
the Project	Eagle Mountain – Woodfibre Gas Pipeline Project
TLU	Traditional Land Use
TWA	temporary workforce accommodation
TWS	temporary workspace
UWR	Ungulate Winter Range
VAFFC	Vancouver Airport Fuel Facility Corporation
VC	Valued Component
VQO	visual quality objective
WAZ	work avoidance zone
WHA	Wildlife Habitat Area
WLNG	Woodfibre LNG Limited
WMA	Wildlife Management Area

1. Introduction

1.1 Project Background

FortisBC Energy Inc. (FortisBC) will construct and operate the Eagle Mountain – Woodfibre Gas Pipeline Project (the Project) - an approximately 47.7-kilometre (km) long, Nominal Pipe Size (NPS) 24 diameter sweet natural gas pipeline generally paralleling a portion of FortisBC's existing pipeline from the area north of the Coquitlam Conservation Reserve in Metro Vancouver British Columbia (BC) to the Woodfibre LNG Limited (WLNG) facility site, southwest of Squamish, BC (Figure 1-1).

The Project also includes the installation of two new electric drive compressor units within the existing Eagle Mountain Compressor Station in Coquitlam, BC with supporting facilities (electrical substation and transmission distribution lines), and a new gas turbine-powered compressor station to be located at one of two locations outside of the District of Squamish (including Mount Mulligan site or the WLNG facility site). Construction logistics, including temporary workspace (TWS), temporary workforce accommodation (TWA), use of existing barge landing sites, and the use of barges to transport people and materials are included in the Certified Project Description (CPD) in Section 5.

FortisBC conducted an environmental assessment (EA) for the Project under the the *Environmental Assessment Act,* S.B.C. 2002, c. 43 (the *2002 Act*) in 2014 and submitted the Environmental Assessment Certificate (EAC) Application (EAC Application) on January 9, 2015. During the review process for the EAC Application, four addenda were prepared for the Project in 2015.

Addendum 2 proposed a 2-hectare (ha) TWA to reduce marine traffic[1] and reduce pressure on local accommodation in the District of Squamish area. In addition to the EAC Application, Squamish Nation (Sḵwx̱wú7mesh Úxwumixw) conducted an independent EA, establishing the Squamish Nation Environmental Assessment Agreement (SNEAA) between FortisBC and Sḵwx̱wú7mesh Úxwumixw. On August 9, 2016, FortisBC received EAC No. E16-01 for the Project, including all four addenda under the *2002 Act.*

Since EAC No. E16-01 was issued by the BC Environmental Assessment Office (BC EAO), the following additional decisions have been issued:

- The EAC was extended to August 9, 2026 on August 6, 2021
- Amendment Application No. 1 was approved by BC EAO on November 22, 2021 and the EAC was amended to include the updated CPD. Certified Project changes in Amendment Application No. 1 (FortisBC 2020) included the following:
  - Stawamus Corridor Expansion
  - Coquitlam 3 km Pipeline Twinning
  - Eagle Mountain Compressor Station (expansion)
  - Squamish Compressor Station (amended design)
- Sḵwx̱wú7mesh Úxwumixw approved Amendment Application No. 1 in a harmonized process under the SNEAA on January 20, 2022

[1] As noted in subsection 1.1.2 of Addendum 2, the number of daily marine transport trips would be reduced if the TWA was at or within 5 km of the WLNG facility site compared to local accommodation in the Squamish area, since workers would remain overnight in the TWA. However, Addendum 2 conservatively assumed the maximum numbers of barge trips for transporting personnel from the Squamish area (936 round trips) assuming a TWA could be in the Squamish area. The specific requirements for marine transport would be determined during the Project permitting phase.

1.2 Proposed Amendment

This assessment is prepared in support of a second amendment to EAC No. E16-01 (Amendment Application No. 2) pursuant to Section 32 of the BC *Environmental Assessment Act, S.B.C. 2018, c. 51* (the *2018 Act*).

Addendum 2 assessed a land or sea based TWA to house 150 to 250 workers at or within 5 km of the WLNG facility site. The EAC CPD allows for a 2 ha TWA to be located anywhere within or outside of the Certified Project Corridor (CPC).

As result of continued Project planning, including engagement with potential construction contractors and TWA service providers, FortisBC seeks to amend the CPD to change the allowable footprint of the TWA from 2 ha to 7 ha (the "proposed amendment").

Section 5 of the CPD currently provides:

- "Construction camp to a maximum area of 2 ha"

The proposed amendment seeks to replace this provision with the following:

- "Construction camp to a maximum area of 7 ha"

FortisBC proposes expanding the TWA's allowable footprint to house approximately 600 workers from 150 to 250 workers to reduce Project-related demand on local accommodation and services. The Project's total estimated workforce is not anticipated to change.

No transfer of interest in the Project is being requested.

This Amendment Application No. 2 provides an assessment of the potential effects of a 7 ha TWA to house approximately 600 workers located within or outside the CPC. In particular, this Amendment Application No. 2 provides an assessment of potential effects on Valued Components (VCs) and Indigenous interests (that is, asserted Aboriginal Rights, including Title, or such determined Aboriginal or Treaty Rights) (the "effects assessment"). This effects assessment also assesses the matters set out in Section 25(2) of the *2018 Act*.

Table 1-1 provides a summary of the Project to date.

Table 1-1. Project Information

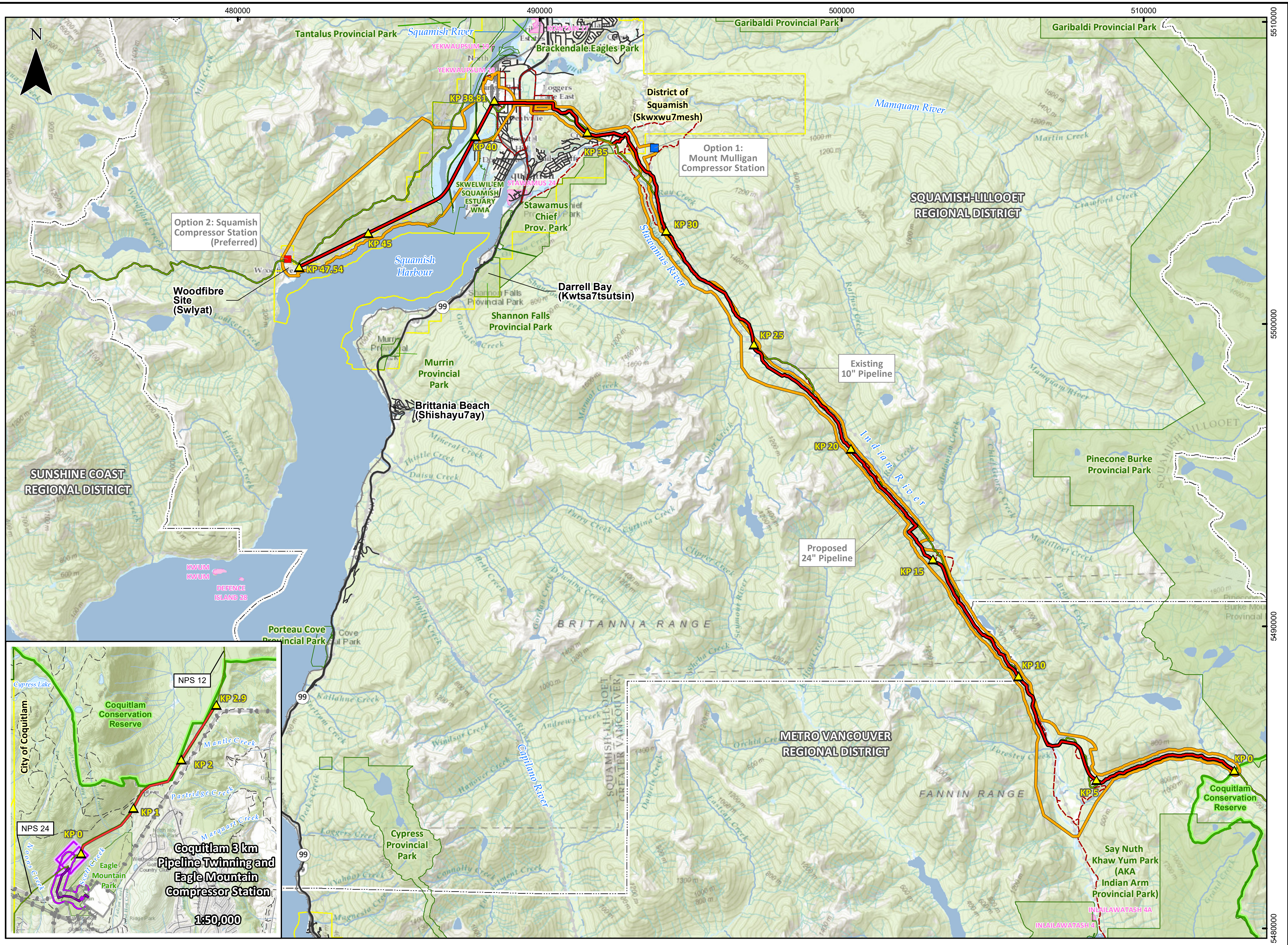
Proponent	FortisBC Energy Inc.
Project Name	Eagle Mountain – Woodfibre Gas Pipeline Project (Figure 1-1)
EAC No.	E16-01[2]
Amendment Name	Amendment Application No. 2: Temporary Workforce Accommodation
Requested Change	A change to the CPD (No. E16-01, Schedule A) to expand the footprint of the TWA from 2 ha to 7 ha
Prior Amendments	Amendment Application No. 1 consisted of four amendments. Descriptions are provided in Section 1 of this Amendment Application No. 2

[2] Issued under the *2002 Act*

Table 1-2 provides a list of key definitions used in this Amendment Application No. 2.

Table 1-2. Key Definitions used in Amendment Application No. 2

Word or Phrase	Definition
EAC Application	FortisBC's Environmental Assessment Application for the Project submitted under the *2002 Act* on January 9, 2015. Includes four addenda submitted for the Project in 2015 after the initial submission.
Amendment Application No. 2	FortisBC's application to amend the CPD to expand the temporary 2 ha TWA to 7 ha to house approximately 600 workers. The subject of the current amendment.
overall Project Footprint	The Project Footprint applied for as part of the EAC Application; the physical area within the Application Corridor that will be directly disturbed by the Project (both pipeline and associated facilities) construction activities, including associated physical works and activities.
allowable footprint	The current approved size of the TWA as described in the CPD; the physical area that will be directly disturbed by the TWA (including construction and use of the TWA during construction of the Project).
Certified Project Description	Specifies the physical elements and activities that are authorized under EAC No. E16-01 for the Project, including all four addenda under the *2002 Act*. The CPD defines the physical components of the Project and their attributes which may include extent, size, number, location, and other specific restrictions; and captures the mitigation by design achieved through the EA application and EA process (BC EAO 2021).
effects assessment	The assessment of potential effects of the proposed amendment on VCs and Indigenous interests (that is, asserted Aboriginal Rights, including Title, or such determined Aboriginal or Treaty Rights).



April 2022

FIGURE 1-1
PROJECT OVERVIEW

EAGLE MOUNTAIN-WOODFIBRE GAS PIPELINE PROJECT

- Certified Mount Mulligan Compressor Station
- Certified Squamish Compressor Staton
- Kilometre Post (KP)
- Proposed NPS 24 FortisBC Pipeline Route
- Existing FortisBC Pipeline
- Certified 230 kV Transmission Line
- Certified Pipeline Corridor
- Certified Electrical Transmission Corridor
- Certified Eagle Mountain Compressor Station
- Meridian Substation
- Access Road
- Highway
- Paved Road
- Railway
- Watercourse
- Waterbody
- Regional District
- Existing Transmission
- Municipality
- First Nation Reserve
- Park and Protected Area
- Coquitlam Conservation Reserve

SCALE: 1:120,000

0 1 2 3 4 5 km

(All Locations Approximate)

Jacobs Project Number CE829000

UTM Zone 10 North. NAD 1983.
Proposed Pipeline Route, KP: Universal Pegasus International (UPI) 20-10-2021 (Route 1025/4003); Proposed Tunnel Route: UPI 10-24-2019 (SSEID 6002); Existing Pipeline: FortisBC 2012; Proposed Squamish Compressor Station: Solaris 06-18-2020; Certified 230kV Transmission Line: Primary Engineering and Construction 01-07-2020; Certified Compressor Station Area: McElhanney Associates Land Surveying Ltd 10-16-2014; Certified Electrical Transmission Corridor: CH2M 30-07-2014; Conservation Reserve: Metro Vancouver 07-02-2017, Morgan Stewart and Company, 1995 provided by Fortis BC 2019 (modified by Jacobs 05-12-2020); Meridian Substation: DBS Energy Services 03-04-2014; Roads: NRCan 2014; Railways: BCGov 2019; Hydrography: NRCan. 2009, IHS Inc. 2004 and BC MFLNRO 2008; Municipal Boundaries, Regional Districts: BC MFLNRO 2017; Parks, Wildlife Management Areas: BC MFLNRO 2008; First Nation Reserves: Government of Canada 2018; Base Map Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community.

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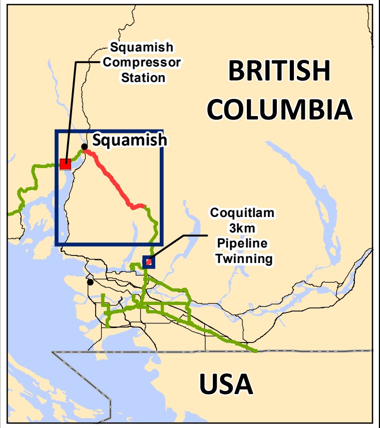

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2. Proposed Change and Rationale

FortisBC proposes to expand the TWA's allowable footprint from 2 ha to 7 ha. The expansion is necessary to increase the capacity of accommodation provided directly by the Project for its workforce (approximately 100 to 600 non-local workers including construction workers and support staff).

The decision to increase housing for non-local workers at the TWA is because housing affordability and availability have been the topic of public and Indigenous nation engagement discussions and concerns have been expressed that there is a lack of rental housing and temporary accommodation options in the District of Squamish area.

A temporary influx of workers increase demand for short-term accommodation. This could limit affordable housing in an already restrictive housing market and could also impact hotel vacancy rates for tourism visitors in the District of Squamish area.

FortisBC is investigating potential land based sites that are more suitable for a 7 ha TWA than potential locations at or within 5 km of the WLNG facility site. However, as a TWA site has not been finalized and because the EAC CPD allows a 2 ha TWA to be located anywhere within or outside the CPC, this application assesses the potential effects of a 7 ha TWA to house approximately 600 workers located within or outside the CPC. The study area used for the assessment includes Regional Assessment Areas (RAAs) for all VCs.

Once a candidate TWA site has been identified, FortisBC will further engage with Indigenous nations, regulatory agencies, and the public regarding potential effects and appropriate mitigation measures. Marine traffic is not anticipated to increase due to the change in TWA location from at or within 5 km of the WLNG facility site.

Building vertically was considered as an option but was determined to be cost prohibitive, and an increase in footprint size would still be needed to accommodate ancillary facilities such as the kitchen, recreational facilities, and parking. Once a candidate TWA site has been identified, FortisBC will further engage with Indigenous nations, regulatory agencies, and the public regarding potential effects, and appropriate mitigation measures.

The TWA would include accommodation, full-dining and food preparation facilities, parking and amenities, such as appropriately scaled health and medical services and recreational and leisure facilities. The TWA will include medical personnel, supplies, and equipment to respond to basic medical needs, as well as mental health supports, to support the health and wellness needs of resident workers. This is anticipated to reduce Project-related demand on local emergency and health care services and social services. Health and medical facilities will include an exam room, office, waiting area, and washrooms. The TWA will also include recreational and leisure facilities, including a gym with fitness equipment, a recreational area with equipment such as a pool table, a seating area with televisions, and change rooms which will reduce use of local recreational facilities by Project workers.

The overall workforce and peak construction workforce estimates are not expected to change because of this increase in allowable footprint size. The average number of workers residing at the TWA is a current estimate with respect to anticipated local versus non-local workforce, and the number of workers is anticipated to be at or below 300 individuals for most of the construction period with peaks in 2024 and 2025 (Figure 2-1).

The peak non-local workforce residing in the TWA is estimated to be approximately 440 during Quarter (Q) 2 (April to June) of 2024 and approximately 570 during Q3 (July to September) of 2025 (Figure 2-1). These estimates are consistent with workforce estimates included in the EAC Application. FortisBC will

continue to encourage the use of local and regional workers during construction to the extent possible, which will support efforts to reduce the need for accommodation. In the EAC Application, the Project workforce was estimated to be approximately 1,000 local and non-local workers at the peak of construction.

The 7 ha TWA site will include a parking lot to accommodate both workers' personal vehicles, construction vehicles, and multi-passenger vehicles transport. Surface runoff from parking areas will be managed using appropriate industry best erosion and sediment control measures, as specified in the EAC Application.

The TWA will not include paved surfacing. The site area will be designed to properly drain and limit surface ponding of water. Surface water runoff will be managed through perimeter ditches with adequate erosion and sediment control measures. The TWA may also include other facilities, such as administration units, a security office, primary and backup generators, portable light plants (for exterior lighting), wellsite trailers, water tanks, sewer tanks, a pump house, and a firewater pump.

FortisBC submits that the proposed amendment should be allowed. Increasing the size of the TWA will address concerns raised by Indigenous nations and locals regarding housing affordability by increasing the stock of temporary accommodations. Moreover, the potential residual adverse effect and effects from reasonably foreseeable projects and activities can be addressed with the implementation of existing mitigation measures and are not anticipated to be materially different from the EAC Application.

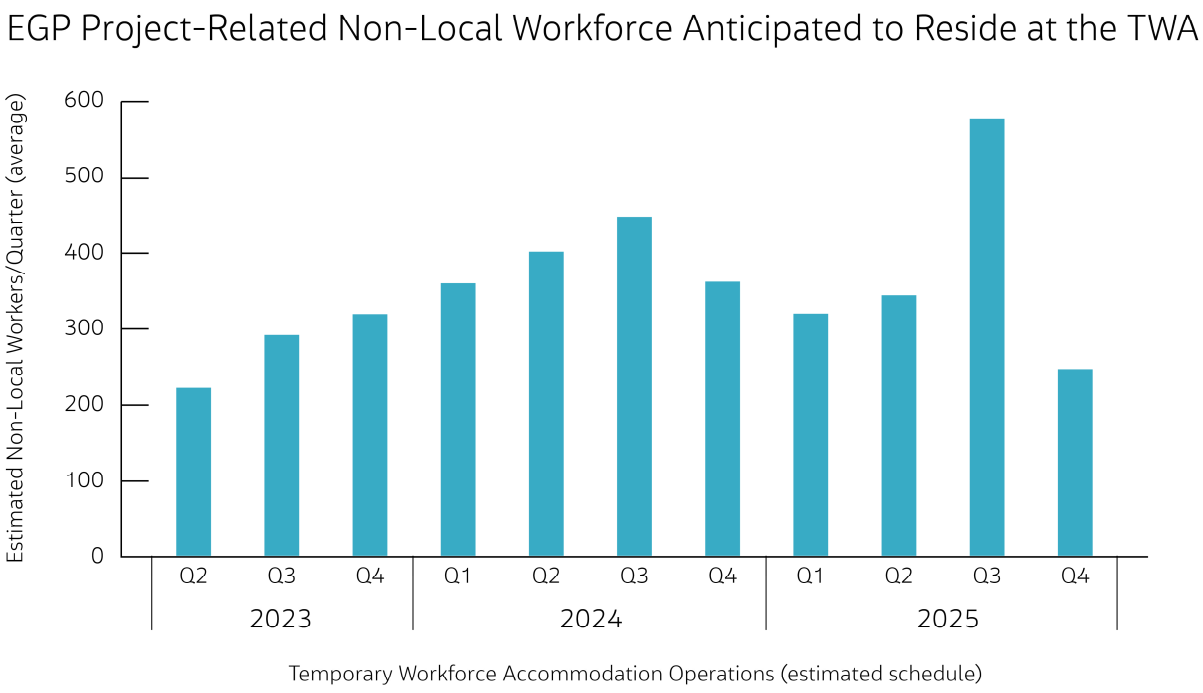


Figure 2-1. EGP Project-Related Non-Local Workforce Anticipated in the Squamish Area

3. Site Selection Process

FortisBC has considered a number of potential site locations based on workforce requirements and early Contractor involvement. Many of the potential candidate sites have been determined to be unsuitable due to factors including size, commercial availability, and feedback received through engagement. Other factors for consideration included available utilities, access requirements, site preparation requirements, and distance from Project worksites.

FortisBC has refined potential site locations for the TWA based on the site selection criteria described in Addendum 2 and subsection 3.1 and Section 8 of Amendment Application No. 2. Further considerations include feedback received through Indigenous nation and community engagement, public and worker safety, environmental impacts, socio-economic factors, regulatory requirements, engineering, and operational requirements for the TWA.

Detailed information regarding the TWA design, location, and activities are still being determined and are the subject of ongoing assessment. Continuing engagement with Indigenous nations, local governments, stakeholders, landowners, and regulatory agencies is a key component of this decision-making process. Refer to subsection 10.1 for engagement to date with Indigenous nations and Section 11 for engagement with the public, stakeholders, and other parties.

3.1 Site Selection Criteria

FortisBC will use the site selection criteria included in Addendum 2 when selecting potential locations for the TWA, where practical. This list has been updated and many criteria are now stronger based on a refined understanding of Project needs for the TWA and in the final site selection.

The following is an updated list of site selection criteria for the TWA:

- Minimize travel between the TWA and construction locations
- Use previously disturbed areas and existing access
- Site the TWA outside the ungulate winter range (UWR) u-2-005 for black-tailed deer and moose and UWR u-2-002 for mountain goat[3]
- Seek to avoid siting construction workspaces or temporary facilities that require high disturbance levels (such as, blasting), ongoing traffic and equipment access, or continuous sensory disturbance (such as, drilling sites) within 500 metres (m) of UWR (u2-002, approximately 830 m north of Kilometre Post [KP]46.6)
- If sited within the Spotted Owl Wildlife Habitat Area (WHA) 2-517 between approximate KP 39.7 to KP 47.3, implement measures outlined in the Wildlife Mitigation and Monitoring Plan (EAC Condition 17)
- Seek to avoid or reduce interaction with Vegetation Communities of Concern to the extent practical by siting facilities, stockpile sites, staging areas, ancillary facilities, and access roads outside of Vegetation Communities of Concern
- Avoid siting in wetland areas or within 30 m of watercourses
- Locate the TWA near existing water and power facilities

[3] This criterion has been updated to reflect specific ungulate species ranges.

The following TWA site selection criteria have been added based on community engagement to date, and will be implemented where practical:

- Consider Indigenous Knowledge and cultural sites
- Locate the TWA outside of natural hazard areas
- Locate the TWA outside of Agricultural Land Reserves (ALR)
- Site outside the Squamish River Estuary and Skwelwil'em Squamish Estuary Wildlife Management Area (WMA)
- Site outside of Critical Habitat for *Species at Risk Act (SARA)*-listed species
- Select a site within an area previously subjected to an Archaeological Impact Assessment (AIA), if possible
- Avoid any known Heritage Resource sites which include archaeological, historical, and palaeontological resources and establish a 'no work zone' buffer from any known Heritage Resource sites located within 10 m of the proposed TWA and its components
- Confirm consistency with land use planning objectives for the site
- Avoid locations adjacent to a conflicting land use where potential noise, dust, or visual concerns could not be readily mitigated

To support the necessary accommodation requirements, the selected TWA must also have the following characteristics:

- Accommodate temporary buildings, parking, and services associated with housing approximately 600 non-local workers
- Reliable availability for the construction period from Q2 2023 to Q4 2025

The CPD stated that a TWA up to a maximum of 2 ha could be located anywhere within or outside the CPC. Like the representative TWA site assessed in Addendum 2 (at or within 5 km of the WLNG facility site), conclusions regarding the assessment of a potential increase in the size of the TWA site by approximately 5 ha within the RAA of VCs is anticipated to be "representative" of the potential effects of a 7 ha TWA site located anywhere within or outside the CPC.

As previously indicated, a specific site has not yet been determined due to technical constraints, size, and commercial availability. These and other factors are the subject of ongoing investigation and engagement.

4. Relevant Technical Studies or Assessments

Considerable information about the existing conditions of VCs at and adjacent to the Project has been obtained to inform the Project EAC Application submitted in 2015 (FortisBC 2015b), the four addenda submitted during the review of the EAC Application in 2015, and the Amendment Application No. 1 submitted in 2020. Numerous technical reports were prepared to support each of these filings and are relevant to Amendment Application No. 2.

Relevant studies completed to date for the Project are listed in Table 4-1.

Table 4-1. Relevant Technical Studies and Assessments

Document Title	Author	Date of Publication
EAC Application		
Application for an EAC to the British Columbia Environmental Assessment Office for the Eagle Mountain – Woodfibre Gas Pipeline Project	FortisBC	January 2015
Soils Technical Report for the Proposed Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix 1A)	Soil Matters Consulting Ltd.	January 2015
Eagle Mountain – Woodfibre Gas Pipeline Project Terrain Technical Report (Appendix 1B)	AMEC Environment & Infrastructure	January 2015
Acoustic Environment Technical Report for the Proposed Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix 1C)	SNC Lavalin	January 2015
Air Quality Technical Report for the Proposed Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix 1D)	SNC Lavalin	January 2015
Greenhouse Gas Emissions Technical Report for the Proposed Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix 1E)	TERA	January 2015
Hydrology Technical Report for the Proposed Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix 1F)	AMEC Environment & Infrastructure	January 2015
Hydrogeology Technical Report for the Proposed Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix 1G)	AMEC Environment & Infrastructure	January 2015
Aquatic Assessment Technical Report for the Proposed Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix 1H)	TERA	January 2015
Vegetation Technical Report for the Proposed Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix 1I)	TERA	January 2015
Wetland Evaluation for the Proposed Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix 1J)	TERA	January 2015
Wildlife Technical Report for the Proposed Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix 1K)	TERA	January 2015
Wildlife Modelling and Species Accounts Technical Report for the Proposed Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix 1L)	TERA	January 2015

Table 4-1. Relevant Technical Studies and Assessments

Document Title	Author	Date of Publication
Economic, Social and Health Technical Report for the Proposed Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix 1M)	TERA	January 2015
Addendum 1 to the EAC Application		
Addendum 1 to the EAC Application for an Environmental Assessment Certificate to the British Columbia Environmental Assessment Office for the Eagle Mountain – Woodfibre Gas Pipeline Project	FortisBC	February 2015
Addendum 2 to the EAC Application		
Addendum 2 to the EAC Application for an Environmental Assessment Certificate to the British Columbia Environmental Assessment Office for the Eagle Mountain – Woodfibre Gas Pipeline Project	FortisBC	September 2015
Geotechnical Summary for the Proposed Addendum 2 Route (Appendix A)	AMEC Environment & Infrastructure	September 2015
Groundwater Summary for the Proposed Addendum 2 Route (Appendix B)	AMEC Environment & Infrastructure	September 2015
Addendum 3 to the EAC Application		
Addendum 3 to the EAC Application for an Environmental Assessment Certificate to the British Columbia Environmental Assessment Office for the Eagle Mountain – Woodfibre Gas Pipeline Project	FortisBC	September 2015
Geotechnical Summary for the Proposed Mount Mulligan Compressor Station (Appendix A)	AMEC Environment & Infrastructure	September 2015
Acoustic Assessment (Appendix B)	SNC Lavalin	September 2015
FortisBC Mount Mulligan Compressor Station Air Quality Analysis (Appendix C)	SNC Lavalin	August 2015
Greenhouse Gas Emissions (Appendix D)	CH2M	August 2015
Visual Aesthetics (Appendix E)	CH2M	August 2015
Addendum 4 to the EAC Application		
Addendum 3 to the EAC Application for an Environmental Assessment Certificate to the British Columbia Environmental Assessment Office for the Eagle Mountain – Woodfibre Gas Pipeline Project	FortisBC	November 2015
Geotechnical Summary for the Proposed Addendum 4 Corridor Expansions (Appendix A)	AMEC Environment & Infrastructure	November 2015
Amendment Application No. 1		
Amendment Application No. 1 to the EAC Application for an Environmental Assessment Certificate to the British Columbia Environmental Assessment Office for the Eagle Mountain – Woodfibre Gas Pipeline Project	FortisBC	October 2020

Table 4-1. Relevant Technical Studies and Assessments

Document Title	Author	Date of Publication
Preliminary Terrain Assessment Mapping Submission (Appendix A1)	Thurber Engineering Ltd.	May 2019
Metal Leaching / Acid Rock Drainage Office-Based Assessment (Appendix A2)	Thurber Engineering Ltd.	August 2019
Assessment of Terrain Stability and Natural Hazards, Acid Rock Drainage and Metal Leaching Potential, V2 Compressor Station, Woodfibre, BC (Appendix A3)	Golder Associates Ltd.	October 2020
Noise Assessment, FortisBC Eagle Mountain Amendment (Appendix B1)	SNC Lavalin	August 2020
Amendment to Project Squamish Compressor Station Noise FortisBC Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix B2)	RWDI	September 2020
Amendment to Project Air Quality Analysis FortisBC Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix B3)	RWDI	October 2020
Amendment to Project GHG Emissions FortisBC Eagle Mountain – Woodfibre Gas Pipeline Project (Appendix B4)	RWDI	October 2020
Fish and Fish Habitat Technical Data Report for the Application to Amend Environmental Assessment Certificate No. E16-01 (Appendix C)	Jacobs	October 2020
Vegetation Technical Data Report for the Application to Amend Environmental Assessment Certificate No. E16-01 (Appendix D)	Jacobs	October 2020
Wetlands Technical Data Report for the Application to Amend Environmental Assessment Certificate No. E16-01 (Appendix E)	Jacobs	October 2020
Wildlife Technical Data Report for the Application to Amend Environmental Assessment Certificate No. E16-01 (Appendix F)	Jacobs	October 2020

5. Anticipated Permits and Approvals

In consideration of the applicable Provincial and Municipal regulations and legislation, a preliminary list of potential permits and approvals is provided in Table 5-1. Several of the permits may not be required, as they depend on the location of the TWA. Additional approvals may be required if new access roads are required or if other site components interact with additional environmental constraints.

The preliminary permit list is based on various site selection options and anticipated environmental effects. Upon final site selection, detailed design and further assessments will be necessary to verify applicable permitting requirements.

Early engagement with Indigenous nations, local governments, and regulatory agencies will be conducted to identity and address potential issues and considerations in advance of permit application submission. In addition, early engagement with regulatory agencies will confirm the types of permits required, application requirements, review processes, and schedule for approvals.

Table 5-1. Potential List of Permits and Approvals for the Proposed Amendment Depending on Final Selected Location

Approval	Agency	Legislation/ Regulation	Trigger(s)	Considerations	Anticipated Timing
Provincial					
BC OGC and AOGAs	BC OGC	*OGAA/Lands Act*	An AOGA Permit is required for communication sites, power lines, camps, aggregate operations, helipads, workspaces, investigative use and access roads located on Crown Land. For some AOGA, such as Investigative Use, the commission may grant authorization within the existence of a primary oil and gas activities permit or application where it has delegated authorities to do so.	Information needs include: archaeology, environmental, design details and terrain information. Consultation with Indigenous nations required.	6 to 12 months
Lease or purchase of private land	N/A	N/A	Applicable if TWA is on private land.	Coordination with property owners	3 to 6 months
Salvage Permits	BC MFLNRORD	*Wildlife Act*	Required for amphibian salvage and wildlife sundry.	If site is within amphibian habitat	3 to 6 months
Heritage Inspection Permit	BC MFLNRORD	*HCA* Section 12.2	A permit is required to conduct field testing if recommended by a qualified Archaeologist. An AIA may be required if the site is evaluated by an Archaeologist and determined to have archaeological potential. An amendment to the *HCA* Permit for the Project will be required if the TWA site is located outside of the approved area.	Associated Heritage Inspection Permits from Indigenous nations should be acquired. A Site Alteration Permit under Section 12.4 of the *HCA* would be required if the TWA would alter a known archaeological site.	12 months

Table 5-1. Potential List of Permits and Approvals for the Proposed Amendment Depending on Final Selected Location

Approval	Agency	Legislation/ Regulation	Trigger(s)	Considerations	Anticipated Timing
Site Alteration Permit	BC MFLNRORD BC OGC	*HCA* Section 12.4	If the location of the TWA overlaps with the boundary of a previously recorded archaeological site a Site Alteration Permit is required to conduct construction activities within the site boundary.	Approval by the BC OGC or BC MFLNRORD and issuance of the permit is required before work could proceed.	9 to 12 months
Construction and Operating Permit	Vancouver Coastal Health	*Public Health Act, Food Premises Regulation, Sewage System Regulation, Industrial Camps Regulation, Drinking Water Protection Regulations*	Applicants must contact the Regional Health Authority to advise on a camp's location, duration and number of persons. Approval is required for food service, drinking water, and sewage disposal.	Approval is required before construction of the TWA. Water haulers must have a permit from Vancouver Coastal Health to haul water to site.	3 to 6 months
RUP	BC OGC	*Forest Act*	An RUP is required to use FSRs to carry out oil and gas activities.	Road use must not cause inordinate disturbance to the natural environment, adversely affect authorized users of the road or compromise a forest development plan.	3 to 6 months
Municipal/Regional District					
Temporary Use Permit	District of Squamish	Temporary Use Bylaw	Temporarily allows a use which zoning prohibits for a length up to 3 years (one renewal allowed).	Application considered in relation to: demonstration that use is temporary, the existing land use, surrounding land, potential conflict with residential land uses, potential impact on environmentally sensitive areas, duration of the proposed temporary use and other relevant policies within the OCP. Council may approve Temporary Commercial or Industrial Use Permits. Notification to adjacent property owners and notice in local newspapers is required as part of the application process.	6 to 8 months

Table 5-1. Potential List of Permits and Approvals for the Proposed Amendment Depending on Final Selected Location

Approval	Agency	Legislation/ Regulation	Trigger(s)	Considerations	Anticipated Timing
Building Permit – Temporary structures	District of Squamish	Building Bylaw	A permit is required for design, construction or occupancy of a new building or structure including placement of foundations forms. The TWA must meet the requirements of the District of Squamish Building Bylaw and the BC Building Code.	Building permit applications must include a building code compliance summary, survey plan, site plan, and detailed design drawings.	3 to 6 months
Water Service Connection	District of Squamish	--	Pipe infrastructure required to connect the TWA to the District water main.	--	3 months
Septic and Holding Tank Permit	District of Squamish	Septic and Holding tank Bylaw	A permit is required to install a holding tank for sanitary waste.	Sanitary waste will be trucked off-site.	3 months
Work Permit	District of Squamish	Traffic Control Bylaw	Required for any work on District Property that affects Municipal infrastructure including roads, sidewalks, intersections, parks, easements and boulevards. Required if Contractor needs to redirect, stop, or slow traffic.	Requirements include a construction Impact Mitigation Strategy and Traffic Management Plan.	3 to 6 months
Temporary Use Permit	SLRD	*Local Government Act*	Temporary Commercial or Industrial Use Permits can authorize a particular use to occur, temporarily, in a zone where it is not usually permitted. The permit is issued for a specified period (up to 3 years and can be renewed once) and establishes the conditions under which the temporary use may be carried on.	The Permit is an approval from the SLRD Board of Directors. SLRD Staff will prepare and publish a public notice in the local newspapers and mailed to adjacent property owners within a 150 m radius of the property.	6 to 8 months
Building Permit	SLRD	Building Bylaw	Required for the construction of a building.	Prior to the issuance of the permit, all conditions set out in the Building Bylaw, Building Code, and other applicable bylaws must be resolved. Building inspections are required.	3 to 6 months
Other Approvals					
BC 1 Call	BC 1 Call	N/A	Registration required with BC 1 Call for any ground altering activities (such as, geotechnical investigations, underground utility installation).	Coordination with third-party utilities prior to works.	1 week
Approvals from existing utilities	Utilities, such as FortisBC, Shaw, BC Hydro, TELUS	--	If impact to existing utilities is required.	Consultation with utility owners.	3 to 6 months

Table 5-1. Potential List of Permits and Approvals for the Proposed Amendment Depending on Final Selected Location

Approval	Agency	Legislation/ Regulation	Trigger(s)	Considerations	Anticipated Timing
Power Supply Agreement	BC Hydro	N/A	If the TWA will be tying into existing BC Hydro infrastructure.	BC Hydro may need to conduct assessments to evaluate capacity.	6 months
Mobile water treatment approval	Vancouver Coastal Health	N/A	If potable water and wastewater facilities cannot be used at the TWA, either a pump and haul system or mobile treatment plan would be used requiring permitting by Vancouver Coastal Health.	--	3 months

AOGA = Associated Oil and Gas Activity
BC MFLNRORD = British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development
BC OGC = British Columbia Oil and Gas Commission
FSR = forest service road
HCA = *Heritage Conservation Act*
OCP = Official Community Plan
OGAA = *Oil and Gas Activities Act*
RUP = Road Use Permit
SLRD = Squamish-Lillooet Regional District

6. Assessment Methods

Like the EAC Application, the effects assessment presented in this Amendment Application No. 2 considers the five interconnected and interdependent pillars identified by BC EAO: environment, economy, social, heritage, and health.

Information on spatial boundaries used in the EAC Application effects assessment was provided in subsection 3.2.1 of the EAC Application (Volume 1, Part B) and Section 2.0 of Addendum 2. As the EAC CPD included the provision for a 2 ha TWA located within or outside the CPC, Amendment Application No. 2 assessed the potential effects of an approximately 5 ha increase in the size of the TWA to 7 ha within the RAA for each VC.

6.1 Valued Component Effects Assessment Methods

The effects assessment identifies the VCs previously assessed in the EAC Application and addenda that have the potential to interact with the proposed amendment. For those VCs that interact with the proposed amendment and are carried forward, the effects assessment evaluates residual effects of the proposed amendment and whether this results in a change to the characterization of residual or cumulative effects and conclusions presented in the BC EAO Assessment Report (BC EAO 2016).

Applicable new mitigation measures, as well as a description of risks and uncertainties associated with the effects assessment are included under each VC. For each VC, a cumulative effects assessment (CEA) has been conducted if the proposed amendment results in residual effects that have the potential to interact with residual effects from other past, present, and reasonably foreseeable future projects and activities.

6.1.1 Access

Access for all Project components, including both new access and use of existing access, was already assessed under each VC in the original EAC Application. Mitigation measures were proposed to manage these effects and there are no changes to the scope of access for Amendment Application No. 2. FortisBC is seeking to find a TWA site that has existing access to reduce potential effects on the environment, however there is a potential for new access or upgrades to existing access. These effects were considered in the original EAC Application. Any new access roads will implement applicable existing mitigation measures and the requirements outlined in condition management plans and permits.

6.2 Section 25 Assessment Matters Methods

The BC EAO has confirmed that the scope of the effects assessment for the Amendment Application No. 1 must address all matters in Section 25 of the *2018 Act,* that apply to the proposed amendments.

BC EAO confirmed that a re-assessment of the Certified Project is unnecessary, and this is also assumed for Amendment Application No. 2. The effects assessment used the same methodology to assess the additional assessment matters presented in Section 25(2) of the *2018 Act* as those used for Amendment Application No. 1.

Section 25 of the *2018 Act* lists matters that must be considered in every assessment. Most of Section 25 required assessment matters under the *2018 Act* are consistent with the original Project Application Information Requirements (AIRs) and the scope of the Project EAC Application. The Section 25 required assessment matters that were not directly assessed in the Project EAC Application are:

- disproportionate effects on distinct human populations, including populations identified by gender
- effects on biophysical factors that support ecosystem function
- effects on current and future generations

Amendment Application No. 2 assesses these three additional Section 25 assessment matters for the proposed amendment relative to the Certified Project in accordance with BC EAO's 2020 Environmental Assessment Certificate and Exemption Order Amendment Policy (BC EAO 2020a). The effects assessment approach for each of the three topics is included in Section 11.

6.3 Cumulative Effects

The CEA evaluates the likely residual adverse effects associated with the Project in combination with potential adverse effects arising from other projects and activities that have been or will be carried out in a VC-specific RAA. Future projects considered in the CEA do not include proposed or hypothetical projects where formal plans have not been disclosed. The CEA follows the same approach as in subsection 3.4 of Amendment Application No. 1.

Spatial boundaries were designed to include the largest RAA for all VCs to determine whether existing activities and projects were to be included in the CEA. The following sections outline the criteria for screening projects and activities for the CEA.

6.3.1 Spatial Boundary

- A project or activity was included if it is within the RAA for the VC
- A project or activity was excluded if it was outside the RAA for the VC

6.3.2 Temporal Boundary

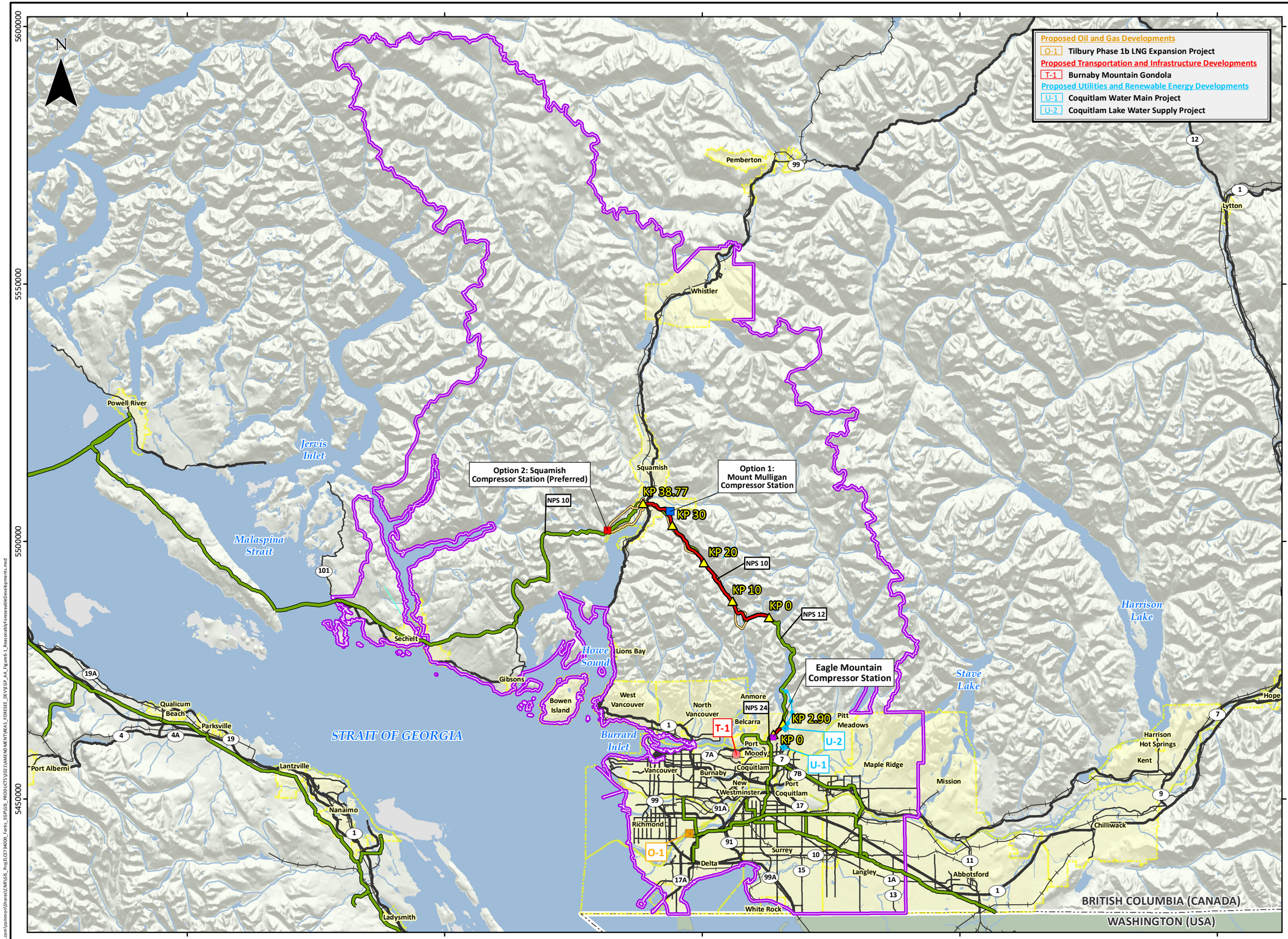
- A project or activity was included if it was in the Provincial or Federal EA regulatory process, or otherwise reasonably expected to proceed.
- A project or activity was excluded from the inclusion list of reasonably foreseeable projects or activities and included as existing disturbance if it was known that it will be in development or operation prior to 2021.

6.3.3 Reasonably Foreseeable Developments

The list of reasonably foreseeable projects considered for the CEA in the EAC Application and Amendment Application No. 1 were reviewed for the purposes of Amendment Application No. 2. Tables 3-2 and 3-3 in Amendment Application No. 1 provide an updated Project list, including status in 2021 and new reasonably foreseeable developments from what was provided in Table A3.1-1 (Section 3.0, Volume 1, Part B) of the EAC Application. The CEA for Amendment Application No. 2 includes new reasonably foreseeable projects identified in Amendment Application No. 1, and new projects identified in 2021. Reasonably foreseeable projects considered in the assessment do not include projects where formal plans have not been disclosed.

Amendment Application No. 2 identifies 36 new reasonably foreseeable developments that were not included in the EAC Application or Amendment Application No. 1. This does not include small scale residential or commercial developments, or projects that are federally funded (as listed on the Impact Assessment Agency of Canada [IAAC] website). Most (that is, 32) of the new reasonably foreseeable developments located on previously disturbed lands were expansions of existing developments, or their exact locations could not be determined and were therefore not mapped.

Table 6-1 lists the new reasonably foreseeable developments that are mapped on Figure 6-1 and Table 6-2 lists the unmapped new reasonably foreseeable developments.



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FORTIS BC™

April 2022

FIGURE 6-1

REASONABLY FORESEEABLE DEVELOPMENTS WITHIN THE REGIONAL ASSESSMENT AREAS

EAGLE MOUNTAIN-WOODFIBRE GAS PIPELINE PROJECT

Project

- Certified Mount Mulligan Compressor Station
- Certified Squamish Compressor Station
- Certified Eagle Mountain Compressor Station
- Proposed NPS 24 Pipeline Route
- Certified NPS 24 Pipeline Corridor

Major Proposed Developments

- Oil and Gas
- Transportation and Infrastructure
- Utilities and Renewable Energy

Other

- Kilometre Post
- Existing Fortis BC Pipeline
- Highway
- Road
- Railway
- Watercourse
- Waterbody
- Municipality
- Combined Extent of All Regional Study Areas

SCALE: 1:700,000

0 5 10 15 20 25 km

(All Locations Approximate)

JACOBS®

JACOBS Project Number CE829000

UTM Zone 10 North. NAD 1983.

Proposed Pipeline Route, KPs: Universal Pegasus International (UPI) 20-10-2021 (Route 1025/4003); Certified NPS 24 Pipeline: UPI 03-07-2016 (Route 1017); Certified Squamish Compressor Station: Solaris 02-25-2020; Certified Compressor Station Area: McElhanney Associates Land Surveying Ltd 10-16-2014; Existing Pipeline: FortisBC 2012; Proposed Developments: Jacobs 2019; Roads: NRCan 2015; Railways: USNIMA 2000; Hydrography: NRCan 2009, ESRI 2005, USNIMA 2000 and BC MFLNRO 2008; Municipal Boundaries: BC MFLNRO 2007; Political Boundaries: USNIMA 2000; Hillshade: TERA Environmental Consultants 2008.

Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.

Mapped By: CMR	Checked By: DJN

Table 6-1. Reasonably Foreseeable Developments Identified Since Amendment Application No. 1 (Mapped)

Primary Applicant	Project, Facility or Activity	Status in 2021	Location	Development Type	Sources	Project Description	VC RAA Overlapping the Primary Applicant's Project
Transportation Infrastructure							
TransLink/Simon Fraser University	Burnaby Mountain Gondola	Proposed, construction 2022	Burnaby	Tourist Destination	TransLink https://www.translink.ca/plans-and-projects/projects/rapid-transit-projects/burnaby-mountain-gondola	Proposed 3S tri-cable gondola to connect the Skytrain Burnaby Mountain. In early planning and public engagement phases.	Social Land Resources RAA, Wildlife RAA, Social Infrastructure RAA, Traditional Land Use RAA, Employment RAA, Air RAA, Health RAA
Utilities and Renewable Energy							
Metro Vancouver	Coquitlam Water Main Project	Proposed	Coquitlam	Water Main Project	Metro Vancouver http://www.metrovancouver.org/services/water/engagement/projects-and-initiatives/coquitlam-water-utility/coquitlam-water-main-project/robson-guildford/Pages/default.aspx	Metro Vancouver is constructing a new water main in Coquitlam. The project will be constructed in sections starting with the Robson to Guildford Section in 2022.	Traditional Land Use RAA, Wildlife RAA, Social RAA, Heritage RAA, Employment RAA, Acoustic RAA, Social Land Resources RAA, Air RAA, Health RAA
Metro Vancouver	Coquitlam Lake Water Supply Project	Proposed	Coquitlam	Water Supply Project	Metro Vancouver http://www.metrovancouver.org/services/water/engagement/projects-and-initiatives/coquitlam-water-utility/coquitlam-lake-water-supply/Pages/default.aspx	Planning is currently underway to determine the scope of work and design of a new water intake, a water supply tunnel, and water treatment facilities. Construction is expected to begin in the late 2020s, with completion targeted for the late 2030s.	Traditional Land Use RAA, Wildlife RAA, Social Infrastructure RAA, Heritage RAA, Employment RAA, Acoustic RAA, Social Land Resources RAA, Air RAA, Health RAA
Oil and Gas Developments							
FortisBC Inc.	Tilbury Phase 1b LNG Expansion Project	Proposed, construction 2022	Delta	LNG Facility Expansion	FortisBC https://talkingenergy.ca/project/tilbury-LNG-expansion-project	Proposed expansion includes a 0.65 million tonne liquefaction capacity increase and an up to 3 km gas line upgrade from the Tilbury facility to the Tilbury gate station. Project is in the early planning phase.	Employment RAA, Social Infrastructure RAA

Table 6-2. Reasonably Foreseeable Developments Identified Since Amendment Application No. 1 (Unmapped)

Primary Applicant	Project, Facility or Activity	Status in 2021	Location	Development Type	Sources	Project Description
Transportation Infrastructure						
BC MoTI	Steveston Interchange Project	Consultation, Construction anticipated Q2 2022	Richmond	Highway Expansion	Infrastructure BC https://www.infrastructurebc.com/projects/announced-in-procurement/steveston-interchange-project/	Proposed Steveston Highway Interchange will replace the two-lane overpass at Highway 99 with a five-lane overpass and improve transit and pedestrian access. Project is an early works portion of the George Massey Tunnel project (ID No. 3060).
BC MoTI	George Massey Tunnel Replacement Project	Proposed	Delta to Richmond	Highway Expansion	Province of BC https://engage.gov.bc.ca/masseytunnel/	Proposed replacement of the Massey Tunnel is under review with alternative project options being considered. Phase 1 would include improvements to the highway approaches and Phase 2 options include an eight-lane immersed tube tunnel, or eight-lane bridge with multi-use path.
Lehigh Hanson Materials Ltd.	South Richmond Terminal Project	Proposed	Richmond	Terminal Facility	Port Vancouver https://www.portvancouver.com/wp-content/uploads/2015/03/lehigh-hanson-engagement-summary-report-clean-11112014-1-31-54-pm_final.pdf	Proposed aggregate processing and distribution facility located on the south end of No. 7 Road. The project will include a wash plant, reclaimer, rail and marine unloading and loading facilities. Permit is under review.
Port Metro Vancouver	Burrard Inlet Marine Container Examination Facility	Proposed	Vancouver	Container Facility	Transport Canada https://tc.canada.ca/en/port-metro-vancouver-container-examination-facility-projects	Proposed cargo examination facility operated by Canada Border Services Agency will improve cargo inspection and include large scale imaging devices. Located at the Vancouver container terminals on Burrard Inlet. The Government of Canada and Port Metro Vancouver will provide funding.
Installation of Scour Protection	Bosa Properties	In progress started December 4, 2020	New Westminster	Building and property development	IAAC Installation of scour protection - Canada.ca (iaac-aeic.gc.ca)	Bosa Properties are proposing to conduct scour protection work at 660 Quayside Drive, New Westminster. This work forms part of Bosa Properties Pier West waterfront community development consisting of two high density residential towers, a three-story commercial building and approximately 2 acres of parkland, located on the adjacent upland site.
Seaspan Outfitting Pier Extension	Seaspan ULC	In progress started March 1, 2021	North Vancouver	Ports and harbours	IAAC Seaspan Outfitting Pier Extension - Canada.ca (iaac-aeic.gc.ca)	Seaspan ULC proposes to construct a new outfitting pier located within the Vancouver Shipyards site in North Vancouver. The project includes the removal of the existing timber outfitting pier and replacement with a new steel and concrete pier. The new pier will have an increased footprint of approximately 3,700 m^2.
Neptune Anchor Pile Installation	Stantec Consulting Ltd., on behalf of Neptune Bulk Terminals (Canada) Ltd.	In progress started on May 4, 2021	North Vancouver	Ports and harbours	IAAC Neptune Anchor Pile Installation - Canada.ca (iaac-aeic.gc.ca)	Stantec Consulting Ltd., on behalf of Neptune Bulk Terminals (Canada) Ltd., proposes to install a steel anchor pile into the sea floor to facilitate the mooring of Capesize vessels at Berth 1. The anchor pile, which is 1.5 m wide and 37 m long, is proposed to replace an existing T-anchor that is currently connected to a floating anchor and anchor chain for mooring at Berth 1.
Seaspan Vancouver Drydock Waterlot Expansion	Vancouver Drydock Company Ltd.	In progress, started on July 14, 2021	Vancouver	Ports and harbours	IAAC Seaspan Vancouver Drydock waterlot expansion - Canada.ca (iaac-aeic.gc.ca)	Seaspan propose an expansion of their Vancouver Drydock location, including the expansion of their waterlot by 40 m to the west. Physical works include the installation of a work pontoon and two additional drydocks to the west of the existing two drydocks, one located on either side of the existing deep-water outfitting pier.
S&R Sawmills – D – Mill Urgent Bank Stabilization	S&R Sawmills	In progress, started on June 29, 2021	Surrey	Ports and harbours	IAAC S&R Sawmills - D-Mill Urgent Bank Stabilization - Canada.ca (iaac-aeic.gc.ca)	S&R Sawmills proposes to install a sheet pile wall to minimize potential future erosion of the embankment into the Fraser River.
Steveston Paramount Wharf 403 Reconstruction	Small Craft Harbours Pacific Region	In progress, started July 5, 2021	Steveston Harbour (BC)	Ports and harbours	IAAC Steveston Paramount Wharf 403 Reconstruction - Canada.ca (iaac-aeic.gc.ca)	Small Craft Harbours is undertaking a project to reconstruct timber wharf 403 at Steveston Harbour (Paramount Site on west side of Nelson Pond). The wharf provides loading and offloading for fishing vessels and serves as a foundation for building infrastructure critical to fishing operations.

Table 6-2. Reasonably Foreseeable Developments Identified Since Amendment Application No. 1 (Unmapped)

Primary Applicant	Project, Facility or Activity	Status in 2021	Location	Development Type	Sources	Project Description
Georgia Pacific Dock Removal	Tetra Tech Canada Inc	In progress, started September 16, 2021	Surrey	Ports and harbours	IAAC Georgia Pacific Dock Removal - Canada.ca (iaac-aeic.gc.ca)	On behalf of Georgia Pacific Gypsum Holdings ULC, Tetra Tech Canada Inc. proposes to remove a fire damaged dock structure at the Georgia Pacific Gypsum Holdings ULC site in Surrey, BC. The dock is comprised of a wharf head 60 m by 16 m connected to a timber trestle 30 m by 6 m wide with several steel mooring piles riverward of the dock. The dock was damaged by fire the week of June 18, 2021.
Seaspan Outfitting Pier Extension	Seaspan ULC	In progress, started October 21, 2021	North Vancouver	Ports and harbours	IAAC Seaspan Outfitting Pier Extension - Canada.ca (iaac-aeic.gc.ca)	Seaspan ULC proposes to construct a new outfitting pier located within the Vancouver Shipyards site in North Vancouver to accommodate new vessel construction. The project includes the removal of the existing timber outfitting pier (1,550 m^2) and installation of a new pier (5,222 m^2) constructed with steel piles and concrete deck.
Filter and Dust System Modifications – Cargill	Cargill Limited	In progress, started October 21, 2021	North Vancouver	Ports and harbours	IAAC Filter and Dust System Modifications - Cargill - Canada.ca (iaac-aeic.gc.ca)	Cargill Limited, located at 801 Low Level Road in North Vancouver is proposing to upgrade the facility's dust collection system. In summary, there are four dust collectors to be removed and four IAAC new dust collectors, one new cyclone, and three new dust transfer blowers to be installed.
Sterling Shipyard Remediation and Infill	SNC Lavalin	In progress, started on October 25, 2021	Vancouver	Ports and harbours	IAAC Sterling Shipyard Remediation and Infill - Canada.ca (iaac-aeic.gc.ca)	SNC Lavalin on behalf of the port authority (Development) has applied to undertake remediation and redevelopment activities in subtidal, intertidal and uplands areas of a former shipyard at 2089 to 2095 Commissioner Street in Vancouver. Contaminated sediment in the project area would be removed and replaced with clean fill to raise the grade and reclaim 4,500 m^2 of additional land for future industrial use.
District of North Vancouver Designated Anchorage Area	District of North Vancouver	In progress, start date of October 8, 2021	North Vancouver	Recreation and Tourism	IAAC District of North Vancouver Designated Anchorage Area - Canada.ca (iaac-aeic.gc.ca)	The District of North Vancouver proposes to install a designated anchorage area in Deep Cove. The District's proposal intends to address concerns over long-term boat anchorage in Deep Cove. The designated anchorage area would allow the District to restrict the number of anchorages, designate specific mooring locations, and limit the amount of time boats could remain anchored in Deep Cove. The works include installation of four Transport Canada compliant mooring buoys on the south side of Deep Cove. Mooring hardware includes anchor, ground chain, mooring chain, and shackles.
VAFFC Fuel Truck Offloading Facilities Expansion	VAFFC	In progress, start date of July 5, 2021	Richmond	Airports and Airfields: Oil and Gas	IAAC VAFFC Fuel Truck Offloading Facilities Expansion - Canada.ca (iaac-aeic.gc.ca)	The VAFFC is proposing upgrades to the existing aviation fuel storage facilities located at the Vancouver International Airport. The project consists of the completion of a truck unloading island at Tank Farm 1 (6000 Ferguson Road, Richmond BC) and a new truck unloading island at Tank Farm 2 (5980 Ferguson Road, Richmond BC).
BC MoTI Permits for Semiahmoo Road Remediation and Widening	BC MoTI	In progress, start date of March 15, 2021	Surrey	Highways and Roads	IAAC MOTI permits for Semiahmoo Road Remediation and Widening - Canada.ca (iaac-aeic.gc.ca)	Semiahmoo First Nation is supporting the remediation and upgrade of a road through the reserve. The road was removed from reserve and will be re-added to reserve once the remediation and upgrades have been completed. While most of the work being completed by BC MoTI and its contractors is on the right-of-way (Provincial land), areas on both sides of the right-of-way will be affected by the road widening and road level raising works and require a Section 28(2) Permit authorizing these activities.
Fraser Surrey Port Lands – Transportation Improvements	Vancouver Fraser Port Authority	In progress, start date of June 16, 2021	Surrey	Highways and Roads	IAAC Fraser Surrey Port Lands - Transportation Improvements - Canada.ca (iaac-aeic.gc.ca)	The Vancouver Fraser Port Authority is proposing to conduct road and rail improvements within the Fraser Surrey Port Lands area of Surrey to alleviate traffic congestion and rail crossing delays and improve the ability of port tenants to move trade. The purpose is to enable safe and efficient goods movement by improving use of the area for port users and mitigating the impacts of growing trade on local communities.
Portside Road Extension and Bridge	Vancouver Fraser Port Authority	In progress, start date of June 23, 2021	Richmond	Highways and Roads	IAAC Portside Road Extension and Bridge - Canada.ca (iaac-aeic.gc.ca)	The Vancouver Fraser Port Authority is proposing to extend the existing Portside Road in the City of Richmond through the provision of a new three-way intersection and the construction of a two-span bridge structure over the No. 7 Road and Canal, connecting port authority lands located on either side.

Table 6-2. Reasonably Foreseeable Developments Identified Since Amendment Application No. 1 (Unmapped)

Primary Applicant	Project, Facility or Activity	Status in 2021	Location	Development Type	Sources	Project Description
Ferguson Road Upgrades	Vancouver Airport Authority	In progress, start date of September 16, 2021	Richmond	Airport and Airfields – Highways and Roads	IAAC Ferguson Road Upgrades - Canada.ca (iaac-aeic.gc.ca)	Vancouver Airport Authority is proposing safety upgrades and realignment work for sections of Ferguson Road located at Vancouver International Airport in Richmond, BC. Sections of Ferguson Road to be upgraded and realigned are narrow with poor pavement condition and do not meet current standards. The proposed project will improve overall safety for all road users, including vehicles and cyclists, and will support continued growth in the area.
Pacific Enterprise Science Centre Foreshore Maintenance	Fisheries and Oceans Canada-Real Property Safety and Security, Real Property & Technical Support	In progress, start date of January 15, 2021	West Vancouver	Maintenance Activities (fences and walls)	IAAC Pacific Enterprise Science Centre (PESC) Foreshore Maintenance - Canada.ca (iaac-aeic.gc.ca)	The proposed project is the removal of natural debris that has accumulated along the foreshore area next to the wharf and the replacement of the existing rip-rap rock shore wall that currently exists. This project will take place within the existing dry, intertidal footprint of the current foreshore area. This project is necessary for the safety and security of boats utilizing the neighbouring wharf.
Paving for Return Lane to USA at Aldergrove	Canada Border Services Agency	In progress, start of June 27, 2022	Township of Langley	Other, not otherwise specified	IAAC Paving for Return Lane to USA at Aldergrove - Canada.ca (iaac-aeic.gc.ca)	Reconfiguration of existing landscaping to create a return lane to Canada from the visitor parking area and installation of a return lane to the United States from the secondary inspection area. Project to include wayfinding signage and demolition and repaving of a concrete sidewalk encompassing eight staff parking stalls adjacent to the proposed return lane area.
FedEx Parking Lot Expansion	Federal Express	In progress, start date of October 15, 2021	Richmond	Airports and Airfields – Building Property Development	IAAC FedEx Parking Lot Expansion - Canada.ca (iaac-aeic.gc.ca)	Federal Express is proposing to expand an existing parking lot located at the Vancouver International Airport. The project is located at 3151 Aylmer Road. The project will expand an existing parking lot by approximately 8,000 m^2 and will be used for employee parking and cargo truck staging.
Utilities and Renewable Energy						
BC Hydro	Partial Cable Replacement	Proposed, construction 2024	Coquitlam	Cable Replacement	BC Hydro https://www.bchydro.com/energy-in-bc/projects/partial-cable-replacement-coquitlam.html	Replace a section of an existing underground, oil-insulated power line that was installed in the mid-1970s with a new oil-free power line built in an underground duct bank.
Drainage Maintenance and Improvement Project – Alaksen National Wildlife Area	Canadian Wildlife Service	In progress, started on January 18, 2021	Delta	Water Management	IAAC Drainage Maintenance and Improvement Project - Alaksen National Wildlife Area - Canada.ca (iaac-aeic.gc.ca)	The Canadian Wildlife Service is proposing to undertake maintenance activities to improve drainage within the Alaksen National Wildlife Area. A network of ditches, dikes, culverts, and water control structures direct water from the National Wildlife Area to the Fraser River, which helps to mitigates the risk of flooding and improves wildlife habitat.
Water Supply Upgrade - Neptune	Neptune Bulk Terminals	In progress, started on January 22, 2021	North Vancouver	Water Management, Ports and harbours	IAAC Water Supply Upgrade - Neptune - Canada.ca (iaac-aeic.gc.ca)	To increase water capacity associated with terminal expansion, Neptune Bulk Terminals is proposing to install a new water supply pipe and water meter chamber for their facility located at 1001 Low Level Road In North Vancouver, BC.
City of Delta Stormwater Outfall	City of Delta	In progress, started on January 26, 2021	Delta	Water Management, Ports and harbours	IAAC City of Delta Stormwater Outfall - Canada.ca (iaac-aeic.gc.ca)	The City of Delta proposes to install a new stormwater outfall at 8600 River Road, Delta. The outfall will capture runoff from a 15 ha catchment allowing for land redevelopment.
Jimmy Jimmy (Judd) Slough Culvert Replacement	District of Squamish	In progress, started on May 3, 2021	Squamish	Water Management	IAAC Jimmy Jimmy (Judd) Slough Culvert Replacement - Canada.ca (iaac-aeic.gc.ca)	The Jimmy Jimmy (Judd) Slough replacement project consists of the replacement of two existing decommissioned culverts abandoned within the Squamish River Dike with installation of a new flood box designed to control seepage through the dike.

Table 6-2. Reasonably Foreseeable Developments Identified Since Amendment Application No. 1 (Unmapped)

Primary Applicant	Project, Facility or Activity	Status in 2021	Location	Development Type	Sources	Project Description
Drainage Pump Station and Floodbox Replacement	Vancouver Airport Authorities	In progress, started on July 5, 2021	Richmond	Airports and Airfields	IAAC Drainage Pump Station and Floodbox Replacement - Canada.ca (iaac-aeic.gc.ca)	The Vancouver Airport Authority is proposing to replace an existing drainage pump station and floodbox at the Vancouver International Airport. The drainage outfall is one of seven outfalls from the Vancouver Airport into the Fraser River. The pump station and floodbox serve to allow drainage to leave Sea Island to the Fraser River while preventing backflow of river and tidal water onto the island.
Resort Municipality of Whistler – Drinking Water Well Enhancement	Resort Municipality of Whistler	Post decision - Construction	Whistler, BC	Ground water extraction	BC EAO EPIC (gov.bc.ca)	The Resort Municipality of Whistler is requesting an exemption under S.10(1)(b) for a new groundwater extraction project, well 219, which will exceed the *Reviewable Projects Regulation* of 75l/s for groundwater extraction.
The City of Maple Ridge	Stormwater outfall and dike upgrades	In progress, started November 2, 2020	Maple Ridge	Maintenance activities	IAAC https://iaac-aeic.gc.ca/050/evaluations/proj/81112?culture=en-CA	The City of Maple Ridge is proposing to upgrade the stormwater infrastructure around Princess Street. As part of these upgrades, the City of Maple Ridge will upgrade the Princess Street Pump Station and the associated discharge infrastructure.
Oil and Gas Developments						
FortisBC Inc.	Pattullo Gas Line Replacement	Proposed, construction 2022	Burnaby	Gas Line Replacement	FortisBC https://talkingenergy.ca/project/pattullo-gas-line-replacement	Proposed gas line replacement will include 6 km of new gas line running along Gaglardi Way, Cariboo Road and 16th Avenue and a pressure regulating station. Project is in the planning phase.

Notes:

[a] Present or reasonably foreseeable developments that have the potential to act in combination with the Project were excluded from mapping that met the following criteria:

- developments are located exclusively within the largest socio-economic RAA; whereby the CEA associated with these spatial boundaries uses a qualitative approach;
- developments are located on previously disturbed areas within urban Municipal boundaries;
- development details (such as, footprint, location) were not available; or in operation.

[b] Specific locations for these reasonably foreseeable developments were not available, therefore the applicable VC Local Assessment Area (LAA) or RAA where these developments could not be determined, and they are not mapped on Figure 6-1.

BC MoTI = British Columbia Ministry of Transportation and Infrastructure
m^2 = square metre(s)
VAFFC = Vancouver Airport Fuel Facility Corporation

7. Interaction of Proposed Amendment on Valued Components and Section 25 Matters

The following subsection provides a description of the potential for interactions of Amendment Application No. 2 with the VCs identified in the EAC Application and Section 25 required assessment matters. Potential interactions were rated using the following criteria:

0 Little to no interaction expected. No further consideration warranted.

1 Interaction identified with potential for adverse effects. Warrants further consideration.

2 Interaction identified with potential significant adverse effect or concern. Warrants further consideration.

\+ Potential positive effects or previously identified adverse effects that have been reduced.

Where there is an interaction identified, the VC is carried forward into the effects assessment in Table 8-1. Where a positive effect is identified, it is discussed in subsection 8.1. A rationale for inclusion or exclusion of the VCs is provided in Table 7-1. The assessment will be informed by input provided by Indigenous nations, local governments, and regulatory agencies.

Table 7-1. Potential Interactions with Valued Components

VC/Assessment Matter	EAC Application Section	Amendment Application Section	Interaction Identified	Carried Forward for Further Assessment (Yes/No)	Rationale for Inclusion or Exclusion
Environment Pillar					
Soil Capability	4.0	Table 8-1	1	Yes	Increased TWA area will potentially disturb an additional approximately 5 ha of soils. It is likely that TWA construction activities will affect near-surface soils through compaction and rutting, minor soil erosion, admixing, and contour issues until the TWA is decommissioned and the site is restored.
Terrain Integrity	4.0	Table 8-1	1	Yes	Increased TWA area will potentially disturb an additional approximately 5 ha of land that may be susceptible to geohazards such as seismic liquefaction, terrain instability, and construction-related subsidence.
ARD	4.0	Table 8-1	1	Yes	Increased TWA area will potentially disturb an additional approximately 5 ha of area and may expose PAG rock if bedrock is disturbed. Like the EAC Application, the effects assessment for ARD includes metal leaching.
Acoustic Environment	5.0	Table 8-1	1	Yes	Increased TWA area may include additional noise sources (for example, power generation equipment, water treatment or supply equipment, increased vehicular traffic) as well as localized noise generated by the workforce largely concentrated into one area.
Air Quality	5.0	Table 8-1	1	Yes	Increased TWA area may include additional site preparation activities (for example, grading, vegetation clearing, particulate matter from disturbed areas) and use of additional vehicles and equipment during operation of the TWA that have a potential to change local air quality.
GHG Emissions	5.0	Table 8-1	1	Yes	Increased TWA area may result in additional GHG emissions sources (for example, power generation equipment, workforce vehicles) during site preparation and operation of the TWA.
Surface Water	6.0	Table 8-1	1	Yes	As per site selection criteria, the effects assessment assumes that the TWA will not be located on or within 30 m of watercourses and that existing access roads will be used, where practical. There is potential for surface water interactions to occur through potential upgrades to existing access roads or new temporary access to the TWA, or surface water runoff from the TWA.

Table 7-1. Potential Interactions with Valued Components

VC/Assessment Matter	EAC Application Section	Amendment Application Section	Interaction Identified	Carried Forward for Further Assessment (Yes/No)	Rationale for Inclusion or Exclusion
Groundwater	6.0	Table 8-1	1	Yes	Increased TWA area may trigger potential interactions with groundwater if subsurface construction is required.
Fish and Fish Habitat	7.0	Table 8-1	1	Yes	As per site selection criteria, the assessment assumes that the TWA will not be located on or within 30 m of watercourses and that existing access roads will be used, where practical. There is potential for fish and fish habitat interactions to occur if upgrades to existing access roads or new temporary access roads are required.
Terrestrial Vegetation	8.0	Table 8-1	1	Yes	As per site selection criteria, the effects assessment assumes that TWA will be in a previously cleared industrial site, Vegetation Communities of Concern and Plant Species of Concern will be avoided, and existing roads will be used, to the extent practical. If these criteria are met, no new interactions are anticipated when compared to those identified in the EAC Application. If clearing of vegetation for the TWA, road upgrades or new access roads, or if brushing of previously cleared industrial sites is required, additional interactions may occur.
Wetland Function	9.0	Table 8-1	1	Yes	As per site selection criteria, the effects assessment assumes that if siting of TWA will avoid wetlands and that existing roads will be used, where practical, therefore no new wetland interactions are anticipated when compared to those identified in the EAC Application. If upgrades to existing access roads or new temporary access roads are required, then additional adverse interactions may occur. Permanent loss of wetlands is not expected to occur because of the proposed amendment, as described in the original EAC Application.
Wildlife and Wildlife Habitat	10.0	Table 8-1	1	Yes	As per site selection criteria, the effects assessment assumes that the TWA will not be in any WHAs, WMAs, UWRs, or critical habitat for species at risk, will not require additional clearing of mature forest, and will not be located within or directly adjacent to wetlands or watercourses, where practical. There is potential for additional wildlife and wildlife habitat interactions to occur with increased Project traffic and through potential upgrades to existing access roads and/or new temporary access to the TWA and increased human population in areas not previously inhabited.

Table 7-1. Potential Interactions with Valued Components

VC/Assessment Matter	EAC Application Section	Amendment Application Section	Interaction Identified	Carried Forward for Further Assessment (Yes/No)	Rationale for Inclusion or Exclusion
Economy Pillar					
Economy	11.0	8.1	+	Yes	The Project construction workforce numbers are anticipated to be consistent with what was presented in the EAC Application. No new interactions between TWA and the Economy VC are anticipated due to the increase in the TWA area. In addition, the TWA is anticipated to be provided by a Contractor and could generate positive indirect effects such as increased opportunities for procurement.
Employment and Labour Force	11.0	8.1	+	Yes	The Project construction workforce numbers are anticipated to be consistent with what was presented in the EAC Application. No new interactions between TWA and the Employment and Labour Force VC are anticipated due to the increase in the TWA area. In addition, the TWA is anticipated to be provided by a Contractor and could generate positive indirect effects such as increased opportunities for employment and training.
Social Pillar					
Community Utilities and Services	12.0	Table 8-1	+, 1	Yes	The TWA is being proposed to decrease Project-related demand on local housing, accommodation, and services. It will be designed to house the total anticipated non-local workforce for the Project. The TWA will include medical personnel, supplies, and equipment to respond to basic medical needs. Compared to the original EAC Application, a decrease in Project-related demand on local emergency services, health care services, and social services is anticipated. The TWA will also include recreational facilities, thereby decreasing use of local recreational facilities by resident workers. The TWA will require waste management and may have a self-contained water supply and sewer system. Waste management will be provided by the TWA Contractor, which may divert disposal to private waste management facilities. This may result in an increase in demand on waste management services and facilities. A site-specific waste management plan will be developed in accordance with the specifications outlined in the Project Construction Environmental Management Plan as per EAC Condition 9.

Table 7-1. Potential Interactions with Valued Components

VC/Assessment Matter	EAC Application Section	Amendment Application Section	Interaction Identified	Carried Forward for Further Assessment (Yes/No)	Rationale for Inclusion or Exclusion
Transportation Infrastructure	12.0	Table 8-1	+, 1	Yes	The TWA will result in a decrease in Project-related impacts to local traffic due to workers residing outside of surrounding communities. However, the TWA will include a parking lot and will involve transportation of personnel, supplies, and equipment to and from the site. Therefore, an increase in traffic is anticipated to be concentrated near the TWA site.
Community	12.0	Table 8-1	+, 1	Yes	The Project construction workforce numbers are not anticipated to exceed what was presented in the EAC Application. The TWA is anticipated to be located away from commercial and residential areas and will include its own medical personnel, supplies, and equipment, as well as recreational facilities. It is anticipated that direct interactions with community members will be reduced due to the self-contained nature of the TWA and reduced need for workers to enter the community to access these types of services. However, many factors may influence community quality of life, and these may be experienced differently by different people. For a discussion of interactions with distinct populations, including those identified by gender and ethnicity, see subsection 9.1.
Land and Resource Use	13.0	Table 8-1	+, 1	Yes	The TWA is anticipated to be located on previously cleared industrial lands and will be consistent with land use objectives for the site. It is anticipated that the site will not infringe upon any parks and protected areas, OGMAs, VQOs, guide outfitting or trapping tenures, navigable watercourses, commercial fisheries, industrial tenures, contaminated sites, or transmission rights-of-way. However, construction of the facility as well as site servicing and transportation of personnel during operation may interact with access to industrial and recreational use areas. There is potential for a change in marine traffic/use patterns and subsequent interactions with marine users than presented in Addendum 2 if the TWA is in the Squamish area, resulting in interactions with marine users.
Heritage Pillar					
Heritage	14.0	Table 8-1	1	Yes	The increased TWA area may disturb previously recorded or undocumented Heritage Resource sites.

Table 7-1. Potential Interactions with Valued Components

VC/Assessment Matter	EAC Application Section	Amendment Application Section	Interaction Identified	Carried Forward for Further Assessment (Yes/No)	Rationale for Inclusion or Exclusion
Health Pillar					
Human Health	15.0	Table 8-1	1	Yes	Interactions with the TWA will be limited to potential increased interactions between human health and air quality, drinking water quality, and the acoustic environment.
Ecological Health	15.0	Table 8-1	1	Yes	Interactions with the TWA will be limited to potentially increased interactions between ecological health and air quality, acoustic environment, terrain integrity, ARD, wetland function, and surface water.
Other					
Effects of the Environment on the Project	17.0	N/A	0	No	Effects of the environment on the Project were assessed in the EAC Application. The increased TWA area is not anticipated to change the potential risk or severity of environmental factors (for example, natural seismic events, fire, extreme weather) on the Project. Therefore, no new interactions are anticipated and are not assessed further in the proposed amendment.
Indigenous Nation Information Requirements					
Indigenous Interests	19.0	10.0	1	Yes	Increased potential for noise, traffic, marine traffic, and non-Indigenous land users to affect Indigenous interests.
Other Matters of Concern to Indigenous nations	20.0	10.0	1	Yes	Increased potential for traffic, and non-Indigenous people accessing areas in and around TLU areas.
Section 25 Required Assessment Matters					
Effects of the Project on Indigenous nations and rights recognized and affirmed by Section 35 of the *Constitution Act, 1982*	N/A	10.0	1	Yes	Increased potential for noise, traffic, and non-Indigenous land users to affect Indigenous interests.
Positive and negative direct and indirect effects of the reviewable Project	N/A	Table 8-1 and 8.1	1	Yes	Positive and negative direct and indirect effects resulting from the proposed amendment are assessed in Table 8-1.

Table 7-1. Potential Interactions with Valued Components

VC/Assessment Matter	EAC Application Section	Amendment Application Section	Interaction Identified	Carried Forward for Further Assessment (Yes/No)	Rationale for Inclusion or Exclusion
Risks and uncertainties associated with those effects, including the results of any interaction between effects	N/A	8.0	1	Yes	Risks and uncertainties associated with the potential effects of the proposed amendment are discussed in Section 8.
Risks of malfunctions or accidents	16.0	N/A	0	No	Malfunctions and accidents due to construction are included in the EAC Application (contamination due to construction equipment, spills of hazardous substances, motor vehicle accidents). The increased TWA area does not interact with accidents or malfunctions type, severity, or risk.
Disproportionate effects on distinct human populations, including populations identified by gender	N/A	9.1	1	Yes	The proposed amendment has the potential to disproportionately effect distinct populations, including those identified by gender and ethnicity.
Effects on biophysical factors that support ecosystem function	N/A	9.2	1	Yes	The increased TWA area may increase interactions with biophysical factors that support ecosystem function, including: ▪ Habitats supporting ecosystem function ▪ Habitat patches ▪ Structural complexity ▪ Hydrologic or Oceanographic Patterns ▪ Nutrient Cycling ▪ Purification Services ▪ Biotic Interactions ▪ Population Dynamics ▪ Genetic Diversity
Effects on current and future generations	N/A	9.3	TBD	TBD	To be determined based on engagement with stakeholders and Indigenous nations.
Consistency with any land use plan of the government or an Indigenous nation if the plan is relevant to the assessment and to any assessment conducted under Sections 35 or 73	13.0	Table 7-1	0	No	The TWA is anticipated to be located on privately owned industrial lands. The site selection process will include consideration of relevant land use plans and will ensure that Project activities are consistent with applicable land use designations. Amendment Application No. 2 is not being conducted under Section 35 (regional assessments) or 73 (strategic assessments).

Table 7-1. Potential Interactions with Valued Components

VC/Assessment Matter	EAC Application Section	Amendment Application Section	Interaction Identified	Carried Forward for Further Assessment (Yes/No)	Rationale for Inclusion or Exclusion
GHG emissions, including the potential effects on the Province being able to meet its targets under the *Greenhouse Gas Reduction Targets Act*;	N/A	Table 8-1	0	No	The *Greenhouse Gas Reductions Target Act* applies to regulated operation. Although GHG emissions are expected from the TWA they are not identified as a regulated operation under the *Act*.
Alternative means of carrying out the Project that are technically and economically feasible, including using the best available technologies, and the potential effects, risks and uncertainties of those alternatives	1.5	3.0	0	No	The proposed TWA does not influence the alternative means of carrying out the overall Project. Alternative means of carrying out the TWA are provided in Section 3 of Amendment Application No. 2.
Potential changes to the reviewable Project that may be caused by the environment	17.0	N/A	0	No	Effects of the environment on the Project were assessed in the EAC Application. The increased TWA area is not anticipated to change the potential risk or severity of environmental factors (for example, natural seismic events, fire, extreme weather) on the Project. Therefore, no new interactions are anticipated and are not assessed further in Amendment Application No. 2.
Other prescribed matters	N/A	N/A	N/A	N/A	N/A

Notes:

0 = No interaction: Little to no interaction expected. No further consideration warranted.
1 = Potential Interaction: Interaction identified with potential for adverse effects. Warrants further consideration.
2 = Key Interaction: Interaction identified with potential significant adverse effect or concern. Warrants further consideration.
+ = Potential positive effects that can be enhanced; warrants further consideration

ARD = acid rock drainage
GHG = greenhouse gas
OGMA = Old Growth Management Area
PAG = potentially acid generating
TLU = Traditional Land Use
VQO = visual quality objective

8. Valued Components Effects Assessment

This section provides an assessment of potential effects to VCs where an interaction was identified with the proposed amendment. The proposed amendment has been assessed for the construction phase of the Project, to determine whether there is a material change to the effects assessment provided in the EAC Application Addendum 2. Material change is defined as a change to the assessment criteria ratings used to determine the significance of an impact on a VC as described in subsection 3.6 of the EAC Application (Volume 1, Part B) including: spatial boundary, duration, frequency, reversibility, magnitude, likelihood, and confidence. A CEA has been included that evaluates the likely residual adverse effects associated with the proposed amendment in combination with potential adverse effects arising from other projects and activities that have been or will be carried out in a VC-specific spatial boundary.

The site selection criteria presented in subsection 3.1 were developed to reduce or eliminate potential effects of the TWA to the VCs, where practical. After the avoidance of adverse effects through site selection and the implementation of mitigation measures, no material changes to the conclusions reached in the EAC Application, including Addendum 2 was identified. The prediction of potential effects associated with the proposed amendment is based on a good understanding of cause-effect relationships. Depending on the final TWA site selected, adaptive management of mitigation measures and management plans will ensure potential effects are reduced or eliminated.

As a result of the effects assessment, one additional mitigation measure has been proposed as follows:

- Where practical, FortisBC will consider placing noise generating equipment and facilities farthest away from the closest receptors.

Table 8-1. Assessment of Potential Effects on Relevant Valued Components

Valued Component	Potential Project-Related Effect	Existing Mitigation Measures	Residual Effect	New Proposed Mitigation	Change to Effects Assessment Conclusions	Rationale	Cumulative Effects Assessment
Geophysical Environment							
Soil Capability	▪ Degradation of soil structure through compaction and rutting ▪ Loss of surface soil material through wind or water erosion ▪ Mixing of surface soil with less productive subsoil during grubbing, soil salvage, storage and replacement, and soil decompaction activities ▪ Diminished soil or sediment quality due to the discovery of existing contaminated soils or sediment	Refer to Table 4.5-1 of the EAC Application	▪ Decrease in reclamation capability due to: – degradation of soil structure through compaction and rutting – localized loss of productive surface soil – mixing of surface soil with less productive subsoil during topsoil salvage and replacement and soil decompaction activities	None identified	No	The EAC Application considered potential and residual effects to soil capability because of Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Soil Capability VC. Construction activities resulting in soil disturbance are expected to be the same as those assessed in the EAC Application. The effects assessment took into consideration the soil conditions and potential effects along the entire Project Footprint, which were captured in the EAC Application. Therefore, the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Soil Capability VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Soil Capability VC remain the same.	The search conducted for Amendment Application No. 2 did not identify any new reasonably foreseeable projects and activities within the Soil Capability LAA. As was determined in the EAC Application, there are no potential cumulative adverse effects anticipated for the Soil Capability VC since any potential residual adverse effects that may remain after mitigation will be minor in nature and will be limited to the Project Footprint (such as, topsoil and subsoil mixing). Therefore, potential residual effects are not anticipated to act cumulatively with other existing developments and potential adverse effects of reasonably foreseeable projects and activities. The proposed amendment does not result in any material change to the assessment of potential cumulative adverse effects on the geophysical environment, including soil capability.
Terrain Integrity	Changes to terrain stability and erosion from: ▪ rock blasting ▪ new soil cuts and fills ▪ vegetation removal ▪ changes to surface and groundwater flow paths ▪ construction in areas susceptible to rockfall, slope instability, and subsidence ▪ construction in areas susceptible to river erosion and debris flows	Refer to Table 4.6-1 of the EAC Application	▪ Cut and fill instabilities ▪ Erosion of exposed soil ▪ Soil settlement or subsidence	None identified	No	The EAC Application considered potential and residual effects to terrain integrity because of Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Terrain Integrity VC. Construction activities resulting in terrain instability and soil erosion at the TWA are expected to be the same as those assessed in the EAC Application. The effects assessment took into consideration the potential terrain conditions and potential effects along the entire Project Footprint, which were captured in the EAC Application. Therefore, the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Terrain Integrity VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Terrain Integrity VC remain the same.	The search conducted for Amendment Application No. 2 did not identify any new reasonably foreseeable projects and activities within the geophysical environment, including the Terrain Integrity LAA. As was determined in the EAC Application, there are no potential cumulative adverse effects anticipated for the Terrain Integrity VC since any potential residual adverse effects that may remain after mitigation will be minor in nature and scope (such as, local slumping or erosion). Therefore, any potential residual effects are not anticipated to act cumulatively with existing developments and potential adverse effects of reasonably foreseeable projects and activities. The proposed amendment does not result in any material change to the assessment of potential cumulative adverse effects on the geophysical environment including terrain integrity.

Table 8-1. Assessment of Potential Effects on Relevant Valued Components

Valued Component	Potential Project-Related Effect	Existing Mitigation Measures	Residual Effect	New Proposed Mitigation	Change to Effects Assessment Conclusions	Rationale	Cumulative Effects Assessment
ARD	▪ Lower pH and elevated metal concentrations of water in areas where PAG or metal leaching susceptible rock is disturbed	Refer to Table 4.7-1 of the EAC Application	▪ No residual adverse effects identified	None identified	No	The EAC Application considered potential and residual effects to ARD (including metal leaching) because of Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the ARD VC. Construction activities resulting in ARD at the TWA are expected to be the same as those assessed in the EAC Application. the effects assessment took into consideration the potential geochemical conditions and potential effects along the entire Project Footprint, which were captured in the EAC Application. Therefore, the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the ARD VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the ARD VC remain the same.	With the implementation of mitigation measures provided in the EAC Application, as well as adherence to the Construction Environmental Management Plan (Condition 9 of the EAC), there are no residual effects identified for the ARD VC. Since there are no likely residual adverse effects, a cumulative adverse effects assessment is not warranted for the ARD VC.
Atmospheric Environment							
Acoustic Environment	▪ Increase in noise from vehicles and equipment at nearest receptors	Refer to Table 5.5-1 of the EAC Application.	▪ Increase in sound levels during construction, operation, and decommissioning	None identified	No	The EAC Application considered potential and residual effects on the acoustic environment with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Acoustic Environment VC. The proposed amendment may include larger noise sources than were originally assessed for a smaller TWA (for example, power generation equipment, water treatment or supply equipment, increased vehicular traffic), as well as localized noise generated by the workforce largely concentrated into one area. However, the impact on the Acoustic Environment VC from the proposed amendment can be addressed by the existing mitigation measures. Therefore, the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of the residual effects for the Acoustic Environment VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Acoustic Environment VC remain the same.	New reasonably foreseeable projects and activities have been identified in the Acoustic Environment RAA (subsection 6.3). It is anticipated that effects from these projects and activities may overlap in time with Project construction. The interaction between the potential residual adverse effect and potential effects from reasonably foreseeable projects and activities is not anticipated to be materially different than that identified in the EAC Application based on the site selection criteria (such as, placing noise generating equipment and facilities far away from the closest receptors) are implemented and considering noise from the TWA will be concentrated in one area. In addition, it is likely that proponents of reasonably foreseeable projects and activities will follow similar practices as the current Project to reduce their contribution to regional cumulative adverse effects on the acoustic environment, although the likelihood is unknown. Given that the potential residual effect of the proposed amendment on the Acoustic Environment VC can be addressed with the implementation of existing mitigation measures provided in the EAC Application, previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and new reasonably foreseeable projects and activities (subsection 6.3) acting in combination with the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Acoustic Environment VC.

Table 8-1. Assessment of Potential Effects on Relevant Valued Components

Valued Component	Potential Project-Related Effect	Existing Mitigation Measures	Residual Effect	New Proposed Mitigation	Change to Effects Assessment Conclusions	Rationale	Cumulative Effects Assessment
Air Quality	CAC emissions from: ▪ the use of equipment and vehicles ▪ fugitive dust emissions from land disturbance and transport on unpaved roads ▪ smoke emissions from burning associated with land clearing, if required	Refer to Table 5.6-1 of the EAC Application	▪ Elevated concentrations of CAC emissions from: – the use of equipment and vehicles	None identified	No	The EAC Application considered potential and residual effects to air quality with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Air Quality VC. The proposed amendment may include additional site preparation activities (for example, grading, vegetation clearing) that require additional vehicles and use of equipment during construction and operation of the TWA that have a potential to reduce local air quality. However, the impact on the Air Quality VC from the proposed amendment can be addressed by the existing mitigation measures. Therefore, the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Air Quality VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Air Quality VC remain the same.	New reasonably foreseeable projects and activities have been identified in the Air Quality RAA (subsection 6.3). It is anticipated that residual effects from these projects and activities may overlap in time with Project construction and may therefore increase the cumulative effect on the Air Quality VC. With the implementation of existing mitigation measures provided in the EAC Application, the interaction between potential residual effects for the Air Quality VC and potential effects from reasonably foreseeable projects and activities are not anticipated to be materially different than that identified in the EAC Application. In addition, it is assumed that proponents of reasonably foreseeable projects and activities will follow similar practices as the current Project to reduce their contribution to regional cumulative adverse effects on the acoustic environment, although the likelihood is unknown. Therefore, existing developments, previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and new reasonably foreseeable projects and activities (subsection 6.3) acting in combination with the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Air Quality VC.
GHG Emissions	▪ Increase in carbon dioxide and nitrous oxide from internal combustion engines used in equipment and vehicles ▪ Increase in GHGs associated with land clearing activities, if required	Refer to Table 5.7-2 of the EAC Application	▪ Increase in GHG emissions associated with equipment and vehicles	None identified	No	The EAC Application considered potential and residual effects to GHG emissions with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the GHG Emissions VC. The proposed amendment may include additional site preparation activities (for example, grading, vegetation clearing,) that require additional vehicles and use of equipment during construction and operation of the TWA that have a potential to reduce local air quality. However, the impact on the GHG Emissions VC from the proposed amendment can be addressed by the existing mitigation measures. Therefore, the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the GHG Emissions VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the GHG Emissions VC remain the same.	The study area for GHG emissions is international in scale. Due to the inherently cumulative nature of GHGs and their contribution to climate change, as per the EAC Application, it was deemed unnecessary to conduct a CEA of GHG emissions for the proposed amendment. The ongoing operational emissions from the entire Project (including pipeline and facility operation) are approximately 67.2 kt CO_2e per year, including approximately 50.4 kt CO_2e from compressor station facilities and 16.8 kt CO_2e from pipeline operation (refer to Appendix B of Amendment Application No. 1 and the EAC Application Volume 2 Appendix 1E). The operational emissions from the Project are 0.18 percent of the 2030 Provincial target GHG emissions, 0.28 percent of the 2040 Provincial target GHG emissions, and 0.56 percent of the 2050 Provincial target GHG emissions. The increase in size of the TWA from 2 ha to 7 ha is not anticipated to result in a noticeable increase in these estimates. Therefore, the proposed amendment is not anticipated to have a meaningful potential effect on the Province's ability to meet its targets under the *Climate Change Accountability Act*.

Table 8-1. Assessment of Potential Effects on Relevant Valued Components

Valued Component	Potential Project-Related Effect	Existing Mitigation Measures	Residual Effect	New Proposed Mitigation	Change to Effects Assessment Conclusions	Rationale	Cumulative Effects Assessment
Water							
Surface Water	▪ Reduced surface water quality ▪ Alteration of natural surface drainage patterns ▪ Disruption of alteration of stream flow	Refer to Table 6.5-1 of the EAC Application.	▪ Disruption and alteration of natural stream flow	None identified	No	The EAC Application considered potential and residual effects to surface water with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Surface Water VC. With the implementation of the site selection criteria, surface water will be managed using best management practices therefore the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for surface water during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Surface Water VC remain the same.	The search conducted for Amendment Application No. 2 did not identify any new reasonably foreseeable projects and activities within the Surface Water RAA. With compliance with Condition 10 of the EAC for water quality management and monitoring and with site selection criteria being followed, potential residual effects are not anticipated to act cumulatively with existing developments and potential adverse effects of reasonably foreseeable projects and activities. Therefore, previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and reasonably foreseeable projects and activities (subsection 6.3) acting in combination with the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Surface Water VC.
Groundwater	▪ Local diversion of groundwater flow	Refer to Table 6.6-1 of the EAC Application.	▪ Local diversion of groundwater flow	None identified	No	The EAC Application considered potential and residual effects to groundwater with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Groundwater VC. With the implementation of the site selection criteria, grading activities will not intercept groundwater therefore the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Groundwater VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Groundwater VC remain the same.	The search conducted for Amendment Application No. 2 did not identify any new reasonably foreseeable projects and activities within the Groundwater RAA. With site selection criteria being followed, and site grading activities not intercepting groundwater, potential residual effects are not anticipated to act cumulatively with existing developments or potential adverse effects of reasonably foreseeable projects and activities. Therefore, previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and reasonably foreseeable projects and activities (subsection 6.3) acting in combination with the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Groundwater VC.
Fish							
Fish and Fish Habitat	▪ Alteration or loss of riparian habitat function ▪ Alteration or loss of instream habitat ▪ Fish mortality or injury ▪ Blockage of fish movement ▪ Interbasin transfer of aquatic organisms ▪ Increased access to fish and fish habitat	Refer to Table 7.5-1 of the EAC Application	▪ Alteration or loss of riparian habitat function ▪ Fish mortality or injury ▪ Increased access to fish and fish habitat ▪ Temporary blockage of fish movements	None identified	No	The EAC Application considered potential and residual effects to fish and fish habitat with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Fish and Fish Habitat VC. With the implementation of site selection criteria, the TWA will not be located on or within 30 m of watercourses. There is potential for fish and fish habitat interactions to occur if upgrades to existing access roads or new temporary access roads are required. The impact on fish and fish habitat from the proposed amendment can be effectively managed by the existing mitigation measures and requirements outlined in the Fish Management and Monitoring Plan (per Condition 11 of the EAC), as well as any applicable permits.	The search conducted for Amendment Application No. 2 did not identify any new reasonably foreseeable projects and activities within the Fish and Fish Habitat RAA. It is assumed that with implementation of the Fish Management and Monitoring Plan (Condition 11 of the EAC) and site selection criteria being followed (such as, avoiding instream works and incorporating setbacks from watercourses), potential residual effects are not anticipated to act cumulatively with existing developments or potential residual adverse effects of reasonably foreseeable projects and activities.

Table 8-1. Assessment of Potential Effects on Relevant Valued Components

Valued Component	Potential Project-Related Effect	Existing Mitigation Measures	Residual Effect	New Proposed Mitigation	Change to Effects Assessment Conclusions	Rationale	Cumulative Effects Assessment
Fish and Fish Habitat (cont'd)	▪ As above	As above	▪ As above	As above	As above	Therefore, the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Fish and Fish Habitat VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Fish and Fish Habitat VC remain the same.	Therefore, existing developments, previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and reasonably foreseeable projects and activities (subsection 6.3) acting in combination with the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Fish and Fish Habitat VC.
Vegetation							
Terrestrial Vegetation	▪ Loss or alteration of vegetation communities of concern ▪ Loss or alteration of an occurrence of a plant species of concern	Refer to Table 8.5-1 of the EAC Application	▪ Loss or alteration of vegetation communities of concern ▪ Loss or alteration of an occurrence of a plant species of concern	None identified	No	The EAC Application considered potential and residual effects to terrestrial vegetation associated with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Terrestrial Vegetation VC. The risk to terrestrial vegetation is expected to be reduced based on the site selection criteria of using a previously cleared industrial site with existing access. The previously identified residual effect on old forests has also been eliminated based on the criteria of no clearing. There is potential for vegetation interactions and adverse effect on Vegetation Communities or Plant Species of Concern if upgrades to existing access roads or new temporary access roads are required. Any clearing of vegetation will be assessed by a Qualified Professional to determine potential permitting requirements and need for site-specific mitigation or restoration. The impact on vegetation from new access roads or upgrades of existing roads can be effectively managed by the existing mitigation measures and requirements outlined in EAC Conditions, as well as any applicable permits. The proposed amendment does not result in any material change to the potential adverse effects on Vegetation Communities or Plant Species of Concern, or the applicable mitigation, or characterization of residual effects during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Terrestrial Vegetation VC remain the same.	The search conducted for Amendment Application No. 2 did not identify any new reasonably foreseeable projects and activities within the Terrestrial Vegetation RAA. It is assumed that with implementation of Condition 13 of the EAC (such as, the Red- and Blue-Listed Plants and Ecological Communities Survey Results and Mitigation Plan) potential residual effects are not anticipated to act cumulatively with potential residual adverse effects of reasonably foreseeable projects and activities. Therefore, existing developments, previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and reasonably foreseeable projects and activities (subsection 6.3) acting in combination with the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Terrestrial Vegetation VC.
Wetlands							
Wetland Function	▪ Alteration or loss of wetland habitat, hydrologic and biogeochemical function	Refer to Table 9.5-1 of the EAC Application	▪ Alteration or loss of hydrologic function until natural flow regime is re-established ▪ Alteration or loss of biogeochemical function until hydrologic regime is re-established and substrate recovers ▪ Alteration or loss of habitat function until hydrologic regime and vegetation are re-established	None identified	No	The EAC Application considered potential and residual effects to terrestrial vegetation associated with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Terrestrial Vegetation VC. Based on the site selection criteria including using a previously cleared industrial site with existing access the risk to terrestrial vegetation is expected to be reduced. The siting assumption of no clearing results in the elimination of the previously identified residual effect on old forests.	The search conducted for Amendment Application No. 2 did not identify any new reasonably foreseeable projects and activities within the Wetland Function RAA. With implementation of the Wetland Management Plan (Condition 21 of the EAC) and ensuring no net loss of wetland function (such as, compensating for permanent wetland disturbance), potential residual effects are not anticipated to act cumulatively with potential adverse effects of reasonably foreseeable projects and activities.

Table 8-1. Assessment of Potential Effects on Relevant Valued Components

Valued Component	Potential Project-Related Effect	Existing Mitigation Measures	Residual Effect	New Proposed Mitigation	Change to Effects Assessment Conclusions	Rationale	Cumulative Effects Assessment
Wetland Function (cont'd)	▪ As above	As above	▪ As above	As above	As above	There is potential for vegetation interactions and adverse effect on Vegetation Communities or Plant Species of Concern if upgrades to existing access roads or new temporary access roads are required. Any clearing of vegetation will be assessed by a Qualified Professional to determine potential permitting requirements and need for site-specific mitigation or restoration. The impact on vegetation from new access roads or upgrades of existing roads can be effectively managed by the existing mitigation measures and requirements outlined in EAC Conditions, as well as any applicable permits. The proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Wetland Function VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Wetland Function VC remain the same.	Therefore, existing developments, previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and reasonably foreseeable projects and activities (subsection 6.3) acting in combination with the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Wetland Function VC.
Wildlife							
Wildlife and Wildlife Habitat	▪ Change in habitat availability and effectiveness ▪ Change in movement ▪ Change in mortality risk	Refer to Table 10.5-2 of the EAC Application	▪ Combined residual adverse effect of the Project resulting from changes in habitat, movement and mortality risk to: – bats – mature or old forest birds – early seral forest birds – grassland or shrubland birds – riparian and water birds – peregrine falcon – marbled murrelet – spotted owl	None identified	No	The EAC Application considered potential and residual effects to wildlife and wildlife habitat associated with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Wildlife and Wildlife Habitat VC. Areas of sensitive wildlife habitat and additional areas of new clearing will largely be avoided, where practical. The site will have fencing and all waste will be stored in appropriate containers to avoid the attraction of wildlife and to avoid odours. There is potential for wildlife and wildlife habitat interactions and adverse effect on wildlife and wildlife habitat to occur if the TWA or upgrades to existing access roads or new temporary access roads require vegetation clearing. Any clearing of wildlife habitat will be assessed by a Qualified Professional to determine potential permitting requirements and need for site-specific mitigation or restoration. The impact on wildlife and wildlife habitat from vegetation clearing, new access roads or upgrades of existing roads can be effectively managed by the existing mitigation measures and requirements outlined in EAC Conditions, as well as any applicable permits. Therefore, the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Wildlife and Wildlife Habitat VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Wildlife and Wildlife Habitat VC remain the same.	New reasonably foreseeable projects and activities have been identified in the Wildlife and Wildlife Habitat RAA (subsection 6.3). It is anticipated that effects from these projects and activities may overlap in time with Project construction, including changes to wildlife habitat, movement and mortality risk. With implementation of the Wildlife Mitigation and Monitoring Plan (Condition 17 of the EAC) and site selection criteria to avoid areas of sensitive habitat (such as, wildlife corridors, UWRs) and choosing a previously cleared site where practical, the incremental contribution of the proposed amendment to cumulative effects is not anticipated to be materially different than that identified in the EAC Application. It is assumed that proponents of reasonably foreseeable projects or activities will follow similar practices as the current Project to reduce their contribution to regional cumulative adverse effects on wildlife and wildlife habitat, although the likelihood is unknown. Therefore, existing developments, previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and new reasonably foreseeable projects and activities (subsection 6.3) acting in combination with residual effects from the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Wildlife and Wildlife Habitat VC.

Table 8-1. Assessment of Potential Effects on Relevant Valued Components

Valued Component	Potential Project-Related Effect	Existing Mitigation Measures	Residual Effect	New Proposed Mitigation	Change to Effects Assessment Conclusions	Rationale	Cumulative Effects Assessment
Community and Regional Infrastructure and Services							
Community Utilities and Services	▪ Increase in solid, liquid, and hazardous waste at landfills, transfer stations, hazardous waste centres, and wastewater treatment facilities	Refer to Table 12.5-1 of the EAC Application	▪ Increase in solid, liquid, and hazardous waste at landfills, transfer stations, hazardous waste centres, and wastewater treatment facilities	None identified	No	The EAC Application considered potential and residual effects to community utilities and services associated with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Community Utilities and Services VC. The TWA is being proposed to decrease Project-related demand on local housing, accommodation, and services. It will include medical personnel, supplies, and equipment to respond to basic medical needs, as well as recreational facilities. Therefore, a decrease in Project-related demand on local emergency services, health care, social services and local recreational facilities is anticipated. Waste management will include solid waste, recycling, and organics, as well as protocols for hazardous waste. Waste management will be provided by the TWA Contractor, which may use a private waste management company to dispose of waste at approved facilities resulting in a potential increase in demand on waste management services and facilities. The Contractor will be required to provide site-specific waste management plan in accordance with the requirements outlined in Section 8 of the Construction Environmental Management Plan (CEMP) as per EAC Condition 9. With the application of mitigation measures, the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Community Utilities and Services VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Community Utilities and Services VC remain the same.	New reasonably foreseeable projects and activities have been identified in the Community and Regional Infrastructure and Services RAA (subsection 6.3). It is anticipated that effects from these projects and activities may overlap in time with Project construction, including activities requiring the same regional landfill or transfer station sites. If the proposed amendment and reasonably foreseeable projects/activities have similar construction schedules, waste disposal may increase at regional waste facilities. The implementation of the CSIMP (Condition 22 of the EAC) and mitigation in the EAC Application, the incremental contribution of the proposed amendment to cumulative effects is not anticipated to be materially different than that identified in the EAC Application. In addition, it is likely that proponents of reasonably foreseeable projects and activities will follow similar practices to reduce their contribution to regional cumulative adverse effects on infrastructure and services, although the likelihood is unknown. The existing developments, previously identified future developments (subsection 3.3 of Amendment Application No. 1) and new reasonably foreseeable projects and activities (subsection 6.3) acting in combination with residual effects from the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Community Utilities and Services VC.
Transportation Infrastructure	▪ Increased traffic volumes as a result of transporting workers, supplies, and equipment ▪ Physical disturbance to roads	Refer to Table 12.6-1 of the EAC Application	▪ Increased traffic volumes as a result of transporting workers, supplies, and equipment ▪ Physical disturbance to roads	None identified	No	The EAC Application considered potential and residual effects to transportation infrastructure associated with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Transportation Infrastructure VC. A decrease in local Project-related traffic in surrounding communities is anticipated due to workers residing outside of town. However, traffic impacts may be concentrated at the TWA site. Trucks will be used during construction of the temporary facility, as well as during its operation to deliver supplies and dispose of waste. The TWA will include parking for personnel and multi-passenger vehicles will be used to transport workers to and from the construction sites. Specific transportation routes will be determined prior to the commencement of construction. The characterization of the residual effect remains unchanged from the EAC Application. The TWA is within the scope of the TCMP developed for the Project as per EAC Condition 23. The Contractor will develop a site-specific Traffic Management Plan in accordance with the specifications outlined in the TCMP.	New reasonably foreseeable projects and activities have been identified in the Community and Regional Infrastructure and Services RAA (subsection 6.3). It is anticipated that effects from these projects and activities may overlap in time with Project residual effects during the construction period, including sharing the local and FSRs used for the proposed amendment for the temporary movement of equipment and labour. With the implementation of the TCMP (Condition 23 of the EAC) and existing and site-specific mitigation, the incremental contribution of the proposed amendment to cumulative effects is not anticipated to be materially different than that identified in the EAC Application. It is expected that proponents of reasonably foreseeable future projects and activities will also have measures in place to reduce impacts on transportation infrastructure, although the likelihood is unknown.

Table 8-1. Assessment of Potential Effects on Relevant Valued Components

Valued Component	Potential Project-Related Effect	Existing Mitigation Measures	Residual Effect	New Proposed Mitigation	Change to Effects Assessment Conclusions	Rationale	Cumulative Effects Assessment
Transportation Infrastructure (cont'd)	▪ As above	As above	▪ As above	As above	As above	Local roads and FSRs will be used to access the site. It is anticipated that most roads will require maintenance during use. Upgrades to existing access roads or new temporary access roads may be required. It is anticipated that the implementation of existing mitigation, and any site-specific mitigation, will be sufficient to manage potential physical disturbance to roads. Therefore, the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Community Utilities and Services VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Transportation Infrastructure VC remain the same.	The existing developments, previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and new reasonably foreseeable projects and activities (subsection 6.3) acting in combination with residual effects from the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Transportation Infrastructure VC.
Community	▪ Change in community quality of life	Refer to Table 12.7-1 of the EAC Application	▪ Change in community quality of life during the construction phase	Refer to subsection 9.1 for the assessment of Disproportionate Effects to Distinct Human Populations	No	The EAC Application considered potential and residual effects on the Community VC because of Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Community VC. The Project construction workforce numbers are unlikely to exceed what was presented in the EAC Application and the characterization of this effect has not changed from Addendum 2. The TWA is anticipated to be located away from commercial and residential areas and will include its own medical personnel, supplies, and equipment, as well as recreational facilities. It is anticipated that direct interactions with community members will be reduced due to the self-contained nature of the TWA and reduced need for workers to enter the community for these services. The non-local workforce residing at the TWA will be provided with a community orientation package outlining information about the local context, amenities, and businesses. Workers will be free to visit the community during non-working hours. It is anticipated that there will be local economic benefits as a result the non-local workforce frequenting local business. Positive indirect effects such as increased opportunities for local procurement and employment have been identified in Section 8.1. However, many factors may influence community quality of life, and these may be experienced differently by different people. Therefore, the discussion of impacts to community quality of life has been expanded in the assessment of disproportionate effects to distinct human populations in subsection 9.1. The proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Community VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Community VC remain the same.	New reasonably foreseeable projects and activities have been identified in the Community and Regional Infrastructure and Services RAA (subsection 6.3). It is anticipated that the Project's incremental contribution of adverse effects on community quality of life would act cumulatively with effects of other reasonably foreseeable projects and activities in the Community and Regional Infrastructure and Services RAA. It is expected that most of the services needed for temporary workers will be provided by the TWA, thereby decreasing the cumulative demand on local resources, services, and infrastructure. With the implementation of the CSIMP (Condition 22 of the EAC) as well as the new proposed mitigation provided in the proposed amendment (refer to subsection 9.1), the incremental contribution of the proposed amendment to cumulative effects is not anticipated to be materially different than that identified in the EAC Application. Although it cannot be guaranteed, it is expected that reasonably foreseeable projects and activities in the Community and Regional Infrastructure and Services RAA have measures in place like those proposed by FortisBC to encourage respectful behaviour in communities during Project construction. Although new reasonably foreseeable projects and activities have been identified in the Community and Regional Infrastructure and Services RAA, existing developments, previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and new reasonably foreseeable projects and activities (subsection 6.3) acting in combination with the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Community VC.

Table 8-1. Assessment of Potential Effects on Relevant Valued Components

Valued Component	Potential Project-Related Effect	Existing Mitigation Measures	Residual Effect	New Proposed Mitigation	Change to Effects Assessment Conclusions	Rationale	Cumulative Effects Assessment
Land and Resources							
Land and Resource Use	▪ Disruption of recreational users and recreational hunters, fishers and gatherers ▪ Disruption of commercial recreation and tourism operation ▪ Disruption to industrial use areas	Refer to Table 13.5-1 of the EAC Application	▪ Disruption of recreational users and recreational hunters, fishers, and gatherers during construction ▪ Disruption of commercial recreation and tourism operations ▪ Disruption of access to industrial use areas ▪ Disruption to watercourse users on navigable waterways	None identified	No	The EAC Application considered potential and residual effects on the Land and Resource Use VC because of Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Land and Resource Use VC. The TWA is anticipated to be located on previously cleared industrial lands and will be consistent with land use objectives for the site. It is anticipated that the site will not infringe upon any parks and protected areas, OGMAs, VQOs, guide outfitting or trapping tenures, navigable watercourses, commercial fisheries, industrial tenures, contaminated sites, or transmission rights-of-way. Construction of the facility as well as site servicing and transportation of personnel during operation may disrupt access to industrial and recreational use areas. Similarly, commercial recreation and tourism operations could be disrupted by construction activities and transportation of personnel and supplies. However, the characterization of the residual effect remains unchanged from the EAC Application. The TWA is within the scope of the AMP and TCMP developed for the Project as per EAC Conditions 12 and 23. The Contractor will develop a site-specific Traffic Management Plan in accordance with the specifications outlined in the TCMP. With the implementation of existing mitigation measures, the TCMP and the AMP, these potential effects are anticipated to be manageable. There is potential for disruption of marine traffic, due to the change in location of the TWA from at or near the WLNG facility site. An increase in marine transportation of personnel compared to that described in Addendum 2 is not anticipated as Addendum 2 did not recalculate the number of trips to transport workers if the TWA was to be located at or within 5 km of the WLNG and conservatively assessed the maximum estimate of barge trips for transporting personnel. If needed, larger passenger boats will be used to transport workers. However, marine use patterns may change which has the potential to disrupt watercourse users on navigable waterways. This may result in temporary delays associated with interactions between Project marine vessels and other marine users. Existing mitigation measures and management plans are expected to manage these potential effects. The proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Land and Resource Use VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Land and Resource Use VC remain the same.	New reasonably foreseeable projects and activities have been identified in the Land and Resources RAA (subsection 6.3). Changes to access and use patterns of land and resource use areas are expected to result from reasonably foreseeable projects and activities in the Land and Resource Use RAA and may act cumulatively with the proposed amendment. With the implementation of the AMP (Condition 12 of the EAC) and the TCMP (Condition 23 of the EAC), the incremental contribution of the proposed amendment to cumulative effects is not anticipated to be materially different than that identified in the EAC Application. It is expected that proponents of reasonably foreseeable developments will also have measures in place to reduce impacts on land and resource use, although the likelihood of this is unknown. Although new reasonably foreseeable projects and activities have been identified in the Land and Resources RAA, existing developments, previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and new reasonably foreseeable projects and activities (subsection 6.3) acting in combination with the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Land and Resource Use VC.

Table 8-1. Assessment of Potential Effects on Relevant Valued Components

Valued Component	Potential Project-Related Effect	Existing Mitigation Measures	Residual Effect	New Proposed Mitigation	Change to Effects Assessment Conclusions	Rationale	Cumulative Effects Assessment
Heritage							
Heritage Resources	▪ Disturbing Heritage Resources ▪ Disturbing elements essential to the character of Heritage Resources ▪ Hindering or increasing access to Heritage Resource sites and destroying contextual information	Refer to Table 14.5-1 of the EAC Application	None identified	Complete an Archaeological Overview Assessment to determine the need for further investigation. If further investigation is recommended and warranted, obtain any necessary permits and approval under the *HCA*.	No	The EAC Application considered potential and residual effects to Heritage Resources associated with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Heritage Resources VC. The risk to Heritage Resources is expected to increase given that the TWA will require additional areas not covered in the existing EAC Application. However, the impact on Heritage Resources from the proposed amendment can be addressed by the existing mitigation measures. Therefore, the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Heritage Resources VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Heritage Resources VC remain the same.	New reasonably foreseeable projects and activities have been identified in the Heritage Resources RAA (subsection 6.3). Reasonably foreseeable future projects and activities in the Heritage Resources RAA may overlap in time with the construction of the TWA. While these projects and activities do not overlap spatially with the proposed amendment, they will contribute to cumulative physical disturbances to Heritage Resources at the regional scale. With the implementation of the Archaeology and Heritage Resources Management Plan (Condition 26 of the EAC) and existing mitigation provided in the EAC Application, incremental contribution of the proposed amendment to cumulative effects is not anticipated to be materially different than that identified in the EAC Application. It is expected that all existing activities and reasonably foreseeable projects and activities in the Heritage Resources RAA have measures in place that are like those developed by FortisBC. Although new reasonably foreseeable projects and activities have been identified in the Heritage Resources RAA, existing developments and previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and new reasonably foreseeable projects and activities (subsection 6.3) acting in combination with the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Heritage Resources VC.

Table 8-1. Assessment of Potential Effects on Relevant Valued Components

Valued Component	Potential Project-Related Effect	Existing Mitigation Measures	Residual Effect	New Proposed Mitigation	Change to Effects Assessment Conclusions	Rationale	Cumulative Effects Assessment
Health							
Human Health	▪ Increased CACs from changes in Air Quality ▪ Increased Noise from changes in Acoustic Environment ▪ Change in drinking water quality	Refer to Table 15.5-1 of the EAC Application	▪ Potential health effects from Air Quality CACs due to increased emissions during construction and operation ▪ Potential health effects from Acoustic Environment (Noise) increased noise	None identified	No	The EAC Application considered potential and residual effects to human health associated with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Human Health VC. It is anticipated that the site selected will be previously cleared of vegetation, will not have contaminated soils, and will not be located on a watercourse. The increased footprint for the TWA will be limited to potentially increased interactions between human health and air quality and acoustic environment. The impact of changes to the TWA area for soil, terrain, ARD, and GHG are unlikely to increase or change interactions with human health. If a final TWA site is in proximity to a source of drinking water or domestic use and a potential interaction with groundwater or surface water is identified, the interaction will be assessed by a Qualified Professional to determine potential permitting requirements and need for additional site-specific mitigation. The potential effect on human health from can be effectively managed by Project design measures, existing mitigation measures and requirements outlined in EAC Conditions, as well as any applicable permits. Interactions where wildlife is used for country foods are discussed under the Ecological Health VC. Changes to terrestrial vegetation and wetland function are unlikely to have interactions with human health. The proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or characterization of residual effects for the Human Health VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Human Health VC remain the same.	New reasonably foreseeable projects and activities have been identified in the Health RAA (subsection 6.3). It is anticipated that these projects and activities may overlap in time with Project construction. Since the TWA is temporary and only required for Project construction, there is no anticipated potential cumulative effect with the Project's activities during operation. With the application mitigation measures provided in the EAC Application and Addendum 2 will be followed (such as, construction equipment enclosed in temporary structures), the incremental contribution of the proposed amendment to cumulative effects is not anticipated to be materially different than that identified in the EAC Application. It is expected that all existing activities and reasonably foreseeable projects and activities in the Health RAA have measures in place that are like those developed by FortisBC. Although new reasonably foreseeable projects and activities have been identified in the Health RAA, existing developments, previously identified future projects and activities (subsection 3.3 of Amendment Application No. 1) and new reasonably foreseeable projects and activities (subsection 6.3) acting in combination with the proposed amendment are not anticipated to result in any material change to the assessment of potential cumulative adverse effects on the Human Health VC.

Table 8-1. Assessment of Potential Effects on Relevant Valued Components

Valued Component	Potential Project-Related Effect	Existing Mitigation Measures	Residual Effect	New Proposed Mitigation	Change to Effects Assessment Conclusions	Rationale	Cumulative Effects Assessment
Ecological Health	▪ Decreased quality of country foods in plant gathering areas, hunting sites, and fishing areas	Refer to Table 15.6-1 of the EAC Application	▪ None identified	None identified	No	The EAC Application considered potential and residual effects to ecological health associated with Project construction, operation, and decommissioning activities. Addendum 2 concluded that the addition of a 2 ha TWA did not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the Ecological Health VC. It is anticipated that the site selected will previously be cleared of vegetation, will not have contaminated soils, and will not be located on a watercourse. The increased footprint for the TWA will be limited to potentially increased interactions between ecological health and air quality, acoustic environment, terrain integrity, ARD, wetlands function, and surface water. The impact of changes to the TWA area affecting soils or GHGs are unlikely to increase or change interactions with the Ecological Health VC. Changes to groundwater interactions with ecological health are also unlikely since groundwater is assumed to be not impacted by increased size of TWA and generally not available to ecological receptors except deep rooting plants. The proposed amendment does not result in any material change to the assessment of potential adverse effects or mitigation. In consideration of the existing mitigation in the EAC Application, there are no residual effects for the Ecological Health VC during any phase of the Project. As a result, conclusions identified in the EAC Application with respect to the Ecological Health VC remain the same.	With the implementation of mitigation measures provided in the EAC Application, there are no residual effects identified for the Ecological Health VC. Since there are no likely residual adverse effects, further assessment of cumulative adverse effects assessment is not warranted for Ecological Health VC.

AMP = Access Management Plan
CAC = Criteria Air Contaminant
CSIMP = Community Services and Infrastructure Management Plan
kt CO2e = kilotonne(s) carbon dioxide equivalent
TCMP = Traffic Control Management Plan

8.1 Summary of Potential Positive Effects

The proposed TWA is a key mitigation measure to reduce Project-related demand on accommodation, services, and infrastructure in the communities within which the Project is located. FortisBC understands that housing and accommodation in the District of Squamish and surrounding area is limited. This has been a primary consideration for the expansion of the TWA area.

With the expansion of the footprint from 2 ha to 7 ha, the TWA will accommodate from approximately 100 to 600 workers at peak capacity. This will be sufficient to house the maximum peak non-local workforce during construction.

The TWA will include medical personnel, supplies, and equipment to respond to basic medical needs, as well as mental health supports, to support the health and wellness needs of resident workers. This is anticipated to reduce Project-related demand on local emergency and health care services and social services.

Health and medical facilities will include an exam room, office, waiting area, and washrooms. The TWA will also include recreational and leisure facilities, including a gym with fitness equipment, a recreational area with equipment such as a pool table, a seating area with televisions, and change rooms which will reduce use of local recreational facilities by Project workers.

In addition, the TWA is anticipated to be located outside of commercial and residential areas. The location, combined with self-contained services for the TWA, will reduce the need for Project workers to enter surrounding communities.

As a result, community-worker interactions are anticipated to be reduced. However, many factors may influence community quality of life, and these may be experienced differently by different people. For a discussion of interactions with distinct populations, including those identified by gender and ethnicity, see subsection 9.1.

A decrease in local Project-related traffic in surrounding communities is anticipated due to workers residing outside of town. However, traffic impacts may be concentrated at the TWA site.

Finally, the TWA will be operated by a third-party contracted to FortisBC. This is anticipated to generate positive indirect effects such as increased opportunities for local procurement and employment.

9. Section 25 Required Assessment Matters

9.1 Disproportionate Effects on Distinct Human Populations

The assessment of disproportionate effects on distinct human populations was not included in the original EAC Application because it was not a requirement of the *2002 Act* and therefore was not included in the approved AIRs. This section provides an assessment of disproportionate effects on distinct human populations for the proposed amendment relative to the Certified Project.

The goal of the assessment is to identify potential disproportionate impacts to unique subsets of the population because of the proposed amendment and outline mitigation measures to support safe worksites and community quality of life. The study area for the analysis includes communities where it can be reasonably expected that direct and identifiable effects from the proposed amendment will occur. It is anticipated that the TWA will be in the SLRD, near the District of Squamish.

As such, the study area for the assessment is focused on the District of Squamish and considers the Traditional Territories of Sḵwx̱wú7mesh Úxwumixw, Tsleil-Waututh Nation, and Musqueam Indian Band, and Kwikwetlem First Nation.

Potential effects were identified based on unique interactions of an expanded TWA capacity and size with subsets of the population. In any project context, the effects of a project do not affect all parts of the general population in the same way. Some individuals and subgroups may be more vulnerable to adverse effects, while others may be better positioned to realize positive effects. This is influenced by a range of factors such as proximity or geography, socio-cultural factors (for example, gender or ethnicity) or physiological factors (such as, existing health status). Table 9-1 identifies potential subgroups and key interactions based on socio-economic factors.

Table 9-1. Distinct Populations and Key Interactions

Socio-Economic Factor	Potential Subgroups	Key Interactions	Rationale
Susceptibility to Crime and Social Issues	▪ Women ▪ Indigenous women and girls	▪ Adverse community-worker interactions	Could be at increased risk of adverse community-worker interactions
Livelihoods or Personal Wellbeing Tied to the Natural Environment	▪ Individuals with land and resource-based livelihoods or personal pursuits	▪ Disruption of land and resource use in proximity to the TWA	Rely on natural environment for resource-based livelihoods, recreational pursuits, or cultural continuity
Location	▪ Individuals who reside, work, or perform recreation activities in proximity to the TWA	▪ Sensory disturbance due to noise, dust, and light ▪ Increased Project-related traffic on TWA access roads	More likely to see, hear, or otherwise experience immediate regular activities at the TWA (such as, traffic or lighting)
Susceptibility to Health Issues	▪ Individuals with pre-existing health conditions ▪ Immune-compromised individuals ▪ The elderly	▪ Potential exposure to communicable disease	Could be at increased risk if exposed to communicable disease

9.1.1 Local Context

9.1.1.1 District of Squamish

The District of Squamish has a young and fast-growing population, with the largest cohort (34 percent) between the ages of 24 to 44 and a median age of 37 (M'akola 2018; Statistics Canada 2017). In 2016, the population of the District of Squamish was 19,512, with 9,865 males and 9,650 females (Statistics Canada 2017). The overall population of the District of Squamish is growing at an estimated 2.4 percent and is anticipated to reach 29,575 by 2036 (M'akola 2018). In 2016, the District of Squamish had a labour force participation rate of 76.4 percent and approximately 6.4 percent had completed an apprenticeship or acquired a trades certificate or diploma (Statistics Canada 2017).

Although the term Indigenous is used throughout the EAC Application for consistency with the United Nations Declaration of the Rights of Indigenous Peoples, the 2016 census used the term Aboriginal to refer to people who identify as First Nations, Métis, or Inuit. Therefore, for the purposes of statistical reporting the term Aboriginal is used in subsection 9.1 to align with the census. In the context of the District of Squamish the term applies to Municipal residents who identified as Aboriginal in the 2016 census.

Among the population in District of Squamish, 4.8 percent identified as Aboriginal in the 2016 census, slightly lower than the Provincial average of 5.8 percent. The labour force participation rate for those who identified as Aboriginal in the District of Squamish was 77 percent, slightly higher than for the overall population at 76.4 percent. As well, the unemployment rate for those who identified as Aboriginal in the District of Squamish was 3.2 percent, compared with 5.4 percent for the District of Squamish as a whole. However, the prevalence of low income for Aboriginal Peoples in District of Squamish was 12.6 percent, higher than the general population at 9.7 percent. Similarly, the median income in the District of Squamish was $40,119, with $48,634 for men and $33,328 for women. However, for the Aboriginal population the median income was $31,524, with $35,661 for men and $28,920 for women (Statistics Canada 2017).

Key economic sectors in District of Squamish are tourism, knowledge-based industries, education, forestry and wood products, clean technology, and manufacturing (District of Squamish 2019). The District of Squamish has transitioned from being a resource-based economy to one largely based on tourism and recreation. During this transition, more young people moved to District of Squamish as they were attracted by the lifestyle, and improvements to the Sea-to-Sky Highway 99 have made it easier for people to commute to places like Whistler or Vancouver for work. In addition, growth in the tourism and hospitality sectors have contributed to the number of residents that earn low to modest incomes (District of Squamish 2021).

The District of Squamish experiences challenges with affordability, labour, and infrastructure pressures (Squamish 2018). Most notably, the median housing prices have increased from just over $600,000 to $950,000 within the last 3 years and the vacancy rate has been below 1 percent since 2015 (District of Squamish 2021; M'akola 2018). Over one-third of renters spend more than 30 percent of their income on rent and utilities and there is significant demand for affordable housing, with long wait lists for all non-profit housing organizations in Squamish (District of Squamish 2021).

9.1.1.2 Sḵwx̱wú7mesh Úxwumixw

Sḵwx̱wú7mesh Úxwumixw has a total of 4,386 registered members, with 2,127 males and 2,959 females. Of the total registered population, 2,211 members live on-reserve, 191 members live on other reserves, and 1,984 members live off-reserve.

The 2016 census indicates that Sḵwx̱wú7mesh Úxwumixw had a total population of 4,060 with a median age of 39 and 20 percent of the total population aged 0 to 19, 64 percent of the population aged 20 to 64, and 15 percent of the population was 65 years of age and older. Of the 2016 census-reported population aged 15 years and older, 25 percent had an apprenticeship, trades, or other non-university certificate; 5 percent had a university certificate below the bachelor level; and 23 percent had a university degree at the bachelor level or higher. In 2016, Sḵwx̱wú7mesh Úxwumixw had a labour force participation rate of 56 percent, with an unemployment rate of 12 percent. Employment was distributed across a range of industries including wholesale or retail trade, health and educational services, and manufacturing and construction, with the top occupations being sales and service, management, trades, and social sciences (INAC 2019).

Sḵwx̱wú7mesh Úxwumixw has 24 reserves distributed between the SLRD and Metro Vancouver Regional District, extending from southwest of Whistler to Vancouver, including Gibson's Landing and the area north of Howe Sound (INAC 2019; Squamish Nation 2021). There are ten Sḵwx̱wú7mesh Úxwumixw reserves within the District of Squamish, including Aikwucks 15, Cheakamus 11, Kowtain 17, Poquiosin and Skamain 13, Seaichem 16, Stawamus 24, Waiwakum 14, Yekwaupsum 18, Yekwaupsum 19, and Yookwitz 12 (GeoBC 2005). The largest proportion of Sḵwx̱wú7mesh Úxwumixw members reside on several urban reserves in three communities in West Vancouver and North Vancouver and some live in communities along the Squamish River in the District of Squamish (Squamish Nation 2021).

Sḵwx̱wú7mesh Úxwumixw Traditional Territory encompasses the area from Point Grey in the south, to Roberts Creek in the west, north to the height of land to the Elaho River headwaters, including the islands of Howe Sound and the Squamish Valley; then southeast to the confluence of the Soo and Green rivers, south along the height of land to Port Moody, including the Mamquam River and Indian Arm drainages, then west along the height of land to Point Grey (Squamish Nation 2021). FortisBC is seeking to amend the EAC and the SNEAA and will continue to engage with Sḵwx̱wú7mesh Úxwumixw throughout those two parallel regulatory processes.

9.1.1.3 Tsleil-Waututh Nation

Tsleil-Waututh Nation has a total of 643 registered members, with 302 males and 332 females. Of the total registered population, 290 members live on-reserve, 49 members live on other reserves, and 295 members live off-reserve. The 2016 census indicates that Tsleil-Waututh Nation had a total population of 1,855 with a median age of 46 and 16 percent of the total population aged 0 to 19, 68 percent of the population aged 20 to 64, and 15 percent of the population was 65 years of age and older. Of the 2016 census-reported population aged 15 years and older, 31 percent had an apprenticeship, trades, or other non-university certificate; 3 percent had a university certificate below the bachelor level; and 28 percent had a university degree at the bachelor level or higher. In 2016, Tsleil-Waututh Nation had a labour force participation rate of 70 percent, with an unemployment rate of 7 percent.

Employment was distributed across a range of industries including health and education, business services, and wholesale or retail, with the top occupations being management, sales and service, and social sciences (INAC 2019).

Tsleil-Waututh Nation has three reserves including Burrard Inlet 3, Inlailawatash 4, and Inlailawatash 4A. Inlailawatash 4 and 4A are located at the mouth of the Indian River and head of the Indian Arm of the Burrard Inlet. Burrard Inlet 3 is Tsleil-Waututh Nation's main community and is in North Vancouver on the shore of the Burrard Inlet, approximately 2 km east of the north end of the Second Narrows Bridge (INAC 2019).

The Tsleil-Waututh Nation Traditional Territory encompasses wilderness watersheds northwards to Mount Garibaldi, Coquitlam Lake in the east, and Howe Sound to the west (Tsleil-Waututh 2021). Tsleil-Waututh Nation has a consultation area that encompasses much of the Lower Mainland, extending from Mount Garibaldi and the Squamish Valley in the north, to Gibsons in the west, the 49th parallel in the south, and the Lower Fraser River to about the Alouette River in the east. This consultation area is defined by Traditional Use Study evidence of Tsleil-Waututh member land and resource use (Tsleil-Waututh 2021). FortisBC has and will continue to engage with Tsleil-Waututh Nation on the TWA. Refer to subsection 10.1.2 for a summary of engagement with Tsleil-Waututh Nation on the proposed amendment.

9.1.1.4 Musqueam Indian Band

Musqueam Indian Band has a total of 1,472 registered members, with 711 males and 760 females. Of the total registered population, 677 members live on-reserve, 130 members live on other reserves and 665 members live off-reserve. The 2016 census indicates that Musqueam Indian Band had a total population of 1,660 with a median age of 41 and 24 percent of the total population aged 0-19, 56 percent of the population aged 20-64, and 18 percent of the population was 65 years of age and older. Of the 2016 census-reported population aged 15 years and older, 21 percent had an apprenticeship, trades, or other non-university certificate; 2 percent had a university certificate below the bachelor level; and 29 percent had a university degree at the bachelor level or higher. In 2016, Musqueam Indian Band had a labour force participation rate of 61 percent, with an unemployment rate of 9 percent. Employment was distributed across a range of industries including health and education, business services, manufacturing and construction, and wholesale or retail, with the top occupations being management, social sciences, and sales and service (INAC 2019).

Musqueam Indian Band has three reserves: Musqueam 2, Musqueam 4, and Sea Island 3, which are located along the west coast of the Lower Mainland in Vancouver, Richmond, and Delta. Musqueam 2 is the main community, located at the mouth of the North Arm of the Fraser River, within the City of Vancouver (INAC 2019).

The Musqueam Indian Band Traditional Territory includes Vancouver, North Vancouver, South Vancouver, Burrard Inlet, New Westminster, Burnaby, and Richmond (Musqueam Indian Band 2021). The Musqueam Declaration of 1976 asserts Aboriginal Rights to the lands from Howe Sound eastward to the height of land, including the watershed draining into English Bay, Burrard Inlet, and Indian Arm; south including the Coquitlam River to the Fraser River; across to the south bank of the Fraser River and proceeding downstream in the South Arm to the sea (Musqueam 1976). FortisBC has and will continue to engage with Musqueam Indian Band on the TWA. Refer to subsection 10.1.3 for a summary of engagement with Musqueam Indian Band on the proposed amendment.

9.1.1.5 Kwikwetlem First Nation

Kwikwetlem First Nation has a total of 124 registered members, with 73 males and 51 females. Of the total registered population, 43 members live on-reserve, 4 members live on other reserves and 77 members live off-reserve. The 2016 census indicates that Kwikwetlem First Nation had a total population of 55 with a median age of 29 and 36 percent of the total population aged 0-19, 63 percent of the population aged 20-64, and 0 percent of the population was 65 years of age and older. Of the 2016 census-reported population aged 15 years and older, 42 percent had an apprenticeship, trades, or other non-university certificate; 0 percent had a university certificate below the bachelor level; and 0 percent had a university degree at the bachelor level or higher. In 2016, Kwikwetlem First Nation had a labour force participation rate of 57 percent, with an unemployment rate of 0 percent. Employment was distributed across a range of industries including manufacturing and construction, health and education and other, with the top occupations being in sales and services or trades (INAC 2019).

Kwikwetlem First Nation has two reserves, Coquitlam 1 and Coquitlam 2, which are both located in the District of New Westminster near the confluence of the Coquitlam and Fraser Rivers (INAC 2019).

The Kwikwetlem First Nation Traditional Territory centers on the watershed of Coquitlam Lake, including the upper and lower Coquitlam River, and over to the east side of Pitt Lake and either side of the lower Pitt River. In the west, it encompasses Mossum Creek and Port Moody Inlet to Stoney Creek, Sapperton Heights, and the north arm of the Fraser River. In the south it extends from Barnston Island to Annacis Island, including the area of the Fraser uplands south of the Fraser River. These areas correspond with the municipalities of Coquitlam, Port Coquitlam, Port Moody, Pitt Meadows, Surrey, New Westminster, the Village of Anmore and sections of the Provincial ALR (Kwikwetlem 2021). FortisBC has and will continue to engage with Kwikwetlem First Nation on the TWA. Refer to subsection 10.1.4 for a summary of engagement with Kwikwetlem First Nation on the proposed amendment.

9.1.2 Effects Assessment

Table 9-2 provides a summary of the potential effects associated with the proposed amendment, distinct populations potentially affected, and proposed mitigation measures. The remainder of this section includes a discussion of each in the subsections that follow.

All but one of the potential effects described below were previously identified in the EAC Application (Volume 1, Part B), and now are being evaluated through the lens of distinct human populations particularly in relation to an increased TWA footprint and capacity. One new potential effect that was not previously identified is being introduced related specifically the TWA based on conditions that were not present at the time of the EAC Application, particularly the global COVID-19 pandemic and communicable disease transmission.

In addition, the Indigenous Communities and Industrial Camps report (Gibson et al. 2017) and the final report of the National Inquiry into Missing and Murdered Indigenous Women and Girls (MMIWG) was published in 2019. These reports highlight the importance of the safety and security of Indigenous women and girls related to work camps located in proximity to Indigenous communities. As such, the discussion of factors that influence a change in community quality of life have been expanded to consider potential effects to Indigenous women and girls.

In general terms, the enhanced TWA is a mitigation enhancement to augment the housing capacity provided by the Project for its workforce and to reduce demand pressure on local housing, infrastructure and services. The full-service TWA will include appropriately scaled health and medical services and recreational amenities to support the off-duty workforce. The discussion below focuses on potential socio-economic effects may have changed interactions due to an enhanced TWA footprint and capacity and where those effects may be experienced uniquely by distinct subpopulations.

Table 9-2. Disproportionate Effects on Distinct Human Populations and Proposed Mitigation Measures

Valued Component	Potential Project-Related Effect	Affected Populations	Existing Mitigation	New Proposed Mitigation	Change Due to Increase in TWA Area
Transportation Infrastructure	▪ Increased Project-related traffic on highways and local roads	▪ Individuals who reside, work, or perform recreation activities in proximity of the TWA	Refer to Table 12.6-1 of the EAC Application	Use of multi-passenger vehicles to transport workers from the TWA to staging areas or worksites	The EAC Application assessed effects to traffic volumes because of Project activities. Addendum 2 assessed the potential increase in traffic because of the TWA and determined no material change to the EAC Application conclusions. The proposed increase in footprint size is not anticipated to result in a significant increase in traffic on highways and local roads beyond what was assessed in the EAC Application for the Project as a whole. However, given the concentration of Project-related traffic in the area surrounding the TWA site, it is anticipated that this may disproportionately affect individuals who reside, work, or perform recreation activities in proximity of the TWA.
Community	▪ Change in community quality of life	▪ Women ▪ Indigenous women and girls	Refer to Table 12.7-1 of the EAC Application	▪ Equal opportunity contracting and employment ▪ Cultural awareness training ▪ Community orientation, cultural awareness and social programming in the TWA ▪ Confidential reporting line in the TWA ▪ On-site security ▪ Appropriately scaled health and medical services (including mental health supports) in the TWA ▪ Employee assistance programming ▪ Wi-Fi coverage in the TWA	The EAC Application assessed effects to community quality of life because of transient workers lacking attachment to the host community and potentially introducing unruly behaviour into the community. Addendum 2 assessed potential effects to the Community VC because of the TWA and determined no material change to the EAC Application conclusions. While the workforce estimates have not changed due to the proposed increase in footprint size, the TWA will be designed accommodate a greater proportion of the estimated workforce. The increased capacity of the TWA combined with the potential for it to be in proximity to Indigenous communities highlights the importance of safety and security of Indigenous women and girls related to the TWA. Therefore, the assessment has been expanded to consider potential disproportionate effects to Indigenous women and girls.

Table 9-2. Disproportionate Effects on Distinct Human Populations and Proposed Mitigation Measures

Valued Component	Potential Project-Related Effect	Affected Populations	Existing Mitigation	New Proposed Mitigation	Change Due to Increase in TWA Area
Land and Resource Use	▪ Disruption of recreational users and recreational hunters, fishers, and gatherers	▪ Individuals who reside, work, or perform recreation activities in proximity of the TWA ▪ Individuals with land and resource-based livelihoods or personal pursuits	Refer to Table 13.5-1 of the EAC Application	▪ Identify no-go zones to be off limits to workers for recreation, hunting, fishing and gathering, and place signage in areas to avoid blocking access	The EAC Application assessed effects to land and resource use because of Project activities. Addendum 2 assessed potential effects to land and resource use because of the TWA and determined no material change to the EAC Application conclusions. The proposed increase in footprint size is not anticipated to result in a change to that assessment. However, it is anticipated that the predicted effects may be concentrated in the area surrounding the TWA site. This may disproportionately affect individuals who reside, work, or perform recreation activities in proximity of the TWA, individuals with land and resource-based livelihoods or personal pursuits.
Human Health	▪ Noise disturbance to nearby residents ▪ Potential exposure to communicable disease	▪ Individuals with pre-existing health conditions ▪ Immune-compromised individuals ▪ The elderly	Refer to Table 15.5-1 of the EAC Application	▪ Appropriately scaled Health and Medical Services Plan for TWA will include communicable disease prevention and management protocols ▪ Implement COVID-19 safety protocols for the TWA based on Provincial guidelines	The EAC Application assessed effects to human health because of Project activities. Addendum 2 assessed potential effects to human health because of the TWA and determined no material change to the EAC Application conclusions. The proposed increase in footprint size is not anticipated to result in a change to that assessment. However, given the concentration of construction and operational activities in the area surrounding the TWA site, it is anticipated that noise disturbance and air quality effects have the potential to disproportionately affect individuals with pre-existing health conditions. In addition, due to the extraordinary circumstances of the COVID-19 global pandemic, the assessment has been expanded to consider potential exposure to communicable disease.

9.1.2.1 Increased Project-related Traffic

Given the increased capacity of the TWA, there is anticipated to be increased traffic in the immediate area surrounding the TWA during the construction period, related to movement of people and supplies in and out of the site during TWA operation. This may impact access to, and use patterns of, certain recreational or TLU sites near the TWA, or along access roads used for the TWA. FortisBC will require the TWA Contractor to develop a site-specific Traffic Management Plan for the final site as part of the TCMP developed pursuant to EAC Condition 23.

To reduce daily traffic flows in and out of the TWA, FortisBC will establish the use of multi-passenger vehicles to transport workers from the TWA to staging areas or worksites. This will reduce the daily vehicle flow related to the TWA and traffic movements near any nearby TLU sites. Generally, more personnel residing in the TWA and transporting by bus from the TWA will reduce individual vehicles moving from local accommodations in the District of Squamish to staging areas each morning and evening.

9.1.2.2 Change in Community Quality of Life

As discussed in the EAC Application, the presence of a temporary workforce in smaller host communities during construction may have implications for adverse community-worker interactions and community quality of life. Transient workers may lack attachment to a community and often may not have family or regular community supports in place during their time working on construction crews. These factors can result in non-local temporary workers being more readily drawn into socially disruptive behaviours. Issues with a transient workforce in a community have been documented in the past and could include an increase in substance use, crimes, altercations, and sexually transmitted infections.

In recent years, the national conversation about Indigenous reconciliation and safety and vulnerability of Indigenous women, girls, and Indigenous Peoples of diverse gender identity has been ongoing. The Final Report of the MMIWG found a complex and pervasive pattern of violence against Indigenous women and girls who are often targeted because of their gender and Indigenous identity. It examined the underlying social, economic, cultural, institutional, systemic and historical causes, policies, and practices related to this ongoing violence.

Regarding resource extraction projects, the report discusses dynamics related to temporary workers in small communities, examples of increasing rates of violence that ensue within the context of transient and temporary workforces, and the importance of considering the safety of Indigenous women and girls when making decisions about projects near Indigenous communities (MMIWG 2019). Issues related to temporary worker isolation, lack of support or connection, and lack of cultural sensitivity and awareness may contribute to potential for adverse community interactions.

While the presence and scale of the Project temporary workforce is unchanged by the proposed amendment, the housing of more workers within the TWA environment has important considerations to limit further exacerbations of any potential risk of violence and particularly for Indigenous women and girls. Housing more workers in the TWA, as opposed to generally residing in commercial or rental accommodation, concentrates more workers in one area and provides additional management oversight and support possibilities for workers while off-duty.

Certain TWA operational details play a key role in minimizing the potential for adverse social interactions of the TWA or temporary workers with nearby communities. Overall, FortisBC understands the importance of ensuring that the presence of the TWA and the temporary workforce is managed, and potential related social effects are minimized.

FortisBC is aware of recent studies and public discussions about the vulnerabilities of Indigenous nation communities and Indigenous women and girls (such as, MMIWG). The Project also understands the possibility of issues related to temporary worker isolation, lack of support or connection, and lack of cultural sensitivity and awareness that may contribute to potential for adverse community interactions.

Several TWA operational details and workforce management strategies can be implemented to reduce the likelihood of potential adverse incremental effects on women, and particularly Indigenous women and girls, associated with the larger TWA for the Project. These relate to siting, level of services, Project policies, creating safe and inclusive Project culture, enhancing community and Indigenous cultural awareness within the workforce, and providing supports for worker health and wellbeing. Specifically, these TWA operational details include the following:

- The site selection criteria outlined in subsection 3.1 and Section 8 of this document has been developed to avoid potential impacts on the environment, as well as local infrastructure and services.
- The TWA will have appropriately scaled health and medical services, including mental health supports, to support the health and wellness needs of resident workers, and to limit pressure on local health and medical services.
- The TWA will have modern recreational and leisure facilities (such as, workout room, games room, entertainment and television lounge) for off-duty worker use, to support worker recreation and wellness.
- To encourage desirable workforce engagement with the surrounding community and businesses, FortisBC will share with TWA residents a community orientation package outlining information about the local context, amenities, and businesses.
- FortisBC will provide cultural awareness training to ensure workers are aware of the culture, values, and sensitivities of the Indigenous nations whose Traditional Territory the TWA is located within.
- FortisBC will require the TWA operator to provide social programming in the TWA environment to ensure that TWA residents have appropriate opportunity for leisure and social interactions and connection during off-duty times.
- The TWA will have strong data network system, wireless network coverage, and cell service so workers can maintain family and social connections.
- FortisBC will establish TWA rules to provide clear understanding regarding conduct expectations while residing in the TWA, including matters related to drugs and alcohol, violence and harassment, speed limits, firearms and weapons and respectful behaviour, inclusion, and diversity.
- FortisBC will implement TWA security measures to ensure a safe and secure living environment and to limit security and policing interactions with the local community. The TWA security will address fencing, gates and access control, lighting, vehicle safety, perimeter monitoring and response capacity, and contraband detection and enforcement. Security will be available to walk workers to their dorms or vehicles.
- FortisBC will establish a confidential reporting line within the TWA to ensure any concerns or incidents regarding security, conduct or service issues associated with the TWA can be reported and addressed quickly.
- FortisBC will engage with Indigenous nations, local RCMP, and local women's resource organizations during construction and respond to any issues raised.
- In terms of promoting a diverse workforce, FortisBC will prioritize local and Indigenous owned and operated contracting businesses and service providers. FortisBC will also work with selected construction contractors to promote equal opportunity hiring and training, including sharing job and training opportunity information with local women's resource organizations.

9.1.2.3 Disruption of Land and Resource Use

There is potential for effects on Indigenous TLU because of workers recreating, hunting, or fishing during their off time. This may displace Indigenous Peoples from harvesting traditional foods and resources or practicing cultural ceremonies within their Traditional Territory. The increase in size and capacity of the TWA means that more Project personnel will be residing in the TWA as opposed to commercial accommodations.

FortisBC and the TWA Contractor will have more management oversight and information sharing capabilities with workers on and off-duty. FortisBC will work with Indigenous nations to identify any "no-go zones" to be designated as off limits for workers and to determine areas where signage could be installed. FortisBC and Indigenous nations will also establish appropriate communication protocols to keep each other informed of activities happening in the area, whether construction-related or for cultural purposes. For a full assessment of effects to Indigenous interests and Aboriginal Rights and Title recognized and affirmed by Section 35 of the *Constitution Act, 1982*, refer to Section 10.

9.1.2.4 Noise Disturbance

Individuals who reside, work, or recreate near the TWA may be disproportionately affected by increased noise and vibrations from equipment during construction of the TWA, and from generators and traffic while the TWA is in operation. FortisBC will follow the BC OGC BC Noise Control Best Practices Guideline and will adhere to District of Squamish Noise Regulation Bylaw (if the site is located within the District of Squamish boundaries) for construction and operation of the TWA. Noise generating equipment and facilities will be placed farthest away from the closest receptors, where practical, based on site design.

In addition, the Project will have a dedicated phone line to field complaints or concerns expressed by community. As noted above, a site-specific TCMP will outline measures to manage and reduce site traffic, including the use of multi-passenger vehicles. Night lighting at the TWA for security and safety purposes may also disproportionately effect individuals who reside, work or recreate near the TWA. Existing mitigations proposed in subsections 5.5, 12.7, 13.5, and 15.5 of the EAC Application (Volume 1, Part B) are anticipated to be sufficient to address these potential effects. In addition, external lighting will be directed downward and, where practical, positioned to avoid or reduce interference of wildlife and, if applicable, annoyance of nearby residents and land users.

9.1.2.5 Public Health Risk Due to Communicable Disease Transmission

Accommodating more workers in the TWA will have implications related to the prevention and potential transmission of communicable disease, both within the TWA and within nearby host communities. Health authority guidance notes that industrial camp settings, where groups of people are in proximity and have similar point source exposures (such as, single food and water source) inherently foster the transmission of infections from person to person. Common communicable disease outbreaks in camps are related to gastrointestinal or influenza-like illnesses (Northern Health 2017). This potential interaction related to presence of temporary work camps is of high consequence and stakeholder interest because of the ongoing COVID-19 global pandemic.

Since submission of the EAC Application, the COVID-19 pandemic has highlighted the existing inequities in society. COVID-19 has affected everyone, although not everyone has been impacted equally. The elderly and immune-compromised individuals are at the highest risk of severe or life-threatening illness if exposed to COVID-19. Individuals with pre-existing health conditions may also face barriers to accessing health care due to increased demand on the system. Individuals struggling to meet financial needs may be disproportionately impacted if unable to work due to public health restrictions.

Essential service workers may be at increased risk if unable to physically distance themselves at work. Underhoused individuals or people facing homelessness may face barriers to physical distancing or isolation if needed. Women and children may be at increased risk of domestic violence if confined to the home. Finally, many individuals also face increased risk of mental health impacts due to social isolation and increased uncertainty. It should also be noted that many populations may experience multiple impacts simultaneously (City of Vancouver 2021). Due to the extraordinary circumstances of the COVID-19 pandemic and the dynamic nature of its status, uncertainty exists around its duration and possible future conditions in BC.

FortisBC is committed to constructing, operating, and maintaining the Project in a safe and responsible manner that respects the communities within which it operates, and this extends to the construction and operation of the TWA. FortisBC will comply with public health orders and will work with Provincial and local governments to implement measures to protect worker and public health and safety throughout the duration of the Project. This includes implementing COVID-19 safety protocols in the TWA based on guidelines developed by the BC Centre for Disease Control specifically for industrial work camps. These guidelines may be updated from time to time, as information evolves. FortisBC will confirm that COVID-19 safety protocols for the TWA are updated to align with Provincial guidelines.

FortisBC, in collaboration with the TWA Contractor, will develop an appropriately scaled Health and Medical Services Plan, developed in consultation with the local health authority, which will include communicable disease control protocols. It will outline the initiatives and procedures that the TWA Contractor will implement to prevent and manage communicable disease transmission and outbreaks, including isolation, transport, and notifications.

9.2 Biophysical Factors that Support Ecosystem Function

The Project area is located in the Southern Pacific Ranges Ecosection of the Coast and Mountains Ecoprovince, which known for high rainfall, steep rugged mountains, and mature forests typical of the Coastal Western Hemlock Biogeoclimatic zone. The land use near or crossed by the Project includes: protected and sensitive habitat areas; forestry; mineral exploration and development; energy production and transmission; trapping; outdoor recreation; urban development; and tourism. The Project area supports a rich diversity of ecological communities, plants, mammals, fish, and invertebrate species. All ten identified biophysical factors that support ecosystem function have potential to interact with the proposed amendment and include:

- Habitats supporting ecosystem function
- Habitat patches
- Structural complexity
- Hydrologic or oceanographic patterns
- Nutrient cycling
- Purification services
- Biotic interaction
- Population dynamics
- Genetic diversity

As discussed previously (see Table 7-1), the proposed amendment is designed to avoid adverse impacts to the biophysical factors that support ecosystem function, where possible, through the implementation of defined site selection criteria. The site selection criteria includes factors to avoid potential environmental effects, where practical, by selecting a previously disturbed area, avoiding protected and sensitive areas and important habitats, using existing transportation and energy infrastructure, avoiding impacts to freshwater resources, and consulting with stakeholders and Indigenous nations.

The TWA will be in use for an estimated 2.5 years of active operation during the construction period, in addition to approximately 5 months of construction prior to the Project construction phase and approximately 3 months of dismantling after the completion of the construction phase, after which the area will be reclaimed using established techniques and best management practices.

It is anticipated that the TWA will involve minimal native vegetation clearing and will limit impact to freshwater habitat. New temporary access, upgrading existing access, or bridge construction may be required to access the TWA and may require some riparian vegetation clearing. However, impacts to riparian areas are expected to be effectively managed by the existing mitigation measures and requirements outlined in EAC Conditions and vegetation would be expected to recover upon decommissioning of the facility and reclamation of any temporary access roads. The TWA would house anywhere from 100 to approximately 600 workers and include the use of self-contained water and sewer management, therefore not drawing on local groundwater resources or adding pressure to community services and infrastructure.

9.2.1 Habitats that Support Ecosystem Function

Habitats that are limited at the landscape scale or provide unique or critical functions are important for maintaining ecosystem function. Examples include wetlands, old forest, and riparian communities, which provide habitat critical for life stages of various species. Through selective siting, the disturbance and subsequent residual effects on these habitats can largely be avoided and reduced to a short-term and mainly indirect reduction in habitats that support ecosystem function. These effects are expected to be limited to the VC-respective RAAs and full recovery is expected over the medium-term following decommissioning. Therefore, the proposed amendment is not expected to have an adverse effect on habitats supporting ecosystem function at the ecosystem scale.

9.2.2 Habitat Patches

Habitat patchiness can affect ecosystem function by altering movement corridors for species. Reducing contiguous habitat to isolated patches can reduce the movement of species and material and cause edge effects that reduce the value of remaining habitat. Overall, the increased TWA is expected to have a low magnitude effect on habitat patchiness. The Project is assumed to be located within an area of historic disturbance from industrial logging, residential, energy and other development and is not expected to have a meaningful effect on the distribution of habitat patches across the landscape. Movement for some species will be affected, especially during construction, but these effects will be short- to medium-term for most species, with movement returning to pre-construction levels shortly after the decommissioning of the TWA.

9.2.3 Structural Complexity

Structural complexity is an important habitat component for some fish and wildlife species. Further, structural complexity at the landscape scale helps to support biodiversity. Habitat for wildlife species that require structurally complex habitat such as northern goshawk, marbled murrelet, spotted owl, and pond-dwelling amphibians can largely be avoided in the site selection process by avoiding areas of intact mature forest, wetlands, and complex ecosystems. Additionally, loss of effective habitat for each of these species is estimated at less than 1 percent relative to available habitat within the RAA for the Project. As a result, no effect on structural complexity relative to wildlife habitat is expected at the ecosystem scale.

9.2.4 Hydrologic or Oceanographic Patterns

Construction and operation of the TWA could have the potential for effects on hydrologic patterns if infrastructure alters groundwater, surface water, or stream flow. At the Project scale, effects to hydrological patterns associated with changes to surface water, groundwater, and wetland hydrologic function are expected to be limited primarily to the TWA site and adjacent area, with the potential for

some surface water effects to be detectable at the RAA scale. Given the short-term duration of these effects and the limitation to primarily the Project Footprint and adjacent area, no effect to hydrologic patterns is expected at the watershed scale.

9.2.5 Nutrient Cycling

The increased TWA area could affect nutrient cycling through changes to nutrient flows into or out of the ecosystem. Through the implementation of Project mitigation that includes closed-system water and wastewater systems, all residual effects related to nutrient cycling are expected to be non-detectable or limited to the Project Footprint and short-term in duration. Changes to carbon storage within wetlands is expected to be limited to the Project Footprint only if wetlands cannot be completely avoided at the siting stage. As a result, no effects to nutrient cycling that affect ecosystem function are expected as a result of Project construction and operation.

9.2.6 Purification Services

Alteration of purification services due to TWA construction and operation may occur through changes to the emissions of wastes, potential for bioaccumulation or alteration of ecosystem services (such as, flood attenuation or water filtration). No ecosystem-level effects to purification services are expected as a result of TWA construction and operation because air quality effects are unlikely to be measurable above existing levels and surface water quality and wetland hydrology effects will be largely avoided through siting and implementation of mitigation measures.

9.2.7 Biotic Interactions, Population Dynamics, and Genetic Diversity

Construction and operation of the TWA could affect biotic interactions, population dynamics, or genetic diversity if there are adverse impacts to species that play a key role in the ecosystem (such as, a keystone or foundational species). These could be expressed through changes to predator and prey dynamics or increased spread of invasive plant species.

Grizzly bear are the only species among key indicators that are known to occur in the region and have a known population low enough that mortality to an individual may affect the sustainability of a population. Mortality risk, primarily through human-wildlife interaction, is considered the key effect pathway for grizzly bear. Any effect to grizzly bear populations may have an ecosystem-level effect on genetic diversity since populations in the Squamish-Lillooet and Garibaldi-Pitt Grizzly Bear Population Units are currently low. Mitigation measures designed to minimize human-bear conflict are expected to adequately reduce this risk to prevent grizzly bear mortality. With the effective application of mitigation measures, ecosystem-level effects to population dynamics and genetic diversity supporting ecosystem function are not expected.

9.2.8 Summary

Defined site selection criteria to select a TWA site and implementation of mitigation measures to avoid, reduce, or eliminate potential adverse effects were developed to largely avoid effects to biophysical factors that support ecosystem function, where practical. All ten biophysical factors that support ecosystem function have potential to interact with the proposed amendment, however, the proposed amendment activities are not expected to have an adverse effect on ecosystem function at the ecosystem scale.

9.3 Effects on Current and Future Generations

The assessment of potential effects on Current and Future Generations will be determined through engagement with Indigenous nations and stakeholders. During early engagement on the draft application, feedback on this topic was not received. FortisBC will continue to engage with Indigenous nations and stakeholders during the application review phase. If feedback regarding potential effects on Current and Future Generations is received, this will be incorporated into the assessment

10. Indigenous Interests Effects Assessment

This section describes the potential adverse effects of the proposed amendment on Indigenous nations. In the EAC Application the term 'Aboriginal' was used to describe these communities; however, since 2015, 'Indigenous' has been used for consistency with the United Nations Declaration on the Rights of Indigenous Peoples. Similarly, in the EAC Application the term "Aboriginal Interests" was used, which has since been changed by BC EAO to "Section 35 rights" and "Indigenous interests." Indigenous interests are defined in the BC EAO User Guide (Version 1.01, March 30, 2020) (BC EAO 2020b) as "effects on Indigenous nations and rights recognized and affirmed by Section 35 of the *Constitution Act, 1982*." The assessment of "Aboriginal Interests" in the EAC Application included Section 35 Rights.

As described in Volume 1, Part C, Section 19.0 of the EAC Application, the four Indigenous nations whose Indigenous interests may be affected by the Project are listed as follows in geographic order, from west to east:

- Sḵwx̱wú7mesh Úxwumixw
- Tsleil-Waututh Nation
- Musqueam Indian Band
- Kwikwetlem First Nation

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April 2022

FIGURE 10-1

EAGLE MOUNTAIN – WOODFIBRE GAS PIPELINE PROJECT IN RELATION TO INDIGENOUS GROUPS' CONSULTATION AREAS

- Certified Mount Mulligan Compressor Station
- Certified Eagle Mountain Compressor Station
- Certified Squamish Compressor Station
- Proposed NPS 24 Pipeline Route
- Kilometre Post (KP)
- Reserve < 100 ha
- Squamish Nation Consultation Area
- Tsleil-Waututh Nation Consultation Area
- Musqueam Indian Band Consultation Area*
- Kwikwetlem First Nation Consultation Area
- Existing FortisBC Pipeline
- Provincial Boundary
- First Nation Reserve
- Municipality
- Road
- Highway
- Waterbody
- Parks & Protected Areas

*Draft – to be confirmed

SCALE: 1:700,000

0 10 20 Kilometers

(All Locations Approximate)

JACOBS®

JACOBS Project Number CE829000

UTM Zone 10 North. NAD 1983.
Proposed Pipeline Route, KP: Universal Pegasus International (UPI) 10-20-2021 (Route 1025/4003); Existing Pipeline: FortisBC 2012; Certified Eagle Mountain CS: Primary Engineering and Construction 01-28-2020; Certified Squamish Compressor Station: Solaris 02-25-2020; Roads: NRCan 2015; Hydrography: BC MFLNRO 2008; Reserves: CH2M HILL 2014; Kwikwetlem Traditional Territory: Kwikwetlem First Nation 06-15-2010; Tsleil-Waututh Consultation Area: Derived from Tsleil-Waututh Nation Consultation Area Map 2008 (accessed online 20-03-2014); Other Traditional Territories: BC FLNRO 2005; Municipal Boundaries, Railway: BC Gov 2019; Provincial Park: BC FLNRO, 2008; First Nation Reserve: Government of Canada 2014; Service Layer Credits: Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

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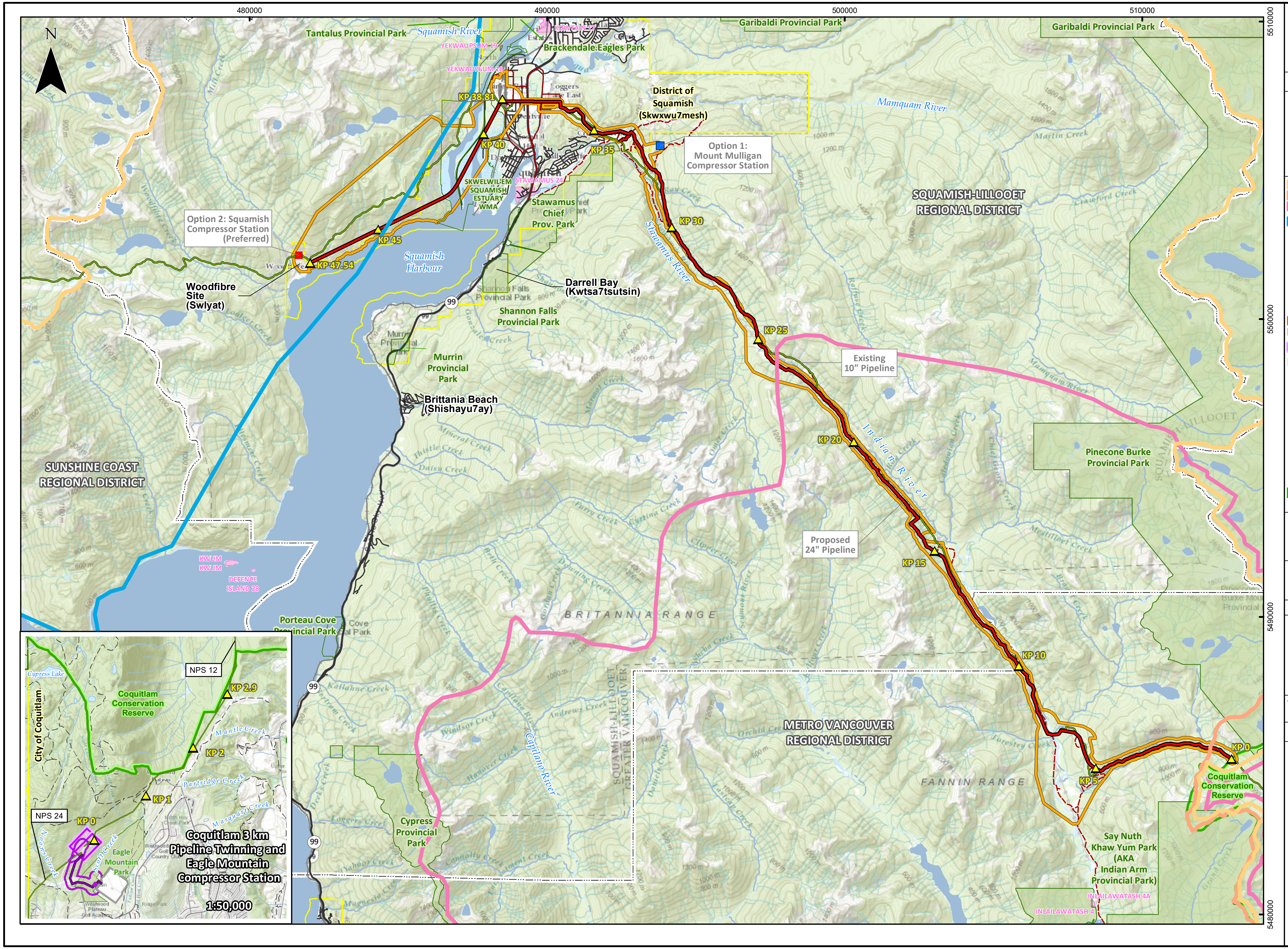

FORTIS BC

April 2022

FIGURE 10-2

EAGLE MOUNTAIN – WOODFIBRE GAS PIPELINE PROJECT IN RELATION TO INDIGENOUS GROUPS' CONSULTATION AREAS

- Squamish Nation Consultation Area
- Kwikwetlem First Nation Consultation Area
- Musqueam Indian Band Consultation Area*
- Tsleil-Waututh Nation Consultation Area
- Certified Mount Mulligan Compressor Station
- Certified Squamish Compressor Staton
- Kilometre Post (KP)
- Proposed NPS 24 FortisBC Pipeline Route
- Existing FortisBC Pipeline
- Certified 230 kV Transmission Line
- Certified Pipeline Corridor
- Certified Electrical Transmission Corridor
- Certified Eagle Mountain Compressor Station
- Meridian Substation
- Access Road
- Highway
- Paved Road
- Railway
- Watercourse
- Waterbody
- Regional District
- Existing Transmission
- Municipality
- First Nation Reserve
- Park and Protected
- Coquitlam Conservation Reserve

*Draft - to be confirmed

SCALE: 1:120,000

0 1 2 3 4 5 km

(All Locations Approximate)

JACOBS

Jacobs Project Number CE829000

UTM Zone 10 North. NAD 1983.
Proposed Pipeline Route, KP: Universal Pegasus International (UPI) 20-10-2021 (Route 1025/4003); Proposed Tunnel Route: UPI 10-24-2019 (SSEID 6002); Existing Pipeline: FortisBC 2012; Proposed Squamish Compressor Station: Solaris 06-18-2020; Certified 230kV Transmission Line: Primary Engineering and Construction 01-07-2020; Certified Compressor Station Area: McElhanney Associates Land Surveying Ltd 10-16-2014; Certified Electrical Transmission Corridor: CH2M 30-07-2014; Conservation Reserve: Metro Vancouver 07-02-2017, Morgan Stewart and Company, 1995 provided by Fortis BC 2019 (modified by Jacobs 05-12-2020); Meridian Substation: DBS Energy Services 03-04-2014; Roads: NRCan 2014; Railways: BCGov 2019; Hydrography: NRCan. 2009, IHS Inc. 2004 and BC MFLNRO 2008; Municipal Boundaries, Regional Districts: BC MFLNRO 2017; Parks, Wildlife Management Areas: BC MFLNRO 2008; First Nation Reserves: Government of Canada 2018; Base Map Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community.

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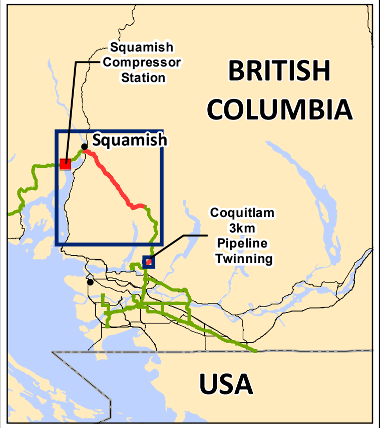

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During the development of the EAC Application in in 2014 and 2015, these four Indigenous nations were considered either directly affected by the Project or had expressed a specific interest in the planning, construction, or operation of the Project. Therefore, the Indigenous interests of these Indigenous nations are being considered for the proposed amendment. Information on the ethnography, language, land use setting, and planning, governance, and economy of each Indigenous nation is provided in Section 18.0 of the EAC Application (Volume 1, Part C).

During the EAC Application development, at the request of Sḵwx̱wú7mesh Úxwumixw , FortisBC and Sḵwx̱wú7mesh Úxwumixw negotiated FortisBC's involvement in a parallel assessment process led by the Sḵwx̱wú7mesh Úxwumixw (the SNEAA), dated June 22, 2016).

Specifics of the SNEAA are confidential, as are discussions and the consultations themselves. See subsection 10.1.1 for additional details on the SNEAA.

Although the Project's AIRs did not require that Musqueam Indian Band be included in Part C of the EAC Application, due to the interest Musqueam Indian Band expressed in the Project and its potential adverse effects on watercourses and fishing, an assessment of the adverse effects of the Project on their ability to fish was included in the EAC Application. Accordingly, Musqueam Indian Band has been considered in Amendment Application No. 2.

Section 10 provides updated information to the EAC Application's Indigenous nations information requirements for the proposed amendment as well as new information required under the *2018 Act* that was not required in the EAC Application under the *2002 Act*. Information updated since the EAC Application includes the following:

- Subsection 10.1 provides a summary of engagement since the submission of the EAC Application, as well as detailed information regarding engagement with the four Indigenous nations on the proposed amendment.
- Subsection 10.2 summarizes the key issues raised by Indigenous nations regarding the proposed amendment, and FortisBC's responses.
- Subsection 10.3 describes the Indigenous Knowledge that was used in developing the Application.
- Subsection 10.4 provides the updated Indigenous nations effects assessment previously presented in the EAC Application for the proposed amendment.
- Subsection 10.5 summarizes the potential cumulative adverse effects on Indigenous interests through the interaction of cumulative adverse effects assessed in Amendment Application No. 2 .
- Subsection 10.6 assesses other matters of concern in relation to the proposed amendment that were originally raised by Indigenous nations during engagement on the Project. These matters were not assessed as Aboriginal Interests in the EAC Application (now called Indigenous interests under the *2018 Act*) as they are not related to Section 35 Rights however were still issues that FortisBC deemed important to address.

New requirements under the *2018 Act* that relate specifically to Indigenous nations however do not relate to Section 35 Rights are included as new sections of this Amendment Application No. 2. These new subsections include:

- Subsection 10.7: describes the potential effects on current and future generations regarding the inter-generational transmission of Indigenous Knowledge within Indigenous nations.
- Subsection 10.8: references the disproportionate effects on distinct human populations in relation to Indigenous nations. The assessment of disproportionate effects on distinct human populations, including distinct populations within Indigenous nations, is provided in Section 11.

10.1 Engagement with Indigenous Nations

This subsection provides detailed information regarding engagement with the four Indigenous nations on the proposed amendment up to March 22, 2022 per FortisBC's engagement procedures and principles outlined in the Eagle Mountain – Woodfibre Gas Pipeline Project Aboriginal Consultation Plan (Aboriginal Consultation Plan), dated September 2014. There will be additional opportunities for engagement related to the proposed amendments, following the submission of this Amendment Application No. 2 to BC EAO.

Please refer to the Aboriginal Consultation Plan for additional details.

Note that due to the extraordinary circumstances of the COVID-19 pandemic, FortisBC had adapted its engagement processes for the previous Amendment Application No. 1 and has continued with this modified approach for this Amendment Application No. 2. FortisBC is continuing to monitor the engagement preferences of Indigenous nations and will update its approach at the request of Indigenous nations regarding additional opportunities for engagement related to the proposed amendment. The engagement for each Indigenous nation regarding the proposed amendment is described in subsections 10.1.1 to 10.1.4.

10.1.1 Sḵwx̱wú7mesh Úxwumixw

Engagement regarding the Project with Sḵwx̱wú7mesh Úxwumixw began in May 2013 and is ongoing. FortisBC held meetings at regularly scheduled intervals with Sḵwx̱wú7mesh Úxwumixw under the SNEAA to discuss the Project and has had numerous email communications, telephone calls, and exchanged letters relating to the Project leading up to Sḵwx̱wú7mesh Úxwumixw's conditional approval of the Project in 2016.

FortisBC and Sḵwx̱wú7mesh Úxwumixw established the FortisBC-Squamish Nation Environmental Working Group (FSE Working Group) under the SNEAA. The FSE Working Group meets regularly, and approximately monthly since mid-2019. The FSE Working Group continues to work to meet the conditions of the SNEAA, and where appropriate, to resolve Sḵwx̱wú7mesh Úxwumixw's issues regarding the Project at a bilateral level. The FSE Working Group has also been the principal forum for preliminary discussions regarding the proposed amendments. The FSE Working Group is not, however, an approving body for any amendments to the SNEAA, and while there has been technical engagement on the proposed amendment, neither resolution of all information needs nor overall consent for the amendments from Sḵwx̱wú7mesh Úxwumixw is implied.

Under the SNEAA past and planned engagement regarding the Project, including the proposed amendment, are confidential to promote an open forum for exploring issue resolution. As such, details regarding the purpose and topics of communications are not included in this summary; instead, high-level summaries have been provided. FortisBC communicated with Sḵwx̱wú7mesh Úxwumixw in March 2020 at the start of the COVID-19 pandemic regarding scheduled meetings and means by which FortisBC could assist the Sḵwx̱wú7mesh Úxwumixw during the pandemic. FortisBC has adapted its engagement to support Sḵwx̱wú7mesh Úxwumixw needs during and as result of COVID-19 pandemic and will continue to do so.

FortisBC and Sḵwx̱wú7mesh Úxwumixw signed a Capacity Funding Agreement in November 2021 to support continued work on the Project and the proposed amendment, including engagement via the FSE Working Group. Future engagement on the proposed amendment will include ongoing discussion via the FSE Working Group on:

- Site selection, including feedback on candidate sites
- Mitigation measures
- The workforce accommodation strategy
- The worker code of conduct
- The draft Amendment Application No. 2

In addition, FortisBC's will engage with Sḵwx̱wú7mesh Úxwumixw on community benefits and procurement and opportunities. FortisBC will also conduct community tables to facilitate engagement with Indigenous nations, including Sḵwx̱wú7mesh Úxwumixw .

FortisBC provided a copy of the draft application to Sḵwx̱wú7mesh Úxwumixw on January 7, 2022. Sḵwx̱wú7mesh Úxwumixw provided comments on the draft Amendment Application, which FortisBC incorporated into the Amendment Application. The FSE Working Group continue to meet to resolve outstanding issues.

10.1.2 Tsleil-Waututh Nation

Engagement with Tsleil-Waututh Nation regarding the Project began in May 2013 and is ongoing. This engagement is consistent with the principles and policies described in the Aboriginal Consultation Plan. See subsection 18.2.2 of Amendment Application No. 1 for details regarding FortisBC's engagement with Tsleil-Waututh Nation on the Project since the filing of the EAC Application, including FortisBC ongoing work to address Tsleil-Waututh Nation's concerns regarding the Tsleil-Waututh Nation Work Avoidance Zones (WAZ). The WAZs are a primary issue for Tsleil-Waututh Nation regarding the Project, therefore several key communications with Tsleil-Waututh Nation have focused on the WAZs since the filing of the EAC Application.

The COVID-19 pandemic did not result in any significant interruptions of FortisBC's engagement with Tsleil-Waututh Nation. Tsleil-Waututh Nation informed FortisBC on March 17, 2020 that its Treaty, Lands, and Resources staff were working remotely and would be able to continue biweekly meetings via conference calls and could continue with other phone calls and email exchange. FortisBC understands that the COVID-19 pandemic may continue to impact Tsleil-Waututh Nation's capacity to respond or participate in engagement regarding the proposed amendments and continues to seek ways to accommodate the capacity challenges.

Communications specifically regarding the proposed amendment since submission of the EAC Application include:

- On July 18, 2019, FortisBC emailed Tsleil-Waututh Nation about potential candidate sites in the Indian River Watershed. Tsleil-Waututh Nation reviewed candidate locations and stated its preference. Tsleil-Waututh Nation requested a cost benefit analysis of the possible options.
- On October 23, 2019, FortisBC met with Tsleil-Waututh Nation on the Project and discussed TWA. Tsleil-Waututh Nation requested additional information on candidate sites, length of shifts, workforce numbers, and the pros and cons of each candidate site.
- On November 25, 2020, FortisBC provided an update on workforce accommodation to Tsleil-Waututh Nation which included a review of the process to date, engagement with Indigenous nations and the local community via the Community Table Sessions. Tsleil-Waututh Nation stated that TWAs in the Indian River Watershed may not be an ideal option but requested further information on the scope of potential TWAs, including the size, location, purpose, number of workers, amount of land required, resources required, and TWA alternatives.
- On February 10, 2021, FortisBC met with Tsleil-Waututh Nation and provided an update on TWA, including the removal of the Indian River Watershed as an option for candidate sites. FortisBC noted that the focus of candidate sites are within the District of Squamish and committed to providing updates as available.
- Between September 10, 2021, and March 10, 2022 FortisBC discussed TWA during certain regularly scheduled biweekly calls between FortisBC and Tsleil-Waututh Nation:
  - FortisBC noted that it was planning to host a Community Table Session in October 2021 in District of Squamish to discuss TWA with Indigenous nations and the local community.
  - FortisBC provided a status and schedule update on the Amendment Application No. 2 and committed to providing a draft to Tsleil-Waututh Nation for review, potentially in late 2021 or early 2022.

- FortisBC provided an overview of the workforce accommodation strategy which will support temporary lodge operation and includes TWA management and mitigation measures to reduce potential impacts.

FortisBC provided a copy of the draft Amendment Application to Tsleil-Waututh Nation on January 7, 2022. Tsleil-Waututh Nation provided comments on the draft Amendment Application, which FortisBC incorporated into the Amendment Application No. 2. See Section 10.2 for a summary of the issues associated with the comments. There will be additional opportunities for engagement with Tsleil-Waututh Nation following the submission of this Amendment Application No. 2 to the BC EAO.

FortisBC's future engagement on the proposed amendment will include:

- Meetings regarding site selection, mitigations, workforce accommodation strategy, and worker code of conduct
- Meetings regarding procurement opportunities
- Seeking feedback on candidate sites
- Review of the draft Amendment Application No. 2
- Community Table Sessions

10.1.3 Musqueam Indian Band

Engagement with Musqueam Indian Band regarding the Project began in July 2013 and is ongoing. This engagement is consistent with the principles and policies described in the Aboriginal Consultation Plan. See subsection 18.2.3 of Amendment 1 for details regarding FortisBC's engagement with Musqueam Indian Band on the Project since the filing of the EAC Application.

Note that the COVID-19 pandemic resulted in many Musqueam Indian Band staff working remotely and FortisBC adapted its engagement strategy to meet the needs of Musqueam Indian Band . FortisBC understands that COVID-19 may continue to impact Musqueam Indian Band's capacity to respond or participate in engagement regarding the proposed amendments and continues to seek ways to accommodate the capacity challenges in a considered and sensitive approach.

FortisBC anticipates that the TWA will likely be located outside of Musqueam Indian Band's Traditional Territory; therefore, FortisBC has not yet engaged with Musqueam Indian Band on the TWA. FortisBC's future engagement on the proposed amendment will include review of the draft Amendment Application.

FortisBC provided a copy of the draft Amendment Application to Musqueam Indian Band on January 7, 2022. There will be additional opportunities for engagement following the submission of this Amendment Application No. 2 to BC EAO.

10.1.4 Kwikwetlem First Nation

Engagement with Kwikwetlem First Nation regarding the Project began in May 2013 and is ongoing. This engagement is consistent with the principles and policies described in the Aboriginal Consultation Plan. See subsection 18.2.6 of Amendment Application No. 1 for details regarding FortisBC's engagement with Kwikwetlem First Nation on the Project since the filing of the EAC Application. FortisBC and Kwikwetlem First Nation signed a Capacity Funding Agreement dated November 5, 2021 to provide funding to the Kwikwetlem First Nation to participate in the review of and engagement on Project-related activities.

FortisBC anticipates that the TWA will likely be located outside of Kwikwetlem First Nation's Traditional Territory; therefore, FortisBC has not yet engaged with Kwikwetlem First Nation on the TWA. FortisBC's engagement on the proposed amendment will include review of the draft Amendment Application.

FortisBC provided a copy of the draft Amendment Application to Kwikwetlem First Nation on January 7, 2022. Kwikwetlem First Nation provided comments on the Amendment Application on February 24, 2022, which include:

- Kwikwetlem First Nation has no environmental concerns with the expansion of the TWA area.
- Kwikwetlem First Nation currently has no archaeological or cultural heritage concerns; however, the Kwikwetlem First Nation's presence and participation in heritage management is essential to ensuring that the proposed amendment is consistent with the ancient principles of stewardship that guide the Kwikwetlem First Nation's relationship to its ancestors, lands, and one another.

Kwikwetlem First Nation asserts Aboriginal Rights, Title, and stewardship interests over all lands, waters, and resources within its Traditional Territory, which includes the Project area. Kwikwetlem First Nation expects continued meaningful consultation on the Project. See Section 10.2 for a summary of the issues associated with the comments. There will be additional opportunities for engagement following the submission of this Amendment Application No. 2 to BC EAO.

10.2 Key Issues Raised by Indigenous Nations

Key issues raised by Indigenous nations between December 2021 to the filing of this Amendment Application No. 2 that are relevant to the proposed amendment and will require resolution and potential mitigation are presented in Table 10-1. FortisBC's responses to the key issues raised in Table 10-1 are subject to ongoing discussions with the Indigenous nations.

It is recognized that the information in Table 10-1 is a summary and is not intended to be an exhaustive or comprehensive representation of all the issues raised by each Indigenous nation separately. Please refer to subsections 10.1.1 to 10.1.4 for issues raised by each group during engagement. FortisBC will continue to engage with Indigenous nations to understand their issues and concerns with the proposed amendment and will respond to all issues raised throughout the engagement process.

Table 10-1. Summary of Key Issues Raised by Indigenous Nations

Issues Raised	FortisBC Response
Increase in TWA worker capacity from 150 to 250 to a maximum of approximately 600 workers.	The application has been updated to clarify the increase in TWA worker capacity from 150 to 250 workers to a maximum of approximately 600 workers. FortisBC will further engage with Indigenous nations regarding potential effects and appropriate mitigation measures for the site.
Preference for a site-specific assessment as opposed to a generic assessment for a few potential sites.	As a final TWA site has not been selected, and because the EAC CPD allows a 2 ha TWA to be located anywhere within or outside the CPC, this application assesses the potential effects of a 7 ha TWA to house approximately 600 workers located within or outside the CPC. Once a candidate TWA site has been identified, FortisBC will further engage with Indigenous nations regarding potential effects and appropriate mitigation measures for the site.

Table 10-1. Summary of Key Issues Raised by Indigenous Nations

Issues Raised	FortisBC Response
Changes to Acoustic Environment, Air Quality, Transportation Infrastructure, Heritage Resources, and Ecological Health VCs and the subsequent potential effects to Indigenous interests may require new or altered mitigation measures to manage potentially adverse effects.	New mitigation measures being proposed are included under each VC. FortisBC will continue to engage with Indigenous nations on these new mitigation measures and other measures that may be proposed by Indigenous nations.
A site-specific TCMP should be a mitigation measure and within the scope of the overall TCMP required as a condition of approval in the EAC	The TWA is within the scope of the TCMP developed for the Project as per EAC Condition 23. The Contractor will develop a site-specific Traffic Management Plan in accordance with the specifications outlined in the TCMP.
Indigenous-focused support or services at the TWA site	FortisBC will engage with Indigenous nations on Indigenous-focused support and services.
Legacy housing in the Squamish area for low-income or at-risk persons in the area	FortisBC understands that housing and accommodation in the District of Squamish and surrounding area is limited, and that low-income or at-risk persons are particularly affected by this limitation. This has been a primary consideration for the expansion of the TWA area which will prevent additional pressure being placed on the housing and accommodation situation.
Inclusion of Indigenous Guardians/Monitors for any archaeological or environmental fieldwork to provide oversight	FortisBC employs Indigenous Monitors for its projects, where appropriate, and will engage with Indigenous nations on their inclusion for the work associated with the TWA.
Preference for site alteration permitting through the Archaeology Branch and not the BC OGC	FortisBC follows the current regulatory framework and works with the BC Archaeology Branch and the BC OGC regarding regulatory authority in respect to reviewing and approving permit applications under the *HCA*.
Use of an AIA for proposed works within 20 m of a registered archaeology site	An AIA has been previously conducted for the Project. In the unlikely event that a heritage site is discovered during construction of the TWA, the Heritage Resource Discovery Contingency Plan, as detailed in the CEMP, will be implemented.
Need for the re-evaluation of the risk of major malfunctions and accidents due to the increase in size of the TWA (from 2 ha to 7 ha)	The increased TWA area is not anticipated to interact with accidents or malfunctions type, severity, or risk. FortisBC would be pleased to discuss the risks of malfunctions and accidents with Indigenous nations.
Mitigation strategies and proposed net-zero emissions goals for GHG emissions at the TWA and surrounding area	The need to reduce emissions will be incorporated into the Project design and FortisBC will take a holistic approach in line with Federal and Provincial emissions reporting requirements. FortisBC is currently proposing several mitigations to reduce emissions relating to the Project, many of which are applicable to the TWA, and would be pleased to discuss these with Indigenous nations.

Table 10-1. Summary of Key Issues Raised by Indigenous Nations

Issues Raised	FortisBC Response
How climate change weather outcomes are being planned for	Effects of the environment on the Project were assessed in the EAC Application. The current mitigation and management plans will address extreme weather events often associated with climate change. Furthermore, the project is being designed/engineered to consider severe weather events. Future patterns that are unknown at this time will be adaptively managed as part of the Project's mitigation and management plans.
Requirement of 50 m setbacks (at a minimum) from any watercourses during work	FortisBC has committed to locating the TWA and any work associated with it a minimum of 30 m from watercourses. Encroachment into riparian areas will be assessed by a Qualified Professional to determine potential permitting requirements and the need for site-specific mitigation, restoration, and potential offsetting measures. FortisBC will engage on any of these encroachments and proposed mitigation measures with Indigenous nations.
Zero-waste policy at the TWA to decrease the environmental impact on the lower mainland and any related upstream/downstream processes	Waste management will include solid waste, recycling, and organics as well as protocols for hazardous waste. The contractor may use a private waste management company to dispose of waste at approved facilities. The contractor will be required to provide a site-specific waste management plan in accordance with the requirements outlined in Section 8 of the CEMP as per EAC Condition 9.

10.3 Indigenous Knowledge Provided for the Assessment

Sḵwx̱wú7mesh Úxwumixw has noted that Indigenous Knowledge shared by the Sḵwx̱wú7mesh Úxwumixw is confidential and its use for any purpose in the Amendment Application is determined by the Nation and FortisBC through the SNEAA.

If additional information regarding Indigenous Knowledge is provided to FortisBC by Tsleil-Waututh Nation, Musqueam Indian Band or Kwikwetlem First Nation it will be included in the final Amendment Application No. 2 to be filed with BC EAO.

10.4 Potential Effects on Indigenous Interests

This subsection provides an update to the Indigenous nations effects assessment previously presented in Section 19.0 Aboriginal Interests, of the EAC Application (Volume 1, Part C). See subsection 18.3 of Amendment Application No. 1 for information regarding the change in assessment terms and processes since the *2018 Act* was brought into force on December 16, 2019, including additional assessment matters and Indigenous engagement requirements that were not previously included in the *2002 Act* under which the Project was approved.

As described in Section 19.0 of the EAC Application (Volume 1, Part C), FortisBC has assumed that Indigenous nations continue to use land and resources within the Aboriginal Interests LAA for subsistence or cultural purposes, which may include use in and around the proposed amendment. The Aboriginal Interests LAA includes the RAA boundaries of the VCs that interact with Indigenous interests and are as follows:

- Acid Rock Drainage
- Air Quality
- Acoustic Environment
- Surface Water
- Fish and Fish Habitat
- Vegetation
- Wetlands
- Wildlife and Wildlife Habitat
- Transportation Infrastructure
- Land and Resources Use
- Heritage Resources
- Ecological Health

See Section 19.3 of the EAC Application and Section 5 of Addendum 2 for baseline information regarding these VC's potential interaction with Aboriginal Interests for the EAC Application and Addendum 2.

With the implementation of mitigation measures the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation measures, or residual effects for these VCs (Table 8-1); therefore, no VCs were carried forward into the assessment of Indigenous interests in subsection 10.4.

However, FortisBC recognizes that Indigenous interests may potentially be affected by a broader range of factors than those corresponding to the potential residual effects of the VCs listed above, including:

- Project-related traffic concentrated near and within the TWA site:
  - Although TWA-related traffic is expected to be concentrated at the TWA site, it will be restricted to the construction phase and will be completed within 1 year of the operation phase. Some Indigenous Peoples may avoid the areas around the TWA and access roads due to Project amendment-related traffic and resulting noise, dust, and concerns for safety.
  - TWA-related traffic near and at the TWA may also potentially affect wildlife, and therefore affect subsistence hunting.
- The potential increase in access by the workforce for recreational activities to areas used by Indigenous Peoples for TLU practices, which may result in the avoidance of these areas by Indigenous Peoples.
- The potential for changes to Indigenous Peoples' experiences of using the land due to the increased traffic, marine traffic, and resulting noise.

When mitigation measures identified in the EAC Application (Section 19.3) and Addendum 2 (Section 5) are applied, it is anticipated that these factors would be reduced. In addition, FortisBC is intending to implement additional mitigation measures to further reduce potential effects.

- Require that the TWA Contractor establish use of multi-passenger vehicles to transport workers from the TWA to staging areas or worksites to reduce the daily vehicle flow related to the TWA and traffic movements near any nearby traditional use sites. Refer to subsection 9.1.2.2 for further information on this proposed mitigation measure.
- Schedule crews and restrict movements when not working to reduce the number of workers who may use the land around the TWA as well as the areas they use. FortisBC will work with Indigenous nations to determine areas where signage could be installed to identify any "no-go zones" to be designated as off limits for workers. FortisBC will also work with Indigenous nations to establish appropriate communication protocols to keep each other informed of activities happening in the area, whether construction-related or for cultural purposes. Refer to subsection 9.1.2.2 for further information on this proposed mitigation measure.

FortisBC is engaging with Indigenous nations on the TWA strategy which will include discussions of potential mitigation measures to address community concerns.

Subsections 10.4.1 to 10.4.4 provides additional context for the effects assessment of the Indigenous interests of Skwxwú7mesh Úxwumixw , Tsleil-Waututh Nation, Musqueam Indian Band, and Kwikwetlem First Nation.

10.4.1 Skwxwú7mesh Úxwumixw

The proposed amendment is within the boundaries of the Traditional Territory of Skwxwú7mesh Úxwumixw The SNEAA precludes the inclusion of certain information regarding the Skwxwú7mesh Úxwumixw in the Amendment Application. See the EAC Application (Volume 1, Part C, Section 19.6) and Amendment Application No. 1 (subsection 18.3.1) for further information on the SNEAA.

Once the assessment team has the results of engagement with Skwxwú7mesh Úxwumixw it will present the effects assessment as required under the SNEAA in the final Amendment Application No. 2 to be filed with the BC EAO.

10.4.2 Tsleil-Waututh Nation

The proposed amendment is within the boundaries of the Tsleil-Waututh Nation Consultation Area. Figure 10-1 identifies the Tsleil-Waututh Nation Consultation Area in relation to the proposed amendment. The assessment of potential adverse effects of the Project on Tsleil-Waututh Nation's Aboriginal Interests is provided in subsection 19.5 of the EAC Application (Volume 1, Part C):

- Tables 19.5-2 and 19.5-3 of the EAC Application describe the potential adverse effects, mitigation measures, and residual adverse effects of the Project on Tsleil-Waututh Nation's subsistence activities and use of cultural areas.
- Tables 19.5-4 and 19.5-5 of the EAC Application provide the characterization of potential residual adverse effects on Tsleil-Waututh Nation's subsistence activities and cultural areas.

No new potential adverse effects have been identified for any of the VCs and there is no change in the characterization of residual effects that are identified in the EAC Application. In addition, the comments on the Amendment Application provided by Tsleil-Waututh Nation did not include comments on its Indigenous interests in relation to the proposed amendment. Therefore, the assessment team anticipates that existing conditions and potential adverse effects on Tsleil-Waututh Nation's Indigenous interests, including Section 35 Rights of hunting, fishing, trapping, vegetation gathering, use of habitation sites, use of trails and travelways, use of sacred areas, and use of gathering places for the proposed amendment are comparable to those provided in the EAC Application. It is anticipated that the proposed amendment would have no discernable effects on subsistence or cultural Section 35 Rights and does not change the characterization and assessment of potential adverse effects on Tsleil-Waututh Nation's Aboriginal Interests provided in the EAC Application.

If Tsleil-Waututh Nation provides additional information during ongoing engagement activities that result in a material change to Tsleil-Waututh Nation's subsistence activities and use of cultural areas from what was presented in the EAC Application (Volume 1, Part C, Section 19.5), the assessment team will include the assessment in the final Amendment Application No. 2 to be filed with the BC EAO.

Musqueam Indian Band

The proposed amendment may be of interest to Musqueam Indian Band. Figure 10-1 identifies the Musqueam Indian Band Traditional Territory in relation to the proposed amendment. The assessment of potential adverse effects of the Project on Musqueam Indian Band's Indigenous interests is provided in subsection 19.8 of the EAC Application (Volume 1, Part C):

- Table 19.8-2 of the EAC Application describes the potential adverse effects, mitigation measures and residual adverse effects of the Project on Musqueam Indian Band's subsistence fishing activities.
- Table 19.8-3 of the EAC Application provides the characterization of potential residual adverse effects on Musqueam Indian Band's subsistence fishing activities.

Once the assessment team has the results of engagement with Musqueam Indian Band it will determine if there is any material change to Musqueam Indian Band's subsistence fishing activities from what was presented in the EAC Application (Volume 1, Part C, Section 19.8) and Addendum 2 (subsection 5.4).

10.4.3 Kwikwetlem First Nation

The proposed amendment may be of interest to Kwikwetlem First Nation. Figure 10-1 identities the Kwikwetlem First Nation Traditional Territory in relation to the proposed amendment. The assessment of potential adverse effects of the Project on Kwikwetlem First Nation's Indigenous interests is provided in subsection 19.7 of the EAC Application (Volume 1, Part C):

- Tables 19.7-2 and 19.7-4 of the EAC Application describes the potential adverse effects, mitigation measures and residual adverse effects of the Project on Kwikwetlem First Nation's subsistence activities and use of cultural areas.
- Tables 19.7-3 and 19.7-5 of the EAC Application provides the characterization of potential residual adverse effects on Kwikwetlem First Nation's subsistence activities and use of cultural areas.

Due to the location of the proposed amendment in relation to Kwikwetlem First Nation's Traditional Territory and Kwikwetlem First Nation's comments that it has no environmental, heritage, or cultural concerns at the time of writing of this Amendment Application No. 2, the assessment team anticipates that existing conditions and potential adverse effects on Kwikwetlem First Nation's Indigenous interests, including Section 35 Rights of hunting, fishing, trapping, vegetation gathering, use of habitation sites, use of trails and travelways, use of sacred areas, and use of gathering places for the proposed amendment are comparable to those provided in the EAC Application.

It is anticipated that the proposed amendment would have no discernable effects on subsistence or cultural Section 35 Rights and does not change the characterization and assessment of potential adverse effects on Kwikwetlem First Nation's Aboriginal Interests provided in the EAC Application.

10.5 Cumulative Effects

This subsection summarizes the potential cumulative adverse effects on Indigenous interests through the interaction of cumulative adverse effects of VCs assessed in Section 8 of this Amendment Application. See subsection 6.3.3 for the likely residual adverse effects associated with the Project in combination with potential adverse effects arising from other projects and activities that have been or will be carried out in VC-specific RAAs and that may interact with Indigenous interests. The information identified in subsection 10.4 was used to conduct the CEA.

New reasonably foreseeable projects and activities have been identified in the RAAs of the following VCs that interact with Indigenous interests:

- Acoustic Environment
- Air Quality
- Wildlife and Wildlife Habitat
- Vegetation
- Community and Regional Infrastructure and Services
- Land and Resources
- Heritage Resources
- Health

The assessment team concluded that with the implementation of proposed mitigation measures, the proposed amendment did not result in any material change to the assessment of potential cumulative adverse effects on these VCs (Table 8-1); therefore, no VCs were carried forward into the assessment of cumulative effects in subsection 10.5.

However, as described in subsection 10.4, FortisBC has identified a broader range of factors that may potentially affect Indigenous interests and will determine if there is any material change to the assessment of potential cumulative adverse effects on Indigenous interests after engagement with Indigenous nations for subsection 10.4.

10.6 Other Matters of Concern to Indigenous Nations [or Assessment of Effects on non-Section 35 Rights]

Section 20.0 of the EAC Application (Volume 1, Part C) provided the assessment of other matters of concern raised by Indigenous nations, as required by the Project AIR. These other matters were not assessed in Section 19 as they were not Aboriginal Interests as defined but were still issues that FortisBC felt were important to be assessed. These matters of concern were:

1) Increased access in the Indian River Valley (as expressed by Tsleil-Waututh Nation)
2) Altered access to TLU areas (as expressed by Kwikwetlem First Nation)
3) Reduction of non-urban environments (as expressed by Kwikwetlem First Nation)

These matters of concern in the context of the proposed amendments are addressed in subsections 10.6.1 to 10.6.3. If additional matters of concern are raised during the engagement process, FortisBC will include them in this section.

Note that any other matters of concern unique to Skwxwú7mesh Úxwumixw are being addressed separately through the SNEAA and FSE Working Group.

10.6.1 Increased Access to the Indian River Valley

Potential adverse effects to Indigenous interests from the disruption and alteration of access due to the renewed access to the Indian River Valley via the Stawamus/Indian River FSR, including increased access by recreational users and increased noise and activity, was raised as an issue of concern by Tsleil-Waututh Nation during engagement activities conducted for the EAC Application. This concern is applicable to the proposed amendment if a site inside the Indian River Valley is under consideration; however, at the time of writing of this Amendment Application No. 2, FortisBC does not have any candidate sites in the Indian River Valley. If a site should come under consideration, FortisBC will engage with Indigenous nations on such a site.

10.6.2 Altered Access to Traditional Land Use Areas

Potential disruption and alteration to the access of remote areas, including increased access by non-Indigenous recreational users and reduced access due to construction or maintenance activities, and the resulting potential adverse effects to access of TLU areas was an issue of concern raised by Kwikwetlem First Nation during engagement activities for the EAC Application. With the implementation of mitigation measures, potential adverse effects identified for this matter of concern are addressed (Volume 1, Part C, Section 20.3).

Construction for the proposed TWA will use the highways and resource roads indicated in the EAC Application. Highways, arterial, and collector roads in the surrounding area will be used to transport equipment, supplies, and workers during construction. Due to the proposed increase in the size (2 ha to 7 ha) of the TWA to accommodate more workers on-site during the peak construction period (100 to approximately 600 workers) instead of using local housing (Table 8-1), the number of workers potentially seeking recreational activities in and around the TWA may also increase. Although of short duration, these changes could potentially result in altered access to TLU areas if Kwikwetlem First Nation members avoid these areas due to increased traffic or non-Indigenous land users.

When mitigation measures identified in the EAC Application (subsection 20.3.2) are applied potential effects are expected to be reduced. In addition, FortisBC is intending to schedule crews and restrict movements when not working to reduce the number of workers who may use the land around the TWA and the areas they use. Refer to subsections 10. 4 and 9.1.2.2 for further information on this proposed mitigation measure.

Once the assessment team has the results of engagement with Indigenous nations it will determine if altered access to TLU areas is anticipated to be consistent with what was presented in the EAC Application (Volume 1, Part C, Section 20.3).

10.6.3 Reduction of Non-Urban Environments

A reduction of non-urban environments due to construction and operation activities was an issue of concern raised by Kwikwetlem First Nation during engagement activities for the EAC Application. The assessment team concluded that mitigation measures identified for this matter of concern addressed the potential adverse effects (Volume 1, Part C, Section 20.4).

The TWA will use previously disturbed areas and access, where practical, therefore, it is anticipated that the proposed amendment will not contribute to the reduction of non-urban environments and does not result in any material change to the assessment in the EAC Application.

10.7 Effects on Current and Future Generations

The *2018 Act* requires that positive and negative effects of the proposed amendments on current and future generations be assessed, including Indigenous future generations. The Effects Assessment Policy stipulates that only residual effects that were assessed to have a duration that extends into the “long-term” should be considered in the assessment of effects to the future generation. Due to the temporary nature of the proposed TWA and its presumed location on a previously disturbed site, no VCs were determined to have residual effects with a “long-term” temporal characterization.

However, FortisBC recognizes that Indigenous future generations may potentially be affected by a broader range of factors than those corresponding to the potential long-term duration adverse effects of VCs that interact with Indigenous interests; therefore, depending on the results of engagement with Indigenous nations on the draft Amendment Application, the analysis for this subsection may be extended to other factors, including the potential effect of the loss of the inter-generational transfer of knowledge to Indigenous future generations.

10.8 Disproportionate Effects on Distinct Human Populations

Under Section 25.2 of the *2018 Act*, consideration of disproportionate effects on distinct human populations, including Indigenous nations, is now required in EAs conducted through the BC EAO process. See subsection 9.1 for the analysis of disproportionate effects on distinct human populations, including Indigenous nations, which focusses on developing an understanding of unique socio-economic circumstances of subpopulations within the Project area that may result in disproportionate effects as the result of the proposed amendments.

11. Public Engagement

Engagement on the proposed amendment before submitting this application to BC EAO will allow FortisBC to provide public stakeholders with information on the proposed change and collect feedback on key issues and concerns. The Public Consultation Plan developed for the EAC Application outlines FortisBC's principles, approach, and communication methods for public consultation.

These principles and methods will be applied to this Amendment Application No. 2 throughout the BC EAO amendment process, including pre-filing of the application, BC EAO review, and post-EAC amendment stages. In addition to meeting regulatory requirements, the Public Consultation Plan developed for the EAC Application is intended to promote long-term relationships with stakeholders that are based on mutual respect. Through public consultation, FortisBC is committed to:

- Providing clear information about the proposed amendments and the BC EAO process
- Encouraging early information sharing
- Providing opportunities for community leaders and members to identify and document their comments or concerns
- Incorporating feedback and knowledge from stakeholders into planning the proposed amendments

11.1 Stakeholder Groups Targeted for Consultation

The following stakeholders have been identified for engagement on this Amendment Application No. 2:

- Municipal governments including the District of Squamish
- Regional Districts including representatives from the SLRD
- Provincial and Federal representatives including Members of Legislative Assembly and Members of Parliament
- Residents, business-owners, and landowners
- Local interest groups directly impacted by construction of the proposed amendment

11.2 Engagement with the Public, Governments and Other Stakeholders

FortisBC began preliminary engagement in 2019 on the need for a larger TWA. Table 11-1 provides a summary of the preliminary engagement activities to date on the TWA.

Table 11-1. Summary of Preliminary Consultation Activities

Date of Contact	Stakeholder Name	Method	Description
October 2019	Community Table participants	Meeting	Introduced workforce accommodation requirements and solicited initial feedback (in person).
November 2019	District of Squamish Council	Meeting	Discussion focused on site options and initial feedback (in person).
November 2019	SLRD Board	Meeting	Discussion focused on site options and initial feedback (in person).

Table 11-1. Summary of Preliminary Consultation Activities

Date of Contact	Stakeholder Name	Method	Description
August 2020	Public Information Sessions - Squamish	Virtual Meeting	Discussion focused on site options and questions and answers.
October 2020	District of Squamish Council	Meeting	Shared preliminary workforce histogram and approach to TWA planning and obtained feedback
November 2020	Public Information Sessions - Squamish	Meeting	Included discussions of TWA requirements and options for the TWA (virtual).
November 2020	Community Table participants	Meeting	Discussion focused on workforce accommodation and solicited further feedback.
January 2021	District of Squamish Staff	Meeting	Initial conversation with the staff at District of Squamish to present the need to apply for an amendment and general site requirements.
January 2022	District of Squamish Staff	Meeting	Meeting with the staff at District of Squamish to introduce the draft application prior to sharing it for review.
January 2022	SLRD Staff	Meeting	Meeting with the staff at SLRD to introduce the draft application prior to sharing it for review.
January 2022	Member of Legislative Assembly Sturdy/ Member of Parliament Weiler	Meeting	Discussion on the Amendment Application and site selection requirements
February 2022	Community Table participants	Meeting	Discussion on the Amendment Application and site selection requirements (workforce lodging strategy introduction and feedback).
February 2022	District of Squamish Mayor	Meeting	Follow up presentation on the Amendment Application, site selection requirements and TWA strategy.
March 2022	District of Squamish Council	Meeting	Follow up presentation on the Amendment Application, site selection requirements and TWA strategy.

In addition to targeted discussions with stakeholders and Indigenous nations, Community Table Sessions were held in 2019, 2021 and February of 2022. Community Table Sessions are a collaborative, roundtable process that have been developed specifically for the Project to engage in open conversations with District of Squamish area agencies and local service organizations on potential social impacts and economic benefits of the Project. Participants included representatives from the District of Squamish, Indigenous nations, Vancouver Coastal Health, the RCMP, community service organizations, and business organizations.

11.3 Key Issues Raised

Results of preliminary engagement has indicated that the local community preferred a TWA facility rather than the Project workforce being provided with a living out allowance to use for accommodation in the local community. Concerns were expressed regarding public safety, consideration for vulnerable groups, and impacts on local services and infrastructure.

Concerns were also expressed regarding proximity of the TWA to Indigenous communities, potential noise disturbances, and disturbance to areas of cultural interest and environmentally sensitive areas. Community Table Sessions 1 and 2 covered a range of topics related to the Project, however key themes regarding potential TWA options included:

- Comparative information on the options for workforce accommodation
- Security protocols
- Worker conduct
- Supports for workers (such as, mental health)
- Cultural awareness training and respect for local Indigenous culture
- Increased pressure on local services
- Transportation of workers
- Local hiring and contracting opportunities

This early feedback was critical for FortisBC to understand community concerns and to inform the planning and decision-making processes. FortisBC has continued early engagement on the draft Amendment Application and Community Table 3 was held in February 2022, which focused primarily on the site selection process and TWA strategy. The following key issues were raised through early engagement on the Amendment Application, including through Community Table Session 3:

- Traffic impacts
- Waste management
- Fire and emergency protocols
- Site servicing
- GHG emissions

These topics will be the subject of further discussions through ongoing engagement throughout the Amendment Application process.

11.4 Planned Engagement Activities

Early and meaningful consultation is an important part of the BC EAO amendment process. Consultation is carried out to inform the public, governments, and other interested parties of the proposed amendments and allows FortisBC to incorporate the knowledge and values of shared by stakeholders as the BC EAO amendment process progresses. FortisBC will tailor its approach to each group based on how they wish to be engaged on the proposed amendments. Future consultation activities are provided in Table 11-2.

Table 11-2. Summary of Planned Engagement Activities

Date	Activity	Stakeholders	Description
Q2 2022	Public Information Sessions	General public	Presentations on the Amendment Application, site selection process, and TWA strategy. Events will be held for the District of Squamish and City of Coquitlam.
Q2 and Q4	Community Table Discussions	Virtual event	Continued Community Table Session to provide updates on the Amendment Application, site selection process, and TWA strategy.
Ongoing	Local Government	Meetings	Issue-specific meetings with local governments as needed. Participants may include the District of Squamish, City of Coquitlam, Squamish-Lillooet Regional District and Metro Vancouver.

12. Supplementary Submissions

Supplementary submissions will be determined through the BC EAO and SNEAA amendment processes. No supplementary submissions have been identified at this time. This section will be updated, as appropriate.

13. Conclusion

Overall, the potential residual adverse effects identified and characterized in the EAC Application BC EAO Assessment Report have not changed because of the proposed amendment. After the avoidance of adverse effects through site selection and the implementation of mitigation measures, no material changes to the conclusions reached in the EAC Application or past addenda prepared for the Project was identified.

Several new positive residual effects were identified because of the proposed TWA. These include the reduction of Project-related demand on local accommodation, emergency services, health care services and social services, as well as the reduction of the use of local recreational facilities by Project workers. Community-worker interactions are also anticipated to be reduced because there will be less need for Project workers to enter surrounding communities. Additional positive effects include increased opportunities for procurement and employment and economic benefits to the local economy.

The *2018 Act* was enacted in December 2019 and Section 25.2 includes additional assessment matters that were not previously included in the *2002 Act* under which the Project was approved. Amendment Application No. 2 assesses three additional Section 25 required assessment matters for the proposed amendment relative to the Project:

- Disproportionate effects on distinct human populations, including populations identified by gender
- Effects on biophysical factors that support ecosystem function
- Effects on current and future generations

The disproportionate effects on distinct human population assessment conducted for the proposed amendment identified a list of socio-economic factors and potential subgroups that may interact with the proposed amendment. The assessment reviewed the potential adverse effects, mitigation measures, and residual adverse effects of the proposed amendment on the identified distinct human populations. With the addition of new mitigation specific to the TWA, the assessment found no change to effects assessment conclusions compared to general population assessed in the EAC Application.

An assessment of biophysical factors that support ecosystem function was conducted for the proposed amendment. The Ecosystem Function Scoping Tool was completed and focused on potential interactions between the proposed amendment and biophysical factors that support ecosystem function. The scoping exercise found that all the ten biophysical factors that support ecosystem function have potential to interact with the proposed amendment, however, the proposed amendment activities are not expected to have a negative effect on ecosystem function at the ecosystem scale.

An assessment of effects on current and future generations was not conducted for the proposed amendment due to the temporary nature of the TWA (required during the construction phase only after which the site will be reclaimed) and that the TWA will be located on a previously disturbed site. However, if information is shared by Indigenous nations and stakeholders indicating the potential for effects on current and future generations, an assessment will be conducted based on feedback provided through engagement

For all five VCs, the conditions for the proposed amendment are comparable to the existing conditions assessed in the EAC Application; therefore, the proposed amendment does not result in any material change to the assessment of potential adverse effects, mitigation, or residual effects for the VCs during any phase of the Project. As a result, there are no anticipated potential effects to community or Indigenous future generations. The Project, including the proposed amendment will provide positive benefits by means of the reduced need for local services as well as employment, government revenues, and economic development and diversification for the regional and local communities.

14. References

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