

Tilbury Phase 2 LNG Expansion Project

Detailed Project Description

Rev 2 - September 2021



Executive Summary

FortisBC Holdings Inc. with its regulated natural gas subsidiary FortisBC Energy Inc. (collectively defined as FortisBC) are proposing to expand storage and production capacity at its existing Tilbury liquefied natural gas (LNG) facility. The Tilbury Phase 2 LNG Expansion Project (the proposed Project) comprises an expansion of a new LNG storage tank with a working volume of 142,400 cubic metres (m³) (approximately 3.5 petajoules) (Storage Tank) and up to 7,700 tonnes per day of LNG production (Liquefaction Capacity). The proposed Project will receive natural gas at 7651 Hopcott Road, on Tilbury Island in the City of Delta, British Columbia (B.C.) (the proposed Project Site) through established gas line systems. The proposed Project will connect to FortisBC's existing and planned infrastructure to support security of natural gas supply to gas utility customers and reduce greenhouse gas (GHG) emissions.

Through its regulated utilities, FortisBC has an obligation under the *Utilities Commission Act* to provide adequate, safe, and efficient natural gas service to its customers. The proposed Project will contribute to the resiliency of FortisBC's gas system (that is, its ability to withstand, manage through, and recover from supply emergencies), while also providing gas supply benefits for FortisBC's natural gas customers. Tilbury has played an important role in B.C.'s gas system for 50 years by storing energy to meet peak winter demand. The proposed Project is necessary to enhance Tilbury's capacity to store energy to respond to a widespread gas shortage in B.C.'s Lower Mainland while also enabling a lower-carbon energy future for B.C.

As an energy delivery company serving more than 1.1 million customers in B.C., FortisBC has an important role to play in helping B.C. and Canada move to a low-carbon, renewable energy future. The company's existing gas system provides vital security, flexibility and storage to the overall energy system. Going forward, the gas system presents more opportunities to implement technologies and initiatives to help achieve B.C.'s GHG emissions reduction goals than relying on just the electricity system alone.

All levels of government are stepping up efforts to reduce GHG emissions and the proposed Project aligns with these efforts by enabling the provision of cleaner energy for the marine shipping sector or overseas customers seeking to reduce emissions. LNG can reduce GHG emissions and air pollutants compared to other fossil fuels. Marine shipping is a significant source of global GHG emissions.¹ Recognizing this, both the Government of B.C. and the Government of Canada have committed to taking actions that will support the transition of global shipping fleets to LNG and reduce the environmental impact of marine shipping.² The proposed Project also supports FortisBC's 30BY30 Target to reduce its customers' GHG emissions by 30 percent by 2030.

Beyond 2030, FortisBC has an important role to play in helping British Columbians move to a low-carbon future. As part of the company's vision, it is developing the proposed Project to be a world-leading facility that can serve the future energy needs of British Columbians while also meeting ambitious GHG emissions reduction targets.

The proposed Project would bring socio-economic benefits for Indigenous nations, local communities, and across Canada. The \$3- to \$3.5-billion proposed Project would be one of the largest capital projects in the Lower Mainland and add an estimated \$1.7 billion to B.C.'s gross domestic product during construction. These benefits could bolster the economy as the Province looks to recover from the economic impacts of COVID-19. The proposed Project could begin construction as early as 2023.

¹ <https://www.imo.org/en/OurWork/Environment/Pages/GHG-Emissions.aspx>

² P. 61 https://blog.gov.bc.ca/app/uploads/sites/436/2019/02/CleanBC_Full_Report_Updated_Mar2019.pdf
<https://pm.gc.ca/en/mandate-letters/2019/12/13/minister-transport-mandate-letter>

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As the owner and operator of two LNG facilities currently operating in B.C., FortisBC and its affiliates have the experience and expertise needed to develop and operate the proposed Project. The company is proud of the 50 years of safe operation at the facility. The existing Tilbury site includes the original production and storage facility in operation since 1971, a Phase 1A production and storage expansion in operation since 2018, and ancillary facilities including power supply, gas supply, and both natural gas and LNG distribution facilities to serve public utility customers. The proposed Project would utilize the extensive existing infrastructure at the site as much as possible.

The existing Tilbury LNG facility is one of a few facilities in the world using electric drives powered mostly by renewable hydroelectricity to produce LNG. This technology greatly reduces the carbon intensity of the LNG produced at Tilbury. The proposed Project would also use electric drives as well as other technologies designed to improve operational efficiency, reduce the proposed Project Footprint, lower GHG emissions, and to ensure the safety of employees and the public.

FortisBC seeks to build effective and long-lasting relationships with Indigenous nations. The company has also been consulting with government, the public, and other parties on the expansion of the Tilbury LNG facility since 2012. FortisBC will work with Indigenous nations, stakeholders, and the public through the Assessment process, while ensuring that the proposed Project meets FortisBC's sustainability focus of prioritizing the health and well-being of customers, communities, the environment, and employees—today, and into the future.

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Glossary

A Glossary has been added, since the IPD, to provide definitions of the terms used throughout this DPD.

Acquired energy – GHG emissions associated with the generation of electricity, heat, steam, or cooling, purchased, or acquired from a third-party for the proposed Project. This term is now used in place of “indirect emissions” in the Environment and Climate Change Canada Strategic Assessment of Climate Change (ECCC 2020).

Assessment – The application for an Environmental Assessment Certificate under the *B.C. Environmental Assessment Act* (2018). Also known as the Impact Statement under the Canadian *Impact Assessment Act* (2019).

Base Plant – The original Tilbury LNG facility in operation since 1971 on Tilbury Island in Delta, B.C. The original facilities include liquefaction, a storage tank, LNG vaporizers for returning liquid to a gas, interconnects (gas feed and send-out), liquefaction refrigerant storage, and truck loading.

Liquefaction Capacity – Up to 7,700 tonnes per day of additional LNG production capacity.

Material Offloading Facility (MOF) – The proposed upgraded earth jetty (described as follows). Upgrades to the existing earth jetty are anticipated to occur as part of the Tilbury Marine Jetty project and for the Phase 1 site expansion activities. Additional upgrades to meet proposed Project-specific needs may be required. The design of the MOF is ongoing. The proposed upgrades could include the topside of the jetty and upland areas, which may include improving grading, load bearing, and dike upgrades as well as new in-water structures (such as, piles) may be part of the design. The design will include mitigation to reduce effects to the surrounding aquatic systems. The MOF will obtain the required permitting prior to being upgraded.

CO_{2e} – Or carbon dioxide equivalent, is a standard unit for measuring carbon footprints.

Existing Earth Jetty – The existing jetty adjacent to the FortisBC property, within Crown parcel PIN 6936210. The existing earth jetty has some physical structures but can be used for loading and offloading on a small-scale. If the existing earth jetty is upgraded during the Tilbury Marine Jetty project and or Phase 1 work, it will become the MOF (defined previously).

Phase 1A – The Phase 1 expansion has been approved by the B.C. government through B.C. Order-in-Council (OIC) (O.C. 557/2013) Direction No. 5 to the BCUC under the *Utilities Commission Act*. Phase 1A was constructed between 2014 and 2018 and has been in operation since 2018. Phase 1A includes natural gas liquefaction of approximately 700 t/d and an LNG storage tank (Phase 1 tank) of approximately 46,000 m³ (1.1 PJ) and has received B.C. Oil and Gas Commission facility permits and Metro Vancouver emission permits.

Phase 1B – The Phase 1 expansion has been approved by the B.C. government through B.C. OIC (O.C. 557/2013) Direction No. 5 to the BCUC under the *Utilities Commission Act*. Phase 1B facilities are in design and engineering stages with the earliest in-service-date planned for 2025.

Project Application – The EA Application for the proposed Project.

Project Area – The general area around the proposed Project Site. Used when referring to the general area as opposed to the proposed Project Site, Footprint, or specific Local Assessment Area and Regional Assessment Area.

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Project Site – 7651 Hopcott Road, on Tilbury Island in Delta, B.C. The legal description of the Tilbury site is Lot 1 District Lot 135 Group 2 New Westminster District Plan EPP28232 except Plan EPP 36476. PID: 029-263-301.

Project Footprint – The Project Footprint is the area directly disturbed by construction activities, including associated physical works and activities.

Storage Tank – New LNG storage tank with a working volume of 142,400 cubic metres (m³) approximately 3.5 petajoules.

Tilbury Marine Jetty – The proposed jetty as part of the Tilbury Marine Jetty project. The Tilbury Marine Jetty includes temporary and permanent components. A floating temporary bunker berth will be constructed prior to the permanent marine tandem jetty.

Tilbury Marine Jetty project – The Tilbury Jetty Limited Partnership is proposing to construct a marine jetty (Tilbury Marine Jetty) next to the proposed Project Site to supply LNG to the marine transportation sector and for export. The Tilbury Marine Jetty project is separate and distinct from the Base Plant, Phase 1 expansion facilities, and the proposed Project. The Tilbury Marine Jetty project is currently undergoing a combined Federal and Provincial EA, under a substituted Provincial process that is led by the B.C. EAO. The Tilbury Marine Jetty Assessment process began in May 2015 and the Application is currently in review.

Truck Loading – Two additional LNG truck loading bays will be added adjacent to the existing two bays that have already been constructed as part of the Phase 1A project. Construction of the additional bays is forecast to be completed at the end of 2022.

Net GHG emissions from a project are defined as: Net GHG emissions = Direct GHG emissions + Acquired energy GHG emissions - carbon dioxide captured and stored - Avoided domestic GHG emissions - Offset credits (Equation 1 in Environment and Climate Change Canada Strategic Assessment of Climate Change [ECCC 2020]).

Acronyms and Abbreviations

°C	degree(s) Celsius
AAQO	Ambient Air Quality Objective
AIA	Archaeological Impact Assessment
ALR	Agricultural Land Reserve
AIR	Application Information Requirement
AOA	Archaeological Overview Assessment
APEC	area of potential environmental concern
Base Plant	original production and storage facility in operation since 1971
BAT	best available technology
B.C.	British Columbia
B.C. CDC	British Columbia Conservation Data Centre
B.C. EAA	British Columbia <i>Environmental Assessment Act</i>
B.C. EAO	British Columbia Environmental Assessment Office
B.C. EMA	British Columbia <i>Environmental Management Act</i>
B.C. ENV	British Columbia Ministry of Environment and Climate Change Strategy
BCF	billion cubic feet
B.C. MFLNRORD	British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development
B.C. MoTI	British Columbia Ministry of Transportation and Infrastructure
B.C. OGAA	British Columbia <i>Oil and Gas Activities Act</i>
B.C. OGC	British Columbia Oil and Gas Commission
BCTC	British Columbia Treaty Commission
BCUC	British Columbia Utilities Commission
CAAQS	Canadian Ambient Air Quality Standards
CAC	criteria air contaminant
CAD	Consultative Areas Database
CCAB	Canadian Council for Aboriginal Business
CEA	Cumulative Effects Assessment
CH ₄	methane
CI	carbon intensity
cm	centimetre(s)
CNG	compressed natural gas
CO	carbon monoxide

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CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
COSEWIC	Committee on the Status of Endangered Wildlife
CPCN	Certificate of Public Convenience and Necessity
CSA	Canadian Standards Association
CTS	Coastal Transmission System
D5	Direction No. 5
Delta	City of Delta
DFO	Fisheries and Oceans Canada
<i>DMA</i>	<i>Dike Maintenance Act</i>
DPD	Detailed Project Description
EA	Environmental Assessment
EAC	Environmental Assessment Certificate
ECCC	Environment and Climate Change Canada
EMP	Environmental Management Plan
EOA	Environmental Overview Assessment
EV	electric vehicle
FBC	FortisBC Inc. (electric company)
FEED	Front-End Engineering Design
FortisBC	FortisBC Holdings Inc. with its natural gas subsidiary FortisBC Energy Inc.
FEI	FortisBC Energy Inc. (gas company)
FHI	FortisBC Holdings Inc.
FRAMP	Fraser River Ambient Monitoring Program
FTE	Full-Time Equivalent
GBA+	Gender-based Analysis Plus
GDP	Gross Domestic Product
GHG	greenhouse gas
GJ	gigajoule(s)
Golder	Golder Associates Ltd.
Guidelines	Human and Community Well-being: Guidelines for Assessing Social, Economic, Cultural and Health Effects in Environmental Assessments in British Columbia
HC	hydrocarbon
<i>HCA</i>	<i>Heritage Conservation Act</i>
HIP	Heritage Inspection Permit
IA	Impact Assessment

IAA	<i>Impact Assessment Act</i>
IAAC	Impact Assessment Agency of Canada
IBA	Important Bird Area
IMO	International Maritime Organization
IPCC	Intergovernmental Panel on Climate Change
IPD	Initial Project Description
km	kilometre(s)
km ²	square kilometre(s)
ktCO ₂ e/year	kilotonne(s) of carbon dioxide equivalent per year
kV	kiloVolt(s)
LAA	Local Assessment Area
LNG	liquefied natural gas
LIM	low income measure
m	metre(s)
m ³	cubic metre(s)
masl	metre(s) above sea level
MEMPR	Ministry of Energy, Mines and Petroleum Resources
mm	millimetre(s)
MOF	Material Offloading Facility
mt	million tonnes
MTPA	million tonnes per year
N/A	not applicable
NO ₂	nitrogen dioxide
N ₂ O	nitrous oxide
NO _x	nitrogen oxide
NRCan	Natural Resources Canada
OBE	Operating Basis Earthquake
OCP	Official Community Plan
OIC	Order-In-Council
PAR	Progressive Aboriginal Relations
PGV	Peak Ground Velocity
Phase 1A	Phase 1A production and storage expansion in operation since 2018
PJ	petajoule(s)
PM	particulate matter
PM _{2.5}	fine particulate matter

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PM ₁₀	coarse particulate matter
proposed Project	proposed Tilbury Phase 2 LNG Expansion Project
proposed Project Site	7651 Hopcott Road, on Tilbury Island in the City of Delta, British Columbia
PSI	Preliminary Site Assessment
QEP	Qualified Environmental Professional
RAA	Regional Assessment Area
Richmond	City of Richmond
RNG	Renewable Natural Gas
SARA	<i>Species at Risk Act</i>
SACC	Strategic Assessment of Climate Change
SF ₆	sulphur hexafluoride
SO _x	sulphur oxide
SO ₂	sulphur dioxide
SSE	Safe Shutdown Earthquake
t/d	tonnes per day
TAC	Technical Advisory Committee
TBD	to be determined
tCO ₂ e	tonnes of carbon dioxide equivalent
tCO ₂ e/year	tonnes of carbon dioxide equivalent per year
tCO ₂ e/tLNG	tonnes of carbon dioxide equivalent per metric tonne of LNG produced
TEGF	totally enclosed ground flare
TJLP	Tilbury Jetty Limited Partnership
TLU	Traditional Land Use
TUOS	Traditional Land Use and Occupancy Studies
TUS	Traditional Use Study
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
U.S.	United States
U.S. EPA	United States Environmental Protection Agency
VC	Valued Component
WesPac	WesPac Midstream Ltd.

1. Introduction

FortisBC Holdings Inc. with its regulated natural gas subsidiary FortisBC Energy Inc. (collectively defined as FortisBC) filed an Initial Project Description (IPD) for the proposed Tilbury Phase 2 LNG Expansion Project (the proposed Project) to the British Columbia (B.C.) Environmental Assessment Office (EAO) and the Impact Assessment Agency of Canada (IAAC) in February 2020. The B.C. EAO's acceptance of the IPD initiated the Early Engagement Phase and IAAC's acceptance initiated the Planning Phase. FortisBC has prepared a Detailed Project Description (DPD) which provides updated and additional information about the proposed Project in accordance with the B.C. EAO and IAAC DPD requirements (B.C. EAO 2019 and IAAC 2019, respectively). The DPD also addresses feedback raised during Early Engagement. Each Section summarizes where the issues and concerns raised during Early Engagement are addressed in the DPD.

As a result of feedback, changes to this section include an updated introduction and corporate overview, including FortisBC's commitment to sustainability, communities, and partners. It also includes updates to the description of FortisBC's existing facilities, including more detail on potential upgrades needed for the Material Offloading Facility (MOF).

FortisBC is proposing to expand the existing liquefied natural gas (LNG) facility at 7651 Hopcott Road, on Tilbury Island in the City of Delta (Delta), B.C. (Figure 1-1) (the proposed Project Site). The proposed Project is located within the Traditional Territory of the Coast Salish peoples on a long-standing brownfield industrial site owned by FortisBC zoned as I7 High Impact Industrial, for uses including natural gas and petroleum products. The proposed Project location is described in more detail in Section 3 of this DPD.

Existing Tilbury LNG facilities include the original production and storage facility in operation since 1971 (Base Plant), a Phase 1A production and storage expansion in operation since 2018 (Phase 1A), and ancillary facilities including power supply, gas supply, and both natural gas and LNG distribution facilities to serve public utility customers. Facilities already in design and development include a Phase 1A truck loading capacity expansion and a Phase 1B production and power supply expansion. The demolition of the Base Plant is a key component of the Tilbury LNG Storage Expansion project, which is the subject of a Certificate of Public Convenience and Necessity (CPCN) Application that was filed with the British Columbia Utilities Commission (BCUC) in December 2020.

The proposed Project comprises a new LNG storage tank with a working volume of 142,400 cubic metres (m³) (approximately 3.5 petajoules [PJ]) and new liquefaction capacity of up to 7,700 tonnes per day (t/d) of LNG production. The proposed Project will receive natural gas at the proposed Project Site through established gas line systems. It will connect to the existing and proposed LNG facilities at Tilbury and the Tilbury Marine Jetty. All permanent components of the proposed Project are proposed within the proposed Project Site boundaries.

The Project is being proposed to increase the storage and production of LNG to add resilience to FortisBC's gas system (that is, to increase its ability to withstand, manage through, and recover from supply emergencies), improving the security of supply to FortisBC's approximately 1.1 million natural gas customers in B.C., and to supply incremental LNG for local and global markets where low carbon intensity (CI) LNG can displace the use of higher-carbon emitting fuels such as coal, bunker fuels, and diesel in transportation, energy generation, and industrial end-uses. The proposed Project's liquefaction capacity can also serve the local marine transportation market should it exceed the capacity of FortisBC's Phase 1 facilities. The proposed Project also introduces opportunities to replace existing infrastructure with current technologies and to align with the Government of B.C.'s CleanBC Plan.

The Storage Tank component of the proposed Project will provide immediate back-up gas supply to FortisBC customers, primarily in the Lower Mainland, in the event of a supply emergency to minimize the risk of widespread outages or a lengthy and costly system-wide collapse. Without additional system resilience, these gas supply disruptions or constraints have the potential to cause widespread and long-lasting natural gas outages for customers and the region as a whole.

The existing Tilbury facility, powered by hydroelectricity, produces some of the lowest CI LNG in the world and can help achieve larger local, regional, and global greenhouse gas (GHG) emissions reductions for marine and overseas customers than the average global LNG producer. The Liquefaction Capacity component of the proposed Project will help elevate FortisBC's role as a vital domestic and international LNG provider to lower customers' GHG emissions. FortisBC already provides expertise and safe, innovative solutions for marine bunkering customers who want to convert their fleets and start fuelling with LNG to meet increasingly strict marine sector emissions regulations. In addition, FortisBC also provides low CI LNG for on-road medium- and heavy-duty transportation solutions. LNG from the Tilbury facility can displace high carbon alternatives like coal in countries that are looking to reduce their GHG emissions and air pollutants. LNG also significantly reduces air pollutants such as emissions from ships including sulphur oxides to almost zero, nitrogen oxides by up to 95 percent depending on the engine type, and particulate matter (PM) by up to 99 percent compared to diesel fuel (Sphera 2020a).

The Liquefaction Capacity will be constructed as LNG market demand materializes. This could be in the form of one or more LNG production trains built initially or phased over multiple years with ultimate completion anticipated as early as 2028. Detailed engineering and construction for the proposed Project is expected to begin after 2022.

The proposed Project is reviewable under the current B.C. *Environmental Assessment Act* (B.C. *EAA*) (*Reviewable Projects Regulation*) and under Canada's *Impact Assessment Act* (*IAA*) (Government of Canada 2019a) and *Physical Activities Regulations*. Further details regarding the Provincial and Federal processes are provided in Section 8. Appendix A and Appendix B provide a concordance table for guidance from the B.C. EAO Early Engagement Policy (B.C. EAO 2019), as well as the IAAC, *Information and Management of Time Limits Regulations* (IAAC 2019).

The environmental assessment (EA) for the Tilbury Marine Jetty project, initiated in May 2015, for which the Application was submitted in March 2019, is the closest and most recent EA to the proposed Project Site. Available information from that EA will be reviewed and any relevant information will be incorporated into the proposed Project Application prepared for the current proposed Project. Applicable information from Lehigh Hanson Materials Limited Delta Grinding Facility project will also be incorporated into the proposed Project Application. In addition, Stantec Consulting Ltd. conducted an Archaeological Impact Assessment (AIA) in 2013 on a part of the Tilbury site for the Phase 1A expansion. An Archaeological Overview Assessment (AOA) was recently completed for the entire proposed Project Site by Golder Associates Ltd. (Golder) and an AIA is being conducted in 2020/2021. Information from the AOA and both AIAs will be reviewed for any relevant information for the proposed Project Application.

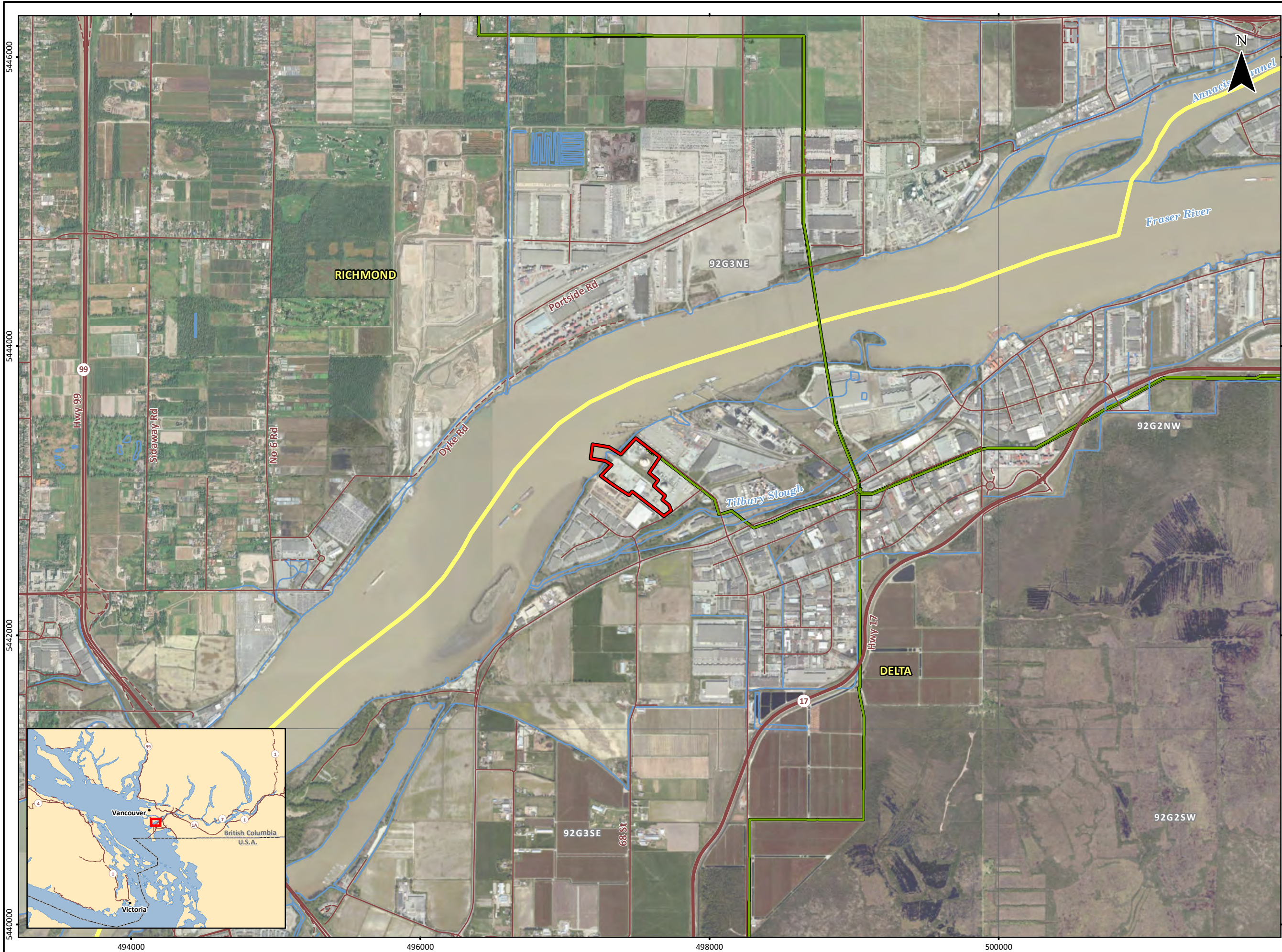



FIGURE 1-1
REGIONAL LOCATION
TILBURY PHASE 2
LNG EXPANSION PROJECT

Proposed Project Components


 Proposed Project Footprint

Base Data


 Existing FortisBC Pipeline

 Highway


 Road

 Resource Road

 Railway

 Watercourse

 Municipality

 Waterbody

SCALE: 1:25,000

0 200 400 600 800 1,000 m
(All Locations Approximate)

Jacobs

Project Number CE778100

UTM Zone 10 North, NAD 1983.
Existing FortisBC Pipeline: FortisBC 2012; Transportation: BC
FLNRD 2012; Regional Districts & Municipalities: BC FLNRD
2017; Political Boundaries: ESRI 2005, USNIMA 2000; Hydrology: BC
FLNRD 2011; Imagery Service Layer Credits: Source: Esri, Maxar,
GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,
AeroGRID, IGN, and the GIS User Community
Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson,
NCEAS, NLS, OS, MMA, Geodatastyrelsen, Rijkswaterstaat, GSA,
Geoland, FEMA, Intermap and the GIS user community.

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: SL

Checked By: KT

1.1 Proponent Information

1.1.1 Project Contacts

Table 1-1. Project Information and Key Contacts

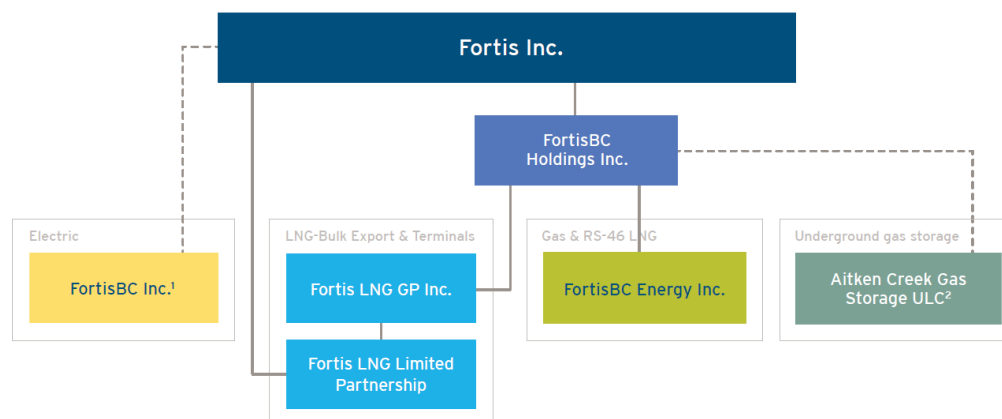
Project Name	Tilbury Phase 2 LNG Expansion Project
Proponent	FortisBC Holdings Inc. with its regulated natural gas subsidiary FortisBC Energy Inc. (collectively defined as FortisBC)
Proponent Corporate Address	16705 Fraser Highway Surrey, B.C. V4N 0E8
Proponent Website	http://www.fortisbc.com
Project Website	https://talkingenergy.ca/tilburyphase2
Proponent President and CEO	Roger Dall'Antonia
Principal Contacts for the Project Application	Andrew Hamilton Senior Project Manager Tel: 778-222-7983 Email: andrew.hamilton@fortisbc.com

1.1.2 Corporate Overview

Fortis Inc. is a publicly traded Canadian company on both the TSX and the NYSE and the parent company of the proponent. FortisBC Holdings Inc. (FHI) is a B.C.-based company with subsidiary companies involved in natural gas, LNG and alternative energy in B.C. Fortis Inc. is also the parent company of FortisBC Inc. (FBC) an electrical utility operating in B.C. FortisBC Energy Inc. (FEI) is a natural gas utility, owner/operator of the Tilbury LNG facility and subsidiary of FHI. Fortis Inc.'s B.C.-based companies (including FHI, FEI and FBC) employ more than 2,400 people, working to deliver natural gas, electricity, and renewable energy to more than 1.1 million customers across 135 communities in B.C.

FBC owns and operates approximately 7,260 kilometres (km) of electric transmission and distribution power lines and four hydroelectric generating plants. FEI owns and operates approximately 49,000 km of natural gas transmission and distribution pipelines and two LNG production and storage facilities. Aitken Creek Gas Storage ULC owns B.C.'s largest underground natural gas storage facility.

FortisBC corporate structure chart



¹ FortisBC Inc. is a wholly owned subsidiary of FortisBC Pacific Holdings Inc., which is a wholly owned subsidiary of Fortis West Inc. Fortis West Inc. is a wholly owned subsidiary of Fortis Inc.
² Aitken Creek Gas Storage ULC is a wholly owned subsidiary of FortisBC Midstream Inc. (which is a wholly owned subsidiary of FortisBC Holdings Inc.)

1.1.2.1 FortisBC's Role as a Regulated Utility Within the Province

FortisBC's regulated utilities deliver more energy to B.C. customers than any other company in the Province and supply up to half of the Province's energy needs on the coldest days of the year. The company's gas and electric systems work in tandem to provide reliable energy service to British Columbians. Both systems complement one another, providing redundancy and a low-cost solution to delivering energy to British Columbians. In 2020, the utility met a peak day natural gas demand of 1,555 terajoules and a peak electricity demand of over 740 megawatts. The company's primary objective is to provide cost-effective, secure, and reliable energy for its customers.

This objective aligns with FEI's obligation as a regulated utility under the *Utilities Commission Act* to provide and maintain its property and equipment in a condition to enable it to provide a service to the public that the commission considers is in all respects adequate, safe, efficient, just and reasonable. Gas infrastructure in the Province is a multi-billion dollar asset that provides reliable, safe, affordable and high-quality energy services to British Columbians. This infrastructure is designed to serve a range of end-uses with high energy needs such as building and industrial heating and heavy-duty freight. The gas system needs to be designed and constructed so that it provides the necessary reliability and resiliency to the Province's overall energy system.

1.1.2.2 Commitment to Sustainability

As an energy delivery company serving more than 1.1 million British Columbians, we understand the importance of a lower-carbon future for our customers and our Province, and we are committed to leading the way. Our focus on sustainability is about prioritizing the health and well-being of our customers, our communities, the environment, and our employees—today, and into the future.

B.C., like all jurisdictions, has unique aspects to its regional energy demands and a "made-in-B.C." approach is needed to achieve long-term emissions reductions. As a result, FortisBC is a critical implementation partner for the Federal and Provincial governments' GHG reduction objectives. To demonstrate our commitment to B.C.'s climate goals, FortisBC developed the Clean Growth Pathway to 2050 – our public statement in the Provincial government's consultation period as they developed CleanBC.

The Clean Growth Pathway highlights four action areas that FortisBC can take to help the government achieve its GHG reduction objectives and reduce GHG emissions globally: 1) Energy Efficiency 2) Renewable Gas 3) Low-Carbon Transport and 4) LNG, to displace higher-carbon fuels for marine and global markets. Each of these actions have large potential to reduce GHG emissions and increase investment and growth in the Province. They are described in further detail as follows.

The Clean Growth Pathway is a diverse approach to GHG emissions reduction. In 2019, FortisBC commissioned Guidehouse, a consulting company with extensive expertise in both energy and environmental issues, to publish a study that explored decarbonization pathways in B.C., using both the gas and electric systems to achieve the provincial carbon emissions reductions goal (Guidehouse 2020).

Building on its Clean Growth Pathway, FortisBC announced its 30BY30 target in September 2019, committing to reduce its customers' GHG emissions by 30 percent by 2030. FortisBC is currently developing implementation pathways to achieve the target focusing on the four action areas. Beyond 2030, our vision is to continue realizing low-carbon solutions in the four action areas and transition to a utility delivering low-carbon energy to domestic and global customers. Figure 1-2 illustrates FortisBC's vision for an integrated and decarbonized utility.

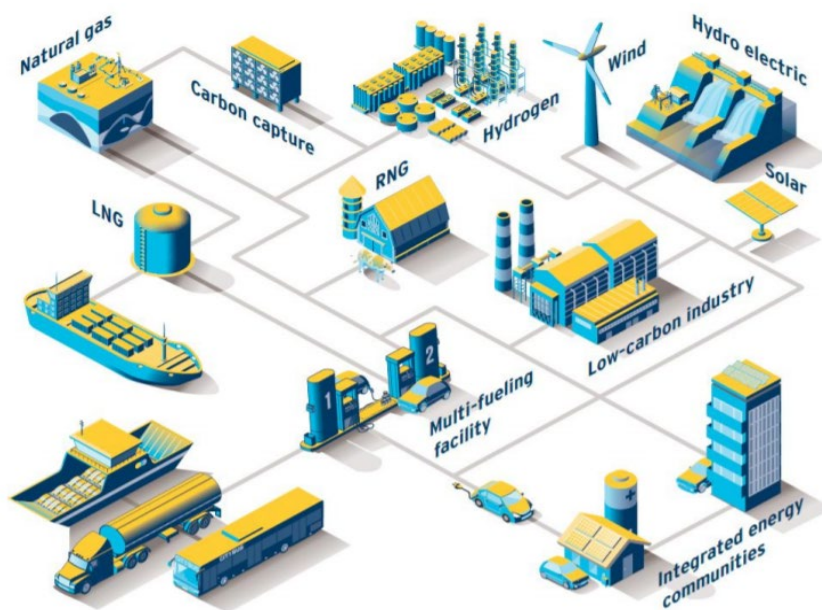


Figure 1-2. FortisBC's Clean Growth Network To 2050

Source: Guidehouse 2020

Over the past four years, all levels of government (Federal, Provincial, and Local) have increased their level of ambition and stringency to reduce GHG emissions and transition toward a low-carbon economy. Policy tools including carbon pricing, codes and standards, electrification, and switching to lower-carbon and renewable fuels, are expected to play a central role in meeting Canada's and B.C.'s GHG emissions targets. It is in the public interest for FortisBC to support this transition through its Clean Growth Pathway and adjust its business so that it can continue to serve its customers in a lower-carbon future, while also supporting efforts to position B.C. and Canada as leaders in providing low-carbon and high-quality products and services.

Four action areas of the Clean Growth Pathway to 2050

a) Energy efficiency - Pursuing greater energy efficiency through rebates and innovative technology

B.C. emits nearly 63 million tonnes (mt) of carbon emissions annually and according to Guidehouse 2020, 10 percent of that comes from homes and commercial buildings. FortisBC is supporting energy conservation for customers by investing in energy efficiency programs for homes, businesses, and industry. In 2019, the BCUC approved our application to triple spending on energy efficiency education and rebates by 2022.

Rebate programs are designed to help customers make better energy choices at a lower cost. When they are ready to move forward with improving their home's energy efficiency, FortisBC provides a directory of licensed contractors educated in energy efficient equipment and quality installation. FortisBC also provides a My Energy Use option for customers to put together an energy saving action plan, set goals, earn reward points, and to estimate home energy costs (FortisBC 2021c).

FortisBC is collaborating with businesses to achieve the biggest decrease in energy usage. Industrial and institutional facilities require a lot of energy to operate which offers big opportunities to save energy. For instance, FortisBC recently helped Ridge Meadows Hospital in Maple Ridge, B.C., to upgrade and install new high efficiency equipment and they qualified for over \$289,000 in FortisBC rebates. Since project completion, they have reported annual GHG reductions of 25 percent.

b) Renewable Gas - Supporting the growth of renewable gases in our system to 15 percent of our supply

Expanding the supply of renewable gases is a key pathway for a decarbonized energy future. FortisBC has set a goal to have 15 percent of its gas supply be renewable by 2030 (FortisBC 2021d) in alignment with the Province of B.C.'s CleanBC Plan. According to Guidehouse, adding more Renewable Natural Gas (RNG) and other low emissions drop-in fuels into the gas system, such as unlocking the potential of hydrogen, will decarbonize the energy delivered through the existing gas infrastructure. The results of the Guidehouse work show that achieving our goals will require FortisBC's gas supply to be nearly three quarters renewable by 2050. To-date, FortisBC has made significant progress in adding more renewable gas.

FortisBC currently works with seven facilities that produce RNG. Thirteen other facilities have been approved and are at different stages of construction, and many more are at various stages in the regulatory or planning process. FortisBC also signed its first out-of-Province supply agreements that will see the purchase of RNG from Alberta and Ontario, promoting the growth of the Canadian RNG industry, and is also exploring the potential of other carbon-neutral renewable gases like hydrogen and syngas. In 2020, FortisBC signed a contract with REN Energy in Fruitvale, B.C., to use wood waste from forestry operations and sawmills to make RNG. This type of supply represents a major opportunity for B.C.'s forestry industry to diversify and innovate by producing renewable gases.

Over time, low carbon renewable gases that are blended with natural gas will continue to increase. Biofuels like RNG, hydrogen, and syngas will be a key component of the long-term decarbonization strategy for downstream users like international marine vessels. By 2050, FortisBC foresees that the majority of the energy moved through its gas infrastructure will be renewable and carbon-neutral.

Investments in innovation will be imperative for reducing emissions using renewable gases. The BCUC approved FortisBC's Clean Growth Innovation Fund in 2020. This fund will invest in renewable gas initiatives and technology development to reduce emissions for a cleaner tomorrow. Over the next four years, this fund will direct approximately \$5 million per year to support clean innovation projects, in partnerships with government and industry (FortisBC 2021e).

c) Low-Carbon Transport - Investing in low and zero-carbon vehicles and infrastructure

Transportation is the largest single source of emissions in B.C. and contributes to approximately 40 percent of the total provincial GHGs. It is the sector where the most significant and immediate carbon reductions can be achieved with technology that is available today. FortisBC is a leader in North America, providing innovative technology that lowers emissions throughout the transportation sector.

To help achieve carbon reductions in the transportation sector, FBC is installing electric vehicle (EV) charging stations across B.C. FBC currently operates 29 direct current fast charging EV stations at 19 locations across the B.C. Interior and is planning to install 11 more stations in 2021. These stations are located in both rural and urban areas to ensure full coverage of service.

Advancing natural gas for medium- and heavy-duty vehicles, such as truck fleets, is a key component towards FortisBC's 30BY30 Target. Today, FortisBC fuels more than 900 low-carbon vehicles with natural gas. The majority of these natural gas vehicles are currently fuelled by compressed natural gas (CNG). Many of the rest of these vehicles are fuelled by LNG from Tilbury. FortisBC plans to bring on new customers and work with existing partners who are transitioning more of their fleets away from higher-carbon fuels. In 2020 alone, 144 new natural gas-powered vehicles hit the road, helping fleet operators decrease GHG emissions by up to 30 percent and save up to 40 percent in fuel costs compared to gasoline or diesel.

FortisBC is also collaborating with transit operators to realize GHG emissions reductions. In 2018, FortisBC began a partnership with TransLink to convert some of their fleet to CNG. Today, CNG vehicles make up roughly one-fifth of TransLink's bus fleet. As a result, TransLink estimates up to 21 percent fewer emissions per bus, with a 50 percent reduction in fuel costs compared to diesel. FortisBC also has a 5-year supply contract with TransLink to fuel the existing CNG bus fleet with 100 percent RNG. This will reduce TransLink's GHG emissions by 50,000 tonnes per year, or the equivalent of taking 10,000 cars off the road.

d) LNG for Marine Fuelling and Global Markets - Positioning B.C. as a vital domestic and international LNG provider to lower Global GHG emissions

LNG for marine fuelling and global markets is a key strategy in FortisBC's Clean Growth Pathway. LNG has the potential to reduce air pollutants and GHG emissions, as well as reducing other secondary impacts.

FortisBC has been providing LNG to fuel local ferries, including some BC Ferries vessels, and other marine customers for several years and is working collaboratively with government and industry partners to help establish the Port of Vancouver as a global LNG marine fuelling hub, thereby supporting the growth of LNG as a cleaner fuel for international ships. This represents an opportunity to realize significant economic and environmental benefits.

According to a recent report by SEA-LNG, since 2010 the number of LNG-fuelled vessels fuelled has grown by between 20 percent and 40 percent per annum. An estimated 10 to 20 percent of the new order book for newly commissioned ocean-going vessels are LNG-fuelled vessels (Sea-LNG 2020).

Tilbury is regarded as among the cleanest LNG facilities in the world (FortisBC 2019). A third-party study shows that LNG produced at the Tilbury facility is nearly 30 percent less carbon-intensive than LNG produced around the world. This is primarily due to Tilbury being an electric-powered LNG facility and the high renewable electricity content in B.C. Over the coming decade, the CI of LNG from Tilbury will further improve as the CleanBC upstream electrification policies are implemented by 2030. Another primary benefit is that switching to LNG from higher-carbon fuels improves local air quality. An additional co-benefit is the reduction of underwater vessel noise driven by the replacement of older marine diesel or fuel oil powered vessels with new LNG-powered vessels.

As demand for LNG continues to develop around the world, there is growing interest from overseas customers seeking to reduce their carbon emissions. LNG produced at the Tilbury facility may be used overseas to displace higher-carbon fuels (such as, coal and diesel).

1.1.2.3 Commitment to Partners and Local Government

FortisBC works to develop and maintain meaningful and mutually beneficial relationships with local governments and Indigenous nations across B.C. FortisBC and its affiliates provide energy to 135 communities across the Province, including 57 Indigenous nations. In addition, our infrastructure crosses more than 150 Traditional Territories. FortisBC works closely with local and Indigenous nation governments, collaborating on projects and programs that provide safe and reliable energy, save money, and reduce energy consumption and emissions so that, together, they can meet the Province's climate action goals.

FortisBC works with local government organizations across the Province to understand their energy needs and support them with improving energy efficiency.

- In 2019, FortisBC worked closely with the City of Surrey on a series of equipment upgrades to increase efficiency in four civic buildings that qualified for more than \$104,000 in rebates. The rebates came through a conservation and energy management program that helps local government identify opportunities to improve energy efficiency and meet climate action goals.
- The City of Nanaimo participated in a FortisBC pilot project testing REALice technology that uses cold water to resurface ice rinks, reducing energy use, and effectively lowering GHG emissions. Results from the project showed arenas could reduce their natural gas use by about 79 percent.
- City of Richmond (Richmond) School District installed natural gas absorption heat pumps at McMath Secondary School, which significantly reduced their GHG emissions. The school district was a participant in a FortisBC pilot program to test new ultra-efficient natural gas heat pumps, which cover about 75 percent of the domestic hot water load in commercial buildings. Initial results from this pilot program have showed that these heat pumps performed at over 100 percent efficiency, even in -8 degree Celsius (°C) weather.

FortisBC develops partnerships to lower GHG emissions in local communities by purifying methane generated from organic waste for use in the gas system as RNG. It is partnering with the City of Vancouver to develop its largest RNG facility to date. The facility at the Vancouver landfill in Delta could produce up to 250,000 gigajoules (GJ) of RNG, enough to meet the needs of more than 2,700 homes. FortisBC has also supported several operating RNG projects for local governments including the City of Kelowna, City of Surrey, the Columbia Shuswap Regional District (Salmon Arm Landfill), and is developing a project with the Regional District of Fraser-Fort George (Foothills Landfill).

FortisBC is committed to Reconciliation with Indigenous Peoples in Canada and relies on its Statement of Indigenous Principles (subsection 11.3) to guide corporate words and actions. FortisBC recognizes the inherent and legal rights of all Indigenous Peoples to maintain their social, cultural, and spiritual identities as well as their connection to their Traditional Lands. FortisBC seeks to build effective, respectful, and mutually beneficial relationships with Indigenous Peoples, and to ensure they have the resources and skills necessary to maintain these relationships. FortisBC is an equal opportunity employer and supports an inclusive and diverse workforce. FortisBC has developed Indigenous skills, employment and career-training initiatives, including the Residential Energy Efficiency Works (REnEW) program. FortisBC has also engaged with industry partners like the Electrical Joint Training Committee Society, PLATO Testing, and Industry Training Authority to provide relevant training to Indigenous participants.

In addition, FortisBC is proud to be a member of the Canadian Council for Aboriginal Business (CCAB) and is working to become a Progressive Aboriginal Relations (PAR) certified company through CCAB. PAR certification supports FortisBC's commitment to authentic, mutually beneficial relationships with Indigenous nations, customers, employees, communities, and businesses.

FortisBC partners with Indigenous businesses and communities to develop mutually beneficial economic and employment opportunities. For example, in FortisBC's Mt. Hayes LNG storage facility, we developed an equity partnership with the Stz'uminus (Chemainus) First Nation and Cowichan Tribes that resulted in jobs and economic partnerships in their communities, and more recently a partnership with the Osoyoos Indian Band to host FortisBC charging stations for EVs on Osoyoos Indian Band lands.

FortisBC aims to maximize the benefits of our projects in the community. On the recently completed Lower Mainland Intermediate Pressure System Upgrade project, approximately \$74 million of project procurement spending went to 350 local businesses between 2014 and 2019. In the development of Tilbury Phase 1A, a Tsawwassen First Nation joint venture partnership provided over \$2 million worth of civil services to the project.

FortisBC is committed to working with local governments, Indigenous nations, and other organizations across the Province to support their efforts in moving towards a low-carbon future. FortisBC's Climate Action Partners program offers resources to help local governments, Indigenous nations, and other organizations achieve their climate action goals, through FortisBC's low-carbon and renewable energy solutions for buildings, transportation, and industry (FortisBC 2021b).

The relationships that are built with the community and Indigenous partners are helping FortisBC and the communities we serve innovate for zero and low carbon energy solutions now and in the future.

1.1.2.4 Existing Natural Gas Operations

FortisBC provides more than 95 percent of the natural gas energy delivered to customers in B.C. The company owns and operates a number of natural gas assets through which it has developed the capability to construct and operate the proposed Project, while meeting accepted industry practices and legislation for safety and environmental protection. In addition to the Tilbury LNG facility these assets include the Mt. Hayes LNG facility, the Aitken Creek underground natural gas storage facility, and a growing network of CNG and LNG fuelling stations.

The Tilbury LNG facility has been safely producing LNG since 1971, and the Mt. Hayes LNG Facility has been operating since 2011. These facilities have a demonstrated record of safely storing, producing and dispensing LNG. This record is attributed to the high safety performance of FortisBC employees as well as special features designed for the safe production and handling of LNG that include active monitoring, control, and alarm systems.

The Mt. Hayes facility is a 70,000 m³ (1.7 PJ) LNG storage facility located 6 km northwest of Ladysmith on Vancouver Island. The facility provides important security of supply to the Vancouver Island Transmission System. The Mt. Hayes facility is operated by FortisBC and is owned by Mt. Hayes Limited Partnership with FortisBC and local Indigenous nations, Cowichan Tribes, and Stz'uminus First Nation. This partnership has been in place since 2012 and demonstrates the company's commitment to and mutual benefits of working together with Indigenous nations.

FortisBC acquired the Aitken Creek underground natural gas storage facility near Fort St. John in 2016. It is the only underground gas storage facility in the Province and is an integral part of the natural gas transmission system in Western Canada. The Aitken Creek facility has a working gas capacity of approximately 85 PJ (77 billion cubic feet [BCF]) and can provide storage to third-parties (FortisBC 2016).

Detailed Project Description

FortisBC also owns and operates a network of CNG and LNG fuelling stations. Fuelling with natural gas is a cost-effective way for B.C. customers to reduce emissions from commercial vehicle fleets. The company has been safely providing natural gas as a cost-effective, lower-carbon transportation fuel for over a decade.

The proposed Project will benefit from FortisBC's extensive experience in successfully developing and completing large infrastructure projects throughout B.C. These include the Southern Crossing Natural Gas Project, system reinforcements on the Coastal Transmission System, and the Whistler pipeline. The company also has recent experience constructing and commissioning two LNG facilities: Mt. Hayes and Tilbury Phase 1A. This experience has given the company broad understanding of the issues that may go with building and operating LNG facilities at the proposed Project Site.

1.1.2.5 The Tilbury LNG Facility

The Tilbury LNG facility has been providing natural gas storage services to customers safely and reliably for 50 years. It contributes to security of supply, reliability, and operational flexibility for FortisBC's natural gas customers. The Tilbury LNG facility plays a vital role in the resilience of the natural gas system in B.C., as demonstrated by the Guidehouse study completed in 2020:

"On a very cold day, such as one experienced Jan. 14, 2020 when temperatures in the Lower Mainland approached -10 degrees Celsius, the energy delivered can be double an average winter day and 50% higher than the coldest day in 2019. The peak hour on the gas system was equivalent to over 18,000 MW of electrical generating, transmission and distribution capacity. This is approximately 60% greater than the peak load on the electric system during the same day and 50% larger than the entire hydroelectric generating capacity owned by BC Hydro (11,900 MW)."

FortisBC has continued to make investments in the Tilbury facility with the goal of continuing to provide safe and reliable service to its customers. Table 1-2 summarizes the Tilbury Existing and Phase 1 Facilities.

Table 1-2. Tilbury Existing and Phase 1 Facilities

Phase / Expansion	Description	In-Service Date	Size	Owner	Key Regulator
Tilbury Base Plant (existing)	Original LNG facility	1971	Tank: 28,000 m ³ (0.69 PJ) LNG: 60 t/d	FEI	BCUC/B.C. OGC
Tilbury 1A (existing)	Storage tank, load-out facilities, and liquefaction	2018	Tank: 46,000 m ³ (1.1 PJ) LNG: 700 t/d	FEI	BCUC/B.C. OGC/ Metro Vancouver (emissions)
Tilbury 1B ^a (planned)	Incremental liquefaction, and gas send-out facilities.	2024 - 2025	LNG: up to 2,000 t/d	FEI	BCUC/B.C. OGC/ Metro Vancouver (emissions)
Tilbury 1B - Power line (planned)	Additional power supply from BC Hydro's Arnott substation to Tilbury LNG facility	2023 - 2024	6 km of 230 kV power line	TBD	BCUC (utility service)
CTS Tilbury Gate Station gas transmission expansion (planned)	Upgrade to gas transmission facilities between Tilbury Gate Station and Tilbury LNG facility	2023 - 2024	1 to 3 km, 30-inch natural gas transmission pipe	FEI	BCUC/B.C. OGC

Notes:

^a If required, upgrades will be made to the existing earth jetty.

B.C. OGC = British Columbia Oil and Gas Commission

CTS = Coastal Transmission System

kV = kilovolt(s)

TBD = to be determined (discussions ongoing with BC Hydro)

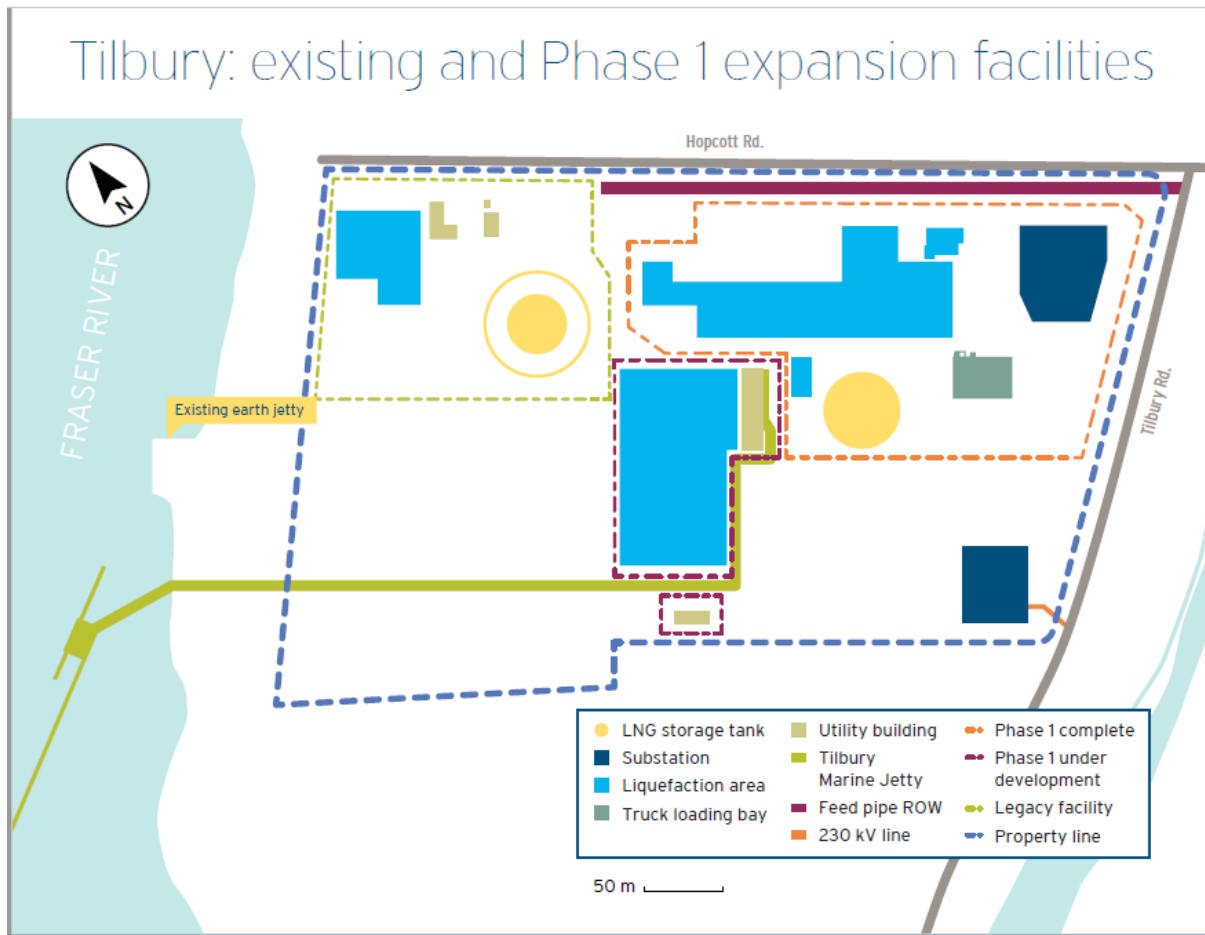


Figure 1-3. Existing and Phase 1 Facilities

Source: FortisBC

1.1.2.6 Existing Permits

The Tilbury LNG facility has an extensive list of existing permits for the operation. A brief list of key permits by regulatory agency is as follows:

- BC Hydro – Joint Operating Order (Plant and Substation); Electric Service Connections
- B.C. OGC – Facility and Pipeline permits
- Delta – Building Permit; Hydrant Permit; Occupancy Permit
- Metro Vancouver – Air Quality Management Bylaw Permit
- B.C. Ministry of Forests, Lands, Natural Resource Operations and Rural Development (B.C. MFLNRORD) - Heritage Inspection Permit (HIP) Amendment
- Technical Safety BC – Various
- WorkSafe BC – Notice of Project

Base Plant

The Base Plant facility was constructed to serve as a storage and peak shaving facility for the benefit of natural gas utility customers in B.C. A peak shaving facility allows for uninterrupted supply to customers under peak demand (winter) conditions or during periods of gas supply disruption by re-gasifying the stored LNG and injecting it back into the local supply grid. The Base Plant facility has LNG production of approximately 60 t/d and LNG storage capacity of 28,000 m³ (0.69 PJ). In addition to the liquefier and storage tank, the Base Plant facilities also include LNG regasification equipment for returning liquid to gas, interconnects (gas feed and send-out), liquefaction refrigerant storage, and truck loading of bulk LNG.

As a component of the Tilbury LNG Expansion project, FortisBC has made application to the BCUC seeking authorization to decommission and demolish the Base Plant. These activities will be considered and coordinated with all other activities at the Tilbury LNG facility including operation of and planned expansions of the Phase 1 LNG facilities and construction of the proposed Project.

Expansion activities at Tilbury are described as follows.

Phase 1

FortisBC began construction of its Tilbury Phase 1 Expansion in 2014, after the B.C. government through B.C. Order-in-Council (OIC) (O.C. 557/2013) issued Direction No. 5 (D5) to the BCUC under the *Utilities Commission Act*. The facilities that make up the Tilbury Phase 1 Expansion included in D5 through the initial and subsequent OICs comprise:

- Phase 1A facilities: additional LNG production, storage tank, and truck loading facilities.
- Phase 1B facilities: additional LNG production and distribution but does not include LNG storage. Additionally, the OIC provided FortisBC approval to upgrade various components of the CTS. The majority of this work has been completed; however, the following project component is still outstanding.
- Upgrade of an approximately 1 to 3 km line between Tilbury Gate Station and Tilbury LNG facility (CTS Tilbury gas line upgrade). The CTS Tilbury gas line upgrade is a project to expand the transmission facilities at and between the Tilbury Gate Station and the Tilbury LNG facility. The CTS Tilbury gas line upgrade is not part of the proposed Project and will be completed as part of upgrades separately authorized by D5.
- None of the Tilbury Phase 1 Expansion facilities, either on their own or collectively, trigger an EA or Impact Assessment (IA) under either Provincial or Federal legislation.

Existing plant modifications and Phase 1B expansions are subject to ongoing regulatory oversight and public and Indigenous nation consultation requirements as required by the BCUC, B.C. OGC, and various other permitting agencies. The Tilbury LNG facility is subject to the Federal, Provincial, and local government standards, codes, and safety regulations that apply to industrial sites. These regulations help ensure the health, safety, and security of the public and environment are protected.

The Canadian Standards Association (CSA) has a standard (CSA Z276) for LNG production, storage, and handling to ensure the safe design and operation of LNG facilities in Canada. The B.C. OGC is the Provincial regulator who issues LNG facility permits and ensures the CSA and other applicable codes and standards are met from design and throughout the operating life of the Tilbury LNG facility. B.C. OGC public and Indigenous nation consultation and notification requirements are described in the *Consultation and Notification Regulation* under the B.C. *Oil and Gas Activities Act* (B.C. OGAA) and the Oil and Gas Activity Application Manual (B.C. OGC 2019).

FortisBC has continued to engage with potentially affected landowners, rights holders (such as, lease or licence holders), and Indigenous nations throughout the life of the Tilbury LNG facility. Prior to submitting an application to the B.C. OGC, FortisBC is required to formally notify these groups. Stakeholders and Indigenous nations have an opportunity to provide written responses to any proposed B.C. OGC application. FortisBC is required to address all written responses before the B.C. OGC will accept an application. An application will include a record of all responses from stakeholders and Indigenous nations and details about how responses were addressed. In addition, anyone with an interest or concern about the proposed activity or its proposed location can make a written submission to the B.C. OGC at any time during the application process. FortisBC has developed working relationships with many of these groups over a span of several years through engagement about and consultation on a variety of regulatory processes as well as the Tilbury LNG operations activities. More recently, FortisBC has also been proactively engaging and notifying these groups with respect to this proposed Project.

Phase 1A

Phase 1A was substantially constructed between 2014 and 2018 and the facility, including natural gas liquefaction, LNG storage and truck loading, has been in operation since 2018. Two additional truck loading bays are planned to be operational by the end of 2022 to complete construction of Phase 1A.

The recently completed LNG facility at Tilbury is one of a few LNG facilities in the world that uses electric drive technology to power the compression needed for natural gas liquefaction. Safety is the top priority at the facility and is maintained by the high safety performance of employees and applicable codes and standards during the design and operation of the facility. LNG facilities are subject to the Federal, Provincial, and local government standards, codes, and safety regulations that apply to industrial sites. These regulations help ensure the health, safety, and security of the Canadian public and environment are protected.

The Phase 1A facility includes a number of safety measures to prevent and manage emergencies. This includes complete on-site fire control and response systems independent of the fire department. There are procedures in place to prevent and manage accidents and malfunctions such as spills, leaks, and vapour clouds and the facility has the capability to shut down automatically during an emergency. The facility is monitored continuously by highly trained site personnel who have been producing LNG for decades. FortisBC also conducts regular emergency exercises and training with first responders to coordinate response in the unlikely event of an emergency.

As part of the Phase 1A expansion, ground improvements were completed to reduce the risk to the facility during a seismic event. These seismic stabilization upgrades are based on site-specific geotechnical investigations, conducted by geotechnical engineers with extensive Lower Mainland experience. These upgrades meet or exceed B.C. Building Code standards.

Flooding has also been considered as part of the site design. As part of the Phase 1A work, FortisBC upgraded the existing dike along the Fraser and the facility was built at a higher elevation. This flood protection infrastructure was designed to meet or exceed the seismic provisions of the B.C. Building Code so that the flood protection infrastructure remains functional after a seismic event.

There are no power generation facilities on-site other than back-up power for emergency systems. Power is provided from the BC Hydro transmission grid via BC Hydro's Arnott Substation.

Phase 1B

Phase 1B facilities are in design and engineering stages with an in-service-date planned for 2024 to 2025. Phase 1B facilities include natural gas liquefaction of up to 2,000 t/d bringing the total facility liquefaction capacity to a maximum of 2,760 t/d (Base Plant plus both Phase 1A and 1B). Phase 1B liquefaction would be connected to the existing Phase 1A tank. Phase 1B liquefaction would use electric drive technology for the compression needed for natural gas liquefaction in order to minimize emissions. Common alternatives to using electrically powered drives are gas- or diesel-powered drives that emit significantly more GHGs and other air contaminants such as particulates, nitrous oxides, and sulphur oxides per unit of LNG produced.

Additional upgrades to the power supply will be needed for Phase 1B including construction of an approximately 6 km, 230 kV power line from the BC Hydro Arnott substation.

Figure 1-3 shows the existing Tilbury and Phase 1B expansion facilities. Table 1-2 provides a summary of the existing Tilbury facilities and Phase 1 expansion facilities, including their capacity, in-service date, ownership, and key regulators. A description of the proposed Project (Phase 2) is provided in Section 2.

Related Activities

The activities required to maintain base gas system resilience operations which may be undertaken concurrent with Phase 1B and later developments include but are not limited to construction and commissioning of regasification facilities.

1.1.2.7 Tilbury Marine Jetty

The EAC Application for the Tilbury Marine Jetty project is currently being reviewed under a separate EA process. The proponent, Tilbury Jetty Limited Partnership (TJLP) a FortisBC affiliate, is proposing to construct a marine jetty next to the proposed Project Site to facilitate the supply of LNG to the marine transportation sector and for global markets. The Tilbury Marine Jetty project has been undergoing a combined Federal and Provincial EA since 2015, under a substituted Provincial process that is led by the B.C. EAO. The Tilbury Marine Jetty project EA includes assessments for shipping and loading activities that considers the Phase 1 and proposed Project LNG production capacities. The assessment has accounted for any potential impact of vessel traffic capable of carrying up to 3.5 million tonnes per year (MTPA) of LNG processed by the Tilbury facility.

An existing earth jetty adjacent to the FortisBC Tilbury sites (Figures 1-2, 2-1, and 3-1) will be upgraded as part of the Tilbury Marine Jetty project and may be upgraded for the Phase 1 expansion. Table 1-3 summarizes the activities for the MOF during the Tilbury Marine Jetty project and the proposed Project. FortisBC is proposing to utilize the upgraded earth jetty, or MOF, to import modules and other pre-fabricated materials needed for the proposed Project. The MOF may require upgrades to meet the needs of the proposed Project, which will be determined as engineering design of the proposed Project facilities continue. The following MOF upgrade scope have been included in the event that upgrades are necessary are as follows in Table 1-3.

Table 1-3. Material Offloading Components Included in the Tilbury Phase 2 LNG Expansion Project

Material Offloading Facility	Environmental Assessment Scope	
	Tilbury Marine Jetty	Tilbury Phase 2 LNG Expansion Project Possible Activities
Capital dredging (not maintenance)	✓	N/A
Riverbed Densification/Ground Improvement	✓	✓
Piling	✓	✓
Shoreline armour (rip rap/stabilization)	✓	✓
Grading (upland)	✓	✓
Dike crossing	✓	N/A
Deck expansion	N/A	✓
Upland works (outside of the riparian area)	✓	✓
Demolition of existing construction dock (inc. deck and piles)	N/A	✓
Scour protection on riverbed	✓	N/A

2. Project Overview

An LNG storage facility works by removing any impurities from the feed gas leaving predominantly methane. The scrubbed feed gas is then cooled using heat exchangers to approximately -160 degrees centigrade, which reduces the volume by 600 times, making it a more energy dense liquid known as LNG. LNG can be safely stored in large volumes at atmospheric pressure. When gas is needed by customers, the LNG is re-gasified by heating the LNG, odourant is added back into the gas for safety, and the gas is recompressed and added into the distribution system.

The Tilbury Phase 2 LNG Expansion Project comprises an expansion beyond the existing Phase 1 facilities of a new LNG storage tank with a working volume of 142,400 m³ (3.5 PJ) (Storage Tank) and up to 7,700 t/d of LNG liquefaction (Liquefaction Capacity). The Storage Tank is needed to provide security of public utility service and resilience against possible interruptions of natural gas supply to the region and support future demand. The Liquefaction Capacity will be built in phases of one or more 'liquefaction trains' to meet market demand. The proposed Project, also referred to as Tilbury Phase 2, is detailed in Table 2-1.

The proposed Project storage tank and liquefaction capacity trigger a review under Provincial (the *Reviewable Projects Regulation*) and Federal (IAA – *Physical Activities Regulations*) legislation. The Storage Tank is also subject to approval from the BCUC and is the subject of a CPCN application that was filed with the BCUC in December 2020.

Detailed engineering for the proposed Project is expected to begin in 2022. The tank installation will be a priority because it is required to provide security of supply to FortisBC's natural gas customers including homes, businesses, schools, hospitals, government operations, transportation customers, and industries.

Table 2-1. Proposed Tilbury Phase 2 Facilities

Component	Description	In-Service Date	Size	Key Regulator
Storage Tank	LNG storage tank	2027 or earlier	Tank: 142,400 m ³ working capacity (3.5 PJ)	B.C. EAO/IAAC threshold and capacity: 136,000 m ³
Liquefaction Capacity	LNG liquefaction trains	2028	Up to 7,700 t/d	IAAC threshold and capacity: 3,000 t/d

Note:

^a Based on energy density of 23.9 gigajoules per cubic metre of LNG

The total proposed Project Site LNG storage could be up to 216,000 m³ combining the capacity of the Storage Tank, Base Plant storage tank, and Phase 1A storage tank. The Base Plant tank was sized, designed, constructed, and commissioned 50 years ago to meet peak system demand. Should the Base Plant storage tank be removed before the Storage Tank is in operation, the total proposed Project Site LNG working storage will be up to 188,000 m³. Additionally, the liquefaction capacity of the proposed Project will increase the production of LNG at the proposed Project Site from less than 3,000 t/d to up to approximately 10,500 t/d, including Base Plant liquefaction.

Figure 2-1 shows the Phase 2 proposed Project facilities and supporting infrastructure (with existing and Phase 1 in background).

Tilbury: proposed Phase 2 expansion

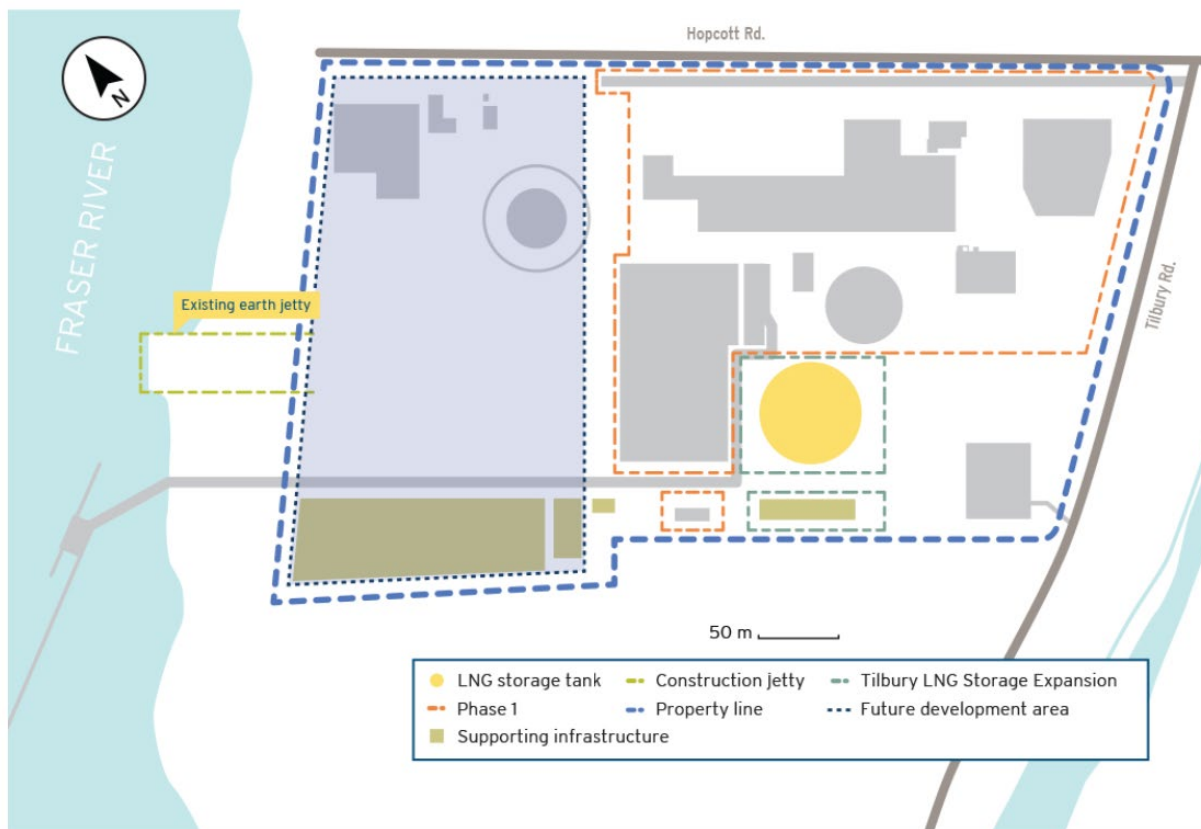


Figure 2-1. Phase 2 Project Facilities

Source: FortisBC

2.1 Project Updates and Changes

Changes made to Section 2 of the DPD from the IPD include an updated purpose description that includes proposed Project benefits, proposed Project components, infrastructure requirements, cost estimate, and schedule. It also includes a more robust analysis of alternative means of carrying out the proposed Project and alternatives to the proposed Project.

Changes to the proposed Project also include revised storage capacity and liquefaction capacity. FortisBC is making these changes for the following reasons:

- With respect to the amount of LNG storage, early engineering and planning work completed in 2020 has resulted in FortisBC being able to more accurately state the amount of LNG storage required to meet the need for enhancing the resiliency of its natural gas system.
- The maximum size of liquefaction has been reduced as a result of early-stage engineering.

2.2 Project Need and Purpose

The purpose of the Project is to increase the production and storage of LNG to meet the need for energy resilience in the Lower Mainland and to meet the need for LNG as a transportable and storable low-CI fuel.

The proposed Project is expected to have a host of benefits, including reliable energy supply, reductions in GHG and air pollution, economic and job opportunities and tax revenue. Table 2-2 provides a high-level summary of potential benefits, which are detailed throughout this DPD in several sections.

Table 2-2. Summary of Project Benefits

Resilient energy supply	Enhances the gas system's capability to withstand unforeseen events and maintain reliable service to Lower Mainland homes and businesses
Greenhouse gas emissions reductions	Could reduce emissions equivalent to removing more than 1.5 million cars off the road or 5 million tonnes of CO ₂ equivalent compared to petroleum-based fuels
Air pollution reductions	LNG can reduce emissions of PM by 99%, sulphur oxides by 99% and nitrogen oxides by 95% compared to petroleum-based fuels
Economic opportunities	About \$1.7 billion could be added to B.C.'s GDP during construction, an estimated \$700 million could be added annually during operations
Job opportunities	Construction could create more than 6,000 direct, FTE jobs and 110 FTE jobs during operations
Tax revenue	Construction could generate ~\$300 million in tax revenues for local government and ~\$280 million annually for Federal and Provincial government during operations

Notes:

CO₂ = carbon dioxide

FTE = Full-Time Equivalent

GDP = Gross Domestic Product

1. The purpose of the Project is to meet the need for energy resilience in the Lower Mainland

The Lower Mainland's reliance on various forms of energy is significant and there is a need to ensure the region's energy system is resilient. The proposed Project would meet this need for resiliency by strengthening the resilience of FortisBC's Lower Mainland gas system. Resiliency refers to the ability to prevent, withstand and recover from system failures or unforeseen events. Resiliency also encompasses concepts such as preparing for, operating through, and recovering from significant disruptions, no matter the cause.

The LNG storage tank, one of the components of the proposed Project, is an investment in resilience. That is, it will significantly improve the ability to maintain continuity of service in the event of a disruption in the upstream supply of natural gas to FortisBC's Lower Mainland system. This risk manifested in 2018 when a pipeline ruptured on the Westcoast Energy Inc. T-South System. This rupture led to a supply disruption and threatened FortisBC's ability to maintain service to its Lower Mainland gas customers – underscoring the importance of accelerating investments in system resilience. FortisBC has submitted an application to the BCUC for a CPCN for the LNG storage tank.

The consequences of insufficient system resilience can be severe in terms of cost to customers and socio-economic impacts to society generally. The 2018 disruption resulted in a 2-day "no-flow" period where gas from T-South was totally interrupted. After the incident, supply to FortisBC's system from T-South remained constrained for approximately 14 months.

The experience informed FortisBC of the need to expand its Tilbury facility to help maintain continuity of service and to avoid widespread and lengthy service outages in the event that the supply of natural gas is disrupted. The purpose of the proposed Project is to strengthen resiliency by providing immediate back-up gas supply to FortisBC customers, primarily in the Lower Mainland, in the event of a supply emergency (BCUC 2021).

2. The purpose of the Project is to meet the need of the market for LNG as a low-carbon intensity fuel

There is a need for LNG as a transportable and storable low-carbon intensity fuel. FortisBC produces LNG with some of the lowest CI in the world. Its Tilbury LNG facility is located near one of the busiest ports in North America on an international shipping route on the west coast that is closer to key markets than industry competitors. The purpose of the proposed Project is to meet anticipated demand from regional and international customers interested in LNG from Tilbury due to the site's proximity to key markets and the low CI of its LNG.

The domestic and global LNG market is evolving, and demand is expected to grow over the longer term. FortisBC is responding to this market opportunity by developing its Tilbury facility to efficiently serve a variety of end users, including marine vessels or customers in the global market looking for alternatives to higher-carbon fuels. Additional liquefaction capacity would be built at Tilbury as this market demand is realized.

Increasingly, customers are looking for LNG with the lowest CI. Customers can achieve greater reductions in their carbon footprint by using LNG from Tilbury, than by using global average LNG. The proposed Project Site is connected to the BC Hydro grid, which currently makes LNG from Tilbury up to 30 percent less carbon intense than a global average facility³. Under the CleanBC Plan, the CI of LNG from Tilbury could be lowered further to 50 percent below a global average LNG facility by 2030.

Based on preliminary estimates the avoided GHG emissions as a result of utilizing LNG from Tilbury are approximately 5 million tonnes of carbon dioxide equivalent (CO₂e) annually. This reduction is equivalent to removing approximately 1.5 million cars off the road.

The need for LNG as a low-carbon intensity fuel has two main market drivers that are further detailed below:

- The need to establish an LNG marine fuelling hub on Canada's west coast
- The need for lower-carbon intensity LNG from Canada in the global market

The capacity and construction sequence of the liquefaction facility is dependant upon the LNG market. There is some commercial uncertainty, but the current anticipated in-service date is 2028.

2.1. The Project would meet Canada's need for a west coast LNG marine fuelling hub

One of the purposes of the proposed Project is to meet the need for a west coast LNG marine fuelling hub by providing LNG for the marine transportation market. Ship owners are increasingly moving to LNG-powered ships in order to meet stringent International Maritime Organization (IMO) sulphur emission regulations that came into force in 2020. Until recently, almost all ships were fuelled by heavy oil or marine diesel oil, which emit high amounts of sulphur and nitrogen oxide compared to cleaner burning LNG.

³ FortisBC. 2021. Tilbury LNG exports can reduce lifecycle GHGs in China: study. Available: <https://talkingenergy.ca/topic/tilbury-lng-exports-can-reduce-lifecycle-ghgs-china-study>. Accessed February 2021.

Global marine shipping is overseen by the IMO, a specialized agency of the United Nations, which has established ambitious requirements to mitigate the environmental impact of international marine shipping. In January 2020, the IMO's convention on the sulphur content of fuels used by all international marine vessels came into force. The new limit requires that all fuels have no more than 0.5 percent sulphur content down from the previous 3.5 percent sulphur content requirement. In practical terms, this means that shippers must switch from using heavy sulphur fuel oils or marine diesel oil to one of the following alternatives:

- Low-sulphur fuel oil;
- LNG; or
- Equipping ship exhaust systems with 'scrubbers' to reduce emissions.

The 2020 sulphur cap will bring significant environmental and human health benefits. The IMO states that premature deaths, stroke, asthma, lung cancer, cardiovascular and pulmonary disease will all be reduced (IMO 2020a).

International shipping is also a significant source of global GHG emissions. An IMO GHG Study estimated that international shipping emitted 796 mt of CO₂ in 2012, accounting for about 2.2 percent of the total global anthropogenic CO₂ emissions for that year, and that emissions from international shipping could grow between 50 percent and 250 percent by 2050 mainly due to the growth of the world maritime trade (IMO 2020b).

The IMO has adopted an initial strategy to reduce international shipping CO₂e emissions by at least 40 percent by 2030 and 70 percent by 2050.

As a relatively low CO₂e (and overall GHG) intensive fuel source, these regulations and guidelines position LNG fuel as one of the potential contributors to achieving IMO's long-term emissions reduction targets and as a key factor in supporting a global transition to a cleaner international shipping sector.

Supported by the IMO's long-term emissions reductions targets, a global transition towards low-sulphur, low-carbon fuels is now underway in the marine sector. B.C. is globally recognized for its climate policies, natural gas resource base, and is ideally positioned to support this transition. This presents an opportunity for FortisBC to provide shippers with lower CI B.C. LNG to ensure compliance with the IMO sulphur reduction regulations now in effect and achieve significant GHG reductions in line with the IMO's long-term goals. FortisBC's vision is that Vancouver will become the west coast port of call for LNG refuelling with low-carbon Tilbury LNG. This vision is aligned with both Provincial and Federal goals to support quality economic development while honouring our environmental commitments.

The global consulting firm Thinkstep (now Sphera) was co-commissioned by FortisBC and the Vancouver Fraser Port Authority to help analyze, quantify, and understand the full lifecycle GHG emissions of LNG supply produced in B.C. and specifically at FortisBC's Tilbury facility. The analysis was completed on a well-to-wake view, which also incorporated the marine vessel engine technology that is typically used in trans-Pacific marine vessels (that is, highest consuming marine vessels).

The firm also conducted a lifecycle analysis of GHG emissions for LNG that is produced in 2030, which incorporates the CleanBC Plan initiatives of reduced methane emissions and increased electrification of B.C.'s upstream oil and gas production.

Figure 2-2 summarizes the conclusions. It shows the average CI of LNG supply based on a global average, the CI of LNG produced in B.C. today at FortisBC's Tilbury facility, and finally shows the CI of LNG produced in B.C. at FortisBC's Tilbury facility once the CleanBC Plan initiatives have been implemented in 2030.

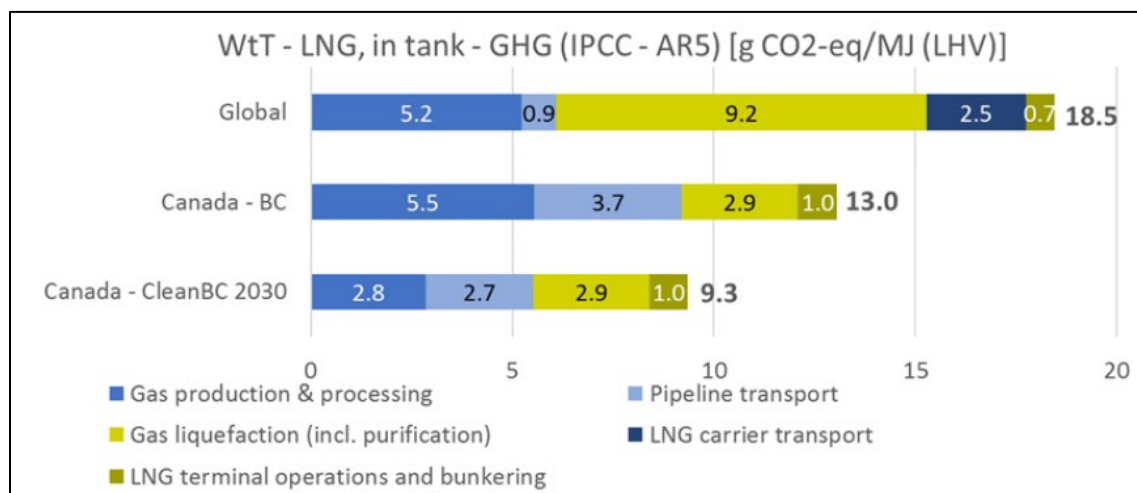


Figure 2-2. Lifecycle Greenhouse Gas Emissions from Tilbury LNG Supply

Source: FortisBC

In summary, LNG produced in B.C. is about 30 percent less carbon-intensive than LNG produced around the world on average. This is primarily due to Tilbury being an electric-powered LNG facility and the high proportion of renewable electricity available in B.C. With the CleanBC Plan initiatives implemented by 2030, the CI of LNG produced in B.C. in 2030 is about 50 percent lower than the current global LNG supply average.

With the IMO currently examining implementation of a regulation lowering GHG emissions from the marine sector in 2050 to 50 percent below 2008 levels, the low CI of Tilbury's LNG supply gives early adopters a further advantage of meeting this IMO guidance once implemented. This advantage gets even greater post-2030 with increased electrification of B.C.'s oil and gas sector.

Positioning Vancouver as an LNG marine bunkering hub would also contribute to the B.C. economy. The global LNG bunkering market is predicted to grow to about \$10.2 billion in annual revenue in the next 5 years. Availability, price, quality, and infrastructure are all critical to creating a cleaner fuelling hub that will allow additional coastal vessels and trans-Pacific shipping companies to commit to securing new vessels powered by LNG instead of bunker or diesel oil. The need for additional and secure supply of LNG is critical for this industry transition. FortisBC will support the development of an LNG bunkering hub in Vancouver with its investment in Phase 1B liquefaction and the Tilbury Marine Jetty, both of which are described above and separate from the proposed Project. The Liquefaction Capacity can greatly enhance FortisBC's ability to serve this market in the future as it continues to grow. The proposed Project could provide incremental supply to help meet future growth in the LNG bunkering market.

2.2. The Project would meet the need for lower-CI LNG from Canada in the global market

One of the purposes of the proposed Project is to meet the need for increased supply of lower-CI LNG to global markets. LNG from Tilbury would contribute to a reduction in global GHG emissions in countries transitioning from coal and other carbon-intensive sources of energy in pursuit of a net zero future. The need to decrease the rate at which GHGs are accumulating in the atmosphere is a global issue, and one which Canada is well positioned to address as a source of low carbon energy resources for global markets to displace more carbon-intensive energy sources.

The global natural gas market was affected by the COVID-19 pandemic, however, the International Energy Agency (IEA 2020) forecasts that demand will recover with the Asia Pacific region accounting for nearly half of incremental global natural gas consumption on the coming years.

China is the largest of the Asian energy markets and is just one example of how LNG consumption in Asia is increasing. It is expected to overtake Japan as the world's largest LNG market over the next 5 years. Based on government policy changes in China, LNG is expected to become an increasingly important fuel as the country decreases reliance on coal to meet GHG reduction targets. Further to GHG emissions reductions targets, China's natural gas demand has soared to reduce air pollution. Natural gas has significantly lower particulate, nitrous, and sulphur oxide emissions than coal, reducing smog, and human health effects.

The International Energy Agency Sustainable Development Scenario outlines that LNG will have an important role as China drives to make significant GHG reductions. Under this scenario, natural gas demand in China could increase by 60 percent between now and 2040 as China reduces its GHG emissions by close to 60 percent over the same period. Almost all incremental gas demand in China in this scenario is supplied with LNG. Demand from other larger Asian economies such as India and Indonesia is expected to grow as government policies support the growth of natural gas in the energy mix.

To support countries' commitments to becoming net zero, low CI LNG has an important role to play. In this context net zero is the simultaneous reduction in GHG emissions and increase in carbon offsetting, such as atmospheric carbon capture. Some of the more energy intensive activities will still require carbon fuels to operate; while not a net zero fuel source itself, LNG is an important transition fuel to net zero. Net zero strategies require immediate and steep reductions in GHGs and waiting for net zero technologies to be feasible to be implemented at scale would create large volumes of emissions in the interim.

FortisBC has a proven record as a leader in the Canadian LNG export market. In 2017, FortisBC produced LNG for the first shipment of LNG from Canada to China and in 2019 signed a term supply agreement, the first of its kind to ship LNG from Canada regularly to Asia (FortisBC 2018). These LNG shipments have been shown to contribute to emissions reductions in these markets. FortisBC produces LNG for Top Speed Energy, a firm that distributes LNG to customers in China's Shandong province. Top Speed's customers include pipeline gas delivery companies and industrial users which use LNG from Tilbury primarily for industrial processes and building heating to displace coal, the incumbent heating fuel. The remaining LNG is used for freight trucking where diesel is being displaced. In both use cases, LNG is being used to satisfy Chinese policy directives to improve air quality and reduce CI.

To analyze the environmental benefits of these LNG shipments, FortisBC commissioned an academic analysis from the University of Calgary that explored the benefits of reducing global GHG emissions by providing LNG produced at Tilbury to global markets such as industrial consumers in Asia (FortisBC 2019). The study found that LNG from Tilbury reduces lifecycle GHG emissions for Asian industrial users by 30 percent to 50 percent. In essence, for every tonne of emissions in producing LNG in B.C., up to 2 tonnes of GHGs are reduced in Asia, resulting in a net GHG reduction.

Additionally, the study found that using LNG from Tilbury results in greater GHG emissions reduction than using LNG from B.C.'s benchmark competitor, the United States (U.S.) Gulf Coast. B.C. is closer to Asian markets that represent the largest demand, has a much cleaner electricity grid, a colder climate that makes liquefaction more efficient because less energy is needed to liquefy the feed gas, and has natural gas reserves with lower carbon content and lower fugitive emissions. Consequently, the CI of LNG produced at Tilbury is approximately half of the CI of LNG produced at an average facility on the U.S. Gulf Coast.

On a lifecycle basis (well-to-burner tip), LNG from Tilbury would achieve 25 percent more GHG emissions reductions than using LNG from the U.S. Gulf Coast in Asian industry. This gap is predicted to increase by 2030 given the Provincial and Federal government carbon regulations to drive further improvements in the CI of B.C.'s LNG supply.

LNG from Tilbury has a lower CI than the average global LNG sources currently, largely due to the use of clean electricity for liquefaction and purification processes. This gap is expected to increase by 2030 given the Provincial and Federal government carbon regulations. Figure 2-3 shows the combined GHG emissions for LNG produced in B.C. and the global average when transported to China. In summary, Tilbury LNG is produced with one of the lowest CIs in the world and the proposed Project will facilitate a reduction in global GHG emissions.

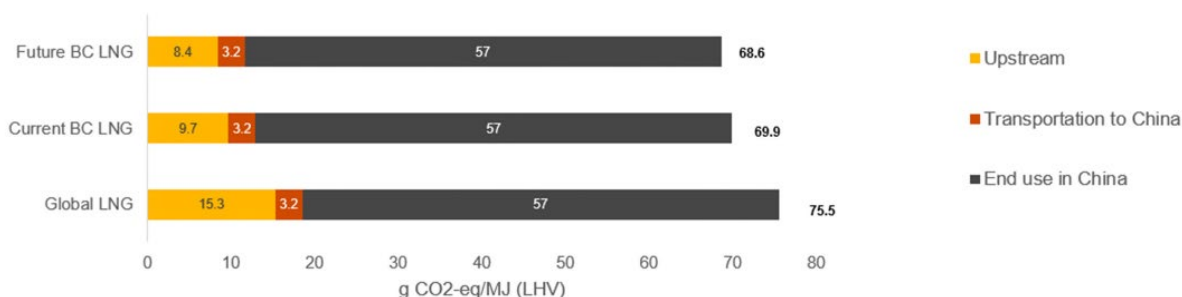


Figure 2-3. Combined Greenhouse Gas Emissions for LNG Production

Source: Sphera. 2020b. *Life Cycle GHG Emissions of the LNG Supply at the Port of Vancouver, FortisBC's own data and Nie et al. 2020*

2.3 Project Components

Table 2-3 provides a description of the components for the construction and operation phases of the proposed Project. Laydown and storage areas will be located either within the proposed Project Site or on previously disturbed areas such as adjacent industrial sites. Shipping of equipment modules will occur along the Fraser River using established shipping lanes and following the requirements of the applicable authorities including Transport Canada. Further details will be provided in the proposed Project Application based on detailed proposed Project planning. Figure 2-4 is an artistic rendering of the proposed Project facilities and supporting infrastructure.

Table 2-3. Project Components

Project Component	Description of Component
Temporary Construction Components	
MOF	<ul style="list-style-type: none"> Material offloading of pre-fabricated equipment modules will be required with access from the Fraser River. An existing earth jetty (Figures 1-3, 2-1, and 3-2) that will be upgraded as part of the Tilbury Marine Jetty project and possibly for Phase 1 projects may require additional upgrades to accommodate barge unloading of proposed Project equipment modules during construction. The possible additional upgrades are expected to focus on the topside of the jetty and upland areas, which may include improve grading and load bearing and dike upgrades. At the time of writing, design features and construction activities have not been specified for the MOF. The proposed upgrades could include the topside of the jetty and upland areas, which may include improving grading, load bearing, and dike upgrades as well as new in-water structures (such as, piles) may be part of the design. The design will include mitigation to reduce effects to the surrounding aquatic systems. The upgrades may be maintained after completion of the proposed Project for future use.

Table 2-3. Project Components

Project Component	Description of Component
Construction Materials Delivery	<ul style="list-style-type: none"> In addition to the larger equipment module delivery by river, existing roadways and proposed Project Site access points will also be used.
Construction Laydown and Staging	<ul style="list-style-type: none"> In addition to FortisBC's property, additional off-site laydown and storage space will be required especially during later/overlapping construction phases. Local and preferred options will be identified, assessed, and determined based on the specific requirements.
Construction Infrastructure/Service	<ul style="list-style-type: none"> Temporary offices, first aid, and security will be required for construction activities. Existing proposed Project Site service will be used (such as, power or water) where remote power/lighting is required portable generator systems or temporary construction power will be used. Power is provided from BC Hydro's Arnott Substation. Additional upgrades to the power supply are anticipated for Phase 1B including an approximately 6 km, 230 kV power line from the BC Hydro Arnott substation. This upgrade will consider the proposed Project needs such that further upgrades can be minimized or avoided to reduce costs, disturbance, and impacts.
Water Management and Hydro-Testing	<ul style="list-style-type: none"> Hydro-testing of the LNG tank and certain piping systems will be required. This will involve a large volume of water and discharging of the water. Given the volumes, river water may be utilized which will require filtration/treatment both before using for hydro-testing (to prevent contamination) and post-use to allow returning to the river in a state acceptable to the receiving environment. The source and discharge location for water will be confirmed following additional detailed design and will be presented in the proposed Project Application. In addition, rainwater management systems will be required for the proposed Project Site during construction.
Ground Preparation	<ul style="list-style-type: none"> Components of the LNG storage tank include ground improvements, foundations.
Operation Components	
LNG Storage	<ul style="list-style-type: none"> One new full containment storage tank with up to 142,400 m³ (3.5 PJ) of working storage. Components of the LNG storage tank include, double wall (full containment) construction, LNG pumps, boil-off gas management system including gas compressors, insulated piping, access stairways, lighting, instrumentation, controls, and safety systems.
Natural Gas Receiving	<ul style="list-style-type: none"> Existing FortisBC gas lines and right-of-way will be used to bring natural gas to the proposed Project Site. Additional metering/distribution and control equipment will be needed at the proposed Project Site to distribute gas to specific liquefaction operating units.
Natural Gas Processing and Liquefaction	<ul style="list-style-type: none"> Expected to be built in trains/phases depending on market demand for a total installed capacity of up to 7,700 t/d. From the metering/distribution and control equipment natural gas will enter gas pre-treatment to remove components in the natural gas not compatible with the cryogenic liquefaction process. Pre-treatment includes filtration, separators, compression, and adsorption processes. Combustion of waste streams with energy recovery to provide thermal regeneration of certain pre-treatment processes including continuous thermal oxidation and periodic combustion (flare) of vent/relief gases. Electric drive refrigerant compressors and air cooling used in the liquefaction process. Refrigerant unloading, storage, and makeup system. Instrument air and nitrogen generator systems, firewater system, control and safety system electronics, storm and wastewater handling systems, potable, and de-mineralized water systems. LNG transfer and boil-off gas management systems. Fire, safety, security emergency response, and protection systems designed to meet or exceed applicable standards.
Supporting Infrastructure	<p>The following facilities will be permanently installed for the lifecycle of the proposed Project and will support the safe operation of the facility:</p> <ul style="list-style-type: none"> Proposed Project Site administration, control room(s), site grading, roadways, lighting, security, and safety facilities. Liquid hydrocarbon (HC)/chemical storage and handling facilities (including truck loading). Connection to BC Hydro or FortisBC power systems. Additions to potable water, firewater, wastewater, and storm water systems from existing proposed Project Site systems.



Figure 2-4. Phase 2 Project Facilities Artistic Rendering

Source: Jacobs Consultancy Canada Inc.

Table 2-4 summarizes the assets, status and working capacity of the LNG Storage and Table 2-5 summarizes the liquefaction capacity on-site.

Table 2-4. Summary of Liquified Natural Gas Storage

Asset	Status	Working Capacity (m ³)
Base Plant Tank	Existing	28,000
T1A Storage Tank	Existing	46,000
T2A Storage Tank	Proposed, in Assessment Process	142,400
Total		216,400

Table 2-5. Summary of Liquefaction Capacity On-site

Asset	Status	Capacity (t/d)
Base Plant	Existing	60
T1A Facility	Existing	700
T1B Facility	Planned	2,000
T2 Facility	Proposed, in Assessment Process	7,700
Total		10,460

2.4 Anticipated Project Cost

The current estimated cost of the proposed Project is \$3 to \$3.5 billion. This estimate covers all known construction costs including that for structures, engineering, machinery and equipment, and all professional services associated with the build. The estimated costs will be refined as design and engineering is refined. Construction activities are expected to span 3 to 6 years. Once completed, annual operating costs are anticipated to be approximately \$250 million. This figure excludes the cost of feed gas.

The expenditures associated with the proposed Project's construction and operations will have a direct, indirect, and induced effect on the local, regional, provincial, and national economies. Estimates of these effects are provided in subsection 10.5.

Decommissioning costs at the end of the facility life are estimated at \$210 million, utilizing the assumption that the land base will remain industrial.

2.5 Infrastructure Requirements

The proposed Project Site has been used for natural gas processing and storage for nearly 50 years and is located in a largely industrial setting adjacent to the Fraser River. Many of the necessary utilities and infrastructure are present or readily expandable. Access roadways are existing and recently upgraded to support trucking traffic in the area and connection to major transportation arteries including the South Fraser Perimeter Road (Highway 17).

Material offloading from the Fraser River of pre-fabricated equipment modules will be required for the proposed Project which would also include marine transportation of vessel/barges along the Fraser River. It is estimated that six to eight Project cargo vessel deliveries will be required during the construction period. The Project cargo vessel deliveries are expected to come from Sand Heads lighthouse at the mouth of the Fraser River along the shipping channel of the South Arm of the Fraser River to the proposed Project Site and will follow the requirements of applicable authorities including Transport Canada. An existing earth jetty on the Fraser River connected to the FortisBC proposed Project Site will be upgraded as part of the proposed Tilbury Marine Jetty project for construction purposes. The proposed Project may require additional upgrades to the MOF for barge unloading of equipment modules to accommodate the weight/size of proposed Project modules.

The proposed Project Site power is available (provided by BC Hydro). Additional power supply is being planned as part of the Phase 1 facilities and will also be sufficient to provide power for the proposed Project. Construction laydown and storage can be accommodated on the proposed Project Site in the early construction stages; however, nearby construction laydown and storage will be required as the proposed Project Site is built-out over time and available space becomes limited.

2.6 Project Schedule

The preliminary proposed Project Schedule is designed to allow FortisBC reasonable time to meet key proposed Project milestones, to meet resilience objectives and market opportunities, as well as to allow suitable time for engagement with public, stakeholders, and Indigenous nations. FortisBC will continue to seek feedback on the proposed Project Schedule throughout the assessment process.

The preliminary proposed Project Schedule shifted in the Early Engagement Phase due to the COVID-19 pandemic. FortisBC made two 30-day extension/suspension requests to allow all participants additional time to support their respective organizations in responding to the COVID-19 pandemic. This additional time helped facilitate meaningful engagement with the public, stakeholders, and Indigenous nations.

It allowed more time for coordinated planning of the public comment period following this extension/suspension period with the B.C. EAO and IAAC. The preliminary proposed Project Schedule has been updated based on engagement feedback to allow more time for review by Indigenous nations and B.C. EAO/IAAC Technical Advisors.

The anticipated timeline for permitting is being determined through planning and engagement with regulatory agencies, however it is expected to start in 2022 and continue through to 2025. Permits that may be applied for during the EA process could include: *Heritage Conservation Act (HCA)* permits, B.C. OGC permits, Metro Vancouver air quality management permit, and other local government permits. The preliminary schedule for the proposed Project is provided in Table 2-6.

Least risk work windows will be considered during preliminary proposed Project Schedule planning for construction near any sensitive environmental features such as fish-bearing watercourses. No other seasonal timing constraints have been identified.

Table 2-6. Preliminary Project Schedule

Task	Timing
Submitted IPD to B.C. EAO and IAAC to initiate assessment	February 27, 2020
Submit DPD to B.C. EAO	Q3 2021
Submit DPD to IAAC	Q4 2021
Readiness Decision B.C. EAO	Q4 2021
B.C. EAO issues Process Order	Q2 2022
Substitution Decision B.C. EAO and IAAC	Q4 2021/Q1 2022
Draft Application to B.C. EAO under substituted process (requested)	Q2 2022
Final Application to B.C. EAO under substituted process	Q4 2022
EAC issued	Q1/Q2 2023
Permitting (synchronous permitting for some permit applications with EA Review)	2022 to 2025
Construction of LNG Storage Tank	2025 or earlier
LNG Storage Tank In-Service	2027 or earlier
Phased Construction of LNG liquefaction facilities	2026+
LNG Liquefaction facilities In-Service	2028
Decommissioning	60+ years

Note:

Phase 1A and Phase 1B In-service dates are provided in Table 1-2. Tilbury Existing and Phase 1 Facilities and are independent of the proposed Project.

2.7 Alternatives to the Project

In addition to the Project updates and changes that have occurred since the completion of the IPD, this section summarizes the key components of the Project for which alternatives and options were reviewed. Alternatives in design and methodology were considered and evaluated for the Project components, including:

- LNG storage type
- Storage location
- Storage volume
- Liquefaction driver technology
- Cooling technology

The Tilbury Phase 2 LNG Expansion is for the dual purpose of increasing the production and storage of LNG to meet the need for energy resilience in the Lower Mainland and meeting the need for LNG as a transportable and storable low-CI fuel. A summary of alternatives to achieve this dual purpose are provided below. These alternatives consider a number of factors throughout the EA process including feedback collected through ongoing engagement, early engineering and technical feasibility, financial considerations, and potential environmental impact.

FortisBC's commitment to customers, the public and the environment includes the selection of technologies with a demonstrated history of safe and efficient operations. The technology selected during concept development meets these criteria. The alternatives screening and selection process also considered the environmental implications of the technologies and development choices, primarily air emissions.

2.7.1 Gas Utility Resilience Analysis and LNG Storage

As described in the CPCN application to the BCUC, FortisBC has determined that a new LNG storage tank located at the Tilbury LNG site is the only technically and economically feasible option to meet its objective of strengthening the resilience of its Lower Mainland gas system (BCUC 2021). Further analysis determined that a tank of 3 BCF (142,400 m³ capacity) is the most suitable size to provide resiliency and allow flexibility to meet future demand growth. The system analysis examined three key elements of system resilience: pipeline diversity, storage, and load management (Figure 2-5).

- 1) **Load management:** The ability to manage load during a supply disruption allows a utility to perform a controlled system shutdown and maintain supply to as many customers as possible. Newer technology such as advanced metering infrastructure allows a utility to respond quickly, while common options such as broad public appeals to reduce gas use or requesting that large customers switch to alternative fuel sources.
- 2) **Diverse pipelines and supply:** Pipelines can transport a significant volume of gas on a continuous basis to meet customer demand and seasonal requirements. When a distribution system such as FortisBC's has access to multiple regional pipelines it improves the utility's ability to dependably collect and distribute gas to its customers.
- 3) **Ample storage:** Access to storage within a utility's own system improves its capability to manage expected or unexpected changes in supply for a period of time. Underground storage and LNG are two common means of providing gas system storage.

The analysis identified and assessed the options available to FortisBC to ensure system resiliency to mitigate future risks of gas supply disruptions in the region, which in turn reduce the risk of significant social, economic, and public utility customer impacts.

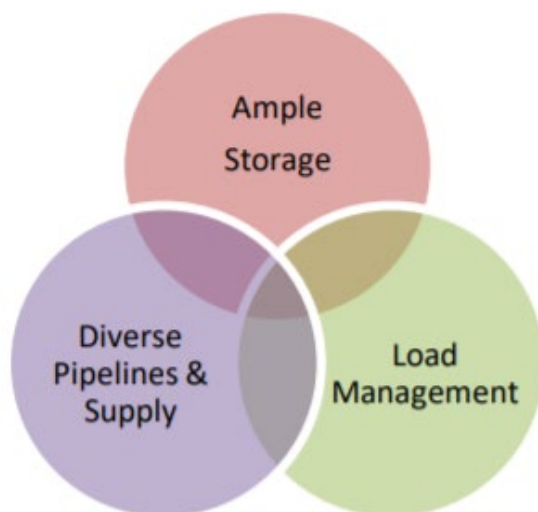


Figure 2-5. Key Elements of a Resilient Gas System

Source: FortisBC CPCN Application

The outcome of the system resilience analysis was that system resilience is best achieved through the addition of LNG storage. Load management reduces the impact and recovery time caused by outages but does not address supply limitations and would still result in widespread supply disruption. The analysis found that the diversity of pipelines is complementary, rather than a substitute for storage. Further analysis of the storage options available, it was determined that “on system” storage in proximity to the end user (that is, as far downstream from potential failure points) was the optimal solution. Table 2-7 details the system resilience alternative assessed.

Table 2-7. System Resilience Alternatives Assessed

Option	Description	Recommended	Comments
1	Load Management	Yes, but not as an alternative to ample storage	Load management complements resilience by reducing consumption when supply is constrained, but without additional supply many customers would be without service.
2	Diverse Pipelines	Yes, but not as an alternative to ample storage	Expansion of existing regional pipelines would add little resiliency for FortisBC as there would still be a single point of supply. New regional pipelines would add resiliency by diversifying supply; however, storage would still be required to ensure resiliency if there is a failure of one of the pipeline systems.
3	Ample Storage	Yes	On-system LNG storage provides additional gas close to the customer, would be downstream of failure points, with opportunity to develop on a brownfield site and limit the proposed Project Footprint.

The analysis determined achieving system resilience will require the addition of LNG storage. Other methods (such as, load management) reduce the impact and recovery time caused by outages but does not address supply limitations and would still result in widespread supply disruption.

The analysis found that the diversity of pipelines is complementary, rather than an alternative to storage. Further analysis of the storage options available determined that “on system” storage in proximity to the end user (that is, as far downstream from potential failure points as geographically possible) was the optimal solution.

2.8 Alternative Means of Carrying Out the Project

FortisBC is always looking for opportunities to help customers save energy and money, while supporting the Province's climate action goals to help ensure a cleaner, healthier tomorrow. During Early Engagement, we received feedback regarding the use of best available technologies (BATs) and emerging technologies to maximize GHG reductions and energy efficiency.

2.8.1 Storage Characteristics

Options for locating components within the footprint are limited due to the existing infrastructure and the footprint requirements for the proposed Project. Table 2-8 details the storage type and location alternatives assessed.

Table 2-8. Storage Type and Location Alternatives Assessed

Option	Description	Passed Screening	Location	Potential Effects, Risk, and Uncertainties
1	On-System Underground Storage	No	Fraser Valley	Requires a subsurface development; not feasible within the FortisBC service territory.
2	Off-System Underground Storage	No	TBD	Storage is proximally distant from Lower Mainland distribution grid and subject to regional pipeline failure.
3	On-System Aboveground Storage at New Site	No	TBD, Greenfield	Requires new property and the development of a second LNG facility in the Lower Mainland on or near existing FortisBC transmission infrastructure.
4	Base Plant Facilities + More Storage & Regasification	No	Tilbury	Retains existing infrastructure and adds additional storage and regasification capacity; connection to the FortisBC distribution grid, Base Plant would still need to be replaced.
5	Replace Base Plant Facilities with New, Larger On-System Storage and Regasification at Tilbury	Yes	Tilbury	Replaces undersized Base Plant that is reaching the end of its useful life with "right sized" efficient infrastructure; leveraging existing 1A assets and connection to the FortisBC distribution grid.

The volume of on-system storage was determined through a review of historical demand, demand forecasts and an assessment of the "minimum emergency supply" (BCUC 2021). The outcomes of this analysis are summarized in Table 2-9.

Table 2-9. Storage Volume Alternatives Assessed

Option	Description	Passed Screening	Potential Effects, Risk, and Uncertainties
1	2 BCF of Storage	No	<ul style="list-style-type: none"> Provides sufficient capacity to meet resiliency objective during a 3-day "no-flow" event, but no margin during winter conditions
2	3 BCF of Storage	Yes	<ul style="list-style-type: none"> Accommodates some future load growth on the system while still meeting the resiliency objective. Provides operational flexibility to maintain supply and undertake maintenance. More effective use of capital because of economies of scale.

FortisBC is proposing to build one larger tank in a single step expansion rather than multiple smaller storage tanks. Early engineering studies have found that a single larger tank rather than multiple smaller tanks is more efficient in terms of space usage and cost. A single larger tank allows more LNG storage within the Tilbury facility footprint (on the basis of volume proportional to diameter squared) and can be installed in fewer phases than it would take to install multiple smaller tanks.

2.8.2 Liquefaction Driver Technology

FortisBC has not completed detailed engineering design on the Liquefaction Capacity and has not finalized liquefaction capacity and configuration (such as, a single- or multi-train development). As such, an Alternative Means Assessments for the liquefaction facility or technology has not been completed for the Liquefaction Capacity. This assessment will be completed as engineering design advances and the Application is prepared.

During preliminary planning, FortisBC considered both gas-fired and electric-drive compression for the liquefaction trains, relying on five decades of operations experience with e-drive LNG facilities (Tilbury LNG and Mt. Hayes LNG). Both of these compression technologies are proven, and the lifecycle economic trade-offs of each is well understood. Our screening assessment of the alternative drivers identified electric-drive compression as the preferred alternative due to the environmental characteristics of e-drive. High-level calculations indicate that the decision to utilize electric-drive compression rather than gas-fired compression avoids approximately 200,000 tonnes of direct CO₂ emissions annually, or approximately 8 million tonnes of CO₂ over the projected 40- to 60-year life of the proposed Project. Table 2-10 summarizes the driver technology alternatives assessed.

Table 2-10. Driver Technology Alternatives Assessed

Option	Description	Passed Screening	Potential Effects, Risk, and Uncertainties
1	Gas Fired Compression	No	<ul style="list-style-type: none">▪ The associated GHG, NO_x, and SO_x emissions are deemed to be unacceptable.
2	Electric Drive	Yes	<ul style="list-style-type: none">▪ Proven and reliable technology currently in operation at Tilbury.▪ No direct GHG, NO_x, or SO_x emissions.

Notes:

NO_x = nitrogen oxide

SO_x = sulphur oxide

The Project's commitment to electric drives powered by BC Hydro's 98 percent clean and renewable electric supply will substantially reduce the CI of LNG production. This would mean the Project will produce LNG with one of the lowest CIs in the world (approximately 0.09 tonnes of carbon dioxide equivalent per metric tonne of LNG produced [tCO₂e/tLNG]⁴)

⁴ It should be noted that changes to the CI estimation process, such as that related to electricity grid related emissions and Global Warming Potentials (GWPs), make direct comparisons to other LNG project CIs difficult. Until there is a standardized process, CIs are only roughly comparable.

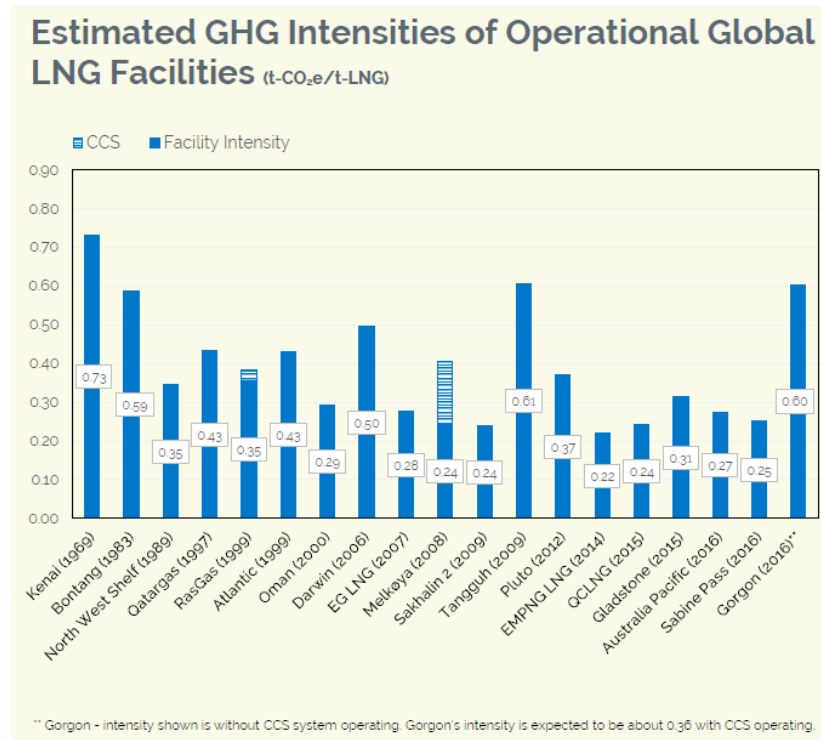


Figure 2-6. Estimated Carbon Intensities for Operational Global LNG Facilities

Source: Delphi Group 2019

2.8.3 Cooling Technology

FortisBC considered two options for cooling technology. Air cooling is routinely used for LNG production; however due to the proximity to the Fraser River, water cooling was also a potential option. A screening level assessment of these alternatives identified air cooling to be the preferred technology alternative (Table 2-11).

Table 2-11. Cooling Technology Alternatives Assessed

Option	Description	Passed Screening	Potential Effects, Risk and Uncertainties
1	Air Cooling	Yes	<ul style="list-style-type: none"> Air cooling is a proven technology with well understood lifecycle economics. Minimal environmental effects due to the lack of emissions.
2	Water Cooling	No	<ul style="list-style-type: none"> This alternative was deemed unacceptable due to the need for a water intake and outfall in the Fraser River, thermal loading of receiving waterbody, a water use permit, a discharge permit, higher lifecycle costs for intake water treatment and maintenance.

Evaluation criteria which will be during future engineering design of the liquefaction technology may include:

- process design (energy efficiency)
- proven process
- plant layout
- safety, reliability, and sustainability
- lifecycle cost

However, it is important to understand that no definitive technology or process selection has been made. As the proposed Project progresses to the Front-End Engineering Design (FEED) stage, other commercially available and proven technologies may be considered if they can meet the necessary evaluation criteria.

2.8.4 Flare Technology

During Early Engagement, concerns in relation to public safety and flaring were raised. Flares are a common feature of LNG facilities and act as safety devices designed to relieve pressure and to prevent the uncontrolled release of flammable gases. Flares may also be used during maintenance to safely depressurize the facility and prevent the venting of methane. The flare will be used in upset conditions and not as part of normal operations. The flare technology selected for the proposed Project is expected to be modern technology that would meet or exceed Canada's safety and environmental codes and standards.

Three types of flare technologies are being compared for the proposed Project: multi-point ground flare, totally enclosed ground flare (TEGF) and elevated flare. Combined hybrid flare technologies such as an elevated flare combined with TEGF are also being considered.

Flare technology selection will consider a number of factors including safety, visual effects, emissions, and spatial requirements. The multi-point ground flare is beneficial due to its low visibility but requires a larger footprint and therefore may not be feasible at the already spatially constrained Tilbury facility. An elevated flare is more visible from off-site locations compared to the ground-based flare technologies but is preferable from a spatial requirement, and an emission dispersion perspective.

The TEGF has low visibility and spatial requirements and is also beneficial from an emissions perspective. Presently the TEGF or a hybrid of the TEGF and elevated flare are the preferred options. Flare technology selection will be determined through further engineering and design, air quality modelling, and engagement.

2.8.5 Liquefaction Technology Assessment

The LNG storage technology selected by FortisBC for this Project is a proven technology that has been utilized world-wide. FortisBC has not completed detailed engineering design of the liquefaction facility, and several technology choices remain. These liquefaction technology choices will be assessed and finalized through ongoing engineering and design work. The technologies or alternatives that will be assessed are:

- Additional electrification opportunities
- Flare technologies

2.8.6 Alternative Construction Methods

Preliminary construction planning has identified modularized liquefaction train construction at an off-site location as a preferred alternative over constructing the process equipment on-site. Building modules off-site is considered beneficial as it allows construction to take place in a controlled environment, minimizes the traffic, noise, and light associated with on-site construction activities; and therefore, potentially reduces disruption and nuisance effects on the host community. Modular construction arrangements will consider the most efficient and cost-effective methods, feedback during engagement, and potential effects.

FortisBC is considering various options for shipping construction material supply to the Tilbury site during construction of the proposed Project. FortisBC anticipates that transportation of materials such as fill, gravel, and materials such as piping, structural steel, cable will be by both truck on the provincial and local road system, as well as by barge along the Fraser River to the Tilbury site via the MOF and will be assessed as part of the Project. Material transport options will consider numerous factors such as safety, construction logistics, road and waterway traffic, and emissions.

Material transport arrangements will adhere to FortisBC's construction and environmental management plans, and input from stakeholders gained through engagement activities. These plans consider the most efficient and cost-effective methods as well as mitigating potential effects and ensuring proactive engagement with road and water users.

2.8.7 Flexibility of Design and Location

Table 2-12 summarizes the major design and location characteristics that are fixed, and those which may be modified.

Table 2-12. Design and Location Constraints

Option	Design or Location Characteristic	Fixed	Comments
1	Location	Yes	The resilience analysis determined that the Tilbury LNG site is the appropriate location for resilience investments.
2	Storage Technology	Yes	The resilience analysis determined that on-system storage in an LNG tank is the appropriate storage technology for resiliency.
3	Storage Volume	Yes (within a range)	The resilience assessment determined that a minimum 2 BCF of storage is required, but that 3 BCF of storage (142,400 m ³ working storage) is the appropriate volume required for resilience purposes.
4	Driver Selection	Yes	The screening assessment determined that electric drive compression is the appropriate driver.
5	Single or Multi-Train	No	The number of liquefaction trains has not been determined.
6	Liquefaction Capacity	No	While the maximum liquefaction capacity has been defined (7,700 t/d), market demand will influence the actual timing and capacity of the installed liquefaction facilities

3. Project Location

The proposed Project Site is located on private property owned by FortisBC for the existing Tilbury LNG facility on Tilbury Island, within the Tilbury Industrial Park, adjacent to the Fraser River in Delta (Figure 3-2). The legal description of the Tilbury site is Lot 1 District Lot 135 Group 2 New Westminster District Plan EPP28232 except Plan EPP 36476. PID: 029-263-301.

FortisBC currently operates an existing LNG facility, which occupies the northern portion of the 7651 Hopcott property (closest to the Fraser River). Coordinates of the approximate centre of the proposed Project Site are 49 08'28"N and 123 01' 57"W and elevation is approximately 1 metre above sea level (masl). The MOF built as part of Phase 1B may be used during construction of the proposed Project. The MOF is located along the Fraser River adjacent to the FortisBC property (Water Licence No 2005596, Diversion ID PD191626, WELL DRILL/TRANSPRT MGMT).

Neighbouring properties are mainly used for industrial purposes with the nearest resident being approximately 450 metres (m) to the southwest of the proposed Project Site, although the closest residential area is approximately 3 km away. Other nearby businesses include the Riverside Funeral Home and Crematorium and the Delta Community Animal Shelter. Public access to the proposed Project Site is limited, although there is public use of the dike to the north of the property along the Fraser River. There is no land-based recreational access to the proposed Project Site.



Figure 3-1. View of Tilbury Site with Phase 1A in Foreground, and Base Plant in Background

The proposed Project is located in the Traditional Territory of the Coast Salish Peoples. The proposed Project Area includes overlapping Traditional Territories of over 35 Indigenous nations within the broader Coast Salish Traditional Territory (Figures 1A to 3B in Appendix C).

Detailed Project Description

Refer to Section 11 for a complete list of Indigenous nations with established or asserted Traditional Territories overlapping the proposed Project Footprint. Appendix D provides the responses to the Joint Summary of Issues and Engagement raised during review of the IPD.



The Fraser River and surrounding area are significant to Indigenous nations within the territory. Since time immemorial, Indigenous Peoples have occupied and used the Fraser River for harvesting, transportation, trading, and for other traditional purposes. As the Fraser River is a migratory corridor for five species of Pacific salmon and provides habitat for other species such as white sturgeon and eulachon, many Indigenous Peoples established fishing camps along the banks of the Fraser River to access these resources. As such, salmon, white sturgeon and eulachon became culturally important species for many Coast Salish Nations. Indigenous nations within the territory continue to have a way of life that is strongly tied to the Fraser River for food, social, and ceremonial purposes.

The historic village site of Tl'uqtnus is located approximately 515 m north of the proposed Project Site on the opposite side of the Fraser River. Subsection 11.2 provides further details on the current legal proceedings for reclamation of Tl'uqtnus by the Cowichan Nation Alliance. The historic Cowichan Nation Alliance exclusive Aboriginal Title area includes the entirety of Tilbury Island (CNA 2019). The members of the Cowichan Nation Alliance have signed a stewardship agreement with the Province for the South Arm of the Fraser River.







FortisBC will continue to engage each Indigenous nation identified in Section 11 during the EA Readiness, Process Planning, and subsequent phases to identify the interests of each group. Research on Traditional Land Use (TLU) surrounding the proposed Project Site will be conducted in consultation with Indigenous nations, as applicable.



Proposed Project Components

-  Proposed Project Footprint
-  Material Offload Facility

Base Data

-  Existing FortisBC Natural Gas Pipeline
-  Road
-  Railway
-  Parcel Boundary
-  Municipality
-  Waterbody

SCALE: 1:3,500

0 50 100 150 m
(All Locations Approximate)

Jacobs

Project Number CE778100

UTM Zone 10 North, NAD 1983.
Proposed Marine Jetty: Ausenco March 2019; Existing Pipeline:
FortisBC 2012; Transportation: BC FLNRD 2012; Regional Districts
& Municipalities: BC FLNRD 2017; Political Boundaries: ESRI
2005, USNIMA 2000; Hydrology: BC FLNRD 2011; Imagery
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar
Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the
GIS User Community.

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: SL

Checked By: KT

4. Spatial Boundaries

The proposed Project Application will consider the potential effects of the proposed Project on the five pillars of environmental, economic, social, culture, and health values. Changes to this section of the DPD include updating the Local Assessment Area (LAA) and Regional Assessment Area (RAA) terminology to align with the B.C. *EAA* (previously referred to as the Local Study Area and Regional Study Area).

As well, Table 4-1 has been updated to include the spatial boundaries for key Valued Components (VCs) under each pillar. The draft VC Selection list and draft Application Information Requirements (AIRs) are provided in Appendix E and Appendix F. Selected VCs and their spatial boundaries were determined by subject matter experts, with consideration of Indigenous Traditional Territories, and will be further refined during the Process Planning Phase. Section 25 of the B.C. *EAA* defines assessment matters that must be considered in the assessment. The proposed Project will address all assessment matters to the extent that these matters apply to the proposed Project. Additional engagement with regulatory agencies, potentially affected Indigenous nations, and stakeholders on the draft VCs and spatial boundaries will continue throughout the Process Planning Phase.

Spatial boundaries for the VCs encompass the geographic extent of measurable potential environmental, economic, social, culture, and health effects of the proposed Project. The preliminary spatial boundaries provided as follows were determined by the potential zones of interaction between a VC and the proposed Project. The spatial boundary may be limited to the proposed Project Footprint or extend beyond the physical boundaries of the area of the proposed Project component, as the distribution or movement of a VC can be local, regional, or even broader.

The proposed Project Footprint includes the land area directly disturbed by the proposed Project construction activities, including associated physical works and activities. The LAA encompasses the area in which the VC is most likely to be affected by the proposed Project. The RAA includes the LAA, and the area beyond the LAA boundaries where the predicted likely residual effects from the proposed Project may act in combination with those of existing and reasonably foreseeable developments and activities to cause cumulative effects.

Table 4-1. Preliminary Spatial Boundaries

Valued Component	LAA Preliminary Boundary and Rationale	RAA Preliminary Boundary and Rationale
Air Quality	The LAA for air quality is a 20 km by 20 km domain centered on the proposed Project.	The RAA covers a 30 km by 30 km area centered on the proposed Project, and extends to the coast on the west, the U.S. border to the south, Vancouver and Burnaby to the north, and Surrey to the east.
Acoustic	The LAA will be defined as a 1.5 km wide zone around the perimeter of the proposed Project Area. The historical village of Tl'uqtnus as well as portions of the City of Delta and the City of Richmond fall within this study area.	The RAA will be defined as a 3 km wide zone around the perimeter of the proposed Project Area.
Surface Water	The LAA for Surface Water encompasses the area 100 m upstream and 200 m downstream of the proposed Project Footprint. The LAA also includes 100 m upstream and 200 m downstream within the Tilbury Slough from the culvert outlet that drains stormwater from the proposed Project Site.	The RAA for Surface Water encompasses the Fraser River for 500 m upstream and 1,000 m downstream of the proposed Project Footprint. The RAA also includes Tilbury Slough for 500 m upstream and 1,000 m downstream of the culvert outlet that drains stormwater from the proposed Project Site.
Groundwater	The LAA encompasses the terrestrial footprint of the proposed Project Site.	The RAA encompasses the mapped extent of the aquifer that is within the proposed Project Site.

Table 4-1. Preliminary Spatial Boundaries

Valued Component	LAA Preliminary Boundary and Rationale	RAA Preliminary Boundary and Rationale
Soil	The proposed Project Footprint plus a 100 m buffer around the proposed Project Footprint and a 50 m buffer around truck routes between the highway and the proposed Project Site.	The RAA is the same as the LAA for Soil.
Vegetation	The LAA for Vegetation will consist of the proposed Project Footprint plus a 100 m buffer around the proposed Project Footprint and includes both aquatic and terrestrial habitat. The LAA also includes 100 m upstream and 200 m downstream within the Tilbury Slough from the culvert outlet that drains stormwater from the proposed Project Site.	The RAA for Vegetation will consist of a 1 km buffer surrounding the proposed Project Footprint and includes both aquatic and terrestrial habitat.
Wildlife and Wildlife Habitat	The LAA for Wildlife consists of the proposed Project Footprint plus a 300 m buffer around the proposed Project Footprint and includes both aquatic and terrestrial habitat.	The RAA for Wildlife consists of the proposed Project Footprint and the LAA and includes both aquatic and terrestrial habitat. The LAA also encompasses the Fraser River for 300 m upstream and 2 km downstream of the proposed Project Footprint, including a 50 m buffer from the high-water mark on either side.
Fish and Fish Habitat	The LAA for Fish and Fish Habitat encompasses the Fraser River for 100 m upstream and 200 m downstream of the proposed Project Footprint. The LAA also includes Tilbury Slough for 100 m upstream and 200 m downstream of the culvert outlet that drains stormwater from the proposed Project Site.	The RAA for Fish and Fish Habitat encompasses the Fraser River for 500 m upstream and 1,000 m downstream of the proposed Project Footprint. The RAA also includes Tilbury Slough for 500 m upstream and 1000 m downstream of the culvert outlet that drains stormwater from the proposed Project Site.
Employment and Economy	The LAA for Employment and Economy is Metro Vancouver.	The RAA is the same as the LAA for Employment and Economy.
Land and Resource Use	The LAA will include the City of Delta, which comprises three urban communities: Ladner (administrative centre), Tsawwassen, and North Delta. The LAA will include all lands with a potential viewpoint of proposed Project components for potential effects to views. This includes the area within the foreground (less than 1 km from the proposed Project boundary), and middle ground (1 to 5 km from the proposed Project boundary). Where the Land and Resource Use has the potential to be affected by changes to the Acoustic VC, the LAA for the Acoustics VC may be included in the Land and Resource Use assessment.	The RAA for Land and Resource Use will include Metro Vancouver.
Infrastructure and Services	The City of Delta, including Ladner (administrative centre), Tsawwassen and North Delta. LAA boundaries may be adjusted to consider other areas beyond the City of Delta where they have the potential to be affected by infrastructure and service needs directly related to the proposed Project (such as, dikes, landfills, emergency response). The LAA will include consideration of flood protection infrastructure along the Fraser River in an area that has the potential to be affected by use of the Fraser River for construction of the proposed Project. This would include flood protection infrastructure along relevant portions of the Fraser River shoreline.	The RAA for Infrastructure and Services will include the Metro Vancouver.

Table 4-1. Preliminary Spatial Boundaries

Valued Component	LAA Preliminary Boundary and Rationale	RAA Preliminary Boundary and Rationale
Archaeological and Heritage Resources	The area of ground disturbance for the proposed Project plus a 100 m buffer around the proposed Project Site.	The RAA for the Archaeological and Heritage Resources Assessment will include the LAA and the South Arm of the Fraser River from the proposed Project Site downstream to Sand Heads and upstream to Annacis Island and extending 1 km inland from the north and south shores of the river.
Culture	The LAA for Culture will include the City of Delta, which comprises three urban communities: Ladner (administrative centre), Tsawwassen, and North Delta. The LAA will include the boundaries of the VCs that interact with Indigenous interests, including: Wildlife and Wildlife Habitat, Vegetation, Air Quality, Acoustic Environment, Surface Water, Infrastructure and Services, Land and Resource Use, Fish and Fish Habitat, and Archaeological and Heritage Resources.	The RAA for Culture will include Metro Vancouver. The RAA will include the boundaries of the VCs that interact with Indigenous interests including: Wildlife and Wildlife Habitat, Vegetation, Air Quality, Acoustic Environment, Surface Water, Infrastructure and Services, Land and Resource Use, Fish and Fish Habitat, and Archaeological and Heritage Resources.
Human Health	<p>Air Quality: The LAA for the assessment of potential health effects to humans from potential changes to air quality will be the same as that for the Air Quality VC.</p> <p>Country Foods: The LAA for health risks related to the quality and quantity of country foods will be the same as the LAA for the Land and Resource Use VC and the LAAs for VCs for potentially harvested species (that is, Vegetation VC, Wildlife and Wildlife Habitat VC, and Fish and Fish Habitat VC).</p> <p>Soil, Sediment, Groundwater, Surface Water: Health risks related to soil, sediment quality, and groundwater contaminants will be assessed in the proposed Project Footprint. The LAA for health risks related to surface water quality will be determined using the Surface Water LAA and its areas of overlap with land uses and activities.</p> <p>Social Determinants of Health: Spatial boundaries for assessment of changes to social determinants of health, including well-being, will refer to the spatial boundaries relevant to linked VCs such as Employment and Economy (due to the potential link between incomes and health/well-being), and Infrastructure and Services (because of the potential link between access to services and health/well-being). For health effects related to changes in the acoustic environment, the LAA is the footprint plus 1.5 km.</p>	<p>Air Quality: The RAA for the assessment of potential health risks to humans from potential changes to air quality will be the same as that for the Air Quality VC.</p> <p>Country Foods: The RAA for health risks related to quality and quantity of country foods will be the same as the RAA for the Land and Resource Use VC and the RAAs for VCs for potentially harvested species (that is, Vegetation VC, Wildlife and Wildlife Habitat VC, and Fish and Fish Habitat VC).</p> <p>Soil, Sediment, Groundwater, Surface Water: Health risks related to soil, sediment quality, and groundwater contaminants will be assessed in the proposed Project Footprint. The RAA for assessing health risks related to water quality will be determined using the Surface Water RAA and its areas of overlap with land uses and activities.</p> <p>Social Determinants of Health: Federal guidance on assessment of effects to health includes factors such as social determinants of health, including well-being. Spatial boundaries for assessment of changes to social determinants of health, including well-being, will refer to the spatial boundaries relevant to linked VCs such as Employment and Economy (due to the potential link between incomes and health/well-being), and Infrastructure and Services (due to the potential link between access to services and health/well-being). For health effects related to the acoustic environment, the RAA is the footprint plus 5 km (compared to footprint plus 3 km in the Acoustic VC). The RAA for the health component of acoustics was expanded to include the possibility of nearby sensitive receptors that may be affected. The RAA for assessing health risks related to water quality will be determined using the Surface Water RAA and its areas of overlap with land uses and activities.</p>
Indigenous Nation-identified VC	No Indigenous nation-specific VCs have been identified to-date. The LAA for VCs requested by Indigenous nations will be defined if Indigenous nation VCs are identified.	No Indigenous nation-specific VCs have been identified to-date. The RAA for VCs requested by Indigenous nations will be defined if Indigenous nation VCs are identified.

5. Land and Water Use

This section has been updated to include information on land use designations, current use of the Fraser River and potential effects resulting from the proposed Project, as well as nearby agricultural land use. Land use plans that were reviewed in the development of this DPD include the Delta OCP (Delta 2019a), the Richmond OCP (Richmond 2012), A Living Working River: the Estuary Management Plan for the Fraser River (BIEAP/FREMP 2003), the Lower Fraser Sustainable Resource Management Plan (B.C. MFLNRO 2013), and the Vancouver Fraser Port Authority Land Use Plan Update (VFPA 2021). Additional land use plans—including regional and Indigenous land and resource use plans, were identified and will be reviewed for relevance during the preparation of the proposed Project Application. Refer to Section 12 for a record of engagement with local governments to-date and Appendix D for FortisBC's responses to the Joint Summary of Issues and Engagement. Ongoing engagement with local governments will include discussions on how the proposed Project may affect local land use plans.

During Early Engagement, concerns were raised regarding potential effects on agricultural land near the proposed Project Area. Subsection 10.5 has been updated to include potential effects on agricultural land near the proposed Project Area. The Application will assess potential effects on agricultural land in more detail under the Land and Resource Uses and Human Health VCs. Mitigation measures to reduce or avoid potential effects on agricultural land will be proposed.

Concerns were also raised regarding increased traffic along the Fraser River, access to and use of the Fraser River, potential impacts to water quality, and upgrades to the MOF. This section provides an updated estimate of proposed Project-related vessel traffic. Subsections 2.3, 2.5, and Section 7 have been updated to provide additional details on proposed Project components, infrastructure requirements, and activities during construction and operations, including upgrades to and use of the temporary MOF. Subsection 6.2 provides further details on water use and discharges, and subsection 8.3 provides a preliminary list of permits and approvals required for proposed Project activities.

Additional details on subsistence use, recreational use, and sensitive places in the proposed Project Area identified by Indigenous nations and stakeholders were requested. Indigenous Peoples have and continue to use and occupy the Fraser River and surrounding area. Since time immemorial, Indigenous Peoples have established fishing camps, settlements, hunting grounds, trading sites, spiritual sites and other traditional use areas, on the banks of the Fraser River, and in the upland areas in Tsawwassen and North Delta, with archaeological sites in the area being amongst the oldest known in the Province. Indigenous Peoples continue to have a way of life that is strongly tied to the Fraser River and its resources.

Musqueam Indian Band has a proven right to fish in Canoe Passage, at the mouth of the Fraser River, as defined in the Supreme Court of Canada Sparrow case (Supreme Court of Canada 1990). Musqueam Indian Band signed a collaborative management agreement with the Province that provides a framework for land and water authorization and stewardship in the estuary and lower reaches of the Fraser River (Government of B.C. 2020c).

Ts'uubaa-asatx Nation (Lake Cowichan First Nation) has developed draft versions of their Lower Mainland Policies including the Lake Cowichan First Nation: Archaeology Permit Requirement Checklist (2018), Lake Cowichan First Nation Policy: South Arm of the Fraser River and Approaches (2018), and Lake Cowichan First Nation: Vision, Goals and Objectives for the South Arm of the Fraser River and its Approaches (2018). The Lake Cowichan First Nation: Vision, Goals and Objectives for the South Arm of the Fraser River and its Approaches outlines Ts'uubaa-asatx Nation (Lake Cowichan First Nation) vision for clean air, water and land and healthy fish and wildlife populations that will support the Nation's goal of re-establishing Traditional Use and occupancy of the Lower Mainland.

The Musqueam Indian Band has a land reserve in Delta. The Tsawwassen First Nation and the Provincial and Federal governments have signed a treaty, which includes the Tsawwassen First Nation Treaty Lands located on the southwest edge of Delta. Information on Indigenous nations with established or asserted Traditional Territories that overlap with the proposed Project Site is provided in subsection 11.1. FortisBC will identify sources of Indigenous Knowledge in collaboration with Indigenous nations to incorporate into the assessment of effects for the proposed Project Application. Research on TLU surrounding the proposed Project Area will be conducted in consultation with Indigenous nations.

Concerns were also raised during Early Engagement regarding the potential for archaeological and cultural heritage resources at the Project Site. An AIA was conducted in the area southeast of the existing facility for the Tilbury Phase 1A expansion. An AOA was recently completed for the entire proposed Project Site by Golder and an AIA is being conducted in 2020/2021 for the expansion construction activities. Information from the AOA and both AIAs will be reviewed for any relevant information for the proposed Project Application.

The proposed Project Site is located within the local government boundary of Delta on Tilbury Island on the southern shoreline of the South Arm of the Fraser River (Figure 1-1). The proposed Project Site is located on easements within the FortisBC property, located at 7651 Hopcott Road. As described in the current Delta OCPs, the proposed Project occupies an area intended for Industrial Land Use (OCP, Map 5 – Industrial and Utility Designations) (Delta 2019a). The FortisBC property where the proposed Project will be located is designated as I7 (Special Industrial) which allows for the manufacturing, processing, finishing, and storage of natural gas. The property is currently a brownfield site and the proposed Project is consistent with the OCP (Figure 5-1). With the exception of the southwestern most point and a portion of the northeast of Tilbury Island, the island has been designated as industrial. These locations are designated as environmentally sensitive (OCP, Map 6 – Environmentally Sensitive Area Designations) (Delta 2019a).

There is no land-based recreational access to the proposed Project Site and it is not within the boundaries of any Provincial parks, conservation areas, ALRs, or ecological reserves. Delta itself, is approximately 180 km², bordered by the Fraser River on the north, the U.S. border and Boundary Bay on the south, the City of Surrey on the east, and the Strait of Georgia on the west.

The mainland area to the south of Tilbury Island is primarily a combination of agricultural and industrial lands within Delta (Delta 2019a). Apart from agricultural lands, other significant land uses include Burns Bog, a critical Ecological Conservancy Area, single-family residential uses, parks, regional parks and open area, and industry and port/terminal use. Further details on land uses in Metro Vancouver and Delta will be investigated in the Application under the Land and Resource Use VC.

Agriculture and farming have historically been the primary economic drivers in Delta. The nearest parcel within the ALR is approximately 267 m from the proposed Project Site. Delta has experienced considerable industrial development and Tilbury Island is one of the fastest growing industrial areas in Greater Vancouver (Delta 2019a) and is zoned as Industrial in the Future Land Use Plans (OCP, Map 2 – Future Land Use Plan) (Delta 2019a). FortisBC will include consideration for ongoing agriculture activities and respectful road usage within proposed Project mitigation planning. Subsection 10.5.2 provides additional detail on economic drivers in the proposed Project Area.

The Fraser River is an important transportation route and is used by numerous industrial facilities and cargo terminals that handle logs, steel, machinery, and general industrial cargo. The Fraser River is also used for Indigenous, commercial, and recreational purposes, including boating, fishing, tourism, and marine transportation. For example, the Fraser River is host to numerous activities for locals and tourists alike, including boat cruises, estuary ecotours, guided fishing trips, and kayak lessons (Tourism Vancouver 2020). Two recreational rowing and canoeing clubs are available for locals to join (Delta Outrigger Canoe Club 2020; Delta Deas Rowing Club 2020).

Effects to the use and availability of the Fraser River are expected to be negligible as the increased river traffic and construction activities associated with the upgraded MOF are expected to represent a minimal incremental increase to existing river traffic. It is estimated that six to eight Project cargo vessel deliveries will be required during the 3-year construction period. Some additional deliveries may be required for aggregate and other construction material delivery. Marine transportation during construction including delivery of equipment modules along the Fraser River would occur along established shipping lanes and following the requirements of the applicable authorities including Transport Canada. Existing navigation channels, safety requirements, and communication with other river users are expected to effectively manage potential effects to navigation safety and river use by recreational and commercial users. Potential effects on the rights of Indigenous nations, including current use of lands and resources for traditional purposes resulting from proposed Project activities (such as, increased marine transportation during construction) are addressed in Section 11.

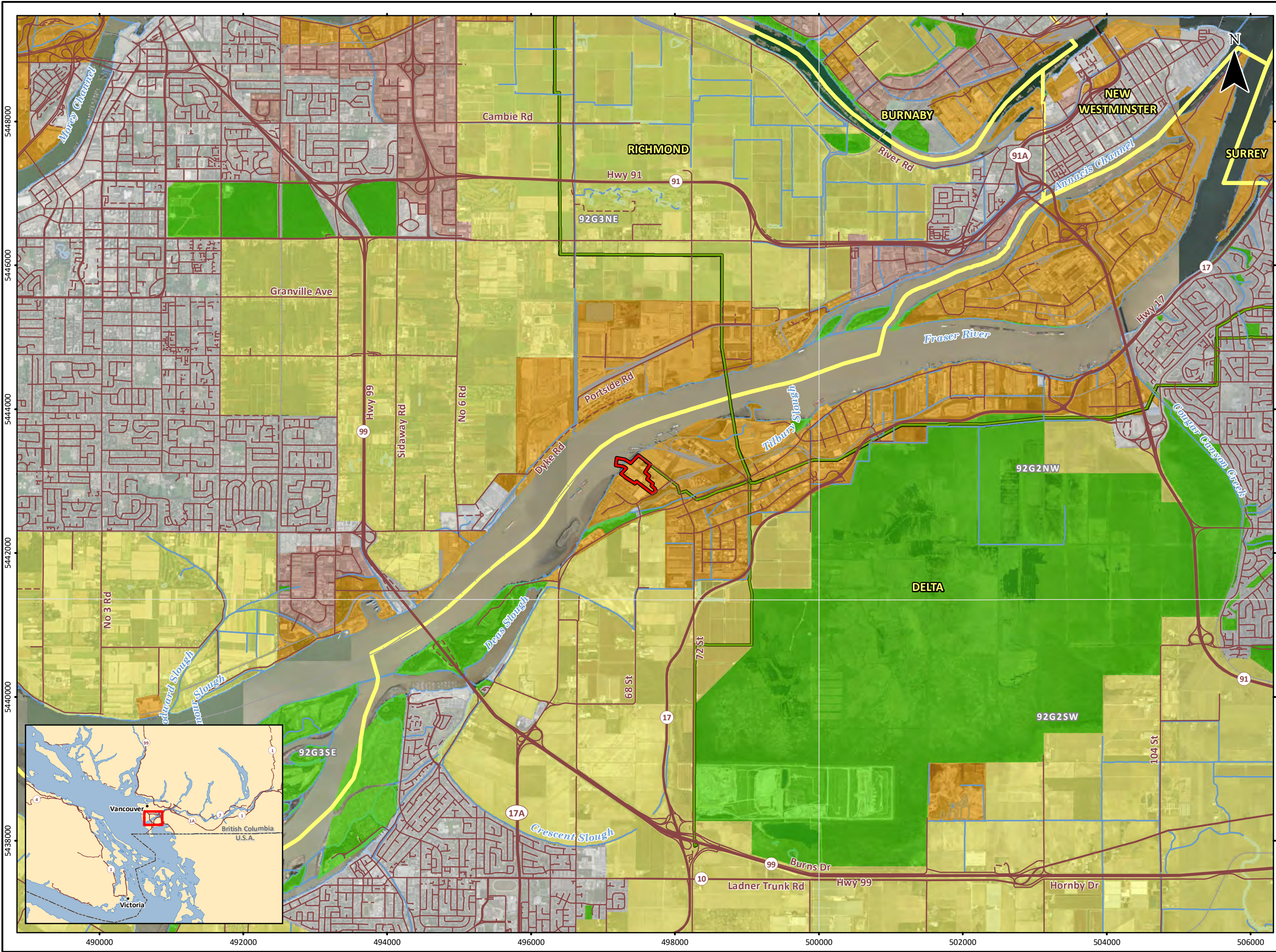


FIGURE 5-1
SURROUNDING LAND USE &
NEIGHBOURING COMMUNITIES

TILBURY PHASE 2
LNG EXPANSION PROJECT

Proposed Project Component

Proposed Project Footprint

Base Data

Existing FortisBC Pipeline

Highway

Paved Road

Secondary Road

CAN Railway

Watercourse

Municipality

Waterbody

Metro 2040 Land Designations

General Urban

Industrial

Mixed Employment

Conservation and Recreation

Agricultural

SCALE: 1:50,000

0 500 1,000 1,500 2,000 m
(All Locations Approximate)

Jacobs

Project Number CE742500

UTM Zone 10 North, NAD 1983.
Metro 2040 Land Use Designation: Metro Vancouver, 2018;
Existing FortisBC Pipeline: FortisBC 2012; Transportation: BC
FLNRD 2012; Regional Districts & Municipalities: BC FLNRD.
2017; Political Boundaries: ESRI 2005, USNIMA 2000; Hydrology: BC
FLNRD 2011; Imagery Service Layer Credits: Source: Esri, Maxar,
GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,
AeroGRID, IGN, and the GIS User Community.

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: SL

Checked By: KT

6. Emissions, Discharges, and Waste

The Emission, Discharges, and Waste section has been updated based on engagement and feedback by Indigenous nations, the public comment period and B.C. EAO/IAAC Technical Advisors. As the proposed Project has developed, more detail on the emissions has been provided in the DPD. Activities associated with all phases of the proposed Project, including construction, operations, and decommissioning have potential to affect the environment through the emission of criteria air contaminants (CACs) and GHGs, noise and light emissions, as well as water and solid waste discharges.

6.1 Greenhouse Gas Emissions

Preliminary estimates of GHG emissions are a requirement of the IAAC/B.C. EAO guidance. The emission estimates will be further refined for the proposed Project Application when further engineering has taken place. Table 6-1 provides preliminary estimates of proposed Project-related direct GHG emissions, which have been further refined with more detailed durations, emission sources, and emissions (tonnes per year) compared to the IPD.

For construction, more detailed information on equipment types and usage for on-site construction were available. With the latest design, perlite in cold box is no longer required. To provide a clear separation of direct emissions occurring on-site from emissions occurring elsewhere as a result of Project activities, delivery of material and marine traffic are presented separately in subsection 10.2.2. The new estimates are more than double of the previous estimates in the IPD but remain a few percent of annual Operations emissions.

In the IPD, one-time venting emissions were estimated to be a few percent of annual operation emissions. Since these can vary considerably and better estimates that meet the expectation of refinement in the DPD are currently unavailable, estimates of these additional commissioning emissions were excluded from the DPD.

GHG emissions from direct operation has been estimated to be lower than the estimates in the IPD. Venting of entrained CO₂ was included in the new estimates, but fugitive emissions from LNG transfer were removed as LNG transfer is not part of this Project. Changes in production capacity and equipment specifications also altered the estimates.

Acquired energy and off-site GHG emissions, which are not under the control of FortisBC but a consequence of the proposed Project, are discussed in subsection 10.2.2 in the context of environmental effects of the proposed Project. The majority of GHG emissions are related to the Liquefaction Capacity activities, which may include re-liquefaction of boil-off gas. The new estimates of acquired energy emissions are higher than in the IPD mostly due to higher emission intensity of electricity consumption in the most recent estimates. Electricity emission intensity varies substantially inter annually and is not under FortisBC's control.

Decommissioning emissions, similar to one-time venting, are only a small percentage of annual operation emissions and at this stage not quantifiable to a desirable degree for the DPD.

Table 6-1. Preliminary Estimates of Annual Direct GHG Emissions per Phase

Phase	Duration (years)	Emission Source(s)	Emissions (tonnes per year)		
			CO ₂	CH ₄	N ₂ O
Construction	3 to 6	<ul style="list-style-type: none"> construction vehicles and equipment for site/ground improvements, above ground tank construction, and liquefaction modules offloading and erection 	5,050	0.137	0.041
Operations	40 to 60	<ul style="list-style-type: none"> thermal oxidizers gas flare hot oil heaters fugitive emissions from equipment leaks venting of feed gas entrained CO₂ 	188,000	77.8	2.41
Decommissioning	2	<ul style="list-style-type: none"> construction/demolition vehicles and equipment disposal of material 	N/A	N/A	N/A

Notes:

These estimates are preliminary and based on the proposed Project design as it is currently envisioned before going through detailed design.

The total direct construction emissions over the entire construction duration are estimated to be approximately 15,180 tonnes of carbon dioxide equivalent (tCO₂e). The annualized direct construction emissions will depend upon the sequencing of construction activities which are yet to be developed in detail. The emission values provided above represent the total direct construction emission estimate divided by a three year construction duration, the shortest forecast duration, and thus likely represents an annual 'peak emission year' for construction emissions. Should the construction period extend due to different construction sequencing, annualized emissions will be less.

Values rounded to three significant figures but no more than three decimal places.

CH₄ = methane

N₂O = nitrous oxide

N/A = no information available at this stage; however, emissions can reasonably be assumed to be lower than for construction.

As there is an existing operations organization that will support this expansion, current assessment indicates that there will not be a material increase in emissions from the current base fleet and workforce.

6.1.1 Net Zero Plan

FortisBC has an important role to play in helping British Columbians move to a low-carbon future. As part of the company's vision, it is developing the proposed Project to be a world-leading facility that can serve the future energy needs of British Columbians while also helping the Province and Canada meet their ambitious GHG emissions reduction targets. FortisBC has established itself as a leader in delivering affordable lower-carbon energy and is already moving forward with its Clean Growth Pathway to 2050, which is described in detail in the Commitment to Sustainability (subsection 1.1).

A Net Zero by 2050 plan will be forward-looking with a focus on innovative approaches to reducing the GHG emissions of the facilities, leveraging reduction opportunities in the supply chain, and enabling consumers to take the benefit from low CI LNG. The plan will demonstrate how FortisBC will develop a facility that supports further progress on the Clean Growth Pathway while maintaining flexibility to be successful. The plan will demonstrate how FortisBC will develop a facility that supports further progress on the Clean Growth Pathway. The plan would allow for flexibility to ensure the facility could support the energy transition. As the energy industry and all levels of government continue to invest in and support new technologies there are bound to be breakthroughs and shifts in supply that could impact the plan.

6.2 Other Emissions, Discharges, and Waste

The following is a discussion of estimated expansion-related emissions, discharges, and waste and their sources per phase. These may include but are not limited to:

- light, noise, and vibration emissions
- emissions of atmospheric contaminants
- silt and soil from roads, laydown, and soil storage areas
- sanitary waste
- construction water (such as, storage tank and liquefaction train hydrotest water, equipment and facilities wash down water, along with dust suppression water runoff)
- storm water runoff
- firewater runoff in the event of an emergency
- solid wastes (such as, household and industrial wastes associated with facility operations)
- hazardous waste (such as, used motor and hydraulic oils, contaminated filters, used chemical cleaning fluids, and paints)

During construction, FortisBC will implement an Environmental Management Plan (EMP) to verify environmental compliance requirements are clearly communicated to contractors and subcontractors. Environmental Inspectors will be accountable for overseeing environmental compliance during the construction of the proposed Project. The Environmental Inspectors will be chosen based on qualifications as well as specific experience and understanding of LNG facility construction techniques. The Environmental Inspectors will have the authority to stop work in the event of an environmental emergency.

During operations, FortisBC will refer to their existing Environmental Management System, environmental standards, and guidance documents that will be updated, where required, as a result of the proposed Project.

6.2.1 Construction

Construction activities that may contribute to emissions, discharges, and waste are discussed in the following subsections. The construction and commissioning activities include:

- site preparation
- clearing
- fill and grading
- ground improvements (such as, compaction and installation of stone columns for liquefaction mitigation)
- construction and assembly of buildings, modules, and other structures
- six to eight Project cargo vessels moving modules to the proposed Project Site from Sand Heads lighthouse
- local barges moving construction materials/equipment to the proposed Project Site and truck deliveries will vary throughout certain times of the construction schedule
- a logistics management plan will be developed to support the efficient delivery of goods and people to the worksite
- hydro-testing water from tank and piping systems
- initial cool-down/fill of LNG tank with LNG

6.2.1.1 Air Emissions

Fugitive emissions of PM or dust resulting from clearing, filling, excavating, grading, and ground improvements, will constitute the primary air emissions during the Construction Phase. Additionally, exhaust emissions from diesel- and gasoline-powered trucks, equipment, and marine vessels and barges will also release CACs (such as, nitrogen dioxide [NO₂], carbon monoxide [CO], and trace amounts of sulphur dioxide [SO₂], PM, petroleum aromatic hydrocarbons, metals, and unburnt HCs). Equipment, machinery, and vehicles will be maintained to reduce emissions.

The commissioning of the LNG tank will involve venting of nitrogen and LNG (mostly methane, but also some heavier volatile HC, and trace mercaptans). The commissioning of the liquefaction train will involve flaring of nitrogen and LNG (to cool-down the LNG tank and start-up safely and reliably).

6.2.1.2 Noise and Light Emissions

Construction noise will be generated through various activities and may result in increased noise levels within the local area from vehicles and equipment. Any light emissions during nighttime activities will be based on general plant lighting requirements, including safety and security considerations. Noise and light effects related to the proposed Project will be considered during design and planning in order to mitigate effects from construction activities where necessary.

6.2.1.3 Water and Waste Discharges

Hydro-testing of the LNG tank, the liquefaction train, and certain piping systems will be required. This will involve a significant volume of water and discharging of the water. For instance, to safely conduct hydro-testing of the tank, a minimum of two-thirds of the total tank volume of water will be required (approximately 100,000 m³). The design for the liquefaction train and piping systems has not been advanced sufficiently to estimate water volumes required for hydrostatic testing. Given the volumes, the options for test water disposal include:

- treatment and discharge to the Fraser River in accordance with applicable regulations and permits
- treatment and discharge to the storm water management system in accordance with applicable regulations and permits
- disposal at an approved facility
- discharge into the sanitary sewer system

Construction storm water management and sediment and erosion control measures will be implemented. Solid wastes will be generated from site preparation and construction activities. Solid waste will be disposed of or recycled at appropriate facilities. The storage, handling, and disposal of hazardous waste will be managed in accordance with regulatory requirements and measures outlined in the EMP. The EMP will outline measures to prevent and manage HC or other chemical spills during construction and commissioning.

6.2.2 Operations

Operation activities that may contribute to emissions, discharges, and waste are discussed in the following section. Table 7-1 lists the description of the proposed Project activities.

6.2.2.1 Air Emissions

Electric drives and air cooling will be used for liquefaction and other process units, to reduce overall emissions (GHG and NO_x, especially) compared to gas-powered equipment. Gas- and diesel-powered operational vehicles and equipment will generate atmospheric emissions from combustion of fuels. During normal operations, the main sources of air emissions (nitrogen oxides, CO, SO₂, HCs, volatile organic compounds, hydrogen sulphide, and fine particulate matter [PM_{2.5}]) are from thermal oxidizers, and fired heaters (such as, hot oil system, LNG vaporizers). FortisBC's selection of e-drive technology, which emits no GHG, NO_x, or SO_x, is consistent with their goal to develop a Project with SO₂ and NO_x emissions below a level that will have negative effects on air quality, vegetation, soil, fish, and water. These CACs are not expected to exceed provincial/national ambient air quality standards nor are nitrogen, sulphur, and acid deposition fluxes resulting from the proposed Project emissions expected to exceed critical loads. Other sources of air emissions may include fugitive emissions from gas seals and valves, as well as mobile emissions from transportation, and emissions from ancillary equipment, emergency generators, and equipment operations.

LNG storage tanks are designed to be closed loop systems with no normal venting or emissions other than the initial cool-down and fill in during the Commissioning Phase. During normal operation, boil-off gas compressors are used to maintain the tank pressure and the tank vapours are re-liquefied or used as fuel gas or sent to the pipeline. Pressure safety relief venting from the LNG tank is possible but is not considered normal operations. Flaring may occur during a process upset or other emergency conditions or during an unplanned facility shutdown but is not considered to be a normal operation. Flaring associated with start-up and shutdown operations cannot be predicted and may occur up to an estimated five times per year, with emissions varying depending on the process and related gas composition (feed, intermediate, or product gas); unburnt emission components (~1 percent of gas to flare) may include benzene, toluene, and xylenes, sulphides, and mercaptans, as well as HC. Upset and emergency flaring scenarios, and related emissions and impact will be refined and modelled. Pilot flare emissions are minimal.

6.2.2.2 Noise and Light Emissions

During operations, potential sources of noise include rotating equipment (such as, air coolers, blowers, compressors, pumps) and vehicle traffic within the facility. Similar to the Construction Phase, any nighttime light emissions will be the result of on-site lighting for health and safety purposes. Noise and light emissions will meet regulatory requirements.

6.2.2.3 Water and Waste Discharges

Water discharges will be processed on-site and will be disposed of through existing wastewater management infrastructure, in accordance with applicable regulatory requirements.

Solid and liquid wastes may be generated from operation of the facility and will be managed in accordance with an updated operations plan for the facility. Where feasible, the volume of waste generated during operations will consider opportunities for material reduction at source, segregation, re-use, recycling, recovery, or disposed off-site. Solid waste will be disposed of or recycled at appropriate facilities.

6.2.3 Decommissioning

Emissions, discharge, and waste associated with decommissioning and closure will include air emissions from combustion engines, noise emissions from machinery activities, storm water runoff, and waste from equipment and structure removal. Emissions will be short-term, only during the Decommissioning Phase. Decommissioning activities will follow regulatory requirements and FortisBC policies and plans in place at the time of decommissioning.

7. Construction, Operations, and Decommissioning Phases

7.1 Project Construction and Operations

Table 7-1 outlines the proposed Project activities for site preparation, construction, and operations. Most proposed Project-related activities will be conducted within the property boundaries of the proposed Project Site. Laydown and storage areas will be located either within the proposed Project Site or on previously disturbed areas such as adjacent industrial sites or remote storage facilities. If upgrades to the MOF are required, activities will occur adjacent to the proposed Project Site. Shipping of some equipment modules will occur along the Fraser River using established shipping lanes and following the requirements of the applicable authorities including Transport Canada.

Table 7-1. Description of Project Activities

Site Preparation
<ul style="list-style-type: none"> Site planning by phase Mobilization of construction equipment, temporary offices, and materials to the site by truck or river Clearing, filling, and grading of the previously developed, brownfield site Provide construction utilities including power, water, phone, offices and internet services Relocation/improvements to storm water and erosion and sediment control measures Ground preparation, geotechnical, and archaeological assessments and work permitted for the site to improve load bearing of the soil (could include pre-loading and geotechnical ground stabilization)
Construction
<ul style="list-style-type: none"> Ground improvements and civil works including foundations and structures Construction of electrical step-down transformers from 230 kV substation, including associated on-site proposed Project power lines Construction of LNG storage tank. Installation of related piping/instrumentation and controls/electrical equipment, in-tank pumps, and boil-off compressors. Piping connections to existing plant and to the Tilbury Pacific LNG Marine Jetty Construction of the gas supply interface and pre-treatment systems Upgrading/reinforcing the MOF, if required Transporting equipment modules up the Fraser River, mooring at the MOF, and offloading at site. It is estimated that six to eight Project cargo vessel deliveries will be required during the 3 to 6 year construction period. Some additional deliveries may be required for aggregate and other construction material delivery. The Project cargo vessel deliverables are expected to come from Sand Heads lighthouse at the mouth of the Fraser River along the shipping channel of the South Arm of the Fraser River to the proposed Project Site Transporting, setting, and final assembly construction of liquefaction train modules Construction of thermal oxidizer/flare for combustion of waste and emergency vent streams; before the flares are built at site, the relief streams from pressure safety valves/blowdown valves will be vented to atmosphere (that is, to a safe location) during upset and emergency scenarios Connections of liquefaction trains to LNG tank, power, utilities, safety, and control systems Construction of administration/control, maintenance, utility, and safety facilities Commissioning of phased equipment installation including initial purging, cool-down, and fill of LNG lines and tank Decommissioning of temporary infrastructure such as construction offices, warehousing, temporary power, fuel depots, and batch plants Site clean-up, installation of security
Operation
<ul style="list-style-type: none"> Receipt of natural gas via piping from FortisBC natural gas metering station Pre-treatment of natural gas to remove components of gas line natural gas not compatible with liquefaction process Storage of refrigerants Liquefaction of the natural gas (using electric compression drives and air cooling) Transfer LNG and LNG storage LNG boil-off gas management Transfer of stored LNG to distribution (existing regasification/send-out, LNG marine jetty) Control, inspection, and maintenance of proposed Project components

7.2 Project Decommissioning and Reclamation

The proposed Project Site is zoned for industrial use; therefore, at the end of the proposed Project's operational life 40 to 60 years the proposed Project facilities may be decommissioned in accordance with regulations applicable at that time, including B.C. OGC permitting requirements, and in consideration of preferred land uses at that time.

Decommissioning activities may include:

- De-energizing, decommissioning purging, and dismantling of LNG facilities
- Repurposing and recycling of materials and equipment
- Reclamation of the proposed Project Site for alternate use

The proposed Project Site would then be prepared for its next use. The schedule for decommissioning activities will be developed during FEED.

8. Regulatory Context

The following sections describe the legislative and regulatory context for the proposed Project including the B.C. *EAA*, the Federal *IAA*, and other anticipated permits and approvals. The proposed Project considers international agreements such as the Pacific Coast Collaborative - Pacific Coast Action Plan on Climate and Energy and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). The proposed Project also introduces opportunities to upgrade existing infrastructure to current design standards and technologies and to align with new environmental policies (such as, the Government of B.C.'s CleanBC Plan).

8.1 British Columbia *Environmental Assessment Act*

The proposed Project will trigger a Provincial EA pursuant to the B.C. *EAA* as it exceeds the trigger for assessment as follows:

*"the modification results in an increase in the capability of the Project to store one or more energy resources, other than electricity, by a quantity that can yield by combustion ≥ 3 PJ of energy or, for liquefied natural gas, increase by $\geq 136\,000\text{ m}^3$." (Part 4, Table 8, Column 3, Criteria (1)(b) *Reviewable Projects Regulation*) (Government of B.C. 2018)*

The proposed Project includes adding working storage of up to $142,400\text{ m}^3$ (3.5 PJ) which would increase the total storage at the proposed Project Site to $216,400\text{ m}^3$ (5.3 PJ) with the existing Base Plant Tilbury tank remaining which exceeds the $136,000\text{ m}^3$.

FortisBC has met with the B.C. EAO to provide an overview of the proposed Project and initiated discussions related to EA process and timing and consultation. The IPD was submitted to the B.C. EAO on February 11, 2020. The IPD was accepted and approved by the B.C. EAO on February 27, 2020 pursuant to Section 13(3)(a) of the B.C. *EAA*.

8.2 Federal *Impact Assessment Act*

The proposed Project will also be subject to the Federal IA process under the *IAA*. Section 38(d) of the *Physical Activities Regulations* includes;

"38 The expansion of one of the following: (d) an existing facility for the liquefaction, storage or regasification of liquefied natural gas, if the expansion would result in an increase in the liquefied natural gas processing or storage capacity of 50% or more and a total liquefied natural gas processing capacity of 3 000 t/day or more or a total liquefied natural gas storage capacity of $136\,000\text{ m}^3$ or more, as the case may be." (Government of Canada 2019b)

FortisBC has met with the IAAC to provide an overview of the proposed Project and initiated discussions related to IA process and timing and consultation. The IPD was submitted to the IAAC on February 11, 2020.

The proposed Project includes adding liquefaction of up to 7,700 t/d for a total facility LNG production of up to 10,460 t/d. The proposed Project represents an LNG processing increase of more than 50 percent and total LNG processing capacity exceeding 3,000 t/d.

The proposed Project includes adding working LNG storage of up to $142,400\text{ m}^3$ (3.5 PJ) for a total facility LNG storage of up to $216,400\text{ m}^3$ (5.5 PJ). The proposed Project represents an increase in LNG storage capacity of more than 50 percent and total LNG storage capacity of more than $136,000\text{ m}^3$. Therefore, the proposed Project would be considered a physical activity pursuant to the *Physical Activities Regulations* and is thereby reviewable under the *IAA*.

Given that both the Federal and Provincial EA processes are triggered, FortisBC submitted a request for substitution in March 2020. The Province will request the Federal Minister of Environment and Climate Change to approve the substitution of the Provincial EA process for the Federal IA process. If substitution is approved for the proposed Project, it is expected that the B.C. EAO will conduct the proposed Project Application in accordance with the Conditions set out in the Substitution Decision, and at the end of the assessment process the B.C. EAO will provide its report to both the Provincial and Federal Ministers for their consideration.

8.3 Other Permits and Approvals

The following subsection outlines potential additional permits that may be required before the proposed Project construction can begin (Table 8-1). Updates to this section of the DPD include removal of the Archaeology Information Form and addition of the Provincial Identification Number, Air Quality Permit, Non-Road Diesel Engine Registration, Soil Removal and Deposit Permit, and Highway Use Permit. Engagement has been and will continue to be considered as the preliminary list is developed.

Consultation with regulatory agencies is required to confirm permit requirements. FortisBC plans to make permit applications concurrent with the EA review process to optimize efficiency of combined processes and schedule. As the preliminary list of additional permits is developed, a schedule and timeline will be developed. During the Process Planning Phase, the B.C. EAO Regulatory Coordination Plan and the IAAC Permitting Plan will include an updated list of permits, licences and authorizations, as well as expected submission dates. Currently the permit process is expected to begin in 2022 and continue through 2025.

Table 8-1. Preliminary List of Additional Permits and Approvals for the Project

Approval	Agency	Legislation/ Regulation	Trigger(s)	Application Considerations	Anticipated Timing
Federal					
Request for Review and <i>Fisheries Act</i> Authorization for Paragraph 35(2) (b)	DFO	<i>Fisheries Act</i>	A Request for Review by DFO is required if proposed Project activities may result in harmful alteration, disruption, or destruction of fish habitat or the death of fish.	An assessment under the <i>Fisheries Act</i> will be completed by a QEP to determine the need for DFO review, focusing on potential impacts to adjacent/ downstream watercourses that provide fish habitat.	Q1 2023 – Q3 2023
Navigable Waters Application for Approval	Transport Canada	<i>Canadian Navigable Waters Act</i> Section 5	An approval is required for any major works located in, on, over, under, through or across any navigable water, regardless of whether it is listed in the Schedule; or a work (other than a minor work) that is located in, on, over, under, through or across navigable water that is listed in the Schedule. The Fraser River is listed in the Schedule.	An assessment will be completed by a QEP to determine if the Minor Works Order applies or if there is a need for approval.	Q3 2023
Provincial					
Facility Permit or Amendment	B.C. OGC	B.C. OGAA	An amendment to the existing facility permit or new facility permit is required for the construction and operation of the expansion.	The amendments could be completed in phases to align with the Construction Phases.	Q4 2022 – Q2 2023

Table 8-1. Preliminary List of Additional Permits and Approvals for the Project

Approval	Agency	Legislation/ Regulation	Trigger(s)	Application Considerations	Anticipated Timing
Facility Permit or Amendment (cont'd)	B.C. OGC	B.C. OGAA	See above	Requires site-specific environmental baseline fieldwork, detailed engineering information, and consultation with Indigenous nations and public stakeholders prior to submission of the proposed Project Application.	Q4 2022 – Q2 2023
Waste Discharge Authorization	B.C. OGC	B.C. OGAA	Discharge of tested and treated hydrostatic or other wastewater to the aquatic environment will require an Authorization.	This will be applied for as part of the Facility Permit Amendment Application to the B.C. OGC.	Q2 2022 – Q2 2023
HIP	B.C. MFLNRORD or B.C. OGC	HCA (Section 12.2)	An HIP is needed to conduct archaeological assessment prior to proposed Project activities causing ground disturbance in areas of archaeological potential.	An AOA has been completed for the proposed Project. The AOA determines if further archaeological assessment (such as, an AIA), is required. An AIA would require an HIP. Engagement with potentially affected Indigenous nations will be required during the preparation and review of the application.	Q2 2021
Heritage Site Alteration Permit	B.C. OGC B.C. MFLNRORD	HCA (Section 12.4)	A Heritage Site Alteration Permit would be required to alter (meaning to change in any manner) an archaeological site. More archaeological investigations are required before the need for this permit is determined. There are no known archaeological sites in the vicinity of the site.	Typically follows a HIP and/or Heritage Investigation Permit. Engagement with potentially affected Indigenous nations will be required during the preparation and review of the application. B.C. OGC has authority to issue the permits and will make the determination of issuance. The B.C. OGC and B.C. Archaeology Branch will determine which agency will issue Site Alteration Permits.	Q3 2022 – Q2 2023
CPCN (for public utility assets)	BCUC	B.C. Utilities Commission Act	A CPCN approval is needed prior to extensions to the public utility systems over a dollar threshold.	The BCUC conducts public hearings to determine whether the proposed Project is in the public convenience and necessity based on evidence gathered in the public hearing.	Q4 2019 – Q4 2021
DMA Approvals	B.C. MFLNRORD	DMA	An approval is required if changes are made to a dike or the area adjacent to a dike.	An assessment will be completed by a QEP to determine the need for the permit.	Q1 2023 – Q3 2023
General Permit Applications	B.C. MFLNRORD	Wildlife Act	Required for amphibian salvage, wildlife sundry, fish research at watercourse crossing, and fish salvage.	An assessment will be completed by a QEP to determine the need for the permit.	Q1 2022 – Q3 2022

Table 8-1. Preliminary List of Additional Permits and Approvals for the Project

Approval	Agency	Legislation/ Regulation	Trigger(s)	Application Considerations	Anticipated Timing
Provincial Identification Number	B.C. ENV	<i>Hazardous Waste Regulation</i>	Any person, partnership, or company in B.C. that produces, stores, treats, recycles, or discharges more than a prescribed quantity of hazardous waste must register with the Ministry Director within 30 days by completing a registration form and applying for a Provincial Identification Number.	An assessment will be completed to determine the need for the permit.	Q1 2022 – Q3 2022
Indigenous Nations					
First Nations Heritage Permits	Various Indigenous Nations	Indigenous policies	Several Indigenous nations issue permits for archaeological work conducted in their territory.	Permit applications will be submitted to all Indigenous nations who have a permitting process for heritage and archaeological investigations.	Q2 2021
Local Government					
Air Quality Permit or Air Quality Permit Amendment	Metro Vancouver	Bylaw 1082	The Province of B.C. has delegated authority to Metro Vancouver under Section 31 of the B.C. <i>EMA</i> to regulate air emissions. The Tilbury LNG facility has an existing air quality permit. A new permit or an amendment to the existing permit is anticipated as a result of changes to air emissions associated with the proposed Project.	A new permit or an amendment to the existing permit for anticipated airborne emissions from the proposed Project will be applied for.	Q4 2021 – Q1 2023
Non-Road Diesel Engine Registration	Metro Vancouver	Bylaw 1161	Non-road diesel engines (construction equipment) used on-site must meet requirements of the bylaw.	The registration will be completed prior to construction.	Q4 2021 – Q1 2023
Waste Discharge Permit	Metro Vancouver	Bylaw 299	May be required to discharge hydrostatic test and other construction wastewater (excluding contaminated water) to the sanitary sewer system.	The need for this permit will depend on how water will be disposed of during construction.	Q4 2021 – Q1 2023
Soil Removal and Deposit Permit	Delta/ B.C. ENV	Bylaw 7221/ <i>EMA/B.C. Contaminated Sites Regulation</i>	A permit is required for deposit or removal of any soil in Delta for non-residential purposes unless the quantities do not exceed 30 m ³ in volume in any consecutive 12-month period in accordance with Bylaw 7221.	An assessment will be completed to determine the need for the permit. Soil will likely be reused on-site, which may avoid the need for this approval.	Q1 2023 – Q3 2023
Building Permit	Delta	<i>Local Government Act</i>	A building permit would be required from Delta for new structures on the proposed Project Site.	This permit will be applied for once sufficient design has been completed for buildings and structures.	Q1 2023 – Q3 2023
Development Permit	Delta	<i>Local Government Act</i>	The proposed Project Site overlaps with Development Permit Areas designated by Delta	Consultation is required with Delta to confirm Development Permit requirements.	Q1 2023 – Q3 2023

Table 8-1. Preliminary List of Additional Permits and Approvals for the Project

Approval	Agency	Legislation/ Regulation	Trigger(s)	Application Considerations	Anticipated Timing
Tree Cutting Permit	Delta	Bylaw 7415	A Tree Cutting Permit is required from Delta for removal of any trees with a diameter of 20 cm or greater measured at 1.4 m above its base.	An assessment of tree removal requirements will be completed to determine the need for the permit. Tree removal will be avoided, where feasible.	Q1 2023 – Q3 2023
Highway Use Permit	Delta	Bylaw 6922	A permit is required for using the Delta highways and contributing to the wear and tear.	An assessment will be completed to determine the need for the permit.	Q1 2023 – Q3 2023

Notes:

Anticipated timing dates are approximate and are subject to change during the proposed Project development.

Phase 1A and Phase 1B permit timelines are independent of the proposed Project.

B.C. *EMA* = British Columbia *Environmental Management Act*

B.C. *ENV* = British Columbia Ministry of Environment and Climate Change Strategy

B.C. *OGAA* = British Columbia *Oil and Gas Activities Act*

cm = centimetre(s)

DFO = Fisheries and Oceans Canada

DMA = *Dike Maintenance Act*

QEP = Qualified Environmental Professional

9. Federal Involvement – Financial Support, Lands, and Legislative Requirements

There are no Federal lands or reserves that will be used for the purpose of carrying out the proposed Project. The proposed Project will not require Federal financial support and is located in an area that has not been the subject of Federal Regional environmental studies. During construction, equipment and supplies may be delivered via the Fraser River to the proposed Project Site. The portion of the Fraser River next to the proposed Project Site is within Provincial jurisdiction. The closest Federal lands to the proposed Project Site are on the southern tip of Tilbury Island. The parcels are narrow strips of land in the riparian area of the Fraser River and a side channel. The closest parcel is 150 m to the southwest and encompasses a portion of the Tilbury Island dike, which is used as a public walking trail and directly across the Fraser River from the proposed Project Site (approximately 900 m north) is a complex of Federally-owned industrial parcels on Lulu Island. The businesses directly adjacent to the river include Lulu Island Terminal, Coast 2000 Terminals, and Westran Portside Terminal. Potential Federal permits and approvals are listed in subsections 8.2 and 8.3.

10. Environmental, Economic, Social, Culture, and Health Effects

This section provides a brief overview of the potential environmental, economic, social, culture, and health effects, and proposed mitigation, as they are currently understood, that may arise from construction, operation, and decommissioning for the proposed Project. The following subsections have been updated, as applicable, incorporating the Federal and Provincial guidance documents for detailed project descriptions.

Each subsection includes a summary of feedback received during the Early Engagement Phase, how issues and concerns have been addressed, or will be addressed in the proposed Project Application, and updates that have been made to the DPD. Additional information collected on sensitive environmental values include:

- A desktop review of existing conditions for the atmospheric environment including climate, air quality, GHGs, and noise;
- Identified Areas of Potential Environmental Concern (APECs) and their associated potential contaminants of concern;
- Additional information on potential in-water works associated with upgrades to the MOF;
- Updated biophysical conditions; and
- Updated socio-economic statistical information.

No Indigenous Knowledge was shared during Early Engagement for inclusion into the description of existing conditions, both biophysical and non-biophysical. FortisBC is conducting ongoing engagement with Indigenous nations and will incorporate any applicable Indigenous Knowledge as permissible by the respective Indigenous nations. FortisBC plans to include Indigenous Knowledge in sections of the Project Application related to both physical non-biophysical aspects as it is made available, including indicator measures including but not limited to non-biophysical changes to land and resource uses.

As a result of the additional work described above, some new potential effects have been identified. Potential atmospheric effects include increased dust, noise and GHG emissions. Subsection 10.2 has been added to provide additional information on potential effects to the atmospheric environment. Preliminary estimates of average annual direct, indirect and net GHG emissions per phase of the proposed Project have been provided. No new effects to Vegetation, Wildlife and Wildlife Habitat, or Fish and Fish Habitat have been identified. Potential effects from the MOF have been described in subsection 10.3, however upgrades will depend on the state of the existing earth jetty at the time of construction.

Subsection 10.5 provides an updated description of potential proposed Project-related effects to human and community well-being, including a comparison of potentially differential effects to distinct human populations in subsection 10.5. Positive effects associated with the proposed Project include increased employment opportunities, business contracts, and government revenues.

Project-specific benefits include equal opportunity skills training and employment opportunities, as well as local and Indigenous procurement and contracting.

During the Process Planning Phase and continued engagement, the potential effects will be further refined and included for assessment in the proposed Project Application.

Detailed Project Description

Future methods of information collection that will occur through continued engagement include working with Indigenous nations and the Technical Advisory Committee (TAC) as determined through Process Planning. Information will be gathered from other stakeholders, such as local government, Provincial agencies, various non-governmental associations and groups, and other interested parties through meetings, and through feedback collected from the public through future open houses, the proposed Project-specific website TalkingEnergy.ca, email, and phone line.

Appendix D provides the responses to the Joint Summary of Issues and Engagement raised during review the IPD and Appendix G provides a comprehensive list of issues and concerns raised during the Early Engagement Phase, how they were addressed, and the corresponding updates that have been made in the DPD, VC Selection Document, and draft AIRs. Subsections 11.3 and 12.4 of the DPD detail ongoing engagement activities planned for the proposed Project.

Historical environmental reports and assessments reviewed in preparation of the DPD included:

- FortisBC Tilbury LNG Expansion Project - Riparian Assessment (Jacobs 2021)
- Numerous stage 1 and 2 preliminary site investigations, Phase I and Phase II environmental site assessments, geotechnical assessments, site profile and certificates of compliance
- Summary of Site Conditions, 7150 Tilbury Road (B.C. MOE 2010)
- Environmental review for the proposed FortisBC Energy Inc. Tilbury 2 Project Phase 1A (TERA 2013)
- Environmental review for the proposed FortisBC Energy Inc. Tilbury 2 Project Phase 1A – Dike Improvements (TERA 2014)
- Bird Nest Survey – Tilbury Island Dike Upgrade Project (CH2M 2018)
- Tilbury Marine Jetty Project Environmental Assessment (WesPac 2019)
- Delta Grinding Facility Project Description (Lehigh Hanson Materials Ltd. 2019)

No other EAs were referenced in the development of this DPD. A site visit was conducted by QEPs in October 2019 for the Tilbury CPCN Environmental Overview Assessment (EOA). Reconnaissance was conducted to collect information on APECs; vegetation and wildlife Species at Risk and habitat features; watercourses or drainages; and habitat potential. A preliminary riparian survey was conducted in January 2021. Additional field surveys were recommended as a result of these initial surveys. The conclusions from various biophysical feasibility studies listed above have been used to inform the baseline data collection and understanding of potential Interactions.

The data collected as part of the desktop review and site visit was used to support the baseline information for this DPD and will be used for the proposed Project Application. FortisBC will conduct air quality modelling and noise assessments for the proposed Project Application as well as contaminated site investigations and surveys for Provincially- and Federally-listed species. FortisBC will engage with regulators and Indigenous nations to determine if additional studies are required for the proposed Project Application during the Process Planning Phase.

The guidance and standards to be used for the various studies are included in the draft AIR and will be further advanced during the Process Planning Phase. A preliminary list of anticipated studies and their applicable guidelines and standards are listed in Table 10-1.

Table 10-1. Preliminary List of Anticipated Studies to be Developed for the Project Application

Name of Study	Author	Status	Applicable Guidelines and Standards
Atmospheric Technical Studies <ul style="list-style-type: none"> ▪ GHG ▪ Noise ▪ Air Emissions 	RWDI	Underway	<ul style="list-style-type: none"> ▪ B.C. Air Quality Dispersion Modelling Guidelines ▪ B.C. OGC Noise Control Best Practice Guideline ▪ SACC ▪ Metro Vancouver Dispersion Modelling Plan ▪ B.C. EAO Effects Assessment Policy ▪ Practitioner's Guide to Federal IAs under the IAA ▪ Local government Noise Control Bylaws ▪ Health Canada 2017- Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise
Contaminated Site Investigations - Preliminary Site Investigation – Stage 1 and 2	Jacobs	Underway	<ul style="list-style-type: none"> ▪ B.C. ENV Technical Guidance Documents 1, 2, 4, 6, 8, 10, 11, and 19 ▪ B.C. Surface Water Quality Guidelines ▪ B.C. ENV Protocols ▪ <i>Agricultural Land Reserve Use Regulation</i> ▪ B.C. EAO Effects Assessment Policy ▪ Practitioner's Guide to Federal IAs under the IAA
Biophysical Technical Report	Jacobs	Anticipated	<ul style="list-style-type: none"> ▪ Resources Information Standards Committee standard protocol for wildlife surveys ▪ Environmental Protection and Management Guide ▪ Wetland Ways; Interim Guidelines for Wetland Protection and Conservation in B.C. ▪ Invasive Species Policy ▪ Accounts and Measures for Managing Identified Wildlife ▪ Develop with Care 2014 Guidelines ▪ Best management practices and relevant recovery planning documents for various wildlife species ▪ Guidelines for Evaluating, Avoiding, and Mitigating Impacts of Major Development Projects on Wildlife in B.C. ▪ B.C. EAO Effects Assessment Policy ▪ Practitioner's Guide to Federal IAs under the IAA ▪ B.C. Approved Water Quality Guidelines: Aquatic Life, Wildlife and Agriculture ▪ B.C. Approved Water Quality Guidelines: Recreation ▪ B.C. Field Sampling Manual ▪ B.C. Fish and Fish Habitat Inventory Standards and Methods ▪ B.C. Guidelines for Designing and Implementing a Water Quality Program ▪ Habitat Wizard fish capture queries ▪ Riparian Management Guidebook – Forest Practices Code of B.C. ▪ B.C. Water, Land and Air Protection Standards and Best Practices for Instream Works ▪ Fish and Fish Habitat Protection Policy Statement ▪ DFO's Measures to Protect Fish and Fish Habitat ▪ DFO's Standards and Codes of Practice
Human and Community Well-being Technical Reports including Economic Technical Report	Two Worlds Consulting	Anticipated	<ul style="list-style-type: none"> ▪ Human and Community Well-being Guidelines for Assessing Social, Economic, Cultural, and Health effects in EAs in B.C. ▪ B.C. EAO Effects Assessment Policy ▪ B.C. EAO User Guide: Introduction to Environmental Assessment under the B.C. EAA Version 1.01 ▪ B.C. EAO Early Engagement Policy Version 1.0 ▪ Interim Guidance: GBA+ in IA ▪ Guidance for Evaluating Human Health Impacts in EA: Human Health Risk Assessment ▪ Practitioner's Guide to Federal IAs under the IAA

Table 10-1. Preliminary List of Anticipated Studies to be Developed for the Project Application

Name of Study	Author	Status	Applicable Guidelines and Standards
Human Health Risk Assessment	Jacobs	Anticipated	<ul style="list-style-type: none"> Health Canada, Guidance for Evaluating Human Health Impacts in EA: Human Health Risk Assessment B.C. EAO Effects Assessment Policy Government of Canada Practitioner's Guide to Federal IAs under the IAA B.C. EAO Human and Community Well-Being (v1.0) Guidelines for Assessing Social, Economic, Cultural, and Health Effects in EA
Visual Quality Assessment	Jacobs	Anticipated	<ul style="list-style-type: none"> B.C. EAO Effects Assessment Policy Practitioner's Guide to Federal IAs under the IAA Human and Community Well-Being (v1.0) Guidelines for Assessing Social, Economic, Cultural, and Health Effects in EA <i>LNG Facility Regulation</i> B.C. Noise Control Best Practices Guideline (light emissions components only) B.C. OGC Light Control Best Practices Guideline
AIA*	Golder	Underway	<ul style="list-style-type: none"> AIA Guidelines Project-specific requirements under an HCA Permit
BAT	FortisBC	Anticipated	<ul style="list-style-type: none"> Strategic Assessment of Climate Change Practitioner's Guide to Federal IAs under the IAA
Indigenous Knowledge ^a – may include TUS, TUOS, Traditional Ecological Knowledge Studies, etc.	Author to be determined through TUS agreements with Indigenous nations.	Anticipated ^b Cowichan Nation Alliance has provided a previously developed TUOS to be used on this proposed Project ^c	<ul style="list-style-type: none"> Guidelines and standards to be established in collaboration with each Indigenous nation Practitioner's Guide to Federal IAs under the IAA Guide to Indigenous Knowledge in EAs B.C. EAO Effects Assessment Policy

Notes:

The list of anticipated studies will continue to be developed during engagement with Indigenous nations, IAAC, B.C. EAO, and TAC through Process Planning.

^aFor informational use. Not to be appended in the proposed Project Application.

^bFortisBC anticipates conducting TUS agreement discussions with the Indigenous nations, and that traditional use studies will be conducted in accordance with those agreements.

^cThe Cowichan Nation Alliance TUOS was developed specifically for the Tilbury Marine Jetty project and has been approved for use in the Tilbury Phase 2 assessment. IKS developed for other projects but approved for use in the proposed Project Application may not provide sufficient information to meet new Provincial and Federal IA guidelines or align with methodology developed to assess effects of the proposed Project on Indigenous nations and Interests.

GBA+ = Gender-based Analysis Plus

SACC = Strategic Assessment of Climate Change

TUOS = Traditional Use and Occupancy Study

TUS = Traditional Use Study

10.1 Environmental Effects on Federal Lands, in a Province Other Than British Columbia, or Outside of Canada

The proposed Project Site is located on private land owned by FortisBC within the local government boundaries of Delta and a portion of the Fraser River, within Provincial jurisdiction. Potential changes to

the environment as a result of carrying out the proposed Project are not anticipated to interact with or impact Federal lands, a Province other than B.C., or outside of Canada. Potential trans-B.C.-boundary effects will be determined during the development of the proposed Project Application, but could include, for example, air quality and GHG emissions.

10.2 Atmospheric Environment

The following subsections provide baseline information for air quality, GHG emissions, and noise. Potential proposed Project-related effects to the atmospheric environment will be further developed through the Process Planning Phase and assessed in the proposed Project Application.

The issues heard through the Early Engagement process have been incorporated, where practical, into the DPD. For example, some Indigenous nations expressed concerns about potential effects to the scope and methods used to calculate GHG emissions, as well as the proposed Project's contribution to and alignment with Provincial and Federal emissions reductions targets. Governments, the public and other parties expressed concerns about potential effects to air quality and use of the most stringent air quality standards and objectives in the proposed Project Application. Table 10-2 provides an overview of matters raised during engagement with the public, governments, and other groups up until July 19, 2021 of the Early Engagement Phase. Table 10-3 provides a similar summary for Indigenous nations. Both tables provide an indication of how FortisBC is proposing to respond to points raised during Early Engagement in the DPD and the subsequent Application. Where comments are directly related to the contents and scope of the DPD, Tables 10-2 and 10-3 indicate the location in the DPD document where these comments were addressed. Where comments were outside the scope of the DPD, for example relating to the contents of the Project Application document, Tables 10-2 and 10-3 indicate this.

Table 10-2. Summary of Topics Related to the Atmospheric Environment Arising from Early Engagement with Governments, the Public, and Other Groups During Early Engagement

Group Engaged	Issue Related to the Atmospheric Environment Raised during Early Engagement	Potential Relationship to the Atmospheric Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Early Engagement
Governments (including Local governments, Provincial and Federal agencies and representatives)	Potential effects on air quality during all phases of the proposed Project, including use of the most stringent air quality standards and objectives in the Application and alignment with Metro Vancouver's Regional AAQOs.	Atmospheric Air Quality	Subsection 10.2 has been added to provide more information on the atmospheric environment. The proposed Project Application will use the Canadian Ambient Air Quality Standards and Metro Vancouver's regional air quality objectives in the assessment of effects to the atmospheric environment.	Subsection 10.2 provides climate and air quality setting information and a preliminary identification of potential effects to air quality and use of the Canadian Ambient Air Quality Standards and Metro Vancouver's regional air quality objectives for the proposed Project.
	Potential effects due to underwater noise, as well as noise and steam vapour characteristics.	Noise effects	A noise assessment will be conducted for the construction and operation phases of the proposed Project. A comprehensive environmental noise monitoring program will be conducted using a series of sound level meters in order to define the existing noise environment. The potential environmental effects of underwater noise will be investigated in the proposed Project Application.	Subsection 10.2 identifies potential sources of noise associated with the proposed Project.
	The proposed Project's contribution of GHG emissions to climate change and the ability of Local, Provincial, and Federal government ability to meet emissions targets.	GHG Emissions and Local, Provincial, and Federal emissions reduction targets.	Subsection 10.2 has been added to provide more information on the atmospheric environment, including CO ₂ e emission estimates compared to Local, Provincial, and Federal emission targets.	Subsection 10.2 has been added to provide a preliminary estimate of annual GHG emissions by proposed Project phase and source. Subsection 10.2 outlines the applicable legislation and a preliminary estimate of the Projects contribution to Provincial and Federal GHG emissions reduction targets.
	Inclusion of net annual GHG emissions.	GHG assessment scope and methodology	Subsection 10.2 of the DPD has been added to provide a preliminary net GHG emission estimate on an annual basis. Further detailed analyses will be provided in the proposed Project Application.	Subsection 10.2 of the DPD has been added to provide a preliminary net GHG emission estimate on an annual basis, based on preliminary design and representative equipment specifications available at this time.

Table 10-2. Summary of Topics Related to the Atmospheric Environment Arising from Early Engagement with Governments, the Public, and Other Groups During Early Engagement

Group Engaged	Issue Related to the Atmospheric Environment Raised during Early Engagement	Potential Relationship to the Atmospheric Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Early Engagement
	The scope and methodologies used in GHG emissions estimates.	GHG assessment scope and methodology	The estimates of direct and indirect (acquired) proposed Project GHG emissions have been updated since the IPD based on preliminary proposed Project design and representative equipment specifications available at this time. Updated GHG emission estimates will be prepared for the Project Application in accordance with the B.C. EAO, IAAC, and SACC requirements.	Subsection 10.2 has been added to provide details on the scope of activities included in the GHG emissions estimates and a description of the methods, data and assumptions used for the quantification of GHG emissions.
	Effects on country foods from the release of contaminants of potential concern into the environment (air, water, soil) which could be absorbed by foods sourced through hunting, trapping, fishing and harvesting, grown for subsistence or medicinal purposes or having Indigenous cultural importance.	Country foods	Subsection 10.5 includes information on the existing issues in the Fraser River related to country food contamination and notes that the proposed Project Site has already been subject to contamination remediation efforts because of previous activities. Potential impacts of the proposed Project on the quality and quantity of country foods will be assessed under the Human Health VC as well as the Indigenous Interests sections in the Application. Mitigation measures to reduce or avoid adverse effects to country foods will be included in the Application.	Subsection 10.2 has been added to provide climate and air quality setting information and preliminary identification of potential effects to air quality. Subsection 10.5 has been updated to provide more information on the existing issues in the Fraser River related to country food contamination and notes that the proposed Project Site has already been subject to contamination remediation efforts because of previous activities
	Project impacts on future generations due to GHG emissions and climate change.	Project impacts on current and future generations	The Application will include an evaluation of how VCs and Indigenous interests contribute to the proposed Project's positive or negative effects on current and future generations. Climate change will be considered part of future conditions when evaluating specific VCs, these impacts will be included in the Current and Future Generations evaluation, where appropriate.	No changes made. Will be addressed in the Project Application.

Table 10-3. Summary of Topics Related to the Atmospheric Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Atmospheric Environment Raised during Early Engagement	Relationship to the Atmospheric Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Kwantlen First Nation	Concerns about Project impacts on climate change	Effects on Climate Change	The Project Application will include an assessment of the proposed Project's Contribution to Climate Change. Specific scoping of the assessment will be determined through Process Planning.	No changes made. To be addressed through Process Planning.
Cowichan Nation Alliance: Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut First Nation and Stz'uminus First Nation	Project impacts on air quality and odour and the subsequent impacts on birds.	Effects of poor air quality on birds	An effects pathway has been added to assess the linkage between the Wildlife VC and the Air Quality VC.	Subsection 10.2 provides a preliminary estimate of GHG emissions, including indirect emissions.
Indigenous Nations: Cowichan Nation Alliance: Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut First Nation and Stz'uminus First Nation Tsleil-Waututh Nation	Clarification on how all upstream, downstream and indirect emissions, including transportation through the jetty, will be quantified and assessed.	Upstream, downstream, and indirect emissions	The preliminary estimates of direct and indirect (acquired) proposed Project GHG emissions have been updated since the IPD based on preliminary proposed Project design and representative equipment specifications available at this time. Detailed GHG analysis will be prepared for the proposed Project in the Project Application. The methodology for the GHG analysis will be confirmed during Process Planning. During process planning, but FortisBC proposes to conduct an assessment consistent with the SACC. The B.C. EAO will decide if an upstream GHG emissions assessment is required. If required, the assessment of upstream GHG emissions and cumulative effects will be provided in subsection 10.2 Atmospheric Environment in the Project Application. The B.C. EAO, supported by ECCC, makes the decision on the need for an upstream GHG assessment.	Subsection 10.2 has been added to provide a preliminary estimate of GHG emissions.

Table 10-3. Summary of Topics Related to the Atmospheric Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Atmospheric Environment Raised during Early Engagement	Relationship to the Atmospheric Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
	Effects of noise on the quality of practicing traditional practices including fishing, and the subsequent impacts to health, culture, knowledge transmission, and sense of place.	Effects of noise	The Project Application will include an acoustic assessment. Specific scoping of the Acoustic Assessment will be determined through Process Planning.	No changes made. To be addressed through Process Planning.
	Clarification on GHG emissions calculations including scope of activities, temporal scope, methodologies and assumptions.	GHG emissions estimates and methodology	The estimates of direct and indirect (acquired) proposed Project GHG emissions have been updated since the IPD based on preliminary proposed Project design and representative equipment specifications available at this time. Updated GHG emission estimates will be prepared for the Project Application to satisfy the B.C. EAO, IAAC, and SACC requirements. In addition to FortisBC's Clean Growth Pathway to 2050 (described in subsection 1.1), FortisBC will be considering proposed Project-specific design measures and Company practices to optimize and mitigate proposed Project GHG emissions. Existing climate conditions and future climate scenarios will be considered in the assessment of cumulative effects.	Subsection 10.2 provides a preliminary estimate of annual GHG emissions by proposed subsection 10.2 provides a preliminary estimate of annual GHG emissions by proposed Project phase and source. Subsection 10.2 provides details on the scope of activities included in the GHG emissions estimates and a description of the methods, data and assumptions used for the quantification of GHG emissions. Subsection 10.2 provides a preliminary estimation of GHG emissions broken down by Project phases.
Indigenous Nations: Cowichan Nation Alliance: Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut First Nation and Stz'uminus First Nation Katzie First Nation	Interaction between noise and vibration with fish behavior and marine mammals.	Effects of noise and vibration	Potential effects to marine mammals will be evaluated in detail in the Project Application under the Wildlife VC, including potential impacts as a result of noise. The Project Application will include an effects assessment on vibration and fish behavior under the Fish and Fish Habitat VC.	No changes made. To be addressed in the Project Application.

Table 10-3. Summary of Topics Related to the Atmospheric Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Atmospheric Environment Raised during Early Engagement	Relationship to the Atmospheric Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Indigenous Nations: S'ólh Téméxw Stewardship Alliance Tsleil-Waututh Nation	Project impacts on air quality and the subsequent effects to wildlife, traditional food sources, and human health.	Effects of air quality	The Project Application will consider a project case and cumulative case for air quality emissions. These assessments will use the latest available air quality monitoring data from the vicinity of the Project as background and for existing conditions. An effects pathway has been added to assess the linkage between the Wildlife VC, Human Health VC, and the Air Quality VC. The methodology used in the detailed air quality assessment that will be conducted for the Project Application will satisfy the requirements of Metro Vancouver, B.C. EAO, IAAC, and the SACC.	No changes made. To be addressed through Process Planning.
Tsleil-Waututh Nation	Relative contribution of the proposed Project to provincial, national and sector GHG emissions as well as the Provincial and Federal climate targets.	Proposed Project contribution to Provincial and Federal GHG emissions	Subsection 10.2 has been added to provide a preliminary estimate of GHG emissions and discussion of Provincial and Federal targets. Detailed GHG analysis will be prepared for the proposed Project in the Project Application where an updated comparison to Provincial and Federal targets will be made.	Subsection 10.2 provides a preliminary estimate of annual GHG emissions by proposed Project phase and source. Subsection 10.2 outlines the applicable legislation and a preliminary estimate of the Projects contribution to Provincial and Federal GHG emissions reduction targets.
	Climate impact assessment for fugitive methane emissions.	Fugitive emissions	Subsection 10.2 has been added to provide a preliminary estimate of GHG emissions, including fugitive emissions. Detailed GHG analysis will be prepared for the proposed Project in the Project Application. The methodology for the GHG analysis will be confirmed during Process Planning.	Subsection 10.2 provides a preliminary estimate of GHG emissions, including fugitive emissions.

Table 10-3. Summary of Topics Related to the Atmospheric Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Atmospheric Environment Raised during Early Engagement	Relationship to the Atmospheric Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Tsleil-Waututh Nation (Cont'd)	Effects of increased GHG emissions on climate change and the subsequent impacts to human health and cultural health of Indigenous communities, including the climate-related decline of seafood harvest on the nutritional status of Coastal First Nations in B.C.	Impacts on Climate Change and linkages to human and cultural health	Subsection 10.5 notes that contamination is an anticipated community concern, particularly from Indigenous communities and those who harvest country foods. FortisBC will undertake soil and groundwater analyses as part of the Project Application (subsection 10.2). Health risks related to quality and quantity for country foods will be assessed in the Health Setting section of the Project Application. Climate change will be addressed in several sections in the Project Application including cumulative effects (related to future conditions for VCs, including human health), GHG emissions, and effects of the environment on the proposed Project.	Subsection 10.5 has been updated and this issue will be addressed in the Project Application.
	Project impacts on Aboriginal Right to fish, practice and preserve traditional culture and self-governance due to Project effects on air quality and compounding impacts of climate change.	Effects on air quality and linkages to Aboriginal Rights	Tsleil-Waututh Nation's access to fisheries and other Indigenous interests related to the proposed Project will be assessed in Section 11 of the Application. Table 11-2 - Preliminary Identification of Potential Effects to Indigenous Interests Resulting from Project Activities of the DPD provides an overview of how accessibility to subsistence resources, traditional culture, and self-governance will be considered in the Application.	No changes made. To be addressed through Process Planning.
	Request 'Climate Change' be considered as a VC separate from the 'Air Quality' VC and include cumulative effects assessment (CEA) for GHG emissions.	Climate change assessment	Climate change-related effects will be addressed in several sections in the proposed Project Application including climate change and GHG emissions (Section 8 of the draft AIR), effects of the environment on the proposed Project and identified residual effects to be	No changes made. To be addressed through Process Planning.

Table 10-3. Summary of Topics Related to the Atmospheric Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Atmospheric Environment Raised during Early Engagement	Relationship to the Atmospheric Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Tseil-Waututh Nation (Cont'd)			carried forward to a CEA. GHG emission estimates will be prepared for the proposed Project Application to satisfy the B.C. EAO, IAAC, and SACC requirements.	
	Impacts to nearby carbon sinks including Burns Bog and other historical peatlands adjacent to the proposed Project Site	Impact on Carbon Sinks	The air quality assessment will assess potential effects of air contaminant emissions on peatland and vegetation within the LAA and RAA as appropriate.	No changes made. To be addressed in the Project Application.
	Impacts of natural gas on indoor air quality for consumers in Metro Vancouver	Indoor air quality and human health	The purpose of the proposed Project is not to increase the number of householder users. An assessment of downstream domestic exposure to NO ₂ produced as a result of natural gas combustion is considered outside the scope of the proposed Project. As part of the air quality analysis for Project emissions, a standard assessment approach will be followed. For the proposed Project, this approach involves determining off-property short-term and long-term concentrations of NO ₂ using air dispersion modelling and comparing those concentrations against applicable outdoor AAQOs, which are protective of human health.	No changes made.
	Limited spatial scope inhibits assessment of emissions from the LNG facility and shipping operations on regional air quality during construction and operation	GHG assessment scope and methodology	FortisBC has engaged Air Quality Specialists from RWDI to conduct the Air Quality assessment for the proposed Project and determine the appropriate study area boundaries. Based on RWDI's experience, it is expected that the Air Quality effects from the LNG facility during construction and operation will	No changes made. To be addressed through Process Planning.

Table 10-3. Summary of Topics Related to the Atmospheric Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Atmospheric Environment Raised during Early Engagement	Relationship to the Atmospheric Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Tsleil-Waututh Nation (Cont'd)			be captured within a 20 km by 20 km LAA. Any residual effects of facility emissions within the 30 km by 30 km RAA will also be modelled as part of the CEA. Air modelling to be completed for the proposed Project Application will confirm the determination of spatial boundaries for the assessment.	

10.2.1 Climate and Air Quality

The proposed Project Site experiences generally mild and mildly varying temperatures throughout the seasons owing to the proximity to the Pacific Ocean. Daily average temperatures in the area range from 2°C in the winter months to 19°C in the summer, while average monthly rainfall ranges from 37 millimetres (mm) in July to 199 mm in November (based on ECCC Climate Normals for Richmond Nature Park). Winds typically blow from the east and northeast in the winter months; while in the spring and summer, and to a lesser extent in the fall, sea breeze circulations add westerly and southerly winds to the dominant easterly winds. Climate change is causing more frequent extreme heat and wildfire smoke events during the summer months, leading to episodes of elevated PM_{2.5} and PM₁₀ ground concentrations in recent years.

Tilbury Island is located within Metro Vancouver, which has an extensive air quality network. Baseline concentrations of CACs (such as, NO₂, PM_{2.5}, coarse particulate matter [PM₁₀], SO₂, CO,) will be computed based on the nearest Metro Vancouver air quality monitoring stations, which are: Richmond South (T17), North Delta (T13), Burnaby South (T18), Richmond airport (T31), and Tsawwassen (T39). The air quality is generally good with CAC concentrations below the Metro Vancouver Ambient Air Quality Objectives (AAQOs). The proposed Project Site is however located in a predominantly industrial area, with air contaminants emitted from nearby industrial activities and marine traffic. In particular, baseline NO₂, PM_{2.5} and PM₁₀ concentrations in the area are over half their respective Metro Vancouver AAQO, B.C. AAQO, and Canadian Ambient Air Quality Standards (CAAQS) (2020 and 2025); baseline SO₂ concentrations in the area are small (less than 10 percent of the Metro Vancouver AAQO, B.C. AAQO, and 2020 CAAQS). Baseline CO concentrations are *de minimis*.

A comprehensive study of the effects on air quality from construction, operation, and decommissioning will be completed.

Proposed Project interactions and associated potential proposed Project-related effects are described as follows.

Air quality will be affected by dust from grading and construction and decommissioning activities, mobile emissions (from trucks, boats and barges, and equipment), and power generation; dust will be monitored during the Construction and Decommissioning Phases.

During the Operations Phase, the use of electrical compressors for the liquefaction process will minimize air quality impact of the proposed Project. Air quality will be affected by CAC emissions from the thermal oxidizer and oil heater, vaporizers, maintenance and emergency flaring, and fugitive emissions.

The proposed Project's predicted CAC emissions will be modelled and compared to Metro Vancouver's AAQOs, and the impact on CAC concentrations from the proposed Project will be evaluated for normal operations as well as during upset conditions (maintenance, malfunctions, accidental releases).

Dispersion modelling of the CAC emissions from the proposed Project sources, baseline, and foreseeable developments in the area will be completed and predicted cumulative effects compared to the Metro Vancouver AAQOs, CAAQS (2020 and 2025), and B.C. Provincial AAQOs. Operational stack emissions will be subject to monitoring as part of permit Conditions.

10.2.2 Greenhouse Gases

During Early Engagement, concerns were raised related to the proposed Project's contribution of GHG emissions to climate change and the ability of local, Provincial, and Federal government to meet emissions targets, inclusion of net annual GHG emissions, and the scope and methodologies used in GHG emissions estimates. This section has been added to provide a preliminary estimate of annual GHG emissions by proposed Project phase and source and includes a description of methods, data, and applicable legislation. The estimates of direct and indirect (acquired) proposed Project GHG emissions have been updated since the IPD based on preliminary proposed Project design and representative equipment specifications available at this time. Estimates include all proposed Project components; however, the bulk of emissions are expected to come from the operation of the Liquefaction Capacity component.

Activities associated with all phases of the proposed Project, including construction, operations, and decommissioning, can directly emit GHGs or cause GHG emissions indirectly, which have the potential to affect the environment by altering radiative forcing and the acidity of the oceans. To aggregate the impact of all GHGs on radiative forcing, GHG emissions in this section are reported in CO₂e, which is the amount of CO₂ that would cause the same the radiative forcing over a 100-year period. Additional GHG-related definitions can be found in the Glossary at the beginning of this document.

Table 6-1 in subsection 6.1 provided preliminary estimates of proposed Project-related direct emissions of CO₂, CH₄, and N₂O in tonnes per year. The focus of this section are environmental effects of the proposed Project. Therefore, tables in this section present total GHG emissions in tonnes of CO₂e/year. In addition to direct proposed Project-related GHG emissions, acquired energy and off-site GHG emissions, which are not under the control of FortisBC but a consequence of the proposed Project, are also presented.

Table 10-4 provides preliminary estimates of proposed Project-related direct GHG emissions and their sources per proposed Project phase. These estimates are based on FortisBC's preliminary Project design. Pre-FEED engineering has been completed on a 2.5 MTPA capacity liquefaction train. The GHG estimate on this basis was developed using the methodologies outlined in subsection 10.2. These emissions estimates are based on the current technology and emissions regulation.

Table 10-4. Preliminary Estimates of Direct Energy GHG Emissions per Phase

Phase	Duration (years)	Emission Sources	Average Annual Emissions by Phase (tCO ₂ e/year)
Construction	3 to 6	CO ₂ , CH ₄ , and N ₂ O emissions from construction vehicles and equipment for site/ground improvements, aboveground tank construction, and liquefaction modules offloading and erection	5,060
Operations	40 to 60	CO ₂ , CH ₄ , and N ₂ O emissions from combustion in thermal oxidizers, hot oil heaters, flare, fugitives and vented emissions	191,000
Decommissioning	2	CO ₂ , CH ₄ , and N ₂ O emissions from construction/demolition vehicles and equipment and disposal of material	N/A

Notes:

Values rounded to three significant figures.

tCO₂e/year = tonnes of carbon dioxide equivalent per year

Annual average direct GHG emissions during the 3-year Construction Phase are estimated to be about 5,060 tCO₂e/year, or a total of approximately 15,180 tCO₂e. Should the construction period extend (such as, to 6 years) annual construction emissions will diminish. During operations at full capacity, annual direct GHG emissions are estimated at 191,000 tCO₂e/year.

At the beginning of operations, additional commissioning emissions can occur. These can vary considerably and cannot be reliably estimated at this early stage.

Table 10-5 provides preliminary estimates of proposed Project-related acquired energy GHG emissions (that is, GHG emissions occurring in B.C. as a result of electricity consumption at the proposed Project Site) and their sources per proposed Project phase.

Table 10-5. Preliminary Estimates of Acquired Energy GHG Emissions (Indirect GHG Emissions from Consumed Electricity) per Phase

Phase	Duration (years)	Emission Type(s)	Emission Source(s)	Emissions (tCO ₂ e/year)
Construction	3 to 6	None expected	Existing electrical equipment services at proposed Project Site will be used during construction	0
Operations	40 to 60	Acquired energy emissions of CO ₂ , CH ₄ , N ₂ O, SF ₆	Operation of power plants and the electricity transmission and distribution system to provide electrical power to the proposed Project's electric drive compression liquefaction facility	43,100
Decommissioning	2	None expected	Use of electrical equipment during decommissioning is unlikely	0

Notes:

Values have been rounded to three significant figures to reflect the early stage of design information.

These estimates are preliminary and based on the proposed Project design as it is currently envisioned before going through detailed design.

SF₆ = sulphur hexafluoride

B.C. ENV publishes the GHG grid intensity factors to be used in estimating the acquired energy related GHG emissions. These factors are considerably higher than those published in the past by BC Hydro that have historically been used for such estimates. Using B.C. ENV factors, it is estimated that operations of the electric drive-based liquefaction facility will result in approximately 43,100 tonnes of acquired energy CO₂e emissions per year based on proposed incremental liquefaction 7,700 t/d, which is equivalent to 2.5 MTPA when accounting for annual planned maintenance downtime.

Following guidance in ECCC 2020, Table 10-6 provides estimates of annual net GHG emissions by proposed Project phase, which is to be calculated as:

- Net GHG emissions = Direct GHG emissions + Acquired energy GHG emissions - CO₂ captured and stored - Avoided domestic GHG emissions - Offset credits

At the current stage, avoided domestic GHG emissions have not been quantified and opportunities for CO₂ carbon capture, and storage and purchasing of offset credits have not yet been identified.

Therefore, net GHG emissions shown in Table 10-6 are the sum of direct and acquired energy GHG emissions.

Table 10-6. Preliminary Estimate of Net GHG Emissions per Phase

Phase	Duration (years)	Direct Emissions (tCO ₂ e/year)	Acquired Energy Emissions (tCO ₂ e/year)	Net Emissions (tCO ₂ e/year)
Construction	3 to 6	5,060	0	5,060
Operations	40 to 60	191,000	43,100	234,000
Decommissioning	2	N/A	0	N/A

Notes:

Values have been rounded to three significant figures to reflect the early stage of design information. Totals may not add up due to rounding errors.

These estimates are preliminary and based on the proposed Project design as it is currently envisioned before going through detailed design.

Annual average direct GHG emissions during the 3-year Construction Phase are estimated to be about 5,060 tCO₂e/year, or a total of approximately 15,180 tCO₂e. Should the construction period extend (such as, to 6 years) annual construction emissions will diminish.

N/A = no information available at this stage, but emissions can reasonably be assumed to be lower than for construction.

Net GHG emissions of the proposed Project during operations are estimated to be 234,000 tCO₂e at full production of 7,700 t/d or 2.5 MTPA, which corresponds to a CI of 0.09 tCO₂/tLNG. It should be noted that changes to estimation processes, such as that related to electricity grid related emissions discussed above, make direct comparisons to other LNG project CIs difficult.

Table 10-7 provides preliminary estimates of three indirect scope GHG emissions (caused by proposed Project activities but beyond FortisBC's control) and their sources per proposed Project phase. These estimates are based on FortisBC's preliminary understanding of activities that are caused by the proposed Project.

Table 10-7. Preliminary Estimates of Indirect Scope 3 GHG Emissions

Phase	Duration (years)	Emission Source(s)	Total Emissions by Phase and Source (tCO ₂ e)	Total Emissions by Phase (tCO ₂ e)	Average Annual Emissions by Phase (tCO ₂ e/year)
Construction	3 to 6	Indirect emissions of CO ₂ , CH ₄ , N ₂ O from on-road delivery of construction material to proposed Project Site	441	5,270	1,760
		Indirect emissions of CO ₂ , CH ₄ , N ₂ O from marine delivery of construction material to proposed Project Site	1,070		
		Indirect emissions of CO ₂ , CH ₄ , N ₂ O from marine delivery of liquefaction modules to proposed Project Site	3,770		
Operations	40 to 60	Ship loading/transferring of LNG and shipping to international waters were accounted for and reported in the Tilbury Marine Jetty project EA	N/A	N/A	N/A
Decommissioning	2	Information on transportation of material for disposal/recycling/ re-use is not available at this stage but emissions can reasonably be assumed to be lower than for construction	N/A	N/A	N/A

Notes:

Values have been rounded to three significant figures to reflect the early stage of design information; and totals may not add up due to rounding errors. These estimates are preliminary and based on the proposed Project design as it is currently envisioned before going through detailed design. Annual average indirect GHG emissions during the 3-year Construction Phase are estimated to be about 1,760 tCO₂e/year, or a total of approximately 5,270 tCO₂e. Should the construction period extend (such as, to 6 years) annualized indirect construction emissions will diminish.

During the 3-year Construction Phase, it is estimated that 1,760 tCO₂e will be emitted annually from on-road delivery of construction material, from delivery of construction material by barges, and marine delivery of liquefaction modules within Canadian waters.

10.2.2.1 Methods and Data

Table 10-8 summarizes the methods used to calculate GHG emissions by source types and the available data. At this time, the most detailed design information has been developed for a 2.5 MTPA facility that has not been optimized for GHG emissions reduction. A GHG estimate on this basis was developed using the methodologies outlined as follows. Detailed GHG emission estimates will be prepared for the proposed Project in the Application to satisfy the B.C. EAO and IAAC requirements and the SACC.

Table 10-8. Summary of GHG Emission Methods

Source Type	Emission Estimation Methodology	Data Variables	Source of Data
Construction equipment	$ER_{CO_2e} = (EF_{CO_2} \times GWP_{CO_2} + EF_{CH_4} \times GWP_{CH_4} + EF_{N_2O} \times GWP_{N_2O}) \times Fuel_y$	EF _{GHG} – Emission Factor for respective GHG GWP _{GHG} – Global Warming Potential for respective GHG Fuel _y – Fuel Usage per year	EF _{GHG} – Obtained from ECC's (2020) Greenhouse Gas Quantification Requirements GWP _{GHG} – As per IPCC's (2007) Fourth Assessment Report Fuel _y – calculated based on equipment type and utilization data provided by Golder (2020) for the proposed Project and load factors and brake-specific fuel consumption default values obtained from U.S. EPA
Delivery vehicles	$ER_{CO_2e} = EF_{CO_2e} \times D$	EF _{CO₂e} – Emission Factor for CO ₂ e D – Distance Travelled	EF _{CO₂e} – Obtained from U.S. EPA MOVES (2018) emissions model for fleet type D – estimated based on delivery vehicle types and hours used or number of deliveries as provided by Golder (2020) and assumed travel speed (40 kilometres per hour) or distance per trip (30 km)
Marine vessels	$ER_{GHG} = EF_{GHG} \times P \times L \times T$	EF _{GHG} – Emission Factor for respective GHG per vessel P – Engine size per vessel L – Average Engine Load Factor per Vessel T – Travel time per vessel	EF _{GHG} – Obtained from data within the EAC Application (Marine Shipping Assessment) for the WesPac Tilbury Marine Jetty project (2019) P – Obtained from typical specifications for each vessel type L – Obtained from typical specifications for each vessel type T – Based on assumed travel time per carrier (inbound and outbound) and the total number of deliveries per carrier as provided by FortisBC
Thermal oxidizer	$ER_{CO_2e} = (EF_{CO_2} \times GWP_{CO_2} + EF_{CH_4} \times GWP_{CH_4} + EF_{N_2O} \times GWP_{N_2O}) \times HHV \times Fuel_y$	EF _{GHG} – Emission Factor for respective GHG GWP _{GHG} – Global Warming Potential for respective GHG Fuel _y – Fuel Usage per year HHV – Higher Heating value of fuel combusted	EF _{GHG} – Obtained from ECC's (2020) Greenhouse Gas Quantification Requirements GWP _{GHG} – As per IPCC's (2007) Fourth Assessment Report Fuel _y – Fuel consumption as provided by FortisBC HHV – Higher Heating value for fuel combusted as provided by FortisBC

Table 10-8. Summary of GHG Emission Methods

Source Type	Emission Estimation Methodology	Data Variables	Source of Data
Hot oil heater	$ER_{CO_2e} = (EF_{CO_2} \times GWP_{CO_2} + EF_{CH_4} \times GWP_{CH_4} + EF_{N_2O} \times GWP_{N_2O}) \times HHV \times Fuel_y$	EF_{GHG} – Emission Factor for respective GHG GWP_{GHG} – Global Warming Potential for respective GHG $Fuel_y$ – Fuel consumed per year HHV – Higher Heating value of fuel combusted	EF_{GHG} – Obtained from ECC's (2020) Greenhouse Gas Quantification Requirements GWP_{GHG} – As per IPCC's (2007) Fourth Assessment Report $Fuel_y$ – Fuel consumption as provided by FortisBC HHV – Higher Heating value for fuel combusted as provided by FortisBC
Flare	$ER_{CO_2e} = (EF_{CO_2} \times GWP_{CO_2} + EF_{CH_4} \times GWP_{CH_4} + EF_{N_2O} \times GWP_{N_2O}) \times HHV \times Fuel_y$	EF_{GHG} – Emission Factor for respective GHG GWP_{GHG} – Global Warming Potential for respective GHG $Fuel_y$ – Fuel consumed per year HHV – Higher Heating value of fuel combusted	EF_{GHG} – Obtained from ECC's (2020) Greenhouse Gas Quantification Requirements GWP_{GHG} – As per IPCC's (2007) Fourth Assessment Report $Fuel_y$ – Fuel consumption as provided by FortisBC and based on hours of operation HHV – Higher Heating value for fuel combusted as provided by FortisBC
Fugitive	$ER_{CO_2e} = ER_{CH_4} \times GWP_{CH_4}$	ER_{CH_4} – Emission Rate for CH_4 GWP_{CH_4} – Global Warming Potential for CH_4	ER_{CH_4} – Based on fugitive fuel rate and mass percent of CH_4 in fuel as provided by FortisBC GWP_{CH_4} – As per IPCC's (2007) Fourth Assessment Report
Venting	$ER_{CO_2e} = V_{NG} \times \%_{CO_2} \times \rho_{CO_2} \times GWP_{CO_2}$	V_{NG} – Volume of natural gas (as feed gas) ρ_{CO_2} – density of CO_2 $\%_{CO_2}$ – volumetric percentage of CO_2 in feed gas	V_{NG} – based on liquefaction rate as provided by FortisBC and composition of natural gas $\%_{CO_2}$ – percentage of CO_2 in feed gas as provided by FortisBC
Acquired energy	$ER_{CO_2e} = EF_{CO_2e} \times E$	EF_{CO_2e} – Emission Factor for CO_2e E – Electricity Demand	EF_{CO_2e} – Obtained from B.C.'s Electricity Emission Intensity Factors for integrated grid E – estimated based on the power load and hours of operation for liquefaction and tank equipment as provided by FortisBC

Notes:

IPCC = Intergovernmental Panel on Climate Change

U.S. EPA = United States Environmental Protection Agency

WesPac = WesPac Midstream Ltd.

All proposed Project-related activities are expected to occur within the same geographic footprint as existing activities at the Tilbury facility, and minor land-surface conversions are expected over the proposed Project lifetime. Minor tree clearing is possible due to the MOF and additional vegetation clearing may be required for ditches within the proposed Project Site. The overall vegetation clearing for the proposed Project is anticipated to be minimal since the proposed Project is largely already graveled and therefore proposed Project activities are not anticipated to result in substantial direct or indirect effects on carbon sinks.

10.2.2.2 Applicable Legislation and Additional Considerations

Canada's Pan-Canadian Framework on Clean Growth and Climate Change makes commitments to reduce GHG emissions by 30 percent below 2005 levels by 2030. The *Canadian Net-Zero Emissions Accountability Act* commits to a national GHG emissions target of net-zero emissions by 2050.

B.C.'s *Climate Change Accountability Act* (formerly the *Greenhouse Gas Reduction Targets Act*) makes commitments to reduce GHG emissions by 40 percent over 2007 levels by 2030, 60 percent over 2007 levels by 2040, and 80 percent over 2007 levels by 2050. In response to Bill 38-2019 (the *Climate Change Accountability Amendment Act*), the Minister of Environment and Climate Change Strategy introduced an interim target for 2025 to reduce GHG emissions by 16 percent over 2007 levels and a target range for the oil and gas sector of 33 to 38 percent over 2007 by 2030.

The proposed Project's GHG emissions will be regulated under the Provincial *Greenhouse Gas Industrial Reporting and Control Act* and related regulations.

Metro Vancouver has developed the Climate 2050 strategy, which targets a 45 percent reduction in GHG emissions from 2010 levels, by 2030 (Metro Vancouver 2020).

FortisBC anticipates that additional GHG emission analyses will be required for the proposed Project Application to satisfy the B.C. EAO and IAAC requirements and the SACC.

During the Early Engagement Phase of the proposed Project, concerns related to climate change and GHG emissions were raised. Specifically, concerns were raised regarding the proposed Project's contribution to GHG emissions and effects on government's ability to meet their GHG reduction targets, FortisBC's ability to meet its 30BY30 Target, and consideration of BAT.

Based on preliminary estimates, the operational emissions from the proposed Project are 0.05 percent (+ or - .1 percent) of the 2030 Federal target GHG emissions. Based on preliminary estimates, the operational emissions from the proposed Project are 0.5 percent (+ or - .1 percent) of the 2025 Provincial target GHG emissions, 0.6 percent (+ or - .1 percent) of the 2030 Provincial target GHG emissions, 1 percent (+ or - .1 percent) of the 2040 Provincial target GHG emissions, and 2 percent (+ or - .1 percent) of the 2050 Provincial target GHG emissions (Table 10-9). These contribution estimates do not reflect any actions taken, for example through efforts to meet the Provincial CleanBC targets or other initiatives.

Table 10-9. Preliminary Estimates of Project Contributions to Federal and British Columbia Emission Targets

	Reduction Target (%)	Annual Emissions (ktCO ₂ e/year)	Project Contribution (%)
Project Annual Net Emissions	n/a	234	n/a
Federal 2005 Baseline ^a	n/a	730,000	0.032
Federal 2030 Target	30	511,000	0.046
B.C. 2007 Baseline ^b	n/a	60,800	0.38
B.C. 2025 Target	16	51,100	0.46
B.C. 2030 Target	40	36,500	0.64
B.C. 2040 Target	60	24,300	0.96
B.C. 2050 Target	80	12,200	1.9
B.C. Oil and Gas 2007 Baseline ^c	n/a	12,800	1.8
B.C. Oil and Gas 2030 Target	33-38	7,900-8,600	2.7-3.0

Notes:

^a Source: UN Climate Change 2020

^b Source: Government of B.C. 2007a

^c Source: Government of B.C. 2007a; sum of upstream and downstream oil and gas emissions.

Annual emissions rounded to three and proposed Project contributions to two significant figures.

Values have been rounded to reflect the early stage of design information.

ktCO₂e/year = kilotonne(s) of carbon dioxide equivalent per year

Although the proposed Project would result in local operational GHG emissions, LNG would reduce local and global emissions by replacing higher CI fuels. Based on preliminary estimates the avoided GHG emissions as a result of utilizing LNG from Tilbury are approximately 6 million tonnes of CO₂e annually.

FortisBC has set a target to reduce customer GHG emissions by 30 percent by the year 2030, which is inclusive of GHG emissions reductions enabled by supply of low CI LNG to local and global markets displacing higher emission fuels such as coal and diesel. The pathway to FortisBC's 30BY30 Target is outlined in its Clean Growth Pathway and summarized in subsection 1.1.

The Tilbury LNG Phase 1 and Phase 2 facilities are expected to play a vital role in meeting the 30BY30 Target by producing LNG as a lower-carbon fuel for marine transportation and for global markets. LNG from Tilbury can reduce GHG emissions in ships by up to 27 percent when switching from conventional marine fuel, depending on the engine type.

Over time and in alignment with Canada's target of Net Zero by 2050, LNG can include an increasing blend of low carbon RNG to further reduce the GHG emissions from downstream users. Low carbon energy like RNG will be a key component of the long-term decarbonization strategy for downstream users like international marine vessels.

10.2.3 Noise

The existing noise environment within the area surrounding the Tilbury facility is dominated by existing industrial activity on Tilbury Island and the local road system which is primarily from traffic along Hopcott Road, Tilbury Road, River Road and South Fraser Perimeter Road. Additional environmental noise that may be present would be from marine activity along the Fraser River and industrial activity in Richmond directly across the Fraser River from the Tilbury facility.

A noise assessment will be conducted for the construction and operation phases of the proposed Project. A comprehensive environmental noise monitoring program will be conducted using a series of sound level meters in order to define the existing noise environment, where permission is granted. The existing noise environment will provide the framework for allowable contributions from the proposed Project. Based on previous noise monitoring in the area, the ambient sound level at surrounding receptors is generally dominated by road traffic, shipping, and airplane activity. Noise from proposed Project operations and other surrounding oil and gas projects will be assessed cumulatively against the applicable noise target level for each identified receptor.

The potential environmental effects of underwater noise will be investigated in the proposed Project Application.

10.3 Physical Environment

The proposed Project Site is located near the Fraser River, in the Fraser Lowlands section of the Georgia Depression Physiographic Region. The Fraser River flows through glacio-fluvial and alluvial deposits, ending in a delta approximately 10 km downstream of the proposed Project Site. Bedrock types are dominated by sedimentary, volcanic, and granitic (TERA 2013).

The proposed Project Site is on generally flat terrain and drains generally to the west and northwest by way of a drainage ditch, which is understood to flow into the Tilbury Slough, approximately 100 m south of the proposed Project Site. The slope of the land ranges from 0 to 2 degrees throughout the proposed Project Site.

The following subsections have been updated to include Early Engagement Phase input, summarize baseline information and preliminary effects to be further developed through the Process Planning Phase and the proposed Project Application.

The issues heard through the Early Engagement process have been incorporated, where practical, into the DPD. For example, some Indigenous nations expressed concerns about potential effects to water quality in the Fraser River and Tilbury Slough. Governments, the public, and other parties expressed concerns about potential effects on country foods from the release of contaminants of potential concern into the environment. Table 10-10 provides an overview of matters raised during engagement with the public, governments, and other groups up until July 19, 2021 of the Early Engagement Phase. Table 10-11 provides a similar summary for Indigenous nations. Both tables provide an indication of how FortisBC is proposing to respond to points raised during Early Engagement in the DPD and the subsequent Application. Where comments are directly related to the contents and scope of the DPD, Tables 10-10 and 10-11 indicate the location in the DPD document where these comments were addressed. Where comments were outside the scope of the DPD, for example relating to the contents of the Application document, Tables 10-10 and 10-11 indicate this.

Table 10-10. Summary of Topics Related to the Physical Environment Arising from Early Engagement with Governments, the Public, and Other Groups During Early Engagement

Group Engaged	Issue Related to the Physical Environment Raised during Early Engagement	Potential Relationship to the Physical Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Early Engagement
Governments (including Local governments, Provincial and Federal agencies and representatives)	Inclusion of a seismic hazard assessment and effects related to seismic activity, including liquefaction and other relevant hazards	Geology and soils	Soil densification at the proposed Project Site will be conducted to meet seismic requirements, to support the load of the LNG tank, and to verify a stable surface for constructing the facility. The Application will include an assessment of effects of the environment on the proposed Project, including earthquakes.	No updates have been made to subsection 10.3. Refer to subsection 10.8 for a discussion of the potential effects of a seismic event on the proposed Project.
	Effects on country foods from the release of contaminants of potential concern into the environment (air, water, soil) which could be absorbed by foods sourced through hunting, trapping, fishing and harvesting, grown for subsistence or medicinal purposes, or having Indigenous cultural importance.	Contaminated soils and groundwater	Potential effects of the proposed Project on the quality and quantity of country foods will be assessed under the Human Health VC as well as the Indigenous Interests sections in the Application. Mitigation measures to reduce or avoid adverse effects to country foods will be included in the Application.	Subsection 10.3 indicates that the proposed Project Site has already been subject to contamination remediation efforts because of previous activities and has been updated to include information about the results of the EOA completed for the CPCN application. Subsection 10.5 has been updated to include information on potential bioaccumulation of toxic substances.
	Effects on water quality and turbidity resulting from instream, upland, and on-site activities during all proposed Project phases.	Water and aquatic systems	Subsection 10.3 has been updated to provide more information on potential effects from upgrades to the MOF. The Application will assess the potential effect of these activities on water quality under the Surface Water, Marine Water and Sediment Quality, Infrastructure and Services, and Human Health VCs. Mitigation measures will be proposed to reduce or avoid potential effects to water quality.	Subsection 10.3 has been updated to provide more information on potential effects from upgrades to the MOF.
	Timing and frequency of removing and redepositing large quantities of water in the Fraser River.	Water and aquatic systems	The Application will provide additional details about water withdrawal and discharge volumes,	Subsection 10.3 has been updated to provide more information on

Table 10-10. Summary of Topics Related to the Physical Environment Arising from Early Engagement with Governments, the Public, and Other Groups During Early Engagement

Group Engaged	Issue Related to the Physical Environment Raised during Early Engagement	Potential Relationship to the Physical Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Early Engagement
			timing, and frequency. The Application will assess the potential effect of these activities on water quality under the Surface Water, Marine Water and Sediment Quality, Infrastructure and Services, and Human Health VCs. Mitigation measures will be proposed to reduce or avoid potential effects to water quality.	potential effects from upgrades to the MOF.
	Long-term effects on water quality from deposition of airborne PM generated by the plant operation, discharges related to effluent, and storm water management.	Water and aquatic systems	The Application will assess the potential effect of these activities on water quality under the Surface Water, Infrastructure and Services, and Human Health VCs. Mitigation measures will be proposed to reduce or avoid potential effects to water quality.	Subsection 6.2 has been updated to provide information on the planned hydrostatic testing associated with the Project. Section 10.3 has been updated to provide details on potential activities that could impact water quality.

Table 10-11. Summary of Topics Related to the Physical Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Physical Environment Raised during Early Engagement	Relationship to the Physical Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Indigenous Nations: Katzie First Nation Tsleil-Waututh Nation	Concerns about the potential for impacts on water quality in the Fraser River and Tilbury Slough, with respect to hydrostatic testing discharges to the Fraser River, and associated impacts on fisheries.	Water quality	The Application will assess the potential effect of these activities on water quality under the Surface Water, Infrastructure and Services, and Human Health VCs. Mitigation measures will be proposed to reduce or avoid potential effects to water quality.	Subsection 6.2 has been updated to provide information on the planned hydrostatic testing associated with the Project. Subsection 10.3 has been updated to provide details on potential activities that could impact water quality.
	Concerns about the potential for changes to Fraser River hydraulic conditions and associated downstream impacts.	Hydraulic conditions in the Fraser River	Most proposed Project activities will take place, upland, on the proposed Project Site. Any potential effects of the proposed Project to the Fraser River will be assessed in the Project Application for the Surface Water and Fish and Fish Habitat VCs.	Subsection 10.3 has been updated to provide details on potential activities that could impact water quality.
S'ólh Téméxw Stewardship Alliance	Concerns about the impacts on surface water quality from dredging and contamination and its effects on fish health upstream.	Surface Water quality	The Project construction will be primarily in the upland areas away from the Fraser River and Tilbury Slough, with limited in-water construction planned. Possible in-water works and upland upgrades are part of the scope of the assessment and will be assessed in the Application. FortisBC acknowledges the potential for Project interactions with water quality and migratory fish species. The Surface Water and Fish and Fish Habitat VCs spatial boundaries include areas upstream of the proposed Project Site that act as local background reference sites to identify potential impacts to water quality that may affect fish and fish habitat as a result of the proposed Project.	No changes made. Will be addressed in the Project Application.

Table 10-11. Summary of Topics Related to the Physical Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Physical Environment Raised during Early Engagement	Relationship to the Physical Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Tsleil-Waututh Nation	Concerns about potential contamination to surface water quality if there is a major flood and the facility is inundated, given the site's location on a floodplain.	Surface Water	The Project location is behind the City of Delta's flood defence infrastructure. FortisBC raised and reinforced the existing dike in 2018 to increase flood protection of the site. That said, flooding will be considered in the Effects of the Environment on the Project Section of the Project Application.	No updates made. Will be addressed in the Application.
	Concerns about impacts on waterways and soil due to impacts on air quality. For example, nitrogen oxide emissions could cause acid deposition, which would have a negative impact on soil and waterways.	Impacts of air quality on waterways and soil	The Air Quality VC has several linkages including to the Water Quality and Soil VCs. Acid Deposition is included as a sub-component of the Air Quality VC in the draft AIR, and acidification and eutrophication are listed as topics to be addressed by the assessment.	No updates made. Will be addressed in the Application.
Tsawwassen First Nation	Concerns about being able to review the full spectrum of pollutants that will be measured for water quality as all indicators of hydrology and water quantity involved in the water balance model.	Pollutants	The source of studies used to support the water quality and quantity assessment will be detailed in the existing conditions section of the proposed Project Application. Links to reports and information sources available online will be provided. The assessment will use FRAMP water quality data collected by Metro Vancouver, ECCC's Pacific Water Quality Monitoring and Surveillance program at Gravesend Reach (Buoy BC08MH0453) and hydrometric data from Water Survey of Canada stations at Hope (#08MF005) and Mission (#08MH024). If proposed Project-specific water quality and/or flow monitoring is required, laboratory reports or field sheets will be included in appendices.	No updates made. Will be addressed in the Application.

10.3.1 Geology and Soils

Surficial materials at the proposed Project Site are typical of flood plain or deltaic deposits, composed of very deep silts, sands, and clays. These unconsolidated materials are deposited in layers and extend up to 200 m below the surface of the ground. The soil stratigraphic profile of the proposed Project Site shows silt or clay loams to a depth of approximately 5 m, overlaying deep (~25 m) deposits of Fraser River sand, which is situated on top of very deep (> 100 m) marine deposits (Golder 2013).

The proposed Project Site elevation is approximately 1 masl and is typical of flood plain sites, with a fluctuating water table and soils that are saturated during the winter months due to poor drainage, flat topography and dense, fine-textured soils (Green and Klinka 1994).

Based on information collected from a geotechnical assessment conducted in 2013, the water table at the proposed Project Site is high, with groundwater encountered between 0.5 m and 1 m below the surface of the ground (Golder 2013).

Soil densification at the proposed Project Site will be conducted to meet seismic requirements, to support the load of the LNG tank, and to provide a stable surface for constructing the facility.

Soil densification and ground improvement activities will require excavation and removal of large amounts of surficial material from the proposed Project Site, as well as the deposit of large amounts of sand and gravel.

Potential interactions between the proposed Project and soils will be further developed in the proposed Project Application.

Potential proposed Project-related effects include the generation and mobilization of sediment, which could have an adverse effect on nearby watercourses.

FortisBC will control sediment production and mobilization through erosion control measures and sediment collection or settling facilities. Ground and surface water will be controlled through measures such as proposed Project Site isolation, damming, or pumping around work areas.

10.3.2 Contaminated Soils and Groundwater

The entire proposed Project Site was historically used for agricultural purposes. In the early 1970s, the western portion of the proposed Project Site was occupied by a sawmill and the eastern portion was developed for the Tilbury LNG facility. The proposed Project Site was subject to numerous environmental investigations and remediation efforts from 1991 to 2014. A Certificate of Compliance under the B.C. *Contaminated Sites Regulation* was obtained for the western portion of the proposed Project Site, formerly the sawmill site. This area has since been developed with additional infrastructure as part of the Phase 1 expansion of the Tilbury LNG facility. The EOA for the CPCN application, resulted in eight APECs and their associated potential contaminants of concern were identified for the Tilbury site. A Stage 1 and 2 Preliminary Site Investigation (PSI) was conducted in 2020/2021 and APECs were identified for the proposed Project Site. A Stage 2 PSI is planned for the proposed Project Site in 2021 to investigate soils, groundwater, and soil vapour.

10.3.3 Water and Aquatic Systems

The property boundary extends between 20 m and 30 m southeast of the Fraser River. Between the proposed Project Site and the Fraser River is a dike, which is maintained by Delta. A portion of the dike is located within the FortisBC property and was upgraded by FortisBC in 2019 to the latest earthquake and flood standard. The existing earth jetty extends approximately 74 m past the dike and into the river.

The south end of the property is approximately 100 m north of Tilbury Slough, a side channel of the Fraser River. The proposed Project Site has been mostly cleared for industrial purposes and has no natural watercourses. There are a series of drainage ditches located on the property that serve to drain surface water from the proposed Project Site. Site drainage enters Tilbury Slough via a culvert located at the southwest end of the property.

Flood protection measures, as outlined by Delta during the building permit process, will be incorporated into building design and ground improvement plans.

Potential interactions between the proposed Project and water and aquatic systems are summarized as follows.

Proposed Project construction will be primarily in the upland areas away from the Fraser River and Tilbury Slough with the exception of possible upgrades to the existing earth jetty for use as a MOF during construction. The existing earth jetty will likely be upgraded prior to construction of the proposed Project by either the Tilbury Marine Jetty project or as part of the Tilbury Phase 1 site upgrades. Additional upgrades may be required to accommodate barge unloading of proposed Project equipment modules during construction. The possible additional upgrades are expected to focus on the topside of the jetty and upland areas, which may include improving grading and load bearing and dike upgrades.

If in-water works are necessary, the upgrades may include the installation of piles, removal of damaged piles, placement of fill and rip rap, and vegetation removal. The extent of any additional upgrades required for the proposed Project will depend on the state of the existing earth jetty at the time of construction but are expected to be primarily on the topside and upland areas. The possible in-water works are part of the scope of the assessment and will be more defined as design continues through the next phase of the proposed Project.

Potential proposed Project-related effects to the aquatic environment resulting from upgrading and use of the MOF, including increased marine traffic during construction may include localized changes in flow direction, velocity, scouring, and sedimentation. Potential effects to fish and fish habitat are discussed in subsection 10.4. Sediment and erosion control measures will be implemented to reduce water quality effects to the aquatic environment from construction activities.

Hydrostatic testing of the LNG storage tank and piping will be required prior to commissioning. Test water will be collected, tested, and discharged either to the river or the sanitary sewer system or if approved under certain conditions and applicable Waste Disposal Authorizations and Metro Vancouver Sewer Use Permit. The source and discharge location for water will be confirmed following additional detailed design and will be presented in the proposed Project Application.

10.4 Biological Environment

The biological components addressed in this section are vegetation, wildlife and wildlife habitat, and fish and fish habitat.

Detailed information on the biological resources of the proposed Project Site is presented in the following subsections.

Subsections 11.3 and 12.1 and Appendix D of this DPD detail the summary of engagement following acceptance of the IPD and Engagement Plan (FortisBC 2020) for the proposed Project. Biophysical environmental issues raised are considered in the development of baseline studies and the effects assessments. Subsections 11.3 and 12.4 of this DPD describe the planned engagement. As the proposed Project progresses, engagement and Indigenous Knowledge will be incorporated where applicable.

The issues heard through the Early Engagement process have been incorporated, where practical, into the DPD. For example, some Indigenous nations expressed concerns about potential effects to all five species of Pacific salmon, white sturgeon, and eulachon. Governments, the public and other parties expressed concerns about potential effects to wildlife, aquatic and non-aquatic Species at Risk, and marine mammals.

Table 10-12 provides an overview of matters raised during engagement with the public, governments, and other groups up until July 19, 2021 of the Early Engagement Phase. Table 10-13 provides a similar summary for Indigenous nations. Both tables provide an indication of how FortisBC is proposing to respond to points raised during Early Engagement in the DPD and the subsequent Application.

Where comments are directly related to the contents and scope of the DPD, Tables 10-12 and 10-13 indicate the location in the DPD document where these comments were addressed. Where comments were outside the scope of the DPD, for example relating to the contents of the Application document, Tables 10-12 and 10-13 indicate this.

Table 10-12. Summary of Topics Related to the Biological Environment Arising from Early Engagement with Governments, the Public, and Other Groups During Early Engagement

Group Engaged	Issue Related to the Biological Environment Raised during Early Engagement	Potential Relationship to the Biological Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Early Engagement
Governments (including Local governments, Provincial and Federal agencies and representatives)	Inclusion of a vegetation inventory in the proposed Project Footprint and mitigation for the effects of construction and operation on vegetation were raised by Indigenous nations, local governments, and regulatory agencies.	Vegetation	The Tilbury site is a developed, industrial site that has largely been cleared of vegetation. However, there are a few areas on the site that may require vegetation removal during construction. The Application will include a vegetation inventory of the proposed Project Footprint and will assess potential effects to vegetation under the Vegetation VC. Mitigation measures will be proposed to reduce or avoid potential effects to vegetation.	Subsection 10.4 has been updated to include potential effects of the proposed Project on vegetation as well as potential activities associated with upgrades to the MOF.
	Potential effects on Wildlife and Wildlife Habitat, aquatic and non-aquatic Species at Risk, and marine mammals and their habitat.	Wildlife and wildlife habitat	The Application will assess potential effects to wildlife, aquatic and non-aquatic Species at Risk, and marine mammals and their habitat under the Fish and Fish Habitat and Wildlife and Wildlife Habitat VCs. Mitigation measures will be provided to reduce or avoid potential effects to these species.	Subsections 10.4 has been updated to provide preliminary details of the baseline conditions and potential effects of the proposed Project on wildlife, marine mammals, aquatic and non-aquatic Species at Risk.
	Potential effects on migratory birds protected under the <i>Migratory Birds Convention Act</i> (Government of Canada 1994) as well as the inclusion of a nest survey to determine potential effects on nesting birds at the site	Migratory birds	The Application will assess potential effects to migratory birds and will include the results of a nest survey at the site. Mitigation measures will be provided to reduce or avoid potential effects to these species.	Subsection 10.4 has been updated to provide preliminary details of the baseline conditions and potential effects of the proposed Project on migratory birds.
	Potential effects on fish (including salmon, sturgeon, steelhead, and eulachon) mortality, lifecycle, productivity and habitat through alteration, disruption, and destruction of fish habitat during all proposed Project phases	Fish and fish habitat	The Application will assess potential effects to fish (including salmon, sturgeon, steelhead, and eulachon) and their habitat under the Fish and Fish Habitat VC.	Subsection 10.4 provides preliminary details of the baseline conditions and potential effects of the proposed Project on fish and fish habitat.

Table 10-12. Summary of Topics Related to the Biological Environment Arising from Early Engagement with Governments, the Public, and Other Groups During Early Engagement

Group Engaged	Issue Related to the Biological Environment Raised during Early Engagement	Potential Relationship to the Biological Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Early Engagement
	Additional information was requested to determine if the upgrades to the MOF requires a <i>Fisheries Act</i> authorization. As well, a mitigation plan for effects to fish and fish habitat, including timing windows for construction of MOF was requested.	Fish and fish habitat	Mitigation measures will be developed during the proposed Project's detailed design stage and design considerations will be used to reduce effects of construction and operation of the MOF on fish and fish habitat. The scope of the proposed Project Application and mitigation plans will be finalized during the Process Planning Phase of the B.C. EAO process. A Permit Plan will be prepared during the Process Planning Phase that will include more details on potential authorization requirements under the <i>Fisheries Act</i> .	Subsection 10.4 has been updated to include additional information on the potential activities associated with upgrades to the MOF.

Table 10-13. Summary of Topics Related to the Biological Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Biological Environment Raised during Early Engagement	Relationship to the Biological Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Cowichan Nation Alliance: Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut First Nation and Stz'uminus First Nation	Plant surveys should be conducted in the spring to ensure accurate vegetation detection and identification.	Existing conditions of vegetation	FortisBC agrees that spring vegetation surveys are preferred. FortisBC has planned vegetation surveys to be conducted for the spring and summer 2021.	No changes made.
	Concerns about impacts to fish behavior due to vibrations around the proposed Project Site.	Potential impacts to fish	Potential effects to fish behavior will be included in the Fish and Fish Habitat VC.	

Table 10-13. Summary of Topics Related to the Biological Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Biological Environment Raised during Early Engagement	Relationship to the Biological Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
<p>Indigenous Nations:</p> <p>Cowichan Nation Alliance: Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut First Nation and Stz'uminus First Nation</p> <p>Katzie First Nation</p> <p>Tsleil-Waututh Nation</p>	<p>Concerns about potential impacts on Tilbury Slough and the Fraser River (including to migratory and shoreline habitats) near the proposed Project Site and subsequent effects on fish and fish habitat, including to white sturgeon and eulachon, and all five species of pacific salmon.</p>	<p>Potential impacts to fish and fish habitats</p>	<p>FortisBC confirms that the Tilbury Slough will be included in the Fish and Fish Habitat LAA. The proposed Project is not expected to directly disturb the Tilbury Slough, with stormwater drainage being the primary consideration. Proposed Project construction activities will primarily disturb upland areas, away from the Fraser River. FortisBC will minimize duration of any in-water works to extent practicable and consider applicable timing windows. The proposed Project Application will assess potential effects to fish, migratory routes and all species of salmon present in the Fraser River in the Fish and Fish Habitat VC. Mitigation measures to reduce or avoid adverse effects to fish and fish habitat will be proposed, including limiting scale and duration of instream works and following reduced risk timing windows.</p>	<p>Subsection 10.4 has been updated to include the Tilbury Slough within the Fish and Fish Habitat LAA and to provide preliminary details of the baseline conditions and potential effects of the proposed Project on fish and fish habitat. Subsection 10.4 has been updated to provide preliminary details of the baseline conditions and potential effects of the proposed Project on fish and fish habitat.</p>
<p>Katzie First Nation</p>	<p>Concerns about the potential for impacts to marine mammals</p>	<p>Potential impacts to marine mammals including from noise</p>	<p>Preliminary information about potential effects to marine mammals is provided in the DPD in subsection 10.4. Potential effects to marine mammals will be evaluated in detail in the Project Application under the Marine Use VC, including potential impacts as a result of noise. Acoustic monitoring during installation of upgrades to the MOF may be warranted, depending on the final design. Noise monitoring requirements will be addressed in the Project Application and through discussions with DFO.</p>	<p>Subsection 10.4 has been updated to provide preliminary details of the baseline conditions and potential effects of the proposed Project on marine mammals.</p>

Table 10-13. Summary of Topics Related to the Biological Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Biological Environment Raised during Early Engagement	Relationship to the Biological Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
	Concerns about the potential for impacts to amphibians that may be present in Tilbury Slough.	Potential impacts to amphibians	The proposed Project is not expected to directly disturb the Tilbury Slough, with stormwater drainage being the primary consideration. Any potential indirect effects to amphibians, including those that may be present in Tilbury Slough will be assessed in the proposed Project Application under the Wildlife VC.	Subsection 10.4 has been updated to provide preliminary details on amphibian habitat potential within the Wildlife LAA.
Indigenous Nations: Katzie First Nation Tsleil-Waututh Nation	Concerns about using current baseline data to determine effects to habitat. Impacts should be considered above a pre-contact baseline and Indigenous Knowledge should be incorporated throughout the EA to provide a holistic and comprehensive description of the existing baseline conditions.	Pre-contact baseline and Indigenous Knowledge integration	The scope of the assessment will be determined in the Process Planning Phase. The Process Planning Phase will provide opportunities to further discuss assessment approaches, including determination of an appropriate baseline. As indicated in subsection 11.3 of the DPD, FortisBC will be engaging with participating Indigenous nations to obtain an Indigenous Knowledge report specific to the proposed Project. The integration of Indigenous Knowledge into the EA and Project Application is described in numerous sections of the DPD, including subsection 11.3 "Inclusion of Indigenous Knowledge".	No changes made. Will be addressed during Process Planning.
Kwantlen First Nation	Concerns that the proposed Project is located within an important migratory bird habitat. To offset these impacts, it is important to create even small pockets of green spaces to have medicinal plants and habitat.	Effects to migratory birds	Preliminary information about potential effects to migratory birds is provided in the DPD in subsection 10.4. Potential effects to migratory birds will be evaluated in detail in the Project Application under the Wildlife VC.	Subsection 10.4 has been updated to include a discussion of potential interactions between the proposed Project and migratory birds.
S'ólh Téméxw Stewardship Alliance	Concerns about upstream effects on fish and fish habitat due to proposed Project impacts on water quality from dredging and contamination, as the tides flow beyond Mission Bridge and affect	Effects to fish and fish habitat	The LAA encompasses the area 100 m upstream and 200 m downstream of the proposed Project Site and the terrestrial footprint of the proposed Project. The LAA has been updated to include the	No changes made. Will be addressed in the Project Application.

Table 10-13. Summary of Topics Related to the Biological Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Biological Environment Raised during Early Engagement	Relationship to the Biological Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
	Harrison River and the confluence between the Fraser and Harrison rivers. The assessment needs to include these areas.		Tilbury Slough between 100 m upstream and 200 m downstream of the culvert outlet that drains stormwater from the proposed Project Site. The possible in water works and upland upgrades are part of the scope of the assessment and will be assessed in the Application. Dredging activities have been assessed as part of the Tilbury Marine Jetty Project EAC Application that is currently under Provincial and Federal review and will not be assessed further in this Application.	
Tsleil-Waututh Nation	Concerns with the large population of invasive species in the proposed Project Area. The proponent should ensure that invasive species are removed as much as possible and are carefully disposed of so they are not spreading beyond their current footprint during site clearing activities.	Invasive species	FortisBC has included invasive species as a topic to be captured by the assessment under the Vegetation VC and potential effects of the proposed Project on the spread of invasive species will be considered in the proposed Project Application. Mitigation measures will be developed for the proposed Project Application in accordance with local government guidance and/or Provincial and regional invasive species council's best practices to avoid or reduce proposed Project-related introductions or spread of invasive plant species including proper disposal where necessary.	No changes made. Will be addressed in the Project Application.
	Concerns about the acidification of water bodies that may affect amphibians, fish, shellfish or other wildlife in the proposed Project Area.	Effects on amphibians, fish, shellfish and wildlife	The effects assessment on the Wildlife and Wildlife Habitat and Fish and Fish Habitat VCs will be linked to the Surface Water VC effects assessment, which include potential acidification and eutrophication of surface water. These linkages will be updated in the VC Selection table.	No changes made. Will be addressed in the Project Application.

Table 10-13. Summary of Topics Related to the Biological Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Biological Environment Raised during Early Engagement	Relationship to the Biological Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
	Concerns about potential effects on wildlife species with cultural, ecological, economic importance, including ducks, salmonids, eulachon, sturgeon and forage fish.	Effects on wildlife of cultural, ecological and economic importance	Fish and Fish Habitat VC will include salmonids, eulachon and white sturgeon at the species level. Forage fish will be included under the VC and assessed based on broader temporal and spatial uses of habitat. The Wildlife and Wildlife Habitat VC will include impacts to wildlife including ducks. The Indigenous Interests VC will include cultural and economic impacts with linkages to fish and wildlife.	No changes made. Will be addressed in the Project Application.
	Requests that the proponent undertake a detailed wildlife analysis and avoid using proxy species as an indicator for overall wildlife health.	Wildlife assessment methodology	The Project Application will include a detailed assessment of potential effects to wildlife under the Wildlife and Wildlife Habitat VC. The assessment methodology for the Wildlife assessment will be determined during Process Planning.	No changes made. Will be addressed through Process Planning.
	Concerns about adverse Project impacts to aquatic species, marine mammals including Southern Resident Killer Whales and local vegetation and the subsequent effects on Tsleil-Waututh Aboriginal Right to fish, practice and preserve traditional culture and self-governance.	Effects to vegetation, wildlife and fish impacting Aboriginal Rights	Project-specific and cumulative effects to fish, fish habitat, fishing, marine access, and Aboriginal Rights to fish related to fishing are all topics that fall within the scope of assessment in the proposed Project Application. This information will be presented in the subsections of the proposed Project Application: fish, fish habitat (freshwater fish and marine resources), marine access (subsection 7.11), Aboriginal Rights to fish (subsection 11.1). Effects to local vegetation and harvesting sites will be assessed in the Vegetation section of the proposed Project Application. Cumulative effects to salmon will be included in the Fish and Fish Habitat section of the proposed Project Application and cumulative effects on wildlife habitat will be included in the Wildlife and Wildlife Habitat section.	Subsections 10.4 has been updated to provide preliminary details of the baseline conditions and potential effects of the Project on marine mammals and fish and fish habitat. Subsection 11.3 has been updated to include a preliminary identification of potential effects to Indigenous interests as a result of the Project. The Project Application will include an assessment of effects to Indigenous interests, including accessibility to subsistence resources, traditional culture, and self-governance.

Table 10-13. Summary of Topics Related to the Biological Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Biological Environment Raised during Early Engagement	Relationship to the Biological Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
	Concerns about the fragile ecosystem of the Fraser being impacted by increased marine shipping associated with this proposed Project.	Effects to the Fraser ecosystem	The CEA methodology will be determined during Process Planning. The Project Application will include an assessment of Project-specific impacts to the Fraser River with respect to increased shipping. The Application will also include an assessment of Biophysical Factors that Support Ecosystem Function. Detailed scoping of these assessments will be refined during Process Planning.	No changes made. Will be addressed in the Project Application.
	The upstream and downstream spatial scope is inadequate to accurately describe the impacts of the proposed Project on the marine ecosystem.	Spatial scope	Most of the proposed Project activities during construction and operations will be in the upland areas. A small number of Project cargo vessel/barge trips (approximately six to eight) are anticipated during construction to deliver materials to the site. There are no Project cargo vessels/barges anticipated for operations. As a result, FortisBC is not proposing to expand the scope of the proposed Project to include an assessment of marine shipping.	No changes made.
	Concerns about impacts to wildlife due to Project impacts on air quality. For example, nitrogen oxide emissions could cause acid deposition, which would have a negative impact on soil, vegetation, waterways, fish, and human health.	Effects to wildlife, fish, and vegetation	The Air Quality VC has several linkages identified in the AIR, these linkages include Vegetation VC, Fish and Fish Habitat VC and Wildlife and Wildlife Habitat VC. Acid Deposition is included as a sub-component of the Air Quality VC in the draft AIR, and acidification and eutrophication are listed as topics to be addressed by the assessment.	No changes made. Will be addressed in the Project Application.

Table 10-13. Summary of Topics Related to the Biological Environment Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to the Biological Environment Raised during Early Engagement	Relationship to the Biological Environment Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Ts'uubaa-asatx Nation	Concerns about impacts to fish and fish habitat in the Fraser River, including downstream effects and potential shipping lanes, and the subsequent effects on access to fish for food.	Effects to Fish and Fish Habitat	The Application will assess potential effects to fish and their habitat under the Fish and Fish Habitat VC. The assessment will consider effects resulting from increased shipping and subsequent effects on access to fish for food. Specific scoping of the assessment will be determined through Process Planning.	No changes made. Will be addressed through Process Planning.

10.4.1 Vegetation

The Vegetation LAA is defined as the proposed Project Footprint plus a 100 m buffer, including both aquatic and terrestrial habitat. The LAA is situated in the Coastal Douglas-Fir Biogeoclimatic Zone, although it is transitional to the Coastal Western Hemlock Zone. The Coastal Douglas-Fir Biogeoclimatic Zone has warm dry summers and mild wet winters (DeLong et al. 1991). The proposed Project Footprint was previously cleared of natural forest and has been heavily disturbed, with the majority of the proposed Project Site being used for industrial purposes.

Vegetated areas within the LAA include the riparian area on the banks of Tilbury Slough along the southeast perimeter of the proposed Project Site as well as a small area of riparian vegetation on the bank of the Fraser River.

Two drainage ditches are present within the proposed Project Footprint, one in the southeast corner and the other in the centre of the property.

The Tilbury Slough is characterized by riparian vegetation dominated by native and non-native plant species such as black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), red alder (*Alnus rubra*), common cattail (*Typha latifolia*) and reed canarygrass (*Phalaris arundinacea*) and Himalayan blackberry (*Rubus armeniacus*). Where the slough is not draining, standing water has accumulated and a wetland plant community exists.

The riparian vegetation along the Fraser River is deciduous-dominated young forest with an understory dominated by plant species that are common on disturbed and riparian sites. The two drainage ditches are characterized by non-native herb and grass species.

A desktop background review of plant and ecosystem communities at risk with the potential to occur within the LAA was completed. Information and data were collected through a desktop review of publicly available datasets (DataBC, iMapBC, HabitatWizard, B.C. Conservation Data Centre [B.C. CDC], Species at Risk Public Registry). The results identified two Provincially- and Federally-listed plant species that may be present within the LAA, as well as two Provincially-listed species (Table 10-14).

These species are known to occur within the tidal zones of the Fraser River and are found along the shoreline of marshes, wet meadows, bogs, ditches, stream banks, and lake margins at low elevations (SCCP 2019). Small populations of Vancouver Island beggarticks are known to occur along the Tilbury Slough (B.C. CDC 2021). A large population of streambank lupine is located approximately 1.5 km east of the proposed Project Footprint along the rail tracks (B.C. CDC 2021).

A known occurrence of two-edged water starwort has been identified approximately 15 km upstream of the proposed Project Site (B.C. CDC 2021). A small population of Henderson's checker-mallow is located approximately 2 km east of the proposed Project Footprint at the opening of the Tilbury Slough (B.C. CDC 2021). Construction will be primarily in the upland areas away from the Fraser River and Tilbury Slough, though some riparian and instream vegetation may be affected during the possible upgrades of the MOF.

Table 10-14. Plant Species at Risk with Potential to Occur Within the Vegetation LAA

Common Name	Scientific Name	B.C. Provincial List	COSEWIC	SARA
Vancouver Island beggarticks	<i>Bidens amplissima</i>	Blue	Special Concern	Special Concern
Streambank lupine	<i>Lupinus rivularis</i>	Red	Endangered	Endangered
Two-edged water starwort	<i>Callitriche heterophylla</i> var. <i>heterophylla</i>	Unknown	--	--
Henderson's checker-mallow	<i>Sidalcea hendersonii</i>	Blue	--	--

Sources: B.C. CDC 2021; COSEWIC 2021

Notes:

COSEWIC = Committee on the Status of Endangered Wildlife

SARA = *Species at Risk Act*

Status designations that are not applicable are denoted by "--" (such as, designations of species that have not been assessed or that are not considered to have special conservation status).

B.C. CDC results identified 10 Blue-listed ecological communities and 31 Red-listed ecological communities that may occur in the Coastal Douglas-Fir Biogeoclimatic Zone in Delta. These include 5 estuary communities, 22 upland communities, and 14 wetland communities. Due to the highly disturbed nature of the vegetation cover on the proposed Project Footprint, occurrence of these ecological communities is not anticipated.

Project interactions and associated potential proposed Project-related effects are described as follows.

Potential effects of the proposed Project on the upland vegetation communities at the proposed Project Footprint would be limited, as most of the native vegetation has been previously removed from the proposed Project Footprint. The riparian vegetation along the Tilbury Slough will not be impacted by construction. The upgrades to the MOF for construction will depend on the state of the existing earth jetty at the time of construction but are expected to be primarily on the topside and upland areas. If installation of piling and placement of fill is required there may be a short-term reduction of instream and riparian vegetation as a result. These activities are captured as part of the Tilbury Marine Jetty Project EAC Application that is currently under Provincial and Federal review.

10.4.2 Wildlife and Wildlife Habitat

During Early Engagement, Indigenous nations also expressed concerns regarding potential impacts to amphibians that may be present in Tilbury Slough. The proposed Project is not expected to directly disturb the Tilbury Slough, with stormwater drainage being the primary potential effects pathway. Any potential indirect effects to amphibians, including those that may be present in Tilbury Slough will be assessed in the Project Application under the Wildlife and Wildlife Habitat VC. For issues related to Wildlife and Wildlife Habitat raised by Indigenous nations during Early Engagement, see Table 10-15.

Indigenous nations also expressed concerns regarding potential impacts to amphibians that may be present in Tilbury Slough. The proposed Project is not expected to directly disturb the Tilbury Slough, with stormwater drainage being the primary consideration. Any potential indirect effects to amphibians, including those that may be present in Tilbury Slough will be assessed in the Project Application under the Wildlife and Wildlife Habitat VC.

Detailed Project Description

Refer to Appendix H for detailed information on specific issues raised by each Indigenous nation and how they have been addressed. FortisBC will continue to engage each Indigenous nation during the EA Readiness, Process Planning, and subsequent phases to identify the interests of each group. Research on TLU surrounding the proposed Project Site will be conducted in consultation with Indigenous nations, as applicable. Traditional Knowledge will be incorporated into the Project Application where possible.

The Wildlife and Wildlife Habitat LAA consists of the proposed Project Footprint plus a 300 m buffer around the proposed Project Footprint, and includes both aquatic and terrestrial habitat. Wildlife use within the Wildlife and Wildlife Habitat LAA is primarily limited to the riparian area on the banks of Tilbury Slough and along the Fraser River, which provide habitat for a variety of wildlife species common to Delta (such as, coyotes, raccoons, skunks, rabbits, bats, waterfowl, and songbirds). The proposed Project Footprint is situated within an industrialized portion of the Fraser River and upland habitat is predominately covered by hard, anthropogenic surfaces. The majority of wildlife habitat with the LAA has been altered by industrial and agricultural development. There is little to no suitable wildlife habitat within the Tilbury site itself.

A desktop review of wildlife species of concern with the potential to occur within the Wildlife and Wildlife Habitat LAA was completed using information and data included in publicly available datasets (DataBC, iMapBC, HabitatWizard, B.C. CDC, Species at Risk Public Registry). Table 10-15 provides a list of terrestrial wildlife species identified Federally under Schedule 1 of SARA, and on COSEWIC (COSEWIC 2021), or listed Provincially (that is, Red- or Blue-listed) under B.C.'s *Wildlife Act* (B.C. CDC 2021) that may potentially occur within the Wildlife and Wildlife Habitat LAA. The Project Footprint does not overlap with any known occurrences of the following:

- Wildlife species at risk (BC ENV 2021)
- Critical Habitat for federally-listed wildlife species at risk (Government of Canada 2021)
- Provincial Wildlife Habitat Areas (approved or proposed), Wildlife Management Areas, or Ungulate Winter Ranges (B.C. MFLNRORD 2021a-e)

Table 10-15. Wildlife Species at Risk with Potential to Occur Within the Wildlife and Wildlife Habitat LAA

Common Name	Scientific Name	B.C. List	COSEWIC	Schedule 1 of SARA
Band-tailed pigeon	<i>Patagioenas fasciata</i>	Blue	Special Concern	Special Concern
Barn owl	<i>Tyto alba</i>	Red	Threatened	Threatened
Barn swallow	<i>Hirundo rustica</i>	Blue	Threatened	Threatened
Common nighthawk	<i>Chordeiles minor</i>	Yellow	Special Concern	Threatened
Great blue heron, <i>fannini</i> subspecies	<i>Ardea herodias fannini</i>	Blue	Special Concern	Special Concern
Green heron	<i>Butorides virescens</i>	Blue	-	-
Little brown myotis	<i>Myotis lucifugus</i>	Yellow	Endangered	Endangered
Purple martin	<i>Progne subis</i>	Blue	-	-
Short-eared owl	<i>Asio flammeus</i>	Blue	Special Concern	Special Concern
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	Blue	-	-
Western toad	<i>Anaxyrus boreas</i>	Yellow	Special Concern	Special Concern

Sources: B.C. CDC 2021; Government of Canada 2021

The proposed Project Footprint is located within the Fraser River Delta and is surrounded by the Important Bird Area (IBA) BC017: Boundary Bay – Roberts Bank – Sturgeon Bank (Fraser River Estuary), a large complex of interconnected marine, estuarine, freshwater, and agricultural habitats that forms one of the richest and most important ecosystems for resident, migratory and overwintering waterbirds in Canada (IBA Canada 2021). This IBA supports globally or continentally significant populations of 15 species, including American wigeon, northern pintail, mallard, brant, snow goose, trumpeter swan, western sandpiper, black-bellied plover, dunlin, great blue heron, western grebe, red-necked grebe, glaucous-winged gull, Thayer's gull, and mew gull. In addition, the IBA supports nationally significant numbers of barn owl and peregrine falcon.

The Fraser River Delta supports internationally important bird populations. Tidal flats, floodplains and estuarine habitats within the area are visited annually by approximately 260 species of birds, nearly half of the 550 species of birds reporting for B.C. (Butler et al 2021). A recent study found that over the past ten years, 29 of these bird species occurred in globally, continentally or nationally significant numbers and that 26 of these bird species are currently federally listed as at-risk.

The small patches of riparian forest along the Fraser River and Tilbury Slough within the Wildlife and Wildlife Habitat LAA provide suitable breeding, nesting, and foraging habitat for a variety of migratory birds, waterfowl, and raptors, including the bird species with special conservation status identified in Table 10-15. Tidal flats along the Fraser River provide foraging and staging habitat for overwintering and migratory birds. Within the proposed Project Footprint, there is limited suitable breeding and nesting habitat for birds, as the majority of the proposed Project Site has been anthropogenically altered.

Barn owls forage and nest in and around grassland/farmland habitats within IBA BC017 (IBA Canada 2021). Barn owls require foraging habitat with open spaces, such as grasslands, meadows, marshes, desert, and agricultural landscapes, which support an abundance of small mammals (BC ENV 2014). Nesting and roosting habitat for barn owl includes tree cavities, elevated platforms in barns, lofts, silos, hangars, water towers, bridges, attics, and crevices between hay bales in insulation in buildings (BC MOE 2014). Previous research by Hindmarch and Elliot (2014) identified at least two active nest/roost sites on Tilbury Island. Due to these nearby nesting/roosting sites, and presence of old infrastructure within the proposed Project Site, barn owls are predicted to occasionally use habitat within the proposed Project Footprint.

Although riparian habitat and slow-moving water is present within Tilbury Slough, the slough does not provide suitable habitat for the majority of native amphibian and turtle species potentially present in the Wildlife and Wildlife Habitat LAA as it contains salty/brackish waters. Two of the only known amphibians in B.C. to breed in weakly brackish waters are western toad (*Anaxyrus boreas*) (listed as Special Concern on Schedule 1 of SARA) and roughskin newt (*Taricha granulosa*) (MacDonald 2003). The Pacific chorus frog (*Pseudacris regilla*) is also known to be found in brackish waters; however, their presence in the slough is unlikely as they are often found in fishless wetlands and the slough is fish-bearing (Stebbins 1951; Leonard et al 1993). Non-native amphibian species (that is, green frog) are anticipated to be present within the Tilbury Slough. Within the proposed Project Footprint, suitable amphibian habitat is limited.

There is a drainage ditch that runs parallel to Hopcott Road on the west side of the road and another in the centre of the property that have potential to contain standing water, depending on the seasonal variability in water levels. These two ditches have low potential to support breeding amphibians, as habitat quality for breeding amphibians is low.

Although the Wildlife and Wildlife Habitat LAA is within the habitat range of western painted turtle (*Chrysemys picta bellii*), the nearest ECCC-defined Critical Habitat is over 9 km to the southwest, in the Alaksen Wildlife Refuge (B.C. CDC 2021; Government of Canada 2021).

Western painted turtle is a freshwater species and, as such, is not anticipated to use the brackish water of Tilbury Slough as foraging or breeding habitat (Government of Canada 2016). The foreshore of the Fraser River does not provide suitable habitat for breeding turtles (or amphibians), as it is a large, fast-flowing, tidally-influenced river with salty and brackish waters. The absence of contiguous freshwater aquatic areas between the Critical Habitat polygons and the proposed Project Footprint, and poor-quality habitat within the proposed Project Footprint, suggest that occurrence of western painted turtle within the proposed Project Footprint is unlikely (Government of Canada 2016).

Little brown myotis (*Myotis lucifugus*) was emergency listed as Endangered on Schedule 1 of SARA in 2014 (Government of Canada 2015). This species is known to roost in a variety of habitats, including old buildings, large decaying trees, and rock crevices/caves. They prefer older forest stands and tall, large-diameter trees. There are a few older buildings within the Wildlife and Wildlife Habitat LAA that could potentially provide roosting habitat for little brown myotis, as well as mature cottonwood trees present within the riparian banks of Tilbury Slough and the Fraser River. Limited areas of young forest stands within the LAA may provide adequate foraging habitat.

There is ECCC Critical Habitat defined for the Pacific water shrew (*Sorex bendirii*) along Fraser Perimeter Road approximately 1.2 km southeast of the proposed Project Footprint, outside of the Wildlife and Wildlife Habitat LAA (B.C. CDC 2021; ECCC 2019). Although Tilbury Slough has riparian habitat and occurs within 2 km of Pacific water shrew observations, the tidally-influenced brackish waters of the slough are likely too saline for their occurrence as they prefer freshwater habitat. The absence of contiguous aquatic or riparian habitat between the Critical Habitat polygon outside of the Wildlife and Wildlife Habitat LAA and Tilbury Slough, and relatively poor-quality habitat within and around the brackish slough, suggests that occurrence of the species within the Wildlife and Wildlife Habitat LAA is unlikely.

Proposed Project interactions and associated potential proposed Project-related effects are described as follows.

The main habitat value for wildlife occurs in the drainage ditches and the riparian areas next to the Fraser River, which may be partially affected by the MOF as part of the proposed Project. The riparian habitat along Tilbury Slough will not be impacted by construction.

Construction activity would likely temporarily displace small mammals, and birds from using nearby adjacent areas during the Construction Phase; however, alternative habitat is available in the surrounding area. The resulting potential effects are considered to be minimal.

Potential interactions between the proposed Project and migratory birds include vegetation removal and construction activity. Vegetation removal will cause a reduction in potentially suitable nesting and foraging habitat for migratory birds and construction activity may cause migratory birds to temporarily avoid the proposed Project Site and immediately adjacent areas. Potential effects are considered minimal due to the highly disturbed nature of the site and the small area of vegetated habitat affected.

Operation of the LNG facility will increase traffic along nearby roads and activity in and around the proposed Project Site may temporarily discourage use by small mammals and birds during periods of activity. However, these species can habituate to routine human activities and adverse effects on wildlife use of nearby areas are considered to be minimal.

10.4.3 Fish and Fish Habitat

During Early Engagement, Indigenous nations raised concerns regarding potential impacts to Fish and Fish Habitat as a result of construction and operation of the proposed Project. Particular concerns were expressed regarding migration and shoreline habitats of culturally important fish species near the

proposed Project Site. The Fraser River is a migratory corridor for five species of Pacific salmon. Indigenous nations also expressed concerns regarding potential impacts to eulachon, particularly during sensitive timing windows when active spawning grounds may be in the vicinity of the proposed Project Site. Another key concern raised was declining populations of fish species, such as sockeye salmon. Several Indigenous nations noted declining returns of salmon to the Fraser River and expressed concerns with how this could impact intergenerational transfer of knowledge. For issues related to Fish and Fish Habitat raised by Indigenous nations during Early Engagement, see Table 10-13.

Concerns were raised regarding potential impacts to marine mammals during construction and operations, including potential impacts as a result of noise. This section has been updated to include preliminary information about potential effects to marine mammals. Potential effects to marine mammals will be evaluated in detail in the Project Application under the Fish and Fish Habitat VC. Acoustic monitoring during installation of upgrades to the construction jetty may be warranted, depending on the final design. Noise monitoring requirements will be addressed in the Project Application and through discussions with DFO.

Refer to Appendix H for detailed information on specific issues raised by each Indigenous nation and how they have been addressed. FortisBC will continue to engage each Indigenous nation during the EA Readiness, Process Planning, and subsequent phases to identify the interests of each group. Research on TLU surrounding the proposed Project Site will be conducted in consultation with Indigenous nations, as applicable. Traditional Knowledge will be incorporated into the Project Application where possible.

The Fish and Fish Habitat LAA encompasses the Fraser River for 100 m upstream and 200 m downstream of the proposed Project Footprint. The LAA also includes Tilbury Slough for 100 m upstream and 200 m downstream of the culvert outlet that drains stormwater from the proposed Project Site. The property boundary is adjacent to the riparian area of the Fraser River, but separated by a dike that is maintained by Delta. However, the MOF extends past the dike and into the river. The south end of the property is approximately 100 m north of Tilbury Slough, a side channel of the Fraser River. Where feasible, any required instream works will occur during the DFO Marine/Estuarine Timing Window for the Protection of Fish and Fish Habitat from June 16 to February 28. A desktop review of fish species of concern with the potential to occur within the Fraser River and Tilbury Slough was completed using information and data included in publicly available datasets (Habitat Wizard, iMapBC, B.C. CDC Species & Ecosystems Explorer, Species at Risk Public Registry).

Table 10-16 provides a list of fish species identified Federally under Schedule 1 of *SARA*, and on COSEWIC (Government of Canada 2021), or listed Provincially (that is, Red- or Blue-listed) under B.C.'s *Wildlife Act* (B.C. CDC 2021) that may potentially occur within the Fish and Fish Habitat LAA. Species included on Schedule 1 are established by the Federal Cabinet and are based on recommendations by the COSEWIC and consultation with government, Indigenous nations, and the public.

Table 10-16. Fish Species at Risk with Potential to Occur within the Fish and Fish Habitat LAA

Common Name	Scientific Name	B.C. Provincial List	COSEWIC	Schedule 1 of <i>SARA</i>
Sportfish				
Chinook Salmon (Various populations)	<i>Oncorhynchus tshawytscha</i>	Yellow	Endangered, Threatened, and Special Concern	-
Coho Salmon (Interior Fraser)	<i>Oncorhynchus kisutch</i>	Yellow	Threatened	-
Cutthroat Trout (Coastal)	<i>Oncorhynchus clarkia clarkii</i>	Blue	-	-

Table 10-16. Fish Species at Risk with Potential to Occur within the Fish and Fish Habitat LAA

Common Name	Scientific Name	B.C. Provincial List	COSEWIC	Schedule 1 of SARA
Cutthroat Trout (Westslope)	<i>Oncorhynchus clarki lewisi</i>	Blue	Special Concern	Special Concern
Sockeye Salmon (Various populations)	<i>Oncorhynchus nerka</i>	-	Endangered, Threatened, and Special Concern	-
Steelhead Trout (Thompson and Chilcotin River populations)	<i>Oncorhynchus mykiss</i> (pop. 46 and 47)	Red	Endangered	-
Non-Sportfish				
Brassy Minnow (Pacific group)	<i>Hybognathus hankinsoni</i>	Blue	-	-
Bull Trout (South Coast)	<i>Salvelinus confluentus</i>	Blue	Special Concern	Special Concern
Eulachon	<i>Thaleichthys pacificus</i>	-	Endangered	-
White Sturgeon (Lower Fraser)	<i>Acipenser transmontanus</i>	Red	Threatened	-

Sources: B.C. CDC 2021; Government of B.C. 2021a

The Fraser River Estuary is known to support 78 different species of fish, including 7 salmon species and several Provincially Red- and Blue-listed species, and Federal Species at Risk, including white sturgeon (Lower Fraser River Population) (*Acipenser transmontanus*).

The Fraser River is one of three rivers in B.C. where white sturgeon spawn (Lehigh Hanson Materials Ltd. 2019), though spawning habitats are expected to be located further upstream of the proposed Project Site in less depositional environments. However, the shoreline habitats near the proposed Project Site may provide important rearing habitats for juvenile white sturgeon.

Eulachon (*Thaleichthys pacificus*) is a small anadromous schooling species of fish that provides a food source for other fishes (for example, white sturgeon) and marine mammals. Eulachon is also under consideration for listing on Schedule 1 of SARA (DFO 2019). Important migratory habitats for eulachon are expected to be present in the Fraser River adjacent to the proposed Project Site.

Salmonids of conservation concern that occur near the proposed Project Site include species of trout and char, and Pacific salmon species. Several populations of sockeye salmon (*Oncorhynchus nerka*) are listed by COSEWIC as Endangered, including the Cultus Lake population in 2002/2003 and seven more populations recognized in 2017 (ECCC 2019). COSEWIC in 2017 also listed two sockeye populations as Threatened and five as Special Concern. A small proportion of sockeye are "river-type" and may use the Lower Fraser River for rearing, rather than using lakes (Johannes et al. 2011). These populations of Pacific salmon migrate past the proposed Project Site in the Fraser River, including spawning adults and out-migrating smolts.

The shoreline habitats adjacent to the proposed Project Site, including in and around the MOF, are expected to provide important rearing habitats for a number of salmonid species, particularly in areas with tidal marsh vegetation and riparian cover.

The Thompson and Chilcotin River Steelhead Trout (*Oncorhynchus mykiss*) populations in B.C. were both classified in 2018 by COSEWIC as Endangered and recommended for emergency listing under the SARA (ECCC 2019). These populations may migrate past the proposed Project Site during adult and juvenile stages.

Marine mammals that may be present within the Fish and Fish Habitat LAA include Steller sea lion (*Eumetopias jubatus*) (listed as Special Concern on Schedule 1 of SARA, B.C. Blue-listed), and harbour seals (*Phoca vitulina*) and California sea lion (*Zalophus californianus*) (both B.C. Yellow-listed species) (B.C. CDC 2021). The harbour seal is widely distributed and may occur within LAA, while the Stellar sea lion is unlikely to be present. Sea lions congregate in the Fraser estuary during the eulachon run; rafts of greater than 100 California sea lions have been observed as far as 50 km upstream of the mouth (upstream of the Tilbury site) (Bigg 1985).

Proposed Project interactions and associated potential proposed Project-related effects are described as follows.

As there are no expected activities taking place in or around Tilbury Slough, including riparian areas, mitigation measures beyond the current proposed Project design are not necessary for this feature. The key issue to manage during construction will be to prevent sediment from entering the drainage ditch and flowing into Tilbury Slough through management of proposed Project Site drainage and installation of erosion and sediment control measures.

Potential interactions between the proposed Project and fish and fish habitat are primarily associated with the possible upgrades of the MOF for material offloading during construction. The possible additional upgrades are expected to focus on the topside of the jetty and upland areas, which may include improving grading and load bearing and dike upgrades. At the time of writing, design features and construction activities have not been specified for the MOF. If in-water works are necessary, activities with the potential to impact fish and fish habitat may include proposed Project Site preparation, removal of existing structures, fill placement, removal of instream riparian vegetation, construction of temporary pilings and MOF, and increased river traffic. Potential proposed Project-related effects may include the following.

Alteration or loss of fish and benthic invertebrate habitats, including from:

- Direct overlap of proposed Project Footprint
- Removal of instream vegetation
- Removal of riparian vegetation
- Changes in habitat morphology

Disruption of habitat use, including from:

- Altered flows
- Altered migratory pathways
- Temporary increase in turbidity and total suspended solids
- Temporary noise and vibrational effects

Fish mortality or injury, including from:

- Placement of materials and operation of equipment
- Temporary increase in turbidity and total suspended solids
- Temporary noise and vibrational effects

No effects to fish and fish habitat are anticipated to result from increased marine traffic during proposed Project construction.

Construction activity would likely temporarily displace marine mammals from using nearby adjacent areas during the Construction Phase; however, alternative habitat is available in the surrounding area. Effects resulting from increased marine traffic during construction may include the potential for collision with marine mammals; however, it is anticipated to be a very low risk, six to eight Project cargo vessels. The Project cargo vessel/barge deliverables are expected to come from Sand Heads lighthouse at the mouth of the Fraser River along the shipping channel of the South Arm of the Fraser River to the proposed Project Site. The resulting potential effects are considered to be minimal.

10.5 Human and Community Well-being Conditions

The following subsections provide a brief outline of potential socio-economic effects of the proposed Project. The proposed Project, as currently understood, has the potential to interact with human and community environments and well-being. The following subsections summarize the existing conditions and identify potential changes that may result from the proposed Project. Refined identification of these changes, and detailed evaluation of these changes, will be addressed in the Application document. These subsections have been informed by the outcomes of Early Engagement.

The issues heard through the Early Engagement process have been incorporated, where practical, into the DPD. For example, some Indigenous nations expressed concerns about potential effects to rights to fish that can impact economic, social, and cultural well-being. The public expressed concerns about potential effects to human health and well-being, including effects from noise and potential exposure to health and safety hazards. Table 10-17 provides an overview of matters raised during engagement with the public, governments, and other groups up until July 19, 2021 of the Early Engagement Phase.

Table 10-18 provides a similar summary for Indigenous nations. Both tables provide an indication of how FortisBC is proposing to respond to points raised during Early Engagement in the DPD and the subsequent Application. Where comments are directly related to the contents and scope of the DPD, Tables 10-17 and 10-18 indicate the location in the DPD document where these comments were addressed. Where comments were outside the scope of the DPD, for example relating to the contents of the Application document, Tables 10-17 and 10-18 indicate this.

Table 10-17. Summary of Topics Related to Human and Community Well-being Arising from Early Engagement with Governments, the Public, and Other Groups During Early Engagement

Group Engaged	Issue Related to Human and Community Well-being Raised during Early Engagement	Potential Relationship to the Human and Community Well-being Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Early Engagement
Governments (including Local governments, Provincial and Federal agencies and representatives)	Importance of export opportunities for LNG to Asian markets.	Employment and economic opportunities	Detailed description of economic opportunities to be included in the Application	More context added to subsection 2.2 on the role of LNG in the global transition away from more carbon-intensive energy sources (such as, coal).
	Accidents and malfunctions related to the 6-8 Project cargo vessels in operation during the Construction Phase.	Use of existing community infrastructure and services related to potential safety incidents Potential changes to recreation and other coastal land use as a result of perceived health and safety issues	Detailed assessment of potential safety concerns to be included in the Application	Subsection 10.7 contains additional information on Accidents and Malfunctions.
	Request that Richmond as a whole be considered as part of LAA/RAA (as opposed to a portion of Richmond).	Connection to Human and Community Well-being Assessment will depend on spatial boundaries determined for each VC.	Spatial boundaries are typically identified and assessed as part of the AIRs, and then reflected in the Application. LAA and RAA are determined for each VC. Engagement with various groups is ongoing to inform eventual selection of spatial boundaries for each VC.	Section 4 has been updated to provide preliminary spatial boundaries in accordance with the draft AIR.
	"Metro Vancouver" is listed as both the LAA and RAA. Provide a breakdown of proposed Project-related effects by each City, specifically Richmond. Reference to the Employment and Economy, Land and Resource Use, and Infrastructure and Services VCs.	Connection to Human and Community Well-being Assessment will depend on spatial boundaries determined for each VC.	Spatial boundaries are typically identified and assessed as part of the AIRs, and then reflected in the Application. LAA and RAA are determined for each VC.	Section 4 has been updated to provide preliminary spatial boundaries in accordance with the draft AIR.
	Richmond to be included within the LAA for Infrastructure & Services, Employment and Economy, Land and Resource Use.	Connection to Human and Community Well-being Assessment will depend on spatial boundaries determined for each VC.	Spatial boundaries are typically identified and assessed as part of the AIRs, and then reflected in the Application. LAA and RAA are determined for each VC.	None needed. Comment to be addressed within the AIRs.

Table 10-17. Summary of Topics Related to Human and Community Well-being Arising from Early Engagement with Governments, the Public, and Other Groups During Early Engagement

Group Engaged	Issue Related to Human and Community Well-being Raised during Early Engagement	Potential Relationship to the Human and Community Well-being Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Early Engagement
Public	Potential increases to utility bills as a result of the proposed Project	Project effects on utilities will be considered under the VC Infrastructure and Services in the Application.	Any potential proposed Project effects to FortisBC customers' rates are part of a separate CPCN application. The CPCN application is managed by the BCUC.	None needed. Customer rates are outside of the scope of the Environmental Assessment process.
	Concerns about safety from tanker traffic, tank breaches. Request for information about supplying emergency equipment to a beach area. Disaster response plan requested	Use of existing community infrastructure and services related to potential safety incidents Potential changes to recreation and other land use as a result of perceived health and safety issues	FortisBC's corporate Emergency Response plan is available to the public through the company website. An Emergency Response plan specific to the proposed Project will be developed. Assessment of the potential for safety incidents to affect existing community resources and practices will be assessed as part of the Application.	Accidents and malfunctions are further discussed in subsection 10.7.

Table 10-18. Summary of Topics Related to Human and Community Well-being Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to Human and Community Well-being Raised during Early Engagement	Relationship to the Human and Community Well-being Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Indigenous Nations: Tsleil-Waututh Nation Katzie First Nation Ts'uubaa-asatx Nation (Lake Cowichan First Nation) Kwantlen First Nation	Rights to fish, including: <ul style="list-style-type: none"> ▪ Cultural and resources importance of fish ▪ Concerns about fish habitat loss and degradation, and fish mortality, impacting a traditional food source ▪ Project effects on fish abundance and distribution ▪ Disruption to marine access/navigation affecting opportunities to exercise fishing rights on the Fraser River ▪ Consultation related to fishing rights ▪ Consideration of cumulative effects to fishing ▪ Migration of Pacific salmon ▪ Salmonids and other aquatic species ▪ Appreciation for Early Engagement regarding fishing ▪ Intergenerational knowledge transfer that occurs through fishing practices 	Use of, and access to, marine areas as part of overall Land and Resource Use Cultural knowledge transfer	Ongoing engagement and data collection to inform studies to be included in the Application	None needed. Comment to be addressed within the Application.
Tsleil-Waututh Nation	Request to consider Tsleil-Waututh Nation values in human and community well-being, specifically Tsleil-Waututh Nation's Stewardship Policy (2009) and the measurable parameters in it	Throughout Human and Community Well-being Assessment	Tsleil-Waututh Nation values and measurable parameters to be considered in the Application. Potential approaches for inclusion to be considered through ongoing engagement.	None needed. Comment falls within the scope of the Application, and ongoing engagement activities.
	Use of Indigenous-owned contracting companies and employment of Indigenous individuals	Employment and economic opportunities	Potential Indigenous contracting and employment to be considered in the Application through application of GBA+ methods	None needed. Comment falls within the scope of the Application
	Building various scenarios (reduced global oil and gas demand, COVID-19 disruptions and worksite restrictions) into decision on whether to proceed to an EA	Not specifically relevant to the Human and Community Well-being Assessment	Decision to proceed to an EA incorporates up-to-date information, as needed	Scenarios are continuously revised, including through the DPD document and in the economic evaluation of the proposed Project

Table 10-18. Summary of Topics Related to Human and Community Well-being Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to Human and Community Well-being Raised during Early Engagement	Relationship to the Human and Community Well-being Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Tsleil-Waututh Nation (cont'd)	Accidents and malfunctions assessment, and Emergency Response plan, to consider proximity to schools, child and residential care facilities, Indigenous nations, local governments, etc.	Use of community infrastructure and services in the event of an emergency incident	Potential safety-related concerns to be included in the portions of the Application related to the Human and Community Well-being Assessment	None needed. Accidents and Malfunctions also covered in subsection 10.7 in the DPD
	Understanding differential effects to various groups subgroups by sex, age and other factors to support identification of disproportionate social and economic effects	Throughout Human and Community Well-being Assessment	GBA+ methods to be applied throughout the Application, as per guidance from B.C. EAO and IAAC	Preliminary identification of various subgroups included in this DPD. Refinement of understanding of various subgroups will continue throughout the EA process
	Clear explanation regarding tax contributions and job creation to provide context for potential adverse effects	Employment and economic opportunities	Application will incorporate this feedback	Additional context around anticipated benefits has been provided in the DPD in Table 10-22
	Conservative assessment of market prices requested in the economic modelling, proposed Project planning, and assessment of the Employment and Economy VC.	Employment and economic opportunities	Application will incorporate this feedback.	None needed. Comment falls within the scope of the Application. Economic modelling is part of design parameters and will be captured in the Application.
	Marine Use VC to be informed by the Tsleil-Waututh Nation Traditional Use Study.	VC Selection is ongoing.	Application will incorporate this feedback.	None needed. Comment falls within the scope of the Application.
	Effects to vegetation and harvesting sites	Use of land and resources	Application will incorporate this feedback	None needed. Comment falls within the scope of the Application.
	Effects to heritage resources, effects to ability to practice their culture, effects to cultural health	Potential effects to culture and heritage	Application will incorporate this feedback	None needed. Comment falls within the scope of the Application.

Table 10-18. Summary of Topics Related to Human and Community Well-being Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to Human and Community Well-being Raised during Early Engagement	Relationship to the Human and Community Well-being Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Cowichan Nation Alliance: Cowichan Tribes, Halalt First Nations, Stz'uminus First Nation	Indigenous health, places in the Application where it could be considered, including interconnections among VCs. Description of health disparities between Indigenous Peoples and the rest of the population	Indigenous health and relationship to VCs such as Land and Resource Use will be addressed in Application	Various locations within the Application are potentially appropriate for evaluation of changes to Indigenous health.	None needed. Project Overview Section includes information related to reducing effects to human health including Indigenous health
	Include trauma and place-based stigma Accidents and Malfunctions assessment, including socio-economic consequences of potential incidents	To be considered in the Application	This issue will be addressed in the Application and has been the subject of engagement, further detail is available in Section 11.	None needed. Comment falls within the scope of the Application.
	Concerns that the marine VCs are only being assessed for the Construction Phase.	Assessment boundaries of the Land and Resource	The Application will assess the potential effects to marine use during the construction, operations, and decommissioning phases.	None needed. Comment falls within the scope of the Application.
	Visual effects and experiential effects should be assessed in the Human Health VC, with Tl'uqtnus Village site being used as receptor site for a visual effects assessment.	Human Health VC	Visual effects will be assessed under the Land and Resource Use VC. FortisBC will engage with the Indigenous nations and TAC members to determine the locations of the viewpoints for the visual assessment.	None needed. Comment falls within the scope of the Application.
Katzie First Nation	Ability to use the Fraser River for travel and for fishing activities.	Access to marine areas	Application will incorporate this feedback.	None needed. Comment falls within the scope of the Application.
	Concerns about increased traffic along the Fraser River.	Access to marine areas	Application will incorporate this feedback.	None needed. Comment falls within the scope of the Application.
	Request that the five pillars of environment, economic, social, culture, and health values be supplemented with a sixth pillar titled "Aboriginal Rights, Title and Interests". Focus would be on Indigenous Peoples and the proposed Project the proposed Project effects on Aboriginal Rights (such as, fishing and associated effects related to aquatic habitat, water quality, etc.), title and other interests.	Applicable to the evaluation of each VC under Human and Community Well-being Application as a whole	Section 11 of the DPD discusses Rights-related matters. The preparation of the Application will consider effects to Rights.	None needed. Comment falls within the scope of the Application.

Table 10-18. Summary of Topics Related to Human and Community Well-being Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to Human and Community Well-being Raised during Early Engagement	Relationship to the Human and Community Well-being Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Kwantlen First Nation	Traditional use sites on Tilbury and Lulu Islands, including migratory bird habitat	Use of land and resources, including marine areas	This issue will be addressed in the Application and through further engagement to refine the concern.	None needed. Comment falls within the scope of the Application, and of ongoing engagement.
	Potential habitat offsetting sites to include medicinal plants	Use of land and resources	This issue will be addressed in the Application and has been the subject of engagement, further detail is available in Section 11.	None needed. Comment falls within the scope of the Application, and of ongoing engagement.
	Interest in a legacy project to include interpretive signs and other Kwantlen knowledge	Land and Resource Use VC	This issue will be addressed in the Application and has been the subject of engagement, further detail is available in Section 11.	None needed. Comment falls within the scope of the Application, and of ongoing engagement.
Musqueam Indian Band	Discussion over most appropriate place in the proposed Project Application for assessment of cultural heritage	Culture and Heritage	The revitalized EA process offers a few locations where aspects of tangible and intangible aspects of culture and heritage may be considered in the Application. This issue will be addressed in the Application and through further engagement to refine the concern.	None needed. Comment falls within the scope of the Application, and of ongoing engagement.
	Consideration for different Indigenous determinants of health, and inclusion of Traditional Knowledge Studies in the proposed Project assessment.	Health conditions	Determinants of health will be addressed in the Application and through further engagement to refine the concern.	None needed. Comment falls within the scope of the Application, and of ongoing engagement.

Table 10-18. Summary of Topics Related to Human and Community Well-being Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to Human and Community Well-being Raised during Early Engagement	Relationship to the Human and Community Well-being Assessment Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Tsawwassen First Nation	Concerns that Indigenous Land use has not been included as a sub-component for the Land and Recourse Use VC.	Land and Resource Use VC	As per Provincial and Federal guidance, the assessment of the Land and Resource Use VC must describe potentially differential effects to various groups as a result of the proposed Project's effects to land and resource use. This would include effects that may be reasonably understood to affect Indigenous people broadly, including distinct groups (such as, youth, Elders, women). Tsawwassen First Nation's specific Indigenous land and resource use related to the proposed Project will be assessed in the Indigenous nations Effects Assessment of the Application.	None needed. Comment falls within the scope of the Application, and of ongoing engagement.

FortisBC will continue to engage with the public and Indigenous nations to understand topics related to human and community well-being and to incorporate them into the proposed Project design and the Application.

10.5.1 Social and Cultural Conditions

Indigenous Peoples have and continue to use and occupy the Fraser River and surrounding area. Since time immemorial, Indigenous Peoples have established fishing camps, settlements, hunting grounds, trading sites, spiritual sites and other traditional use areas, on the banks of the Fraser River, and in the upland areas in Tsawwassen and North Delta, with archaeological sites in the area being amongst the oldest known in the Province. Indigenous Peoples continue to have a way of life that is strongly tied to the Fraser River and its resources. The local area's archaeological sites are amongst the oldest known in the Province (subsection 10.5.3) (Delta 2019a). The Fraser River remains an important cultural and archaeological area to a variety of Indigenous Peoples and Indigenous nations. Indigenous Peoples continue to regularly fish and use the Fraser River. A more detailed characterization of current uses of the area will be included in the proposed Project Application. Indigenous nations in the proposed Project Area are noted in Section 11 Engagement with Indigenous Nations of this DPD.

Early outside contact with what is now called coastal B.C. included British and Spanish European explorers, with American, British, and other settlers driving the resource industry that encouraged the founding of British Columbia as a Crown colony at New Westminster in 1858 (Ormsby 1971). Subsequent early waves of settlement on and through the Project's Local and Regional areas included Chinese, Punjabi, and other diverse peoples primarily of European and Asian descent (Wright 1988; Vancouver n.d.).

At the time of the 2016 Census, Metro Vancouver had a diverse population of 2,463,431, an increase of 6.5 percent from 2011. The 2016 Census indicates that 48.6 percent of the population was of European heritage, 2.5 percent was of Indigenous heritage, and the remaining 48.9 percent were of visible minority origin, the largest group being Chinese followed by South Asians (Statistics Canada 2017a). Other prominent groups include Filipinos, Koreans, Japanese, Southeast Asian, West Asian, and Latin Americans (Statistics Canada 2017a).

In 2016, Delta, the proposed Project location, had a population of 102,238, a population growth of 2.4 percent since 2011. Delta's population continues to be diverse. The 2016 Census indicates that 60 percent were of European origin, and 33.4 percent, were Asian, including 17.3 percent East Indian, 8.1 percent Chinese, and 3 percent Filipino. About 30 percent of the total population in Delta are immigrants, the majority of whom are economic immigrants (48 percent), with 12 percent arriving after 2006. A third of these new immigrants cannot speak English or French, instead speaking Punjabi (39 percent), Mandarin (16 percent), or Tagalog (14 percent). Delta is working to welcome and integrate all newcomers (Delta 2017). Of the 2,710 Indigenous people in 2016, 52 percent were Indigenous nations and 48 percent were Métis (Statistics Canada 2017b).

The population is aging in Metro Vancouver with an average age over 40 (Table 10-19). More specifically, Delta's under 14 age group is 16 percent of the population, 65.2 percent is between 15 to 64, and 21 percent are over 65 (Statistics Canada 2017b).

Table 10-19. 2016 Census Population Statistics for Metro Vancouver and Delta

	Total Population	Male	Female	Average Age
Delta	102,238	50,125	52,110	42 years
Metro Vancouver	2,463,431	1,202,175	1,261,255	41 years

Source: Statistics Canada 2017a

The Metro Vancouver population over 25 is highly educated. The majority of the population has a post-secondary education with females more likely to be better educated than males. More than 68 percent of the population has post-secondary education (Table 10-20).

Table 10-20. Education Levels in Metro Vancouver

	Total	M	F
Highest certificate, diploma or degree for the population aged 25 to 64 years in private households – 25% sample data Census data footnote 146	1,392,440	671,970	720,470
No certificate, diploma or degree	111,575	58,090	53,480
Secondary (high) school diploma or equivalency certificate Census data footnote 147	339,185	168,975	170,210
Post-secondary certificate, diploma or degree	941,685	444,905	496,780

Source: Statistics Canada 2017a

Land uses in Metro Vancouver are varied and include agriculture (which is over 20 percent of the overall land area), conservation and recreation (47.4 percent), general urban (25.1 percent), industrial (3.6 percent), and mixed employment (3.1 percent).

Almost half of Delta is farmland (46 percent), reflecting the early European settlement pattern. Today, agriculture still adds to the economy and to residents' quality of life. Apart from agricultural lands, other significant land uses include Burns Bog, a critical Ecological Conservancy Area (17 percent), single-family residential uses (11 percent), parks, Regional parks and open area (10 percent), and industry and port/terminal use (9 percent) (Delta 2019a). The Musqueam Indian Band has a land reserve in Delta. The Tsawwassen First Nation and the Provincial and Federal governments have signed a treaty which includes treaty lands located on the southwest edge of Delta (Section 11) (Delta 2019a). Further details on land uses in Metro Vancouver and Delta will be included in the proposed Project Application.

Generally, the employment and income effects of projects can lead to positive social outcomes, such as supporting recreation and tourism activities, as well as potential effects on local employment and goods/services supply driven by the workers. Accommodation for construction and operation workers is not expected to have a noticeable effect on the local population as the proposed Project Site is located in an urban environment and it is expected that employees will be local.

Currently, almost 80 percent of the population in Delta own their own homes (Statistics Canada 2017b), with a tight rental market of 1.3 percent (Delta 2017). Preliminary data from the 2020 Homeless Count Report for Metro Vancouver shows that Delta has the lowest population of individuals experiencing homelessness when compared to other local governments in the region. Researchers noted 17 individuals experiencing homelessness in Delta, in comparison to 2,095 individuals in Vancouver, 644 in Surrey and 209 in Langley (BCNPHA 2020). It is important to note the 2020 Homeless Count Report took place in the early stages of the COVID-19 pandemic in B.C. when no pandemic-related restrictions were in place. At the release date of the 2020 Report, the data may no longer adequately reflect the state of homelessness in the region given the economic impacts and policy responses of the pandemic.

Delta has a complex transportation system that accommodates the needs of the mobility challenged, pedestrians, cyclists, local traffic, commuter traffic, and goods movement (Delta 2019a). Traffic management plans and forecasts for Delta and Metro Vancouver will be reviewed and analyzed in the proposed Project Application to understand the effects from proposed Project construction and operation traffic on regional and local traffic, as well as future traffic forecasts.

Delta works closely with Metro Vancouver in the provision of storm water and sanitary sewer systems, and the provision of the water supply to support Delta's well-being and quality of life via the provision, maintenance and renewal of the local government's infrastructure (Delta 2019a). Metro Vancouver provides Delta with safe drinking water to distribute it to residences and businesses in the local government. The proposed Project will use Local and Regional infrastructure and services and the effects on these services will be evaluated as part of the proposed Project Application. Forecasts for Metro Vancouver's water demand and Delta's Municipal water forecasts will be reviewed and analyzed in the Application.

Within Metro Vancouver, Richmond has 49 km of dikes and 39 drainage pump stations that provide the local government with flood protection from ocean storm surges, freshet, and sea level rise (Richmond n.d.). A portion of Richmond's flood protection infrastructure is along the Fraser River. Potential effects from proposed Project construction, operation or associated marine shipping traffic on Richmond's flood protection infrastructure will be assessed in the proposed Project Application.

Delta identifies itself as a multicultural community (Delta 2017). Among the organizations, institutions, systems and events devoted to promoting multiculturalism and safeguarding and promoting culture and heritage in Delta are:

- 1) The Douglas J. Husband Discovery Centre, Delta's cultural centre and home to the City's Museum and Archival Services (Delta n.d.1).
- 2) Delta's annual "Day at the Farm" community event where farmers and the general community have an opportunity to connect and learn about the importance of agriculture (Delta Day at the Farm n.d.).
- 3) Boundary Bay Airport, built during World War II, the holds historical significance to the Delta community (Boundary Bay Airport n.d.).
- 4) Delta Regional Heritage Fair, an annual fair for school-aged children present research projects on heritage and culture (Delta n.d.2).
- 5) Delta's Heritage Week each February, with events aimed to preserve culture and heritage (Delta n.d.1).

Available public data identifies that many religions are practised in Delta (Metro Vancouver 2011). Institutions devoted to religion and spirituality in Delta will be investigated further in the application. Delta, itself, provides services in a variety of languages (Delta 2017).

Institutions, services, and practices related to community and cultural cohesion in Delta include:

Delta Local Immigration Partnership, a local organization that receives Federally funded program to ease immigrants' transition to life in Delta through social and linguistic supports (Willis 2015). The Application will provide a description of cultural conditions in the LAA and RAA, following B.C. EAO guidance, as well as the potential for the proposed Project to contribute to changes in cultural conditions and practices, and any need for mitigation measures.

10.5.1.1 Information Sources Related to Social, Economic, and Cultural Conditions

As per B.C. EAO guidance, the proposed Project has collated the secondary information sources that have been used to inform the proposed Project's understanding of existing conditions related to Human and Community Well-being as reflected in this DPD. Table 10-21 provides an overview of the sources used to inform the creation of this DPD. A complete listing of all secondary sources may be found in Section 13.

Table 10-21. Secondary Information Sources Used to Inform Understanding of Social, Economic, and Cultural Conditions in the Detailed Project Description

Topic in the Detailed Project Description	Secondary Information Sources Used in the Detailed Project Description
Social Conditions	Statistics Canada census data, City of Delta
Economic Conditions	Statistics Canada census data, WorkBC labour data, FortisBC internal analysis on workforce, taxation, and GDP contributions
Cultural Conditions	Statistics Canada census data, City of Delta

This list is by no means a complete reflection of the information to be included in the Project Application: secondary information sources in the Project Application will be informed by an iterative research process, including the results of ongoing engagement and the eventual process of primary data collection through interviews. The AIR is the next stage at which the list of primary and secondary information sources for inclusion in the Project Application will be revisited, refined, and expanded as needed.

Among the secondary data sources for consideration in the Project Application will include documents in the public domain, such as:

- Relevant Statistics Canada census data, WorkBC labour data, FortisBC internal analysis on workforce, taxation, and GDP contributions
- GHG management plans for Metro Vancouver
- Reports from Metro Vancouver, Delta, Richmond, and the B.C. EAO on locations of wildlife management and protected areas in the Region, along with data on Regional parks visitation and use
- Reports produced by Delta and Richmond on economic uses and importance of the Lower Fraser River; including historic uses and future sustainability challenges
- Studies from the Port of Vancouver on shipping container terminal locations, traffic lines, value of goods and percentage of Canada's trade that passes through the Port of Vancouver, strategies for community engagement and port operations and management plans
- Studies prepared by the B.C. EAO and Indigenous nations on Traditional Marine Uses and Aboriginal Rights along the Lower Fraser River
- DFO data on Indigenous fisheries and boating routes along the Lower Fraser River
- Statistics Canada and Government of B.C. data on recreation and tourism activities in the area
- Statistics Canada data on population, education, and immigration trends
- B.C. Ministry of Health statistics on health care and social services in the area
- Vancouver Coastal Health Authority and Fraser Health Authority health data
- Studies produced by Indigenous nations and Indigenous research organizations on Indigenous health
- Metro Vancouver publications on the state of social conditions in its boundaries including Indigenous nation communities
- Peer-reviewed journal articles
- Civil society and volunteer group publications
- Guidelines regarding land use and associated assessments in Metro Vancouver, including effects to other land uses such as agriculture, tourism, and recreation

- Data and monitoring reports from relevant EAs on projects in the Region, including but not limited to the Tilbury Marine Jetty project, the Roberts Bank Terminal 2 Project, and the George Massey Tunnel Replacement project

10.5.1.2 Potential Project Effects to Social, Economic, and Cultural Conditions

As part of the Project Application, the proposed Project will include an analysis that follows the approach outlined in Appendixes 3 and 4 of the Human and Community Well-being: Guidelines for Assessing Social, Economic, Cultural and Health Effects in Environmental Assessments In B.C. (the Guidelines). Appendixes 3 and 4 of the Guidelines provide a structured approach to scoping selection of VCs under the Human and Community Well-being Assessment and considering potential effects to these VCs. The list of VCs will be confirmed through the process of drafting and finalization of the proposed Project Application.

When assessing potential proposed Project effects to VCs, the principles used to assess disproportionate effects on distinct human populations (B.C. EAO) (also called GBA+ by IAAC) will be applied to determine whether there are differential effects for subsets of the population, especially vulnerable groups in the study area. The proposed Project Application will include existing environment descriptions of the vulnerable populations and an effects evaluation will consider the effects of the proposed Project on vulnerable and other populations subsets. This consideration will include both the possibility that certain vulnerable groups may be constrained in their access to positive effects such as employment and business opportunities, and the possibility that they may disproportionately experience the proposed Project's possible adverse effects.

Based on an initial understanding of the proposed Project, the following potential positive and adverse effects to social, economic, and cultural conditions are being considered for inclusion in the Application.

Employment and economy

- Increased jobs, business contracts, and tax contributions as a result of the proposed Project
- Price increases to essential goods due to increased economic activity as a result of the proposed Project

Land and resource use (including marine use)

- Changes to traditional, recreational, and other land and resource uses as a result of the proposed Project's real or perceived changes to noise, views, air emissions
- Changes to agricultural or rural leisure activities (such as, horseback riding) as a result of real or perceived changes to noise, views, air emissions
- Changes to marine access for fishing, tourism, and boating as a result of real or perceived changes to noise, views, air emissions, access, or shipping traffic
- Changes to marine activities (such as, fishing) as a result of potential changes to fish and fish habitat due to increased shipping traffic during Construction Phase
- Changes to boating safety as a result of potential changes during Construction Phase
- Changes to the experience of being on the Fraser River, resulting in changes to use

Infrastructure and services

- Changes to traffic and vehicle access during Construction Phase as a result of the proposed Project
- Use of community emergency response infrastructure in the event of a safety-related incident related to the proposed Project

- Location of construction-related laydown areas adjacent to the proposed Project, and the ownership status of these areas

Human health

- Effects from the proposed Project related to air quality, noise, and light

Culture

- Changes to Indigenous or other traditional practices as a result of changes to land and resource use
- Changes to intergenerational knowledge transfer as a result of changed experiences being in land or marine environments

Table 10-22 provides an overview of potential positive and adverse effects related to human and community well-being, as they are understood during the early phases of proposed Project planning. These effects have been organized according to potential disproportionate effects on distinct human populations and potentially sensitive values. This understanding is preliminary and is expected to evolve through the data collection process related to the Application. As noted in Table 10-22, Indigenous nations have the potential to experience differential effects to their health, social or economic conditions as a result of the proposed Project. As with disproportionate effects on distinct human populations, understanding of potentially differential effects to Indigenous nations is preliminary and expected to evolve as the Application is developed. Where individual Indigenous nations raised concerns regarding health, social, or economic effects, they have been noted in Section 11 of this DPD.

Table 10-22. Potentially Differential Positive and Adverse Effects as Part of Human and Community Well-being Assessment

Social, Economic, and Cultural Topics (Possible Effects in Italics)	Groups Potentially Vulnerable	Rationale for Vulnerability, and Sensitive Values Potentially Affected by the Project	Group Experiencing Possible Positive Effects	Rationale for Differential Positive Effects
Employment and Economy <i>Increased jobs, business contracts, and tax contributions as a result of the proposed Project</i> <i>Price increases to essential goods due to increased economic activity as a result of the proposed Project</i>	Indigenous nations	Historic challenges to full participation in the settler economy may constrain ability to uptake Project-related jobs or contracting opportunities	Skilled workers	Skilled/educated labour will more likely be employed or engaged for the proposed Project
	Less educated, less- skilled, workers	Construction and operations for the proposed Project requires a skilled labour force with minimal unskilled labour	Business owners contracted to provide services	Direct economic benefit will be more concentrated in the hands of qualified direct suppliers
	Low-income residents	Low-income populations may find a cost-of-living squeeze, especially for items such as groceries, housing		
	Women	Women may be less likely to be employed with the proposed Project due to various factors, including women's underrepresentation in skilled trades. COVID-19 has been found to have a greater economic impact on women as a result of increased (and gendered) responsibilities for caregiving	Local retail businesses near Tilbury Island (gas, food, etc.)	Potentially convenient locations for Project workers to seek essential day-to-day goods and services
Land and Resource Use <i>Changes to traditional, recreational, and other land and resource uses as a result of the proposed Project's real or perceived changes to noise, views, air emissions</i> <i>Changes to agricultural or rural leisure activities (such as, horseback riding) as a result of real or perceived changes to noise, views, air emissions</i>	Indigenous nations with concern for incremental changes to air, water, noise, views and their relationship to Traditional Uses	Real, perceived, and/or cumulative changes in quality	None immediately identified	None immediately identified
	Nearby agricultural or rural leisure businesses (such as, horse stables)	Real, perceived, and/or cumulative changes to local conditions		
	Recreational users along the Fraser River (walking, dog walking, dirt bikes, equestrians)	Incremental change in proximity to recreational spaces (trails, marinas)		

Table 10-22. Potentially Differential Positive and Adverse Effects as Part of Human and Community Well-being Assessment

Social, Economic, and Cultural Topics (Possible Effects in Italics)	Groups Potentially Vulnerable	Rationale for Vulnerability, and Sensitive Values Potentially Affected by the Project	Group Experiencing Possible Positive Effects	Rationale for Differential Positive Effects
Land and Resources Use <i>Changes to marine access for fishing, tourism, and boating</i> <i>Changes to marine activities (such as, fishing) as a result of potential changes to fish and fish habitat due to increased shipping traffic during Construction Phase</i> <i>Changes to the experience of being on the Fraser River, resulting in changes to use</i> <i>Changes to boating safety as a result of potential changes during Construction</i>	Indigenous fishers and boaters	Real, perceived, and/or cumulative changes to cultural and traditional uses. Potential loss of the transfer of knowledge through changes to cultural and traditional use	Commercial shipping users	Potential improved access to marine fuel as a result of the proposed Project
	Fraser recreational users such as, Delta Deas Rowing Club, users of Metro Vancouver's proposed marine trails	Possible effects to the enjoyment of cultural, recreational, and tourism spaces		
	Non-commercial marine users Tourism operators Dock owners Fishers – tourist and commercial	Potential changes to boating safety		

Table 10-22. Potentially Differential Positive and Adverse Effects as Part of Human and Community Well-being Assessment

Social, Economic, and Cultural Topics (Possible Effects in Italics)	Groups Potentially Vulnerable	Rationale for Vulnerability, and Sensitive Values Potentially Affected by the Project	Group Experiencing Possible Positive Effects	Rationale for Differential Positive Effects
Infrastructure and Services <i>Changes to traffic and vehicle access during Construction Phase as a result of the proposed Project</i> <i>Use of community emergency response infrastructure in the event of a safety-related incident related to the proposed Project</i>	People who live, work, travel or perform recreation activities near the proposed Project Local businesses	Traffic, parking, or vehicle access may be affected by increased road traffic during construction	Delta residents	Possible benefits from any infrastructure and services upgrades that result from the proposed Project
Culture <i>Changes to Indigenous or other traditional practices as a result of changes to land and resource use</i> <i>Changes to intergenerational knowledge transfer as a result of changed experiences being in land or marine environments</i>	Indigenous nations	Potential changes to cultural practices as a result of real, perceived, and/or cumulative effects of the proposed Project Loss of the transfer of knowledge due to changes in practices	None immediately identified	None immediately identified
	Non-Indigenous groups whose cultural practices might be affected by the proposed Project	Potential changes to cultural practices as a result of real, perceived, and/or cumulative effects of the proposed Project		

FortisBC will continue its engagement to identify ways to benefit the local community and ways to mitigate potential negative effects with a particular focus on distinct subgroups of the population who may experience differential effects. It will also continue to engage to understand potential positive effects and possible barriers for vulnerable subgroups of the population to accessing those positive effects. Data collection related to the Application preparation process will also further identify potentially differentially affected groups.

The evaluation will include consideration of both benefits and negative human and community well-being effects. This analysis will inform the development of socio-economic related mitigation, monitoring plans and programs related to the proposed Project. Some of this mitigation may take the form of identifying benefits for vulnerable populations as well as mitigation for potential negative effects such as the concerns of the nearby farming community for road access and moving crops.

10.5.2 Economic Conditions

The proposed Project Site is located within Delta in Metro Vancouver. The Municipality spans 180 km² and is home to approximately 103,000 residents living across three residential communities: North Delta, Ladner, and Tsawwassen (Statistics Canada 2017c). Delta borders Richmond to the northwest, Surrey and White Rock to the east, Tsawwassen First Nation to the west, and the United States border to the south. The Municipality includes farmland, wetland, industrial areas, commercial districts, and residential neighbourhoods, both old and new. Delta is home to a multitude of industries including aerospace, manufacturing, construction, energy, transportation, deep sea and river shipping, communications, and tourism. The single largest economic driver is Deltaport, which is the largest container terminal in Canada (Government of B.C. 2021b).

Delta's diverse economy contributes to a strong labour market (Statistics Canada 2017c). According to the latest census data collected by Statistics Canada in 2016, employment in Delta totalled 51,820 jobs (Statistics Canada 2017c). With a labour force of 54,695, this translates to an unemployment rate of 5.3 percent. This is a better result than the average across the Province where the unemployment rate was 6.7 percent at that time. With a healthy private-sector economy, goods-producing industries account for more than 10,000 jobs. These include agriculture, forestry, fishing, mining and quarrying, utilities, construction, and manufacturing. The public sector is also an important employer in Delta. Combining health, education, and public administration, these industries employed 11,500 Delta residents (Statistics Canada 2017c).

Delta's average household income is approximately 30 percent higher than the National average (Statistics Canada 2017c). Delta's median total income of households in 2015 was \$92,200 while the average total income was \$111,900. There was also a relatively smaller number of families with income levels below the Low Income Measure (LIM), which is calculated at half the median income and is a proxy for a poverty line. At the time the census was taken, 8.9 percent of adults aged 18 to 64 and 12.7 percent of children aged 0 to 17 were living in households where the total income was below Delta's LIM. This result is better than that for the Province, where 14.8 percent of adults and 18.5 percent of children live in households where total income is below the Province LIM (Statistics Canada 2017c).

COVID-19 has affected Delta's economy and like other jurisdictions in B.C. and Canada, resulted in dramatic losses of jobs and income. Data specific to Delta is still being assembled in order to fully understand the effects of this pandemic, but across B.C., it has been shown that the unemployment rate went from 4.4 percent in February 2020 to 13.3 percent in July. Jobs are coming back, and as of December, this unemployment rate was 7.2 percent.

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These numbers are similar to what has happened in the Greater Vancouver area, where the unemployment rate in December was 7.4 percent compared to 4.8 percent a year earlier (WorkBC 2020). Tables 10-23 and 10-24 show the unemployment rates and employment trends in B.C. from February to December of 2020.

Table 10-23. British Columbia Unemployment Rate, February to December 2020

	British Columbia										
	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
Unemployment rate, %	4.4	5.3	7.5	10.7	13.1	13.3	10.1	8.4	8.0	7.1	7.2

Source: WorkBC 2020

Table 10-24. British Columbia Employment Trends, February to December 2020

	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
Total employment, % change	-0.3	-5.2	-11.0	+2.0	+5.4	+3.0	+0.6	+2.3	+1.4	+1.0	+0.2
Construction, % change	+0.9	-2.6	-14.6	-0.7	+4.1	+2.4	+1.8	-6.8	-0.4	+2.9	+3.2

Source: WorkBC 2020

A wide range of economic benefits are expected to emerge in relation to the proposed Project, including increased economic activity, business demand, employment, labour income, and government revenues through taxes and royalties, as well as the enhancement of workforce and business capacity. The expansion will create employment and contracting opportunities during planning and construction, and during proposed Project operations. These anticipated benefits will bolster the economy as the region looks to recover from the economic impacts of COVID-19.

The proposed Project will provide bidding opportunities for local, regional, and Indigenous businesses. FortisBC has a hiring practice that is supportive of inclusion and diversity and bringing new perspectives into the organization (FortisBC 2021a). In addition, FortisBC requires contractors to keep a record of employment, training, and business opportunities provided to Indigenous individuals, local workforce, and contractors. FortisBC monitors the implementation of these hiring practices through regular reporting intervals with contractors. To this end, FortisBC is developing a Socio-Economic Impact Program to connect Indigenous and other local businesses with contract opportunities and local members of the labour force to employment opportunities across major projects. As of March 31, 2020, FortisBC has already invested approximately \$2.4 million on goods and services sold by local businesses in connection with this proposed Project.

FortisBC has conducted a preliminary economic assessment of the proposed Project. The construction will cost between \$3 to \$3.5 billion, require 5 years to complete, and add approximately \$1.7 billion to B.C.'s GDP. Construction is expected to create more than 6,000 direct, full-time equivalent (FTE) jobs⁵ in B.C.

⁵ Jobs refers to full-time employees, expressed in person years.

When including all direct, indirect and induced effects, proposed Project-related employment in B.C. during construction is expected to total more than 13,000 FTE jobs. The Construction Phase will generate approximately \$300 million in tax revenues for local government in the Province (Table 10-25).

Table 10-25. Preliminary Economic Assessment of Tilbury LNG Expansion Project Effects

		GDP (\$'000s)	Employment (FTE, person-years)	Taxes (\$'000s)
Construction Phase				
Construction (total effect over 5-year construction period)				
B.C.	Direct	\$700,000	6,000	\$225,000
	Indirect	\$600,000	5,000	
	Induced	\$400,000	2,000	\$83,000
	Total	\$1,700,000	13,000	\$308,000
Canada	Direct	\$800,000	7,000	\$550,000
	Indirect	\$1,000,000	7,000	
	Induced	\$600,000	3,000	\$240,000
	Total	\$2,400,000	18,000	\$790,000
Operation Phase				
Operations (Annual Effects once fully operational)				
B.C.	Direct	\$231,000	110	\$51,000
	Indirect	\$148,000	500	
	Induced	\$29,000	140	\$7,000
	Total	\$409,000	750	\$58,000
Canada	Direct	\$231,000	110	\$100,500
	Indirect	\$181,000	700	
	Induced	\$44,000	230	\$17,000
	Total	\$457,000	1,040	\$117,500

*GDP and Taxes in \$millions

** Employment in FTEs

Note: Some totals may not add up due to rounding

Once fully operational, annual sales of LNG are expected to contribute approximately \$0.7 billion annually to B.C.'s GDP. Once operating, the proposed Project is anticipated to create approximately 110 FTE jobs in B.C., with more than 500 indirect FTE jobs, and approximately 140 induced FTE jobs as reflected in Table 10-25. Total annual tax revenues generated from proposed Project operations are anticipated to exceed \$87 million in B.C. and \$196 million in Canada.

10.5.3 Archaeological and Heritage Resources Conditions

The *HCA* (Government of B.C. 1996) provides for the protection of B.C.'s archaeological resources and applies to archaeological sites pre-dating 1846, whether they are located on public or private land. The

HCA also confers automatic protection upon heritage sites that pre-date 1846 or sites with unknown dates that could pre-date 1846, regardless of whether they are recorded in the Provincial Heritage Site Register, whether they are located on Crown land or private property, and whether they are in a disturbed or intact context. Post-1846 historic sites can be protected by Ministerial Order, Designation by an OIC or a Municipal bylaw; however, most post-1846 historic sites are not protected in B.C.

The Archaeology Branch of B.C. MFLNRORD is responsible for administering the *HCA* and oversees archaeological work in the Province. The Archaeology Branch conducts permitting in relation to heritage inspections, investigations, and proposed Project Site alteration. Archaeological and Heritage Resources assessment and management provisions in the *HCA* are compatible with the requirements of the *IAA*.

Delta has an established Heritage Register listing a variety of historically significant sites. Heritage sites are protected through Heritage Designation that is achieved on a site-by-site basis through Municipal bylaws. Any changes to Designated Heritage Properties must meet requirements set out in the protection bylaw and require OIC approval (Delta 2019b).

An AOA is preliminary non-*HCA* study to provide a desktop analysis of the archaeological potential of a proposed Project Area. Visual inspection of the proposed Project Area may be conducted as part of the AOA during a preliminary field reconnaissance. The AOA results will inform the following *HCA* permitted archaeological assessments.

An AIA is conducted under a HIP to evaluate archaeological potential, record and assess archaeological sites, and provide management recommendations to the proponent about subsequent permitting of the proposed Project Area. An AIA is a baseline, low impact archaeological assessment based on the proposed Project and its impacts.

Finally, a Site Alteration Permit is needed if archaeological sites have been identified and the proposed Project is in conflict and is needed to authorize the land alterations during the Construction Phase, including both direct and indirect impacts to recorded archaeological sites.

An AIA was conducted in the area southeast of the existing facility for the Tilbury Phase 1A expansion. Although there were no significant archaeological remains within the AIA, ground-altering activities associated with expansion construction have the potential to alter archaeological or historical sites, features, and objects located in areas where previous AIA work has not been conducted.

Given that areas with heritage resource potential have not all been subject to a desktop-based assessment or field inspection, there remains a data gap and detectable heritage resources may be present and potentially be affected by expansion activities. FortisBC has completed an AOA for the whole proposed Project and will conduct an AIA for the expansion construction activities. If heritage resources are encountered during subsequent studies, avoidance (that is, re-design of expansion components) of heritage resources will be the primary mitigation when feasible.

10.5.4 Health Conditions

The proposed Project Site has historically gone through a number of changes, including agricultural purposes and a sawmill (subsection 10.3). The site is currently designated as industrial in the Delta OCP.

The construction of the proposed Project will result in short-term increases in noise levels, air emissions from construction equipment operation, increased marine traffic during construction, and dust from vehicle use of access roads (subsection 10.5). FortisBC is aware that some individuals are more sensitive to air pollutants, including infants, the elderly, or those with lung or heart disease. The agricultural community is also concerned about the effects of potential air pollutants and dust from road traffic on their crops. FortisBC will

acquire air quality permits from Metro Vancouver, including those required for non-road diesel engines (subsection 8.3). Metro Vancouver monitors air quality from over 20 stations (Metro Vancouver 2012), and an air quality health index provides daily updates. Air quality in Metro Vancouver has been improving for the past few decades and the proposed Project will need to be comply with Metro Vancouver's AAQOs, Canadian AAQOs, and B.C. Provincial AAQOs. FortisBC will consider potential health effects due to air quality changes in the proposed Project Application.

Health effects from contaminants is an anticipated community concern, particularly for Indigenous nations and those who harvest country foods. A study conducted by the Cohen Commission identified numerous chemicals in surface waters and in bottom sediments in the Fraser River that posed potential risks to sockeye salmon populations, including nitrate, chloride, sulphate, arsenic, mercury and selenium (Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River [Canada] 2012). The report noted that data on the bioaccumulation of toxic substances were limited and needed further evaluation to determine potential effects on human health (Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River [Canada] 2012). The Construction Phase may involve upgrades to the MOF. The extent of any additional upgrades required for the proposed Project will depend on the state of the existing earth jetty at the time of construction but are expected to be primarily on the topside and upland areas near the dike since all in-water activities are expected to be completed prior to construction. The possible in-water works are part of the scope of the assessment and will be more defined as proposed Project design continues through the next phase of the proposed Project. No effects to the Fraser River are anticipated during the Operations Phase.

The proposed Project Site has been subject to numerous environmental investigations and remediation efforts from 1991 to 2014. The EOA for the CPCN application, resulted in eight APECs and their associated potential contaminants of concern were identified for the Tilbury site. Additional investigations including a Stage 1 and 2 PSI are planned at the proposed Project Site for soils and groundwater in 2020/2021.

The Human Health Risk Assessment will be used in the assessment of potential effects for all phases of the proposed Project on the Human Health VC. FortisBC will consider potential health effects due to air quality changes, noise and contaminants including changes in subsistence use and potential effects on agriculture in the proposed Project Application.

10.6 Anticipated Cumulative Effects

The issues heard through the Early Engagement process have been incorporated, where practical, into the DPD. For example, some Indigenous nations expressed concerns about cumulative impacts to Indigenous Peoples, including culture and lifeways, as well as cumulative effects of marine shipping and GHG emissions. Governments, the public, and other parties expressed concerns about cumulative effects on air quality, regional traffic, marine noise, Southern Resident Killer Whales, and climate change. Table 10-26 provides an overview of matters raised during engagement with the public, governments, and other groups up until July 19, 2021 of the Early Engagement Phase. Table 10-27 provides a similar summary for Indigenous nations. Both tables provide an indication of how FortisBC is proposing to respond to points raised during Early Engagement in the DPD and the subsequent Application. Where comments are directly related to the contents and scope of the DPD, Tables 10-26 and 10-27 indicate the location in the DPD document where these comments were addressed. Where comments were outside the scope of the DPD, for example relating to the contents of the Application document, Tables 10-26 and 10-27 indicate this.

Table 10-26. Summary of Topics Related to Cumulative Effects Arising from Early Engagement with Governments, the Public, and Other Groups During Early Engagement

Group Engaged	Issue Related to Cumulative Effects Raised during Early Engagement	Relationship to Cumulative Effects Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Governments (including Local governments, Provincial and Federal agencies and representatives)	Cumulative effects on regional traffic and land use, including lands within the Agricultural Land Reserve and in the Lower Fraser River area.	Regional traffic and land use	Cumulative effects on regional traffic will be assessed in the Application under the Land and Resource Use and Infrastructure and Services VCs.	No changes made. Will be addressed in the Project Application.
	Cumulative effects of the Project and other industrial projects, such as the Trans Mountain Expansion and Woodfibre LNG projects, on Southern Resident Killer Whales.	Southern Resident Killer Whales.	The proposed Project is expected to have limited interactions with Southern Resident Killer Whales. It is estimated that six to eight cargo vessel deliveries will be required during the 3-year construction period. Some additional deliveries may be required for aggregate and other construction material delivery. The vessel/barge deliverables are expected to come from Sand Heads lighthouse at the mouth of the Fraser River along the shipping channel of the South Arm of the Fraser River to the proposed Project Site. Barges will use established navigation channels to travel to and from the site. Shipping of LNG during operations is assessed in a separate EA for the Tilbury Marine Jetty, which is proposed to operate adjacent to the proposed Project Site.	No changes made. Will be addressed in the Project Application.
	Cumulative effects on air quality from an increase in water and land-based transportation due to the number of developments proposed in the proposed Project Area.	Air quality	Cumulative effects on air quality will be assessed in the Application under the Air Quality VC.	No changes made. Will be addressed in the Project Application.
	Cumulative climate change effects from the Project and other industrial projects.	Climate change	The CEA for the Project Application will identify potential cumulative effects to each VC by comparing the current and future conditions. Climate change will be considered as part of future conditions for specific VCs, where appropriate.	No changes made. Will be addressed in the Project Application.

Table 10-27. Summary of Topics Related to Cumulative Effects Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to Cumulative Effects Raised during Early Engagement	Relationship to Cumulative Effects Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Cowichan Nation Alliance: Cowichan Tribes, Halalt First Nations, Stz'uminus First Nation	Concerns with the assessment of upstream GHG emissions and the LNG supply chain's cumulative effects.	GHG emission and LNG supply chain	During process planning, B.C. EAO will decide if an upstream GHG emissions assessment is required. If required, the assessment of upstream GHG emissions and cumulative effects will be provided in subsection 10.2 Atmospheric Environment in the Project Application. The B.C. EAO, supported by ECCC, makes the decision on the need for an upstream GHG assessment.	No changes made.
Katzie First Nation	Inclusion of an assessment of cumulative impacts to Indigenous Peoples, including Katzie First Nation culture and lifeways.	Cumulative impacts to Indigenous Peoples	The Indigenous Interests sections of the Project Application will include a CEA of impacts on Indigenous Peoples.	No changes made. Will be addressed in the Project Application.
Kwantlen First Nation	Concerns with increased marine shipping and cumulative effects of many projects over the years, including on Tilbury Island.	Marine shipping and overall cumulative effects	Cumulative effects on marine shipping during construction will be assessed in the Application under the Land and Resource Use and Infrastructure and Services VCs, if proposed Project residual adverse effects are identified. The CEA for the Project Application will identify potential cumulative effects to each VC directly associated with the proposed Project, in combination with the likely residual effects arising from other projects and activities that have been or will be carried out in the proposed Project study areas.	No changes made. Will be addressed in the Project Application.
Tsleil-Waututh Nation	CEA for GHG emissions and the proposed Project's contribution to an increase of fractured gas wells to be drilled for LNG production and the resulting impacts.	GHG Emissions	Cumulative effects on GHG emissions will be assessed in the Application under the Atmospheric VC. The CEA for the Project Application will meet the B.C. EAO, IAAC, and SACC requirements.	No changes made. Will be addressed in the Project Application.
	Concerns with compartmentalizing this EA with other developments at the site and the ability to capture interactions with other projects and activities.	Compartmentalized assessment	The CEA for the Project Application will identify potential cumulative effects to each VC directly associated with the proposed Project, in combination with the likely residual effects arising from other projects and activities that have been or will be carried out in the proposed Project study areas.	No changes made. Will be addressed in the Project Application.

Table 10-27. Summary of Topics Related to Cumulative Effects Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to Cumulative Effects Raised during Early Engagement	Relationship to Cumulative Effects Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Tsawwassen First Nation	Concerns about the cumulative effects of three major projects – Delta Grinding Facility Project, Tilbury Phase 2 and Jetty Project that is/will be near and have major impacts to their community. Having many projects occurring and understanding all the impacts is important and needs to be looked at holistically and include Tsawwassen First Nation's stewardship.	Cumulative effects of multiple proposed projects	There is sufficient information from the Jetty Project and the Delta Grinding project to be considered in the CEA.	No changes made. Will be addressed in the Project Application.

The Application will include a CEA that will identify potential cumulative effects to each VC where residual adverse effects have been determined. The CEA will evaluate the residual environmental and socio-economic effects directly associated with the proposed Project, in combination with the likely residual effects arising from other projects and activities that have been or will be carried out in the proposed Project study areas. These include the existing and planned Phase 1 Tilbury LNG facility, the proposed Tilbury Marine Jetty project, and other existing and proposed developments in the Tilbury industrial area and along the Fraser River. The other projects and activities to be included in the CEA will be identified as the proposed Project planning progresses.

Detailed methodology and rationale used to determine if the proposed Project is expected to have significant adverse cumulative effects and how the other projects will be identified will be provided in FortisBC's Application for an EAC. Appendix F includes the proposed approaches for CEAs. The proposed Project Application and the CEA will be informed by:

- approved land use plans that designate the most appropriate activities on the land base
- baseline studies and historical data that factor in the effects of past development and set out the current conditions, including Indigenous Knowledge
- potential overlapping effects due to present developments
- reasonably foreseeable project

Potential trans-B.C.-boundary effects will be determined during the development of the proposed Project Application, but could include, for example, air quality and GHG emissions.

10.7 Accidents and Malfunctions

The issues heard through the Early Engagement process have been incorporated, where practical, into the DPD. For example, some Indigenous nations expressed concerns about LNG specific emergency response training, monitoring and management for leaks and spills, flood protection measures and seismic upgrades. Governments, the public and other parties expressed concerns regarding potential effects from accidents and malfunctions on nearby urban areas and businesses, including adverse environmental and human health effects from leaks or spills. Table 10-28 provides an overview of matters raised during engagement with the public, governments, and other groups up until July 19, 2021 of the Early Engagement Phase. Table 10-29 provides a similar summary for Indigenous nations. Both tables provide an indication of how FortisBC is proposing to respond to points raised during Early Engagement in the DPD and the subsequent Application. Where comments are directly related to the contents and scope of the DPD, Tables 10-28 and 10-29 indicate the location in the DPD document where these comments were addressed. Where comments were outside the scope of the DPD, for example relating to the contents of the Application document, Tables 10-28 and 10-29 indicate this.

Table 10-28. Summary of Topics Related to Accidents and Malfunctions Arising from Early Engagement with Governments, the Public, and Other Groups During Early Engagement

Group Engaged	Issue Related to Accidents and Malfunctions Raised during Early Engagement	Relationship to Accidents and Malfunctions Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Governments (including Local governments, Provincial and Federal agencies and representatives)	Potential for adverse environmental and human-health effects from accidents and malfunctions, such as leaks or spills, during the construction and operation of the Project, and details on proposed prevention, mitigation and response measures that will be implemented.	Potential for adverse environmental and human-health effects from leaks or spills	The Project Application will include an assessment of potential effects to environmental and human-health as a result of hazardous material spills and will develop specific mitigation measures to reduce or eliminate the likelihood or consequence of potential incidents. The Application will include measures for prevention, mitigation, and response to these accidents and malfunctions.	Subsection 10.7 has been updated to include a preliminary list of accidents and malfunctions that are proposed for assessment in the Application, including accidental release of hazardous materials.
	Potential impacts of accidents and malfunctions on nearby urban/residential areas and businesses.	Potential impacts on nearby urban/residential areas and businesses.	The Project Application will include an assessment of potential effects to surrounding urban areas and businesses and will develop specific mitigation measures to reduce or eliminate the likelihood or consequence of potential incidents. The Application will include measures for prevention, mitigation, and response to these accidents and malfunctions.	Subsection 10.7 has been updated to include a preliminary list of accidents and malfunctions that are proposed for assessment in the Application, including potential effects to surrounding urban areas and businesses.
	Inclusion of reliable modelling for contaminants released to air or spilled to water to inform the emergency management plans and associated response measures and capacities for each major type of foreseeable incident.	Modelling for contaminants released into the surrounding environment	The Application will include modelling that will inform the emergency management plans. The Application will include measures for prevention, mitigation, and response to these accidents and malfunctions.	Subsection 10.7 has been updated to include a preliminary list of accidents and malfunctions that are proposed for assessment in the Application, including accidental release of hazardous materials.

Table 10-29. Summary of Topics Related to Accidents and Malfunctions Arising from Engagement with Indigenous Nations During Early Engagement

Indigenous Nations Engaged	Issue Related to Accidents and Malfunctions Raised during Early Engagement	Relationship to Accidents and Malfunctions Potentially Related to the Issue Raised	How the Issue Has Been, or Will Be, Addressed	Changes to the Detailed Project Description Made as a Result of Engagement
Tsleil-Waututh Nation	Concerns regarding congestion in the area with respect to supply tankers and barges going through highly populated areas and a narrow navigational channel. Requested proposed Project facilities, local authorities and regulators, and Indigenous Nations to have LNG specific emergency response training.	LNG specific emergency response training	Training and emergency response are already in place at the proposed Project Site, and FortisBC coordinates with local emergency responders to offer LNG specific training and to develop coordinated response plans and training exercises. FortisBC has an existing Emergency Response plan for the site will engage Indigenous Nations when updating it as part of the proposed Project.	Section 10.7 has been updated to indicate that FortisBC will engage with Indigenous nations when developing emergency response plans and will share emergency response procedures with Indigenous nations as requested.
	Concerns regarding standards that directly regulate methane slip along the supply chain, liquefaction emissions and energy use as well as bunkering emissions. Requested a robust monitoring and management plan for leaks and methane slips.	Monitoring and management plan for leaks and methane slips	While FortisBC does not manage upstream production and distribution, FortisBC has operating practices on the Tilbury site that seek to limit the release of methane fugitive emissions and our new facilities are designed to minimize venting and fugitive emissions. We will continue to monitor best practices and seek to reduce fugitive emissions.	No changes made.
	Concerns regarding flooding and seismic hazards. Asked what kind of flood protection measures and seismic upgrades will be incorporated into the design.	Flood protection measures and seismic upgrades	Seismic ground stabilization upgrades were done in 2018 as well as upgrades to the dike next to the proposed Project Site for flood protection. Further upgrades may be completed as needed. The proposed Project will be designed to meet or exceed the seismic criteria established by the Standards Council of Canada. The Project Application will assess potential effects of the environment on the Project, including seismic and flooding events.	Subsection 10.8 has been updated to include information regarding flood protection measures and seismic hazards.

This section of the DPD has been updated to include a description of the Tilbury LNG facility's 50+ year history of safe operations, the current safety measures in place at the facility, and a preliminary list of accidents and malfunctions that are proposed for assessment in the Application. The same list has been added to the draft AIR appended to the DPD. The preliminary list of accidents and malfunctions will be amended as appropriate during the Process Planning Phase of the B.C. EAO process before the AIR is finalized.

The Application will include an assessment of all potential accidents and malfunctions, including the release of contaminants and spills. The Application will assess the effect of such incidents on the environment, human health and surrounding urban areas and businesses and will develop specific mitigation measures to reduce or eliminate the likelihood or consequence of potential incidents. It will also include modelling that will inform the emergency management plans. FortisBC will engage with Indigenous nations when developing emergency response plans and will share emergency response procedures with Indigenous nations as requested. Feedback during engagement will be considered and help inform the mitigation measures to be included in proposed Project design and outlined in the Project Application.

FortisBC is committed to designing, constructing, and operating the proposed Project in a safe and environmentally responsible manner that respects the communities within which it operates. FortisBC recognizes that the proposed Project must account for the potential for accidents and malfunctions to affect public and environmental safety. Safety is the company's top priority and is guided by a [Safety and Environmental Policy](#) to ensure employees and contractors return home safely every day. The company will not compromise employee and public safety and strives for excellence in safety performance. FortisBC has a favourable record of safely operating two LNG facilities, Mt. Hayes and Tilbury.

The Tilbury facility has been operating safely in Delta since the early 1970s. LNG is made from the same natural gas used in homes every day. To make it easier to store or transport by truck or ship, it is cooled to a liquid form. When stored in a double-walled tank or container, LNG is not flammable or explosive as there is no oxygen or air to react with the fuel. The Tilbury facility has procedures and safety measures for preventing and managing spills, leaks, and vapour clouds. It also has the capability to shut down automatically during an emergency. These safeguards are in place to protect the facility, employees, and the public. The facility has complete on-site fire control and response systems independent of the fire department. The facility is also continuously monitored year-round by highly trained site personnel who have been producing LNG for decades. These safety systems will be evaluated and upgraded as part of the proposed Project to verify continued safe facility operations. While the rigorous standards and practices that are in place make accidents or malfunctions unlikely for the proposed Project, the potential consequences will be evaluated such that emergency response and contingency planning can be identified to reduce the risk and the severity of potential consequences.

The specific malfunctions or accidents to be considered in the proposed Project Application have been provided in Table 10-30. The B.C. EAO requested that FortisBC identify the potential malfunctions or accidents with a medium to high-risk rating based on risk disclosure standards and Provincial risk management policy. Based on preliminary assessment there are no potential malfunctions and accidents with a high-risk rating. A description of how the identified accidents and malfunctions will be managed are provided following Table 10-30.

Table 10-30. Preliminary List of Potential Accident and Malfunction Scenarios

Scenario	Preliminary Risk Rating*
Fire or explosion	Low
Events involving hazardous material spills (such as, HC fuels, lubricants, and concrete) in environmentally sensitive habitat	Low to Medium
Terrestrial vehicle collision	Medium
Loss of containment of LNG	Low
Flammable liquids, solvents, or pressurized gas from ruptured piping or equipment during commissioning or operation resulting in the risk of overpressure, fire, toxic gas release, and injury to personnel	Low
Unplanned facility shutdown including emergency flaring, process upset, or power outage	Low
Construction-related river/marine vessel collision with ground, other vessels, marine/river facilities, marine mammals, aquatic organisms, with potential loss of cargo	Low to Medium

* This is a preliminary identification using the risk rating formula (Likelihood X Consequence = Risk Rating). A full risk assessment will be conducted in accordance with Risk Management Guideline for the B.C. Public Sector (Province of B.C. 2019) for the proposed Project Application.

"FortisBC actively manages the security and integrity of its utility assets through a defence in depth strategy, aligned with CSA Z246.1-17 (Security management for petroleum and natural gas industry systems). This includes, but is not limited to, incorporating physical security elements in design and monitoring the security environment. To support our monitoring, we actively maintain reciprocal relationships with these external agencies:

- *RCMP National Critical Infrastructure Team (NCIT)*
- *Canadian Security Intelligence Service (CSIS)*
- *Downstream Natural Gas Information Sharing & Analysis Centre (DNG-ISAC)*
- *Canadian Centre for Cyber Security (CCCS)*
- *Natural Resources Canada (NRCan)*
- *Public Safety Canada*

Our preliminary risk assessment, in combination with an assessment of the security environment in the Tilbury region has assessed the risk of terrorism as negligible. As such FortisBC has determined that accidents and malfunctions from intentional acts of terrorism are beyond the scope of the assessment for the proposed Project."

Potential accidents or malfunctions could result in release of LNG, flammable liquids, solvents, or pressurized gas from ruptured piping or equipment during commissioning or operation resulting in the risk of overpressure, fire, toxic gas release, and injury to personnel.

Natural gas, the refrigerants used in the liquefaction process, and LNG vapours are flammable in a specific range of fuel to oxygen ratio. Methane, the main component in natural gas and LNG, is flammable in a range of between approximately 5 to 15 percent methane gas to air ratio. In this ratio the mixture would burn if there is an ignition source present. LNG is a cryogenic liquid, meaning it is extremely cold and if spilled or released can cause localized freezing and/or burns on contact with skin. The proposed Project is located in a flight path. The emergency management plans for construction and operation will include appropriate mitigation and response.

The design, construction, and ongoing operation/maintenance of LNG facilities shall meet stringent codes and standards requirements. Hazard identification, hazard and operability studies, and safety integrity level studies are conducted during phases of engineering and design. Permitting is done through B.C. OGC including reviews of design and risk assessments. B.C. OGC may require a quantitative risk assessment study report.

FortisBC conducts regular outreach to help Indigenous nations, local governments, and the public better understand the risks and mitigations of the LNG facilities. Mitigation developed for the proposed Project will follow the Mitigation Hierarchy. The first step of the Mitigation Hierarchy comprises of measures taken to avoid creating effects from the outset. Another key preventive measure communicated is to follow Local, Provincial, Federal, and International standards and codes for the design, construction, and operations of the facility. Following these measures will help ensure the safety of the facility using tested and accepted practices. After all possible potential effects are avoided through siting and design considerations, additional mitigation will be applied minimize the potential effects to acceptable levels.

Prevention is a key focus; however, emergency management plans are also developed to develop response plans according to industrial codes or standards and in partnership with local emergency responders. These plans are updated using with appropriate modelling and mitigation measures. Training, drills, and practice emergency exercises are conducted with emergency responders to verify response plans are effective and ready throughout the life of the proposed Project.

10.8 Effects of the Environment on the Project

FortisBC understands that potential effects of the environment on the proposed Project must be considered and appropriately mitigated to the extent possible. During Early Engagement, concerns were raised by Indigenous nations, local governments, and regulatory agencies regarding potential effects of the environment on the proposed Project such as fire, floods, extreme weather events, increased precipitation, and higher water levels due to climate change. The proposed Project Application will include an assessment environmental factors deemed to have possible consequences on the proposed Project, including, but not necessarily limited to, consideration of natural hazards and influences of nature such as: flooding, earthquakes, tsunamis, windstorms, drought, wildfires, and pandemic. The proposed Project Application will include measures for prevention, mitigation, and response to potential effects of the environment, including climate change adaptation measures. Development of the draft AIR, through Process Planning, will determine the full list of effects to be assessed in the proposed Project Application.

IK will be incorporated into the assessment of effects of the environment on the proposed Project as applicable and if available for the proposed Project Application.

10.8.1 Seismicity

Southwestern B.C., including the Lower Mainland, is located within a seismically active area. Seismic conditions are primarily related to the subduction (sliding) of the oceanic Juan de Fuca plate beneath the continental plate. Large megathrust earthquakes can occur along the subduction zone, typically at intervals of several hundred years (NRC Research Press 2013). The last such earthquake on the subduction zone near Vancouver Island is estimated to have occurred in 1700 and would have been felt over a wide area, including at the proposed Project Site. In addition to subduction earthquakes other seismic hazards could include faulting, crustal and deep earthquakes.

Research conducted by Natural Resources Canada (NRCan), the Geological Survey of Canada, and others has led to revisions of the National Building Code with respect to the probability of a seismic event, changing from a 475-year return period (10 percent probability of occurrence in 50 years) to a 2,475-year return period (2 percent probability of occurrence in 50 years). This has led to the modification of geologic models for building design related to seismic events.

Based on these updated geologic models, NRCan has developed an online calculator to estimate seismic hazard at any given location in Canada (NRCan 2017). Using this calculator, Peak Ground Velocity (PGV) values were calculated for the proposed Project Site to provide an indication of seismic hazard. Values are for firm soil (Soil Type C) and reflect the new baseline return period.

At the proposed Project Site, the PGV value is 0.564 metres per second, giving it a seismic hazard value of high. This is confirmed by seismic hazard mapping (NRCan 2010), which categorizes the seismic hazard in the Lower Mainland as high.

10.8.2 Seismic Design and Mitigation

The current edition of the CSA Z276, which applies to LNG production, storage, and handling, specifies two levels of earthquake motions that need to be considered during facility design.

Operating Basis Earthquake (OBE), based on a 10 percent probability of exceedance within a 50-year period (corresponding to a 1:475-year event or approximately 1:500 years). This is the same as the design basis earthquake used in the present National Building Code, discussed as follows. The structures and systems will be designed to remain operable during and after the OBE.

Safe Shutdown Earthquake (SSE), based on a 5 percent probability of exceedance within a 50-year period (approximately 1:1,000 years return period). There will be no loss of containment capability of the tank and it will be possible to isolate and maintain the LNG container during and after the SSE.

The LNG facility will be designed to the higher standards encompassed in the proposed revisions of the various codes, incorporating the most recent knowledge, and predictions of the potential seismic motions. The proposed CSA Z276 requirements for the OBE and SSE seismic events will be used as a minimum standard.

Shaking from a very large subduction earthquake could last much longer than the shaking from a smaller event, although the local ground motions might be similar, depending on the distance and attenuation characteristics. The longer period of shaking will therefore be considered in the design of the facilities.

There are approximately 300 LNG storage tanks of this size and type in the world. Many of these tanks are located in parts of the world that are more seismically active than the proposed Project Site, such as Japan, Korea, Turkey, and Greece. Through industry experience, the methods for seismic design are well known and well accepted in the international engineering community. The LNG storage tank, buildings, equipment, and piping proposed for the expansion location meet industry accepted best practices for seismic design.

10.8.3 Flooding

Tilbury Island is located on the flood plain of the Fraser River, near its confluence with the Pacific Ocean. The proposed Project Site is approximately 1 masl and is protected from flooding by a dike along the River, at the north end of the property. Flooding on the Fraser River is usually related to the spring freshet when snowmelt in the upper reaches and tributaries of the Fraser River combine to fill the system.

However, flooding in the Lower Mainland can occur when low pressure storms, bringing heavy rains and winds, combined with high tides (Delta 2019c).

The Lower Mainland Region, including at the proposed Project Site, is at risk from flooding due to the hazard from being at the Fraser River's lowest reaches. Additionally, the consequence associated with a flood is severe due to the large number of people and amount of infrastructure on the flood plain (Fraser Basin Council 2013). Delta administers an extensive system of dikes and drainage structures built to protect the delta from flooding. The system has been rebuilt a number of times over the years and is currently engineered to withstand a 200-year flood event (Delta 2019c). There is currently a dike in place between the existing Tilbury facility and the Fraser River. The dike was recently upgraded in 2019 to the latest earthquake and flood standard. The impact of a flooding event on the proposed Project will be assessed as part of the proposed Project Application. As previously mentioned, flood protection measures, as outlined by Delta during the building permit process, will be incorporated into building design and/or ground improvement plans.

10.8.4 Changing Climate Trends

Depending upon the nature and extent of changing climatic trends, certain operational activities could be delayed, and stormwater management systems may need modification. For example, warmer temperatures during the spring and higher levels of rainfall may result in flooding, sea level rise, altering hydrologic regimes, while changes in summer temperatures and reduced summer rainfall could lead to drought and an increase in wildfires.

There are large uncertainties surrounding the projections of future changes in climate, due to uncertainties in future GHG emission trajectories and continued development of policies and environmental processes to manage GHG emissions, and the complex nature of the climate system. Work has been done to describe a probable future and enable Metro Vancouver Region's planners, engineers, and policy makers to make better-informed decisions on how to plan and adapt to changes ahead and to support development of design guidelines for future planning (Metro Vancouver 2016).

Based on different future pathways and models used, Metro Vancouver presented a range of projections for climate in the region. By the 2050s, summer daytime high temperatures are expected to increase by, on average, 3.7°C with a range of 2.4 to 5.2°C. By the 2080s, this will increase to 6.0°C above historical levels. Although annual precipitation is projected to increase by 5 percent by the 2050s (range: -1 to 9 percent) and 11 percent by the 2080s (range: 2 to 17 percent), summer precipitation is projected to decrease by 19 percent by the 2050s (range: -41 to +1 percent) and 29 percent (range: -52 to -6 percent) by the 2080s. Spring precipitation is expected to increase by 8 percent (range: -4 to 15 percent) by the 2050s and 12 percent (range: 3 to 25 percent) by the 2080s (Metro Vancouver 2016).

Early engineering and design of the proposed Project has taken into consideration the following anticipated climate change trends:

- Warmer temperatures
- Longer dry spells in summer months
- More precipitation in fall, winter, and spring
- More intense extreme events (such as, storm surge, sea level rise, and high tide)

10.9 Mitigation and Management Strategies

Preliminary mitigation measures have been identified to prevent or reduce potential proposed Project-related effects. To optimize and mitigate GHG emissions, FortisBC will consider proposed Project-specific design measures and company practices.

The proposed Project team will conduct a BAT review during the design and planning phases to determine effective technologies, techniques, or practices that are economically feasible for reducing GHG emissions. For instance, FortisBC plans to use electric drives and air cooling for liquefaction and other process units. Since B.C.'s electricity supply is about 90 percent hydroelectricity the use of electric drives will substantially reduce the CI of LNG production at the Tilbury facility compared to the global average.

During construction, FortisBC will control sediment production and mobilization through erosion control measures and sediment collection or settling facilities. Ground and surface water will be controlled through measures such as proposed Project Site isolation, damming, or pumping around work areas.

FortisBC will conduct a vegetation inventory and survey for Provincially- and Federally-listed plant species prior to construction. Species specific mitigation will be developed as applicable and will include measures to control Noxious weeds (as required by the *Weed Control Act*) and prevent the spread of invasive plant species. Considerations will be used to reduce effects of construction and operation of the MOF to the riparian zones of the Fraser River and Tilbury Slough.

Mitigation measures will be developed during the proposed Project's detailed design stage and design considerations will be used to reduce effects of construction and operation of the MOF on fish and fish habitat. Where feasible, instream works will occur during the DFO Marine/Estuarine Timing Window for the Protection of Fish and Fish Habitat from June 16 to February 28.

Other mitigation measures will include provisions to conduct clearing outside of the breeding bird window, where feasible, or engage a QEP to conduct a pre-construction bird nest search. Clearing should be planned to occur outside the migratory bird nesting period of March 26 to August 9, to the extent practical (ECCC 2019). Where clearing or construction activities cannot avoid this period, a non-intrusive nest search will be conducted to identify active bird nests, a maximum of 7 days prior to commencement of clearing. Should an active nest be discovered, a no-clearing nest buffer will be established. Should removal of the ditch or associated vegetation be required, FortisBC will conduct an amphibian salvage program.

To confirm the effects of the proposed Project and the effectiveness of applied mitigation, FortisBC will implement monitoring programs during the Construction and Operations phases of the proposed Project. Atmospheric monitoring programs will include monitoring of dust and operational stack emissions, as part of permit Conditions. A comprehensive environmental noise monitoring program will be conducted using a series of sound level meters in order to define the existing noise environment.

Other specific monitoring programs will be developed in collaboration with regulatory agencies. The monitoring programs will be developed in collaboration with Indigenous nations during the preparation of the proposed Project Application and will be refined throughout the EA process. An Environmental Management Program will also be completed following detailed design.

11. Engagement with Indigenous Nations

11.1 Identified Indigenous Nations

FortisBC's review of the Consultative Areas Database (CAD) identified 17 Indigenous nations whose established or asserted Traditional Territories overlap with the proposed Project Footprint. Additional Indigenous nations that were initially identified as having a potential interest in the proposed Project are:

- Squamish Nation - although not identified in the CAD report and have not submitted a notice to engage as a participating Indigenous nation under the B.C. *EAA*, Squamish Nation have been included in this list due to their interest in the Tilbury Marine Jetty project, which is located near the proposed Project.
- Métis Nation British Columbia - FortisBC included Métis Nation British Columbia in the IPD and have been providing Métis Nation British Columbia with Project updates and notifications.

In the Joint Summary of Issues and Engagement, the B.C. EAO and IAAC (as required by Section 14 [1] of the *IAA*) stated that it had notified and requested input from additional Indigenous nations and organizations whom they stated could reasonably be expected to be affected by the proposed Project (subsection 11.1).

Under the B.C. *EAA* Indigenous nations can notify the B.C. EAO of their interest in the proposed Project if they believe it may affect their interests and can also self identify as a participating Indigenous nation for the assessment of a project. Identified participating Indigenous nations are afforded specific procedural rights under the B.C. *EAA*, including: capacity funding; participation in consensus seeking processes; a procedure to communicate consent or withhold consent at key decision points; and access to facilitated dispute resolution. Indigenous nations interested in participating in the application process as a participating Indigenous nation must notify the B.C. EAO of their interest.

As of October 6, 2020, 13 Indigenous nations or organizations have submitted notices to engage as a participating Indigenous nation under the B.C. *EAA*. Note that S'ólh Téméxw Stewardship Alliance represents 15 S'ólh Téméxw Nations, including two member Indigenous nations, Chawathil First Nation and Cheam First Nation, who independently submitted notice to engage as a participating Indigenous nation:

- Chawathil First Nation
- Cheam First Nation
- Cowichan Tribes
- Halalt First Nation
- Kwantlen First Nation
- Lyackson First Nation
- Musqueam Indian Band
- Penelakut Tribe
- S'ólh Téméxw Stewardship Alliance representing:
 - Aitchelitz First Nation
 - Kwaw-kwaw-Apilt First Nation
 - Scowlitz First Nation
 - Shxwháy Village
 - Skawahlook First Nation
 - Skowkale First Nation
 - Skwah First Nation

- Soowahlie First Nation
- Squiala First Nation
- Sumas First Nation
- Tzeachten First Nation
- Yakwekwioose First Nation
- Yale First Nation
- Stz'uminus First Nation
- Tsawwassen First Nation
- Tsleil-Waututh Nation
- Ts'uubaa-asatx Nation (Lake Cowichan First Nation)

See subsection 11.3 for a summary of FortisBC's engagement with these Indigenous nations. See Appendix C for maps of the territories and/or consultation areas of these Indigenous nations.

11.1.1 Indigenous Nations not Formally Identified as Participating Indigenous Nations

It is FortisBC's understanding that the following Indigenous nations, as identified through a review of CAD, may be affected by the proposed Project, however they have not self-identified as a participating Indigenous nation as of October 6, 2020.

See subsection 11.3 for a summary of FortisBC's engagement with these Indigenous nations. See Appendix C for maps of the territories and/or consultation areas of these Indigenous nations.

- Katzie First Nation
- Leq'á:mel First Nation
- Métis Nation British Columbia
- Seabird Island Band
- Semiahmoo First Nations
- Shxw'ōwhámél First Nation
- Squamish Nation
- Stó:lō Nation

11.1.2 Indigenous Nations Identified in the Joint Summary of Issues and Engagement

Additional Indigenous nations and organizations that are identified in the Joint Summary of Issues and Engagement and have been notified of the proposed Project by IAAC, B.C. EAO, and FortisBC and asked for input are:

- Kwikwetlem First Nation
- Malahat First Nation
- Matsqui First Nation
- Pauquachin First Nation
- Popkum First Nation
- Tsartlip First Nation
- Tsawout First Nation
- Tseycum First Nation

FortisBC has been informed by the B.C. EAO and IAAC that Snuneymuxw First Nation have expressed an interest in the proposed Project and that B.C. EAO and IAAC will be following up with Snuneymuxw First Nation.

See subsection 11.3 for a summary of FortisBC's engagement with these Indigenous nations. See Appendix C for maps of the territories and/or consultation areas of these Indigenous nations.

11.2 Summary of Information Regarding Indigenous Nations' Lands and Interests

Through existing relationships and engagement with Indigenous nations on various activities related to the proposed Project and other natural gas and hydro projects, FortisBC has some understanding of Aboriginal Rights and Title and Indigenous interests in the proposed Project Area. Each of the Indigenous nations identified as follows has, or asserts claims of, rights and title to the lands, water, and resources within their Traditional Territories. This includes, but is not limited to, the use of terrestrial, freshwater, marine, and other resources within those territories for traditional purposes (WesPac 2015). Associated activities include, but are not limited to, fishing, hunting, trapping, and gathering activities for food, materials, trade, medicines, and traditional ceremonies (WesPac 2015).

The summaries presented below have been updated substantially since the IPD was prepared. Where rights and title interests in the proposed Project Area are known, they are summarized and included in subsection 11.3. Additional information was obtained from sources including desktop reviews, direct engagement between Indigenous nations and FortisBC, the Joint Summary of Issues and Engagement, and notices from Indigenous nations stating their interest in being a participating Indigenous nation. FortisBC will continue to engage each Indigenous nation during the EA Readiness, Process Planning, and subsequent phases to identify the interests of each group.

11.2.1 Chawathil First Nation

Chawathil First Nation is a Stó:lō community whose Traditional Territory is located near Hope in the Fraser Valley within S'ólh Téméxw, the Traditional Territory of the Stó:lō people (Chawathil n.d.). The administrative offices are located in Hope, B.C. (B.C. AFN 2020). Chawathil First Nation has six reserves: Hope 1, Schkam 2, Greenwood Island 3, Chawathil 4, Peckw'xe:yles and Tunnel 6 (INAC 2019). The closest reserve to the proposed Project Site is Peckw'xe:yles, a reserve shared among 21 Stó:lō Nations, located 55 km away, on the north bank of the Fraser River within the District of Mission. Refer to Figure 1B in Appendix C for a map of Chawathil First Nation's Traditional Territory in relation to the proposed Project. FortisBC will engage with Chawathil First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Chawathil First Nation is a member of the S'ólh Téméxw Stewardship Alliance. The S'ólh Téméxw Stewardship Alliance is negotiating land and resource agreements outside of the B.C. Treaty process (STSA 2020). Chawathil First Nation has signed a Framework Agreement under the First Nations *Lands Management Act* (FNL MRC 2020).

For interests and concerns raised by Chawathil First Nation see Appendix H and Appendix I.

11.2.2 Cheam First Nation

Cheam First Nation's Traditional Territory includes the northern half of Chilliwack to the mountains east of Wahleach lake, extending north through the south-eastern part of Harrison Lake (including Echo Island and Long Island) to the mountain's northwest of Spuzzum. The Traditional Territory extends southeast to Spuzzum, and back south until Choate. The Traditional Territory includes most of the Fraser River in the area, excluding the elbow by Hope (Cheam Enterprises Inc. 2019).

Cheam First Nation has two reserves, Cheam 1 and Tseatah 2, both located east of the confluence of the Fraser and Harrison Rivers. The closest reserve is Cheam 1, located 90.6 km away. FortisBC will engage with Cheam First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Cheam First Nation is affiliated with the S'ólh Téméxw Stewardship Alliance. The S'ólh Téméxw Stewardship Alliance is negotiating land and resource agreements outside of the B.C. Treaty process (STSA 2020). Refer to Figure 1B in Appendix C for a map of the collective Traditional Territory of the Stó:lō Nation and of the Stó:lō Tribal Council.

Cheam First Nation has signed a Framework Agreement under the First Nations *Lands Management Act* (FNL MRC 2020).

For interests and concerns raised by Cheam First Nation see Appendix H and Appendix I.

11.2.3 Cowichan Tribes

Cowichan Tribes is a First Nation comprised of seven traditional villages. Today, the Cowichan Tribes have nine reserves: Cowichan 1, Cowichan 9, Est Patrolas 4, Kakalatza 6, Kil-Pah-Las 3, Skutz 7, Skutz 8, Theik 2, and Tzart-Lam 5. The main community, Cowichan 1, is located in Duncan, B.C. and is the closest to the proposed Project Site, located 56.6 km away on Vancouver Island.

Cowichan Tribes is a member of the Cowichan Nation Alliance (CNA 2019). The historic Cowichan Nation exclusive Aboriginal Title area includes the entirety of Tilbury Island (CNA 2019). The Cowichan Nation Alliance commenced legal action on behalf of Cowichan Tribes, Penelakut Tribe, Halalt First Nation, and Stz'uminus First Nation (Lyackson First Nation is not a plaintiff, however FortisBC understands a Band Council Resolution has been passed in support of the plaintiffs) to reclaim the historic village site of Tl'uqtnus and other proximal lands in what is present day Richmond and Delta, including the right to fish in the South Arm of the Fraser River (CNA 2019; Ronson 2020). The historic village site of Tl'uqtnus is located approximately 515 m north of the proposed Project Site on the opposite side of the Fraser River. The trial began September 9, 2019 and is ongoing. The members of the Cowichan Nation have signed a stewardship agreement with the Province for the South Arm of the Fraser River.

Cowichan Tribes is also a member of the Hul'qumi'num Treaty Group for the purpose of treaty negotiations (Cowichan Tribes 2020). The Hul'qumi'num Treaty Group is currently in Stage 5 of the British Columbia Treaty Commission (BCTC) process (B.C. Treaty 2020a). The Hul'qumi'num Treaty Group Statement of Intent consists of core Traditional Territory and a marine Traditional Territory. The Traditional Territory covers the Cowichan Valley, the area around Cowichan Lake and Shawnigan Lake, and extended into the Gulf Islands and the Fraser River (Cowichan Tribes 2020). Core Traditional Territory land includes a portion of southern Vancouver Island from Duncan north of Ladysmith, west to Lake Cowichan, and east to the Gulf Islands. The marine Traditional Territory spans across the Strait of Georgia to include a narrow corridor up the Fraser River to Yale on the mainland, which includes the proposed Project Area (B.C. Treaty 2020a). Refer to Figure 1A in Appendix C for a map of the collective Aboriginal Title. FortisBC will engage with Cowichan Tribes to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Cowichan Tribes has signed a Framework Agreement under the First Nations *Lands Management Act* (FNL MRC 2020).

For interests and concerns raised by Cowichan Tribes see Appendix H and Appendix I.

11.2.4 Halalt First Nation

Halalt First Nation has two reserves: Halalt Island 1 and Halalt 2 (INAC 2019). The main community, Halalt 2, is located on southeast Vancouver Island in Chemainus. Halalt Island 1 is the closest to the proposed Project Site on Willy Island, east of Vancouver Island at the mouth of the Chemainus River, at 52.9 km away.

Halalt First Nation is part of the Hul'qumi'num Treaty Group. The Hul'qumi'num Treaty Group is currently in Stage 5 of the BCTC process (B.C. Treaty 2020a). The Hul'qumi'num Treaty Group Statement of Intent consists of core Traditional Territory and a marine Traditional Territory. Core Traditional Territory includes a portion of southern Vancouver Island from Duncan north of Ladysmith, west to Lake Cowichan, and east to the Gulf Islands. The marine Traditional Territory spans across the Strait of Georgia to include a narrow corridor up the Fraser River to Yale, which includes the proposed Project Area (B.C. Treaty 2020a). FortisBC will engage with Halalt First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area. Refer to Figure 1A in Appendix C for a map of the Hul'qumi'num Treaty Group collective Traditional Territory.

Halalt First Nation is also a member of the Cowichan Nation. Halalt First Nation has stated that the historic Cowichan Nation Alliance exclusive Aboriginal Title area includes the entirety of Tilbury Island. Halalt First Nation has reported that there are locations of importance along the South Arm of the Fraser River, most notably the ancestral village and resource site of Tl'uqtinus, which is located on the north shore opposite Tilbury Island (WesPac 2019). The Cowichan Nation Alliance commenced legal action on behalf of Penelakut Tribe, Halalt First Nation, and Stz'uminus First Nation (Lyackson First Nation is not a plaintiff, however FortisBC understands a Band Council Resolution has been passed in support of the plaintiffs) to reclaim the historic village site of Tl'uqtinus and other proximal lands in what is present day Richmond and Delta, including the right to fish in the South Arm of the Fraser River (CNA 2019). The historic village site of Tl'uqtinus is located approximately 515 m north of the proposed Project Site on the opposite side of the Fraser River. The trial began September 9, 2019 and is ongoing. The members of the Cowichan Nation have signed a stewardship agreement with the Province for the South Arm of the Fraser River.

Halalt First Nation also sits on the Naut'sa mawt Tribal Council, along with Stz'uminus First Nation, Tsawwassen First Nation, and Tsleil-Waututh Nation (NmTC 2020). Halalt First Nation has not signed a Framework Agreement under the First Nations *Lands Management Act* (FNLARC 2020).

For interests and concerns raised by Halalt First Nation see Appendix H and Appendix I.

11.2.5 Katzie First Nation

Katzie First Nation has five reserves: Barnston Island 3, Graveyard 5, Katzie 1, Katzie 2, and Pitt Lake 4) (INAC 2019) Katzie First Nation's reserves are located on the Lower Mainland in Pitt Meadows, Langley, and Barnston Island. Katzie 1 is the main community and Barnston Island is the closest to the proposed Project Site, located 24.4 km away. Katzie First Nation asserts TLU rights within their Traditional Territory, which includes Pitt Meadows, Maple Ridge, Coquitlam, Surrey, Langley, New Westminster, and the proposed Project Area (B.C. Treaty 2020b). Refer to Figure 2B in Appendix C for a map of Katzie First Nation Traditional Territory. FortisBC will engage with Katzie First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Katzie First Nation is in Stage 4 of the BCTC process, negotiating an Agreement-in-Principle with Canada and the Province (B.C. Treaty 2020b).

In the Joint Summary of Issues and Engagement released by the IAAC and B.C. EAO, a preliminary understanding of interests in the proposed Project Area were identified, based on responses received from the Katzie First Nation. Katzie First Nation has indicated that it will not be participating in the assessment as a participating Indigenous nation (IAAC & B.C. EAO 2020). For interests and issues raised by Katzie First Nation, see Appendix H and Appendix I.

11.2.6 Kwantlen First Nation

Kwantlen First Nation has seven reserves: Langley 2, Langley 3, Langley 4, Langley 5, McMillan Island 6, Peckw'xe:yles and Whonnock 1 (INAC 2019). Kwantlen First Nation's reserves are centered around the confluence of the Stave and Fraser Rivers. The main community, McMillan Island, is the closest to the proposed Project Site located in the Fraser River, north of Fort Langley, 33 km away. Kwantlen First Nation Traditional Territory extends from Richmond and New Westminster in the west, to Surrey and Langley in the south, east to Mission, and to the northernmost reaches of Stave Lake (Kwantlen First Nation n.d.). Refer to Figure 1C in Appendix C for a map of Kwantlen First Nation Traditional Territory. FortisBC will engage with Kwantlen First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Kwantlen First Nation is not currently participating in the B.C. Treaty process (Government of B.C. 2020a), although it did so formerly as a member Stó:lō Tribal Council. In 2016, Kwantlen First Nation signed a 3-year Kwantlen Forest Consultation and Revenue Sharing Agreement. Kwantlen First Nation is not currently involved in treaty negotiations with the Province of B.C. (Government of B.C. 2020a).

For interests and concerns raised by Kwantlen First Nation see Appendix H and Appendix I.

11.2.7 Kwikwetlem First Nation

Kwikwetlem First Nation has two reserves: Coquitlam 1 and Coquitlam 2, both in the District of New Westminster near the confluence of the Coquitlam and Fraser Rivers (INAC 2019). Kwikwetlem First Nation's administrative office is located on Coquitlam 1, which is Kwikwetlem First Nation's closest reserve to the proposed Project Site, located approximately 15 km away. FortisBC will engage with Kwikwetlem First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Kwikwetlem First Nation is not involved in the BCTC process (Government of B.C. 2021c).

Kwikwetlem First Nation has signed a Framework Agreement under the First Nations *Land Management Act* (FNL MRC 2020). Kwikwetlem First Nation signed a Forest & Range Consultation and Revenue Sharing Agreement in 2019 (Government of B.C. 2021c).

11.2.8 Leq'á:mel First Nation

Leq'á:mel has 11 reserves: Aylechootlook 5, Holachten 8, Lackaway 2, Lakahahmen 11, Lakway Cemetery 3, Papekwatchin 4, Peckw'xe:yles, Skweahm 10, Sumas Cemetery, Yaalstrick 1, and Zaitscullachan 9 (INAC 2019). The closest reserve to the proposed Project Site is Peckw'xe:yles, located 54.667 km away, on the north bank of the Fraser River within the District of Mission. Leq'á:mel Traditional Territory is approximately 70 km from the proposed Project Site.

Leq'á:mel First Nation is a member of the Stó:lō Nation umbrella organization and participates in the B.C. Treaty process as part of the Stó:lō Xwexwilmexw Treaty Association (B.C. Treaty 2020e). The Stó:lō Xwexwilmexw Treaty Association is currently in Stage 5 of the negotiating process.

Leq'á:mel First Nation signed a Forest and Range Consultation and Revenue Sharing Agreement in 2017 and signed a forest agreement in 2005.

11.2.9 Lyackson First Nation

Lyackson First Nation has three reserves: Lyackson 3, Porlier Pass 5, and Shingle Point 4 (INAC 2019). All three reserves are located on Valdes Island, the Lyackson Homeland, between Gabriola Island to the north and Galiano Island to the south, directly opposite the mouth of the Fraser River in the Strait of Georgia. Lyackson 3 is the closest reserve to the proposed Project Site, located 44.8 km away.

Lyackson First Nation is a member of the Cowichan Nation. The historic Cowichan Nation Alliance exclusive Aboriginal Title area includes the entirety of Tilbury Island. The Cowichan Nation Alliance commenced legal action on behalf of Cowichan Tribes, Penelakut Tribe, Halalt First Nation, and Stz'uminus First Nation (Lyackson First Nation is not a plaintiff, however FortisBC understands a Band Council Resolution has been passed in support of the plaintiffs) to reclaim the historic village site of Tl'uqtinus and other proximal lands in what is present day Richmond and Delta, including the right to fish in the South Arm of the Fraser River (CNA 2019; Ronson 2020). The historic village site of Tl'uqtinus is located approximately 515 m north of the proposed Project Site on the opposite side of the Fraser River. The trial began September 9, 2019 and is ongoing (Ronson 2020). The members of the Cowichan Nation have signed a stewardship agreement with the Province for the South Arm of the Fraser River.

Lyackson First Nation is also part of the Hul'qumi'num Treaty Group (B.C. Treaty 2020a). The Hul'qumi'num Treaty Group is currently in Stage 5 of the BCTC process.

The Hul'qumi'num Treaty Group Statement of Intent consists of core Traditional Territory and a marine Traditional Territory. Core Traditional Territory includes a portion of southern Vancouver Island from north of Ladysmith, west to Lake Cowichan, east to the Gulf Islands. The marine Traditional Territory spans across the Strait of Georgia to include a narrow corridor on the mainland, which includes the proposed Project Area (B.C. Treaty 2020a). Refer to Figure 1A in Appendix C for a map of the Hul'qumi'num Treaty Group collective Traditional Territory. FortisBC will engage with Lyackson First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Lyackson First Nation has not signed a Framework Agreement under the First Nations *Lands Management Act* (FNL MRC 2020).

For interests and concerns raised by Lyackson First Nation see Appendix H and Appendix I.

11.2.10 Malahat Nation

Malahat Nation has two reserves: Goldstream 13 and Malahat 11 (INAC 2019). Malahat Nation's reserve lands are located on the south and western shores of Saanich Inlet. Malahat Nation shares Goldstream 13 with Pauquachin First Nation, Tsartlip First Nation, Tsawout First Nation and Tseycum First Nation. Malahat 11, approximately 76 km away, is Malahat Nation's closest reserve to the proposed Project Site. It is located at the mouth of the Saanich Inlet and is Malahat Nation's main community. FortisBC will engage with Malahat Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Malahat Nation is a member of the Te'mexw Treaty Association, along with Sc'ianew (Beecher Bay) First Nation, Songhees Nation, Snaw-aw-as (Nanoose) First Nation and T'Sou-ke Nation. Te'mexw Treaty Association is in Stage 5 of the BCTC process (B.C. Treaty 2021a).

Malahat Nation signed a Framework Agreement in 2019 under the First Nations *Land Management Act* (FNL MRC 2020). Malahat Nation signed a Forest Consultation and Revenue Sharing Agreement in 2019 (Government of B.C. 2021d)

11.2.11 Matsqui First Nation

Matsqui First Nation is located in the Central Fraser Valley near the town of Abbotsford, B.C. within S'olh Téméxw, the Traditional Territory of the Stó:lō people. Matsqui First Nation has five reserves: Matsqui 4, Matsqui Main 2, Peckw'xe:yles (Peckquaylis), Sahhacum 1 and Three Islands 3 (INAC 2019). Peckw'xe:yles (Peckquaylis) is a shared reserve among 21 Stó:lō Nations. Matsqui 4, approximately 42 km away, is the closest reserve to the proposed Project Site, and is located at U.S./Canada border, near the Aldergrove Border Crossing. Matsqui First Nation's administrative office, located at Matsqui Main 2 adjacent to Matsqui Island on the Fraser River, is 49 km away from the proposed Project Site. FortisBC will engage with Matsqui First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Matsqui First Nation is one of 11 Stó:lō Nation bands negotiating land and resource issues outside the B.C. Treaty process (Government of B.C. 2021e).

Matsqui First Nation signed a Framework Agreement in 2019 under the First Nations *Land Management Act* (FNL MRC 2020). Matsqui First Nation signed a Forest & Range Consultation and Revenue Sharing Agreement in 2019 and 2020 (Government of B.C. 2021e)

11.2.12 Métis Nation British Columbia

Métis Nation British Columbia represents approximately 90,000 self-identified Métis people throughout B.C., of which 18,000 are Provincially registered (Métis Nation British Columbia 2020). Métis Nation British Columbia also represents 39 Métis Chartered Communities, of which 6 are located in the Lower Mainland and 3 are located in south Vancouver Island (Métis Nation British Columbia 2019). These include Chilliwack Métis Association, Fraser Valley Métis Association, Golden Ears Métis Society, North Fraser Métis Association, Nova Métis Heritage Association, Waceya Métis Society, Cowichan Valley Métis Association, Mid-Island Métis Nation Association, and the Métis Nation of Greater Victoria Association (Métis Nation British Columbia 2020). Refer to Figure 2A in Appendix C for the locations of these associations.

Métis Nation British Columbia is recognized by the Federal government, the Province of B.C., and the Métis National Council as the governing Indigenous nation for Métis in B.C. (Métis Nation British Columbia 2020). In 2003, Métis Nation British Columbia established their constitution to implement a self-governance and legislative structure, including an objectively verifiable citizenship process (Métis Nation British Columbia 2020). The mission of Métis Nation British Columbia is to develop and enhance opportunities for Métis Chartered Communities and Métis people in B.C. by providing culturally relevant social and economic programs and services (Métis Nation British Columbia 2020).

11.2.13 Musqueam Indian Band

Musqueam Indian Band has three reserves: Musqueam 2, Musqueam 4, and Sea Island 3 (INAC 2019), 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. Musqueam 4 is the closest to the proposed Project Site located 9.9 km away, near Canoe Pass on the South Arm of the Fraser River. The Musqueam Consultative Area overlaps the proposed Project Area, and 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). Refer to Figure 1C in Appendix C for a map of Musqueam Indian Band Traditional Territory. FortisBC will engage with Musqueam Indian Band to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Musqueam Indian Band is in Stage 4 of the B.C. Treaty process, negotiating an Agreement-in-Principle with Canada and the Province (B.C. Treaty 2020c). Musqueam Indian Band signed a collaborative management agreement with the Province. The agreement sets out framework for land and water authorization and stewardship in the estuary and lower reaches of the Fraser River (Government of B.C. 2020c).

Through existing relationships and past engagement activities with Musqueam Indian Band FortisBC is aware that Musqueam Indian Band has a proven right to fish in Canoe Passage as defined in the Supreme Court of Canada Sparrow case (Supreme Court of Canada 1990).

For interests and concerns raised by Musqueam Indian Band see Appendix H and Appendix I.

11.2.14 Pauquachin First Nation

Pauquachin First Nation has three reserves: Cole Bay 3, Goldstream 13, and Hatch Point 12 (INAC 2019). All on-reserve Pauquachin members reside in Cole Bay 3, which is located on the shores of Coles Bay in the Saanich Inlet. Goldstream 13, located at the end of the Saanich Inlet, is a shared reserve with Malahat First Nation, Tsartlip First Nation, Tsawout First Nation, and Tseycum First Nation. Hatch Point 12, located on the mouth of the Saanich Inlet, is Pauquachin First Nation's closest reserve to the proposed Project Site. It is approximately 63 km away. Pauquachin First Nation main community, Cole Bay 3, is 65.7 km away from the proposed Project Site (Pauquachin First Nation 2020). FortisBC will engage with Pauquachin First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Pauquachin First Nation's reserves were established as part of Douglas Treaties, a colonial policy that recognized Indigenous possession of land (Pauquachin First Nation 2015). Pauquachin First Nation is not involved in the modern BCTC process (Government of B.C. 2021f).

Pauquachin First Nation has not signed a Framework Agreement under the *First Nations Lands Management Act* (FNLRC 2020).

11.2.15 Penelakut Tribe

Penelakut Tribe has four reserves: Galiano Island 9, Penelakut Island 7, Tent Island 8, and Tsussie 6 (INAC 2019). These are located directly opposite of the mouth of the Fraser River in the Strait of Georgia on Galiano Island, Penelakut Island, Tent Island, and in Chemainus on southeast Vancouver Island. Penelakut Island 7 is the main community and Galiano Island 9 is the closest to the proposed Project Site, located 42.3 km away.

Penelakut Tribe is a member of the Cowichan Nation. The historic Cowichan Nation Alliance exclusive Aboriginal Title area includes the entirety of Tilbury Island. The Cowichan Nation Alliance commenced legal action on behalf of Cowichan Tribes, Penelakut Tribe, Halalt First Nation, and Stz'uminus First Nation (Lyackson First Nation is not a plaintiff, however FortisBC understands a Band Council Resolution has been passed in support of the plaintiffs) to reclaim the historic village site of Tl'uqtinus and other proximal lands in what is present day Richmond and Delta, including the right to fish in the South Arm of I Fraser River (CNA 2019; Ronson 2020).

The historic village site of Tl'uq̓tinus is located approximately 515 m north of the proposed Project Site on the opposite side of the Fraser River. The trial began September 9, 2019 and is ongoing (Ronson 2020). The members of the Cowichan Nation have signed a stewardship agreement with the Province for the South Arm of the Fraser River.

Penelakut Tribe is also part of the Hul'qumi'num Treaty Group (B.C. Treaty 2020a). The Hul'qumi'num Treaty Group is currently in Stage 5 of the BCTC process. The Hul'qumi'num Treaty Group Statement of Intent consists of core Traditional Territory and a marine Traditional Territory. Core Traditional Territory includes a portion of southern Vancouver Island from Duncan north of Ladysmith, west to Lake Cowichan, and east to the Gulf Islands. The marine Traditional Territory spans across the Strait of Georgia to include a narrow corridor up to Fraser River to Yale on the mainland, which includes the proposed Project Area (B.C. Treaty 2020a). Refer to Figure 1A in Appendix C for a map of the Hul'qumi'num Treaty Group collective Traditional Territory. FortisBC will engage with Penelakut Tribe to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Penelakut Tribe has signed a Framework Agreement under the First Nations *Lands Management Act* (FNL MRC 2020).

For interests and concerns raised by Penelakut Tribe see Appendix H and Appendix I.

11.2.16 Popkum First Nation

Popkum First Nation is located in the Upper Fraser Valley near the village of Popkum, B.C. within S'ólh Téméxw, the Traditional Territory of the Stó:lō people. Popkum First Nation has three reserves: Popkum 1, Peckw'xe:yles (Peckquaylis), and Popkum 2 (INAC 2019). Peckw'xe:yles (Peckquaylis) is a shared reserve among 21 Stó:lō Nations and is Popkum First Nation's closest reserve to the proposed Project. It is located on the north bank of the Fraser River in Mission, B.C. and is approximately 54.5 km away from the proposed Project Site. Popkum First Nation's administrative office, located on Popkum 1 on the south bank of the Fraser River near Herring Island, is approximately 92 km away from the proposed Project Site. FortisBC will engage with Popkum First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Popkum First Nation is not involved in the BCTC process (Government of B.C. 2021g).

Popkum First Nation has signed a Framework Agreement under the First Nations *Land Management Act* (FNL MRC 2020). Popkum First Nation signed a Forest Consultation and Revenue Sharing Agreement with the Province of British Columbia in 2016 (Government of B.C. 2021g).

11.2.17 Seabird Island Band

Seabird Island Band is located in the Upper Fraser Valley near the town of Agassiz, B.C. within S'ólh Téméxw, the Traditional Territory of the Stó:lō people. Seabird Island has two reserves: Peckw'xe:yles and Seabird Island (INAC 2019). The main community is Seabird Island, located in the District of Kent on the Fraser River 3 km east of Agassiz. The closest reserve to the proposed Project Site is Peckw'xe:yles, a shared reserve, located 55 km away, on the north bank of the Fraser River within the District of Mission. The Traditional Territory extends from Langley east to Yale (Stó:lō Service Agency. n.d.). Refer to Figure 2B in Appendix C for a map of the collective Traditional Territory of the S'ólh Téméxw. FortisBC will engage with Seabird Island Band to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Seabird Island Band is negotiating land and resource agreements outside of the B.C. Treaty process (Government of B.C. 2020g).

Seabird Island Band's Aboriginal Rights and Title Department supports the cultural significance of their Traditional Territory and works to preserve and protect areas of interest. (Seabird Island Band 2020).

Seabird Island Band has signed a Framework Agreement under the First Nations *Lands Management Act* (FNL MRC 2020).

11.2.18 Semiahmoo First Nation

Semiahmoo First Nation is located near the United States border and Boundary Bay (INAC 2019). Semiahmoo First Nation Traditional Territory extends in a half moon shape around Boundary Bay including sections of Point Roberts, the Serpentine and Nicomekl Rivers, and Lake Terrell (Brown 2014). Refer to Figure 2A in Appendix C for a map of Semiahmoo First Nation Traditional Territory. Semiahmoo First Nation has one reserve, fronting Semiahmoo Bay at the Canada-United States border, approximately 1 km southeast of White Rock (INAC 2019), and 22 km away from the proposed Project Site. FortisBC will engage with Semiahmoo First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Semiahmoo First Nation is not involved in the BCTC process (Government of B.C. 2020d).

Semiahmoo First Nation has not signed a Framework Agreement under the First Nations *Lands Management Act* (FNL MRC 2020).

Semiahmoo First Nation has submitted their notice to the B.C. EAO that they intend to engage as a participating Indigenous nation.

11.2.19 Shxw'ōwhámél First Nation

Shxw'ōwhámél First Nation is located in the Upper Fraser Valley near Hope, B.C. within S'olh Téméxw, the Traditional Territory of the Stó:lō people. Shxw'ōwhámél First Nation has four reserves: Kuthlath 3, Ohamil 1, Peckw'xe:yles, and Wahleach Island 2 (INAC 2019). Ohamil 1 is the main community located on the left bank of the Fraser River, 7 km north of Laidlaw. Peckw'xe:yles, a shared reserve, is the closest to the proposed Project Site located 55 km away, on the north bank of the Fraser River within the District of Mission.

Shxw'ōwhámél First Nation is negotiating land and resource agreements outside of the B.C. Treaty process (Government of B.C. 2020e).

Shxw'ōwhámél people are culturally Stó:lō and are of the Tiyt Tribe within S'olh Téméxw, the Traditional Territory of the Stó:lō people. The Traditional Territory extends from Langley east to Yale (Stó:lō Service Agency. n.d.). Areas in Shxw'ōwhámél Traditional Territory of importance to the Shxw'ōwhámél First Nation includes the watersheds of Jones, Lorenzetti, and Hunter Creeks (Shxw'ōwhámél First Nation 2020). Refer to Figure 2B in Appendix C for a map of the S'olh Téméxw. FortisBC will engage with Shxw'ōwhámél First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Shxw'ōwhámél First Nation has signed a Framework Agreement under the First Nations *Lands Management Act* (FNL MRC 2020).

11.2.20 Skawahlook (Sq'ewá:lxw) First Nation

Skawahlook (Sq'ewá:lxw) First Nation is located in the Upper Fraser Valley near the town of Agassiz, B.C. within S'olh Téméxw, the Traditional Territory of the Stó:lō people. Skawahlook First Nation has three reserves: Peckw'xe:yles, Ruby Creek 2, and Skawahlook 1 (INAC 2019). Ruby Creek 2 is the main community located on the right bank of the Fraser River, adjacent to the District of Kent. The closest reserve to the proposed Project Site is Peckw'xe:yles, a shared reserve, located 55 km away, on the north bank of the Fraser River within the District of Mission.

Skawahlook (Sq'ewá:lxw) First Nation participates in the B.C. Treaty process as part of the Stó:lō Xwexwilmexw Treaty Association (B.C. Treaty 2020e). The Stó:lō Xwexwilmexw Treaty Association is currently in Stage 5 of the negotiating process. Skawahlook First Nation is also affiliated with the S'ólh Téméxw Stewardship Alliance.

Skawahlook (Sq'ewá:lxw) First Nation is a member of the Stó:lō Nation within S'olh Téméxw, the Traditional Territory of the Stó:lō people. The Traditional Territory extends from Langley east to Yale (Stó:lō Service Agency. n.d.). Refer to Figure 1B in Appendix C for a map of the S'olh Téméxw. FortisBC will engage with Skawahlook First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Skawahlook (Sq'ewá:lxw) First Nation has developed an EMP to guide their vision of the future for their Traditional Territory and help prevent, minimize, or mitigate environmental effects associated with development environmental and ensuring decision-making processes that align with the community's values. Skawahlook has also developed a land use plan for their reserves and Traditional Territories which balances development with sustainability. The land use plan was drafted as part of Skawahlook's Aboriginal Rights and governance responsibilities (Skawahlook First Nation 2020).

Skawahlook (Sq'ewá:lxw) First Nation has signed a Framework Agreement under the First Nations *Land Management Act* (FNL MRC 2020).

11.2.21 Skowkale (Sq'ewqéyl-l) First Nation

Skowkale (Sq'ewqéyl-l) First Nation is located in the Upper Fraser Valley near the towns of Sardis and Chilliwack, B.C. within S'olh Téméxw, the Traditional Territory of the Stó:lō people. Skowkale (Sq'ewqéyl-l) First Nation has four reserves: Grass 15 and Skowkale 10, Skowkale 11 and Peckw'xe:yles (Peckquaylis), (INAC 2019). Peckw'xe:yles (Peckquaylis) is a shared reserve among 21 Stó:lō Nations and is Skowkale (Sq'ewqéyl-l) First Nation's closest reserve to the proposed Project. It is located on the north bank of the Fraser River in Mission, B.C. and is approximately 54.5 km away from the proposed Project Site. Skowkale (Sq'ewqéyl-l) First Nation also shares the Grass Reserve lands, Peckw'xe:yles reserve lands in Mission, and the Coqualeetza lands. Skowkale 11 and Skowkale 10 are located approximately 92 km away from the proposed Project Site. FortisBC will engage with Skowkale (Sq'ewqéyl-l) First Nation to determine areas where traditional activities are practiced in relation to proposed Project Area.

Skowkale (Sq'ewqéyl-l) First Nation is a member of the Stó:lō Nation umbrella organization and participates in the B.C. Treaty process as part of the Stó:lō Xwexwilmexw Treaty Association (B.C. Treaty 2020e). The Stó:lō Xwexwilmexw Treaty Association is currently in Stage 5 of the BCTC process. For economic pursuits external to the B.C. Treaty process, Skowkale (Sq'ewqéyl-l) First Nation partners with the Ts'elxwéyeqw Tribe Society (Ch-ihl-kway-uhk) (Ts'elxwéyeqw Tribe Society n.d.). Skowkale (Sq'ewqéyl-l) First Nation is also affiliated with the S'ólh Téméxw Stewardship Alliance (STSA 2020).

Skowkale (Sq'ewqéyl-l) First Nation Traditional Territory centres around Chilliwack, B.C. (Skowkale First Nation n.d.). Skowkale (Sq'ewqéyl-l) First Nation is a member of the Stó:lō Nation within S'ólh Téméxw, the Traditional Territory of the Stó:lō people. The Traditional Territory extends from Langley east to Yale (Stó:lō Service Agency. n.d.). Refer to Figure 1B in Appendix C for a map of the S'ólh Téméxw.

Skowkale (Sq'ewqéyl-l) First Nation is affiliated with the SAY Lands Office, along with Aitchelitz First Nation and Yakweakwioose First Nation. The SAY Lands Office manage land registration, land title, assists with law development, monitoring and enforcement, environmental management, individual land holdings and estate transfers, leasing, and facilitates law enforcement (Skowkale First Nation n.d.).

Skowkale (Sq'ewqéyl-l) First Nation has signed a Framework Agreement under the First Nations *Land Management Act* (FNL MRC 2020).

11.2.22 Snuneymuxw First Nation

Snuneymuxw First Nation has six reserves: Gabriola Island 5, Ma-Guala 6, Nanaimo River 2, Nanaimo River 3, Nanaimo River 4, Nanaimo Town 1 (INAC 2019). The closest reserve to the proposed Project Site is Ma-Guala 6, located 49.275 km away, on Gabriola Island, on the west side of the Strait of Georgia.

Snuneymuxw First Nation is in Stage 4 of the BCTC process Agreement-in-Principle treaty negotiations with the British Columbia government (B.C. Treaty 2021b). Snuneymuxw First Nation completed a First Nation Framework Agreement and First Nation Land Transfer Agreement in 2020 (Government of B.C. 2020h).

11.2.23 Sol'h Téméxw Stewardship Alliance

The Sol'h Téméxw Stewardship Alliance is an umbrella organization representing 15 of the 30 Stó:lō Nation bands including: Aitchelitz First Nation, Chawathil First Nation, Cheam First Nation, Kwaw-kwaw-Apilt First Nation, Scowlitz First Nation, Shxwhá:y Village, Skawahlook First Nation, Skowkale First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation, Sumas First Nation, Tzeachten First Nation, Yakweakwioose First Nation, and Yale First Nation (STSA 2020). These communities have many reserves located throughout the Fraser Valley. Refer to Figures 1B, 2B, and 3B in Appendix C for maps of the Sol'h Téméxw.

The Sol'h Téméxw Stewardship Alliance supports its Stó:lō Nation members in making stewardship decisions as they relate to their collective Stó:lō Traditional Territory, known as S'ólh Téméxw. The Traditional Territory of S'ólh Téméxw stretches from the Strait of Georgia in the west, across the Lower Mainland of southwestern B.C., up to Harrison Lake in the north, out to the Coquihalla River in the east, and past the U.S./Canada in the south. The S'ólh Téméxw is centralized around the upper Fraser and Chilliwack River Valleys (STSA 2020; B.C. Treaty 2020e). The proposed Project is found within the S'ólh Téméxw.

The priority of the Sol'h Téméxw Stewardship Alliance is to ensure the rights and interests of its First Nation members are recognized, protected, and upheld throughout S'ólh Téméxw (STSA 2020). FortisBC will engage with S'ólh Téméxw Stewardship Society to determine areas where traditional activities are practiced in relation to the proposed Project Area. The People of the River Referrals Office, an operational arm of the Sol'h Téméxw Stewardship Alliance, facilitates and supports the Sol'h Téméxw Stewardship Alliance with meaningful engagement by providing technical support, administrative support, and managing the review of referrals (STSA 2020). The People of the River Referrals Office is managed by the Stó:lō Service Agency, a partnership with 11 Stó:lō First Nations, who are signatories to the services agreement (Stó:lō Nation 2018).

For interests and concerns raised by S'ólh Téméxw Stewardship Alliance in its notice to engage as a participating Indigenous nation, see Appendix H and Appendix I.

11.2.24 Soowahlie First Nation

Soowahlie First Nation is located in the Upper Fraser Valley near Cultus Lake, B.C. within S'ólh Téméxw, the Traditional Territory of the Stó:lō people. Soowahlie First Nation has three reserves: Grass 15, Peckw'xe:yles, and Soowahlie 14 (INAC 2019). Soowahlie 14 is the main community located on the left bank of the Chilliwack River, 13 km south of Chilliwack. The closest reserve to the proposed Project Site is Peckw'xe:yles, a shared reserve, located 55 km away, on the north bank of the Fraser River within the District of Mission. Soowahlie First Nation Traditional Territory centres around the Upper Fraser Valley Region at Cultus Lake, B.C., within S'ólh Téméxw, the Traditional Territory of the Stó:lō people. Refer to Figure 1B in Appendix C for a map of the S'ólh Téméxw. FortisBC will engage with Soowahlie First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Soowahlie First Nation is negotiating land and resource agreements outside of the B.C. Treaty process (Government of B.C. 2020i). For economic pursuits external to the B.C. Treaty process, Soowahlie First Nation partners with the Ts'elxwéyeqw Tribe Society (Ch-ihl-kway-uhk) (Ts'elxwéyeqw Tribe Society n.d.).

Soowahlie First Nation has signed a Framework Agreement under the First Nations *Land Management Act* (FNL MRC 2020).

11.2.25 Squamish Nation

Squamish Nation has 24 reserves distributed between the Squamish-Lillooet Regional District and Metro Vancouver Regional District, from southwest of Whistler to Vancouver, including Gibson's Landing and the area north of Howe Sound (INAC 2019). The largest proportion of Squamish Nation members reside on several urban reserves in the City of Vancouver, North and West Vancouver, and the District of Squamish (Squamish Nation 2020). The closest reserve to the proposed Project Site is Kitsilano 6, located 16 km away. Squamish Nation 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 2020). This Traditional Territory includes the cities of Vancouver, West Vancouver, North Vancouver, Burnaby, Port Moody, the District of Squamish, and the Resort Municipality of Whistler, but does not include the proposed Project Area (Squamish Nation 2020; B.C. Treaty 2020d). Refer to Figure 2B in Appendix C for a map of Squamish Nation Traditional Territory. FortisBC will engage with Squamish Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Squamish Nation is currently in Stage 3 of the B.C. Treaty process, negotiation of a Framework Agreement (Squamish Nation 2020; B.C. Treaty 2020d). In 1993, Squamish Nation submitted their Statement of Intent to begin negotiating Aboriginal Rights and title to the lands, waters, and resources within Squamish Traditional Territory (Squamish Nation 2020).

Squamish Nation has signed a Framework Agreement under the First Nations *Land Management Act* (FNL MRC 2020).

11.2.26 Stó:lō Nation

The Stó:lō Nation, or the Stó:lō Nation Chiefs Council, is the political partnership of 11 Stó:lō Nations. The Stó:lō Nation Chiefs Council is responsible for the management of Stó:lō Nation's constitutional and self-government development (Stó:lō Nation 2018). Programs and services offered by the Stó:lō Nation Chiefs Council are delivered through the Stó:lō Service Agency, with each of the 11 member Stó:lō Nation bands agreeing to a services agreement (Stó:lō Nation 2018). Members of the Stó:lō Nation Chiefs Council include Aitchelitz First Nation, Leq'á:mel First Nation, Matsqui First Nation, Popkum First Nation, Shxwhá:y Village, Skawahlook First Nation, Skowkale First Nation, Squiala First Nation, Sumas First Nation, Tzeachten First Nation, and Yakweakwioose First Nation (Stó:lō Nation 2018). The Traditional Territory of the Stó:lō People, known as S'ólh Téméxw, extends from Yale to Langley, B.C. (Stó:lō Nation 2018). The proposed Project is located within the S'ólh Téméxw. Please refer to Figures 1B, 2B, and 3B in Appendix C for maps of the S'ólh Téméxw. FortisBC will engage with Stó:lō Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Eight of the Stó:lō Nation Chiefs Council members, are also members of the Sol'h Téméxw Stewardship Alliance (STSA 2020): Aitchelitz First Nation, Shxwhá:y Village, Skawahlook First Nation, Skowkale First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation, Sumas First Nation, and Tzeachten First Nation. The People of the River Referrals Office is an operational arm of the Sol'h Téméxw Stewardship Alliance that provides the Sol'h Téméxw Stewardship Alliance with technical support, administrative support, and manages the review of referrals (STSA 2020). The People of the River Referrals Office is managed by the Stó:lō Service Agency (Stó:lō Nation 2018). See above for additional information on the Sol'h Téméxw Stewardship Alliance.

The Stó:lō Nation Chiefs Council does not participate in the BCTC process; however, member Indigenous nations, Aitchelitz First Nation, Leq'á:mel First Nation, Skawahlook First Nation, Skowkale First Nation, Tzeachten First Nation, and Yakweakwioose First Nation participate in the B.C. Treaty process as part of the Stó:lō Xwexwilmexw Treaty Association. The Stó:lō Xwexwilmexw Treaty Association is currently in Stage 4 of the B.C. Treaty process (B.C. Treaty 2020e).

Aitchelitz First Nation, Leq'á:mel First Nation, Matsqui First Nation, Shxwhá:y Village, Skawahlook First Nation, Skowkale First Nation, Squiala First Nation, Sumas First Nation, Tzeachten First Nation, and Yakweakwioose First Nation have signed individual Framework Agreements under the First Nations *Land Management Act* (FNLRC 2020).

11.2.27 Stz'uminus First Nation

Stz'uminus First Nation has four reserves: Chemainus 13, Oyster Bay 12, Say-la-quas 10, and Squaw-hay-one 11 (INAC 2019). Chemainus 13 is the main community and is the closest to the proposed Project Site located 54 km away, on southeast Vancouver Island directly opposite of the mouth of the Fraser River in the Stuart Channel. Stz'uminus First Nation Traditional Territory encompasses the waters of the Salish Sea into Puget Sound, the Strait of Georgia including the lower portion of Quadra Island, and the Fraser River up to Yale, and includes a portion of south-eastern Vancouver Island inland to Cowichan Lake, as well as the area that is now Richmond, Burnaby, and Delta (Stz'uminus First Nation 2020). Refer to Figure 1A in Appendix C for a map of Stz'uminus First Nation's Traditional Territory in relation to the proposed Project.

Stz'uminus First Nation is a member of the Cowichan Nation. The historic Cowichan Nation Alliance exclusive Aboriginal Title area includes the entirety of Tilbury Island (CNA 2019). The Cowichan Nation Alliance commenced legal action on behalf of Cowichan Tribes, Penelakut Tribe, Halalt First Nation, and Stz'uminus First Nation (Lyackson First Nation is not a plaintiff, however FortisBC understands a Band

Council Resolution has been passed in support of the plaintiffs) to reclaim the historic village site of Tl'uqtinus and other proximal lands in what is present day Richmond and Delta, including the right to fish in the South Arm of the Fraser River (CNA 2019; Ronson 2020). The historic village site of Tl'uqtinus is located approximately 515 m north of the proposed Project Site on the opposite side of the Fraser River. The trial began September 9, 2019 and is ongoing (Ronson 2020). The members of the Cowichan Nation have signed a stewardship agreement with the Province for the South Arm of the Fraser River.

Stz'uminus First Nation sits on the Naut'sa mawt Tribal Council, along with Halalt First Nation, Tsawwassen First Nation, and Tsleil-Waututh Nation (NmTC 2020). Stz'uminus First Nation was previously a part of the Hul'qumi'num Treaty Group but departed in 2014.

Stz'uminus First Nation has signed a Framework Agreement under the First Nations *Land Management Act* (FNL MRC 2020).

For interests and concerns raised by Stz'uminus First Nation see Appendix H and Appendix I.

11.2.28 Tsartlip First Nation

Tsartlip First Nation has four reserves: Goldstream 13, Mayne Island 6, Senanus Island 10, and South Saanich 1 (INAC 2019). Tsartlip First Nation's main community is South Saanich 1, located near the town of Brentwood Bay, on Vancouver Island. Mayne Island 6 and Senanus Island 10 are found on the Gulf Islands, between Vancouver Island and the Lower Mainland. Goldstream 13 is a shared reserve with Malahat First Nation, Pauquachin First Nation, Tsawout First Nation and Tseycum First Nation. Mayne Island 6, approximately 40 km away, is Tsartlip First Nation's closest reserve to the proposed Project Site. Tsartlip First Nation's administrative office, located at South Saanich 1, is 70.5 km away from the proposed Project Site. FortisBC will engage with Tsartlip First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Tsartlip First Nation is an original signatory of the Douglas Treaties in 1852 (B.C. AFN 2021a). Tsartlip First Nation are not currently pursuing a modern-day treaty through the BCTC process but are negotiating land and resource issues with the Province through separate means (Government of B.C. 2021h). Tsartlip First Nation signed an Interim Reconciliation Agreement with the Government of B.C. on March 23, 2017 (Government of B.C. 2021h).

Tsartlip First Nation is a member of the WSÁNEĆ Leadership Council Society, which also includes Tsawout First Nation and Tseycum First Nation (WSÁNEĆ Leadership Council n.d.).

Tsartlip First Nation's Framework Agreement under the First Nations *Land Management Act* is currently is "short-term inactive" (FNL MRC 2020).

11.2.29 Tsawout First Nation

Tsawout First Nation has six reserves: Bare Island 9, East Saanich 2, Fulford Harbour 5, Goldstream 13, Pender Island 8, and Saturna Island 7 (INAC 2019). Tsawout First Nation's main community is East Saanich 2, located on the east side of the Saanich Peninsula, is approximately 67 km away from the proposed Project Site. Bare Island 9, Pender Island 8, and Saturna Island 7 are reserves Tsawout First Nation shares with Tseycum First Nation and are found on the Gulf Islands, between Vancouver Island and the Lower Mainland. Goldstream 13 is a shared reserve with Malahat First Nation, Pauquachin First Nation, Tsartlip First Nation, and Tseycum First Nation. Tsawout First Nation's closest reserve to the proposed Project Site is Saturna Island 7, located 40.5 km away. FortisBC will engage with Tsawout First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Tsawout First Nation is an original signatory of the Douglas Treaties in 1852 (B.C. AFN 2021b). Tsawout First Nation is not currently pursuing a modern-day treaty through the BCTC process (Government of B.C. 2021i).

Tsawout First Nation is a member of the WSÁNEĆ Leadership Council Society, which also includes the Tsartlip First Nation and Tseycum First Nation (WSÁNEĆ Leadership Council n.d.).

Tsawout First Nation has signed a Framework Agreement under the *First Nations Land Management Act* (FNLMA 2020).

11.2.30 Tsawwassen First Nation

Tsawwassen First Nation is one of few modern Treaty Nations in B.C. The Tsawwassen First Nation Final Agreement is a tri-partite agreement between Canada, B.C., and Tsawwassen First Nation. It is a comprehensive agreement that provides for the transfer of land and self-government jurisdiction to Tsawwassen First Nation. The final agreement became effective on April 3, 2009 (Tsawwassen First Nation n.d.; B.C. Treaty 2020f).

Under the final agreement, Tsawwassen First Nation has direct control and ownership of 724 ha of land and exercises TLU rights on 10,000 km² of Traditional Territory (shown in Appendix A of the final agreement) (MPWGSC 2010). The proposed Project Area is overlapped by Tsawwassen TLU areas but not Tsawwassen lands. The closest point of the boundary of the Tsawwassen lands is 10 km from the proposed Project Site. The proposed Project is found within Tsawwassen First Nation's Treaty-protected wildlife harvesting area, migratory bird harvesting area, and fishing and bivalve harvesting area (Government of B.C. 2007b).

Tsawwassen First Nation Traditional Territory is in the Lower Mainland and extends from the watersheds that feed into Pitt Lake and Burns Bog to the Strait of Georgia, including Salt Spring, Pender, and Saturna Islands and includes the proposed Project Area (B.C. Treaty 2020f). Refer to Figure 1A in Appendix C for a map of the Tsawwassen First Nation treaty area and lands. FortisBC will engage with Tsawwassen First Nation to determine areas where treaty rights are exercised in relation to the proposed Project Area, and how potential impacts to those rights will be avoided, mitigated, and accommodated.

For interests and concerns raised by Tsawwassen First Nation see Appendix H and Appendix I.

11.2.31 Tseycum First Nation

Tseycum First Nation has five reserves: Bare Island 9, Goldstream 13, Pender Island 8, Saturna Island 8, and Union Bay 4 (INAC 2019). Tseycum First Nation's main community is Union Bay, located at on Patricia Bay in the Saanich Peninsula, is approximately 62 km away from the proposed Project Site (B.C. AFN 2021c). Bare Island 9, Pender Island 8, and Saturna Island 7 are reserves Tsawout First Nation shares with Tsawout First Nation and are found on the Gulf Islands, between Vancouver Island and the Lower Mainland. Tseycum First Nation shares Goldstream 13 with Malahat Nation, Pauquachin, Tsartlip First Nation and Tsawout First Nation. FortisBC will engage with Tseycum First Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Tseycum First Nation is an original signatory of the historical Douglas Treaties in 1852 (B.C. AFN 2021c). Tseycum First Nation is not currently pursuing a modern-day treaty through the BCTC process (Government of B.C. 2021j).

Tseycum First Nation is a member of the W̱SÁNEĆ Leadership Council Society, which also includes the Tsartlip First Nation and Tsawout First Nation (W̱SÁNEĆ Leadership Council n.d.).

Tseycum First Nation signed a Framework Agreement in 2019 under the First Nations *Land Management Act* (FNLARC 2020).

11.2.32 Tsleil-Waututh Nation

Tsleil-Waututh Nation has three reserves (Burrard Inlet 3, Inlailawatash 4, and Inlailawatash 4A) (INAC 2019). 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, Tsleil-Waututh Nation's main community and is closest to the proposed Project Site, located 18.4 km away, 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 reaches from the Fraser River in the south to Mamquam Lake in the north (Tsleil-Waututh Nation n.d.). This Traditional Territory includes watersheds and wilderness areas in the north and the now urban areas of North Vancouver, Vancouver, Burnaby, Richmond, and Delta to the south (CH2M 2015). Tsleil-Waututh Nation uses their Traditional Territory for subsistence, as well as for cultural and spiritual activities. For example, Tsleil-Waututh Nation members fish for salmon in the Burrard Inlet and the Fraser River (CH2M 2015). Refer to Figure 1C in Appendix C for a map of Tsleil-Waututh Nation Traditional Territory. Tsleil-Waututh Nation has a consultation area that encompasses much of the Lower Mainland (including the proposed Project Area), 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 TUS evidence of Tsleil-Waututh member land and resource use. FortisBC will engage with Tsleil-Waututh Nation to determine areas where traditional activities are practiced in relation to the proposed Project Area.

References to Tsleil-Waututh Nation's Treaty process are not presented at the request of Tsleil-Waututh Nation.

Tsleil-Waututh Nation has signed a Framework Agreement in 1999 under the First Nations *Lands Management Act* (FNLARC 2020).

For interests and concerns raised by Tsleil-Waututh Nation see Appendix H and Appendix I.

11.2.33 Ts'uubaa-asatx Nation (Lake Cowichan First Nation)

Ts'uubaa-asatx Nation (Lake Cowichan First Nation) has one reserve, Cowichan Lake (or Ts'uubaa-asatx), which is located on Vancouver Island, approximately 30 km west of Duncan, on the east end of the Town of Lake Cowichan (INAC 2019), approximately 82.9 km away from the proposed Project Site. FortisBC will engage with Ts'uubaa-asatx Nation (Lake Cowichan First Nation) to determine areas where traditional activities are practiced in relation to the proposed Project Area.

Ts'uubaa-asatx Nation (Lake Cowichan First Nation) participates in the BCTC as a member of the Hul'qumi'num Treaty Group (Government of B.C. 2020f). The Hul'qumi'num Treaty Group is currently in Stage 5 of the BCTC process. The Hul'qumi'num Treaty Group Statement of Intent consists of core Traditional Territory and a marine Traditional Territory. Core Traditional Territory includes a portion of southern Vancouver Island from north of Ladysmith, west to Lake Cowichan, east to the Gulf Islands. The marine Traditional Territory spans across the Strait of Georgia to include a narrow corridor on the mainland, which includes the proposed Project Area (B.C. Treaty 2020a). Refer to Figure 1A in Appendix C for a map of the Hul'qumi'num Treaty Group collective Traditional Territory.

Ts'uubaa-asatx Nation (Lake Cowichan First Nation) has signed a Framework Agreement under the First Nations *Lands Management Act* (FNL MRC 2020).

For interests and concerns raised by Ts'uubaa-asatx Nation (Lake Cowichan First Nation) see Appendix H and Appendix I.

11.3 Summary of Early Engagement

FortisBC values feedback from Indigenous nations and recognizes that information shared contributes to a more successful project. FortisBC's engagement with Indigenous nations across B.C. varies based on the individual Indigenous nation's interests and the types of activities that FortisBC is pursuing in their territories. FortisBC will consult with each Indigenous nation on how they prefer to be engaged on the proposed Project. Many of the Indigenous nations in the proposed Project Area have existing relationships with FortisBC as a result of activities related to the existing Tilbury LNG facility and other FortisBC projects. FortisBC's Engagement Plan (February 2020) describes FortisBC's approach to engagement with Indigenous nations on the proposed Project. The Engagement Plan includes a summary of Early Engagement activities such as initial meetings with Indigenous nations and engagement on the draft IPD. This engagement approach was included in the draft IPD, which was shared with Indigenous nations. Feedback from Indigenous nations on engagement approaches was incorporated in the Engagement Plan prior to being finalized and submitted.

This section provides an overview of FortisBC's approach to engagement and these activities.

Note that due to the extraordinary circumstances of the COVID-19 pandemic, FortisBC has adapted its engagement processes for the EAC Application. As part of its corporate approach to COVID-19, FortisBC reached out to Indigenous nations in its service territory (57) with offers of support, including immediate donations to communities to assist members in need. Work is ongoing to understand and respond to the changing needs of each individual community. As each Indigenous nation is responding differently to the pandemic and setting their own priorities, FortisBC is adapting its approach as appropriate for each Indigenous nation. FortisBC updated its Engagement Plan in June 2020 to outline its response to the pandemic in reference to its engagement on the proposed Project.

FortisBC Statement of Indigenous Principles

As identified in the Engagement Plan, FortisBC is committed to building effective relationships with Indigenous nations and to ensuring it has the structure, resources, and skills necessary to maintain these relationships. As an organization, FortisBC is also committed to reconciliation and are undertaking a number of initiatives including Progressive Aboriginal Relations certification. To meet this commitment, the following principles guide the actions of the company and its employees:

- FortisBC acknowledges, respects, and understands that Indigenous Peoples have unique histories, cultures, protocols, values, beliefs, and governments.
- FortisBC supports fair and equal access to employment and business opportunities within FortisBC companies for Indigenous Peoples.
- FortisBC will develop fair, accessible employment practices and plans that ensure Indigenous Peoples are considered fairly for employment opportunities within FortisBC.
- FortisBC will strive to attract Indigenous employees, consultants, and contractors and business partnerships.
- FortisBC is committed to dialogue through clear and open communication with Indigenous nations communities on an ongoing and timely basis for the mutual interest and benefit of both parties.

- FortisBC encourages awareness and understanding of Indigenous issues within its workforce, industry, and communities where it operates.
- To achieve better understanding and appreciation of Indigenous culture, values, and beliefs, FortisBC is committed to educating its employees regarding Indigenous issues, interests, and goals.
- FortisBC will ensure that when interacting with Indigenous Peoples, its employees, consultants, and contractors demonstrate respect, and understanding of Indigenous Peoples' culture, values, and beliefs.
- To give effect to these principles, each of FortisBC's business units will develop, in dialogue with Indigenous nations communities, plans specific to their circumstances.

Engagement activities related to the proposed Project have been and will be guided by a commitment to clear and open communication in a timely manner with Indigenous nations.

FortisBC will also incorporate the principles of GBA+ into Indigenous nation engagement by deliberately seeking out participation from diverse groups within Indigenous nations communities to support an accurate scope and assessment of potential issues of importance to those communities.

11.3.1 Summary of Engagement with Indigenous Nations

FortisBC initiated Early Engagement on Phase 2 of the proposed Project in July 2019. Early Engagement has focused on establishing communication with Indigenous nations, information-sharing, the regulatory review process, comments on the draft IPD, and capacity funding discussions. Appendix I provides a summary of engagement activities and interests and concerns raised by Indigenous nations.

FortisBC will continue to follow the preferred method of engagement communicated by the Indigenous nations during engagement activities (subsection 11.3.3). At this stage of the proposed Project, FortisBC understands that additional work is required for Indigenous nations to scope the nature of their concerns.

A draft IPD was provided on July 12, 2019 to Indigenous nations for comment. Four Indigenous nations provided comments on the draft IPD. A revised IPD that addressed comments was provided on September 16, 2019 to Indigenous nations and finalized and submitted to B.C. EAO on February 14, 2020. One Indigenous nation supplied comments on the IPD after the IPD had been filed; these comments have been incorporated into the DPD where applicable. Indigenous nations were advised that the proposed Project is in preliminary engagement stages and there will be additional opportunities for engagement through the B.C. EAO process.

11.3.2 Additional Indigenous Nations Identified in the Joint Summary of Engagement

FortisBC provided notification and Project information on October 14, 2020 to the following Indigenous nations who were identified by the B.C. EAO and IAAC in the Joint Summary of Issues and Engagement:

- Kwikwetlem First Nation
- Malahat First Nation
- Matsqui Nation
- Pauquachin First Nation
- Popkum First Nation
- Tsartlip First Nation
- Tsawout First Nation
- Tseycum First Nation

FortisBC also offered to meet with these Indigenous nations and requested that any questions or concerns be directed to FortisBC. FortisBC will continue to provide Project updates and information to these Indigenous nations. FortisBC has been informed by the B.C. EAO and IAAC that Snuneymuxw First Nation have expressed an interest in the proposed Project and that B.C. EAO and IAAC will be following up with Snuneymuxw First Nation.

11.3.3 Summary of Agreements and Opportunities for Indigenous Nations and FortisBC to Work Together

FortisBC entered into Capacity Funding Agreements with Musqueam Indian Band in 2015 and 2018, and the Cowichan Tribes in 2018 that are relevant to the proposed Project. FortisBC is in the process of developing capacity funding and IKS Agreements with other Indigenous nations during the Early Engagement Phase of the proposed Project. As of July 2021, FortisBC had either, offered, signed or was negotiating Capacity Funding Agreements and/or Consultation Protocols with Chawathil First Nation, Cheam First Nation, Kwantlen First Nation, Lyackson First Nation, S'ólh Téméxw Stewardship Alliance, Tsleil-Waututh Nation, Tsawwassen First Nation, and Ts'uubaa-asatx Nation.

During the same period, FortisBC had either signed or was negotiating the submission of existing or production of new IKS with Cowichan Nation Alliance members (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut First Nation, Stz'uminus First Nation), Kwantlen First Nation, Musqueam Indian Band, S'ólh Téméxw Stewardship Alliance, Tsawwassen First Nation, Tsleil-Waututh Nation, and Ts'uubaa-asatx Nation. See Appendix H and Appendix I for additional information on individual Indigenous nations.

Opportunities for Indigenous nations and FortisBC to work together on the assessment of Indigenous interests was raised during meetings and/or correspondence with participating Indigenous nations during the Early Engagement Phase. FortisBC is exploring options and capacity with these Indigenous nations, including Indigenous-led assessments, collaborative assessments, and working together on the proposed Project Application. Indigenous nations requested that FortisBC work collaboratively with them on the incorporation of Indigenous Knowledge in the proposed Project Application.

See Appendix H and Appendix I for additional information on individual Indigenous nations.

11.3.4 Summary of Planned Engagement Activities with Indigenous Nations

As noted previously, FortisBC has a long-standing relationship with several Indigenous nations near the Tilbury LNG facility. Continued engagement activities will draw on these existing relationships to ensure that Indigenous nations are informed of the proposed Project and aware of the upcoming EA process. FortisBC will conduct the following engagement activities:

- Meetings to identify or confirm Indigenous nation-specific engagement policies, protocols, or preferences.
- Meetings to discuss the proposed Project, provide Project updates, and discuss topics of interest.
- Project Site visits. FortisBC understands there is a seasonality element to scheduling to be accommodated where possible. FortisBC will facilitate site visits subject to facility safety requirements.
- Seek input from Indigenous nations on selecting VCs, methodology for assessment, framework for how Indigenous views and Indigenous Knowledge are integrated into baseline, assessment, mitigations, monitoring, cumulative effects, issues resolution process, schedule, communication feedback.

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- Per B.C. EAO's Effects Assessment Policy (B.C. EAO 2020) there are four steps in selecting VCs that FortisBC will undertake with Indigenous nations to ensure their interests are fully considered and integrated:
 - i) Issues scoping
 - ii) Identify candidate VCs
 - iii) Evaluate candidate VCs
 - iv) Select appropriate VCs
- Seek input from Indigenous nations on proposed Project design and EA process and study requirements. This includes sharing drafts of the IPD, Engagement Plan, DPD, VC Selection, draft AIR, and proposed Project Application.
- Invite participation in and provide feedback on archaeology and other studies.
- Provide capacity funding for participation in engagement activities.
- Provide capacity funding to support community-specific assessments or studies.
- Work with Indigenous nations on terms of reference for Indigenous Knowledge/TLU studies and how Indigenous Knowledge is used to inform the proposed Project Application.
- Offer to facilitate community-specific meetings for identified Indigenous nations.
- Correspond throughout the pre-application and application phases via proposed Project updates, written correspondence (emails, letters), and phone conversations. As identified in Section 11 and Appendix I, engagement has and will be guided by Indigenous nations preference where they have been identified to FortisBC.
- Work with Indigenous nations to identify training, economic, and employment opportunities.
- Seek input from Indigenous nations on facilitating access to opportunities for bidding and employment.
- In addition to the engagement activities and tools FortisBC will use to engage with Indigenous nations, FortisBC will conduct a Public Consultation Program. Indigenous nations are welcome to attend all such public events.

The Indigenous nations FortisBC has engaged with to-date have expressed varied interest in their level of involvement in engagement with FortisBC about the proposed Project. Indigenous nations have indicated that they plan to work with FortisBC in the following ways moving forward:

- 1) Meet with FortisBC to discuss the proposed Project.
- 2) Provide feedback on the proposed Project Application documents and methodology.
- 3) Collaborate with FortisBC on developing and executing monitoring programs.
- 4) Collaborate with FortisBC on the use and integration of Indigenous Knowledge in the proposed Project Application.
- 5) Engage with FortisBC on the VC assessment methods.
- 6) Engage with FortisBC throughout the life cycle of the proposed Project from construction to decommissioning.
- 7) Collaborate with FortisBC to determine the approach for Indigenous led assessments.
- 8) Collaborate with FortisBC on methodology for CEA and in developing a framework for the assessment of effects on Indigenous interests.
- 9) Engage with FortisBC to explore potential economic opportunities for Indigenous businesses.

11.3.4.1 Opportunities for FortisBC to Work with the B.C. EAO, IAAC, and Indigenous Nations

FortisBC will support B.C. EAO and IAAC-led activities such as attending meetings or information sessions and include the B.C. EAO and IAAC in information-sharing meetings, if requested by Indigenous nations.

FortisBC will work with the B.C. EAO to support the B.C. EAO's Early Engagement activities. These include the public information sessions and advertising during comment periods. FortisBC will work with the B.C. EAO to assess the scope of engagement by examining the potential project effects and the proposed Project's location relative to that of Indigenous nations, and areas of importance to Indigenous nations. FortisBC will work with Indigenous nations to collect complete and sufficient information to support the B.C. EAO consensus seeking process. FortisBC will engage and consult with IAAC alongside the B.C. EAO, and Indigenous nations as it prepares the Summary of Issues.

FortisBC will work with Indigenous Nations who expressed an interest in conducting Indigenous led assessments of Indigenous Interests or other Assessment components. FortisBC will progress these conversations in collaboration with the B.C. EAO and IAAC throughout Process Planning and subsequent phases.

In addition to the engagement activities described above, FortisBC will provide a description of opportunities for FortisBC to work with Indigenous nations, per B.C. EAO's Early Engagement Policy (B.C. EAO 2019) and IAAC's Practitioner's Guide to the *Impact Assessment Act* (IAAC 2020), once FortisBC has engaged further with Indigenous nations and has feedback on additional opportunities.

11.3.4.2 Inclusion of Indigenous Knowledge

FortisBC has provided a draft of the DPD to participating Indigenous nations for review in advance of submission to regulatory agencies. Indigenous nations will be provided sufficient time to review the draft DPD per B.C. EAO guidelines and each Indigenous nation's capacity. Comments provided by Indigenous nations will be addressed and incorporated in the final DPD. Where feedback may not be incorporated, FortisBC will provide rationale. The final DPD will also include the following, per B.C. EAO Early Engagement Policy (B.C. EAO 2019):

- Statement indicating that the Indigenous nation supports the characterization and application of any Indigenous Knowledge contained within the DPD, if applicable;
- Information outlining how Indigenous Knowledge informed proposed Project design; and
- A preliminary summary of the studies that have been or will be conducted to support the proposed Project Application. This may include studies that will be conducted by the Indigenous nation.

In collaboration with Indigenous nations, FortisBC will identify sources of Indigenous Knowledge which will inform Process Planning and subsequent phases. As indicated in subsection 11.3.4.1, FortisBC will be engaging with participating Indigenous nations to obtain an IKS report specific to the proposed Project or other sources of Indigenous Knowledge which Indigenous nations identify as appropriate for use. Indigenous Knowledge information provided to FortisBC by each of the Indigenous nations will also be integrated into the biophysical VC baselines, effects, and mitigation measures. Where TUS information is not provided by the Indigenous nations, information will be compiled from publicly available secondary sources and will be shared with the Indigenous nations for input. FortisBC will include the following B.C. EAO required information:

- An outline of how Indigenous Knowledge, including TUS, was gathered and/or procured. The outline will include a summary of TUS Agreements signed;

- An outline of the ways FortisBC worked with Indigenous nations to meaningfully and respectfully incorporate Indigenous Knowledge into the assessment of effects on Indigenous interests, including a summary of any arrangements with the Indigenous nations regarding the use and application of Indigenous Knowledge;
- A statement indicating that Indigenous nations have granted FortisBC permission for the public disclosure of Indigenous Knowledge as well as their support of the characterization and application of any Indigenous Knowledge contained within the Application;
- A summary of how Indigenous Knowledge informed the proposed Project design, the assessment, and proposed mitigation measures; and
- If applicable, a list of any proposed monitoring or management for future.

11.3.5 Key Issues Raised

In accordance with IAAC and B.C. EAO guidance, this section provides a Summary of Issues raised by Indigenous nations during the Early Engagement Phase of the proposed Project.

Key issues raised by Indigenous nations between July 2019 to July 19, 2021 that are relevant to the application decision and will require resolution and potential mitigation are presented in Table 11-1. FortisBC's responses to the key issues raised in Table 11-1 are subject to ongoing discussions with the Indigenous nations.

It is recognized that the information in Table 11-1 is a summary and is not intended to be an exhaustive or comprehensive representation of all the issues raised by Indigenous nations. Refer to Appendix D for a detailed list of issues and responses cited from the Joint Summary of Issues and Engagement. Refer to Appendix H for a detailed list of issues and responses, by Indigenous nation, raised through Early Engagement. FortisBC will continue to engage with Indigenous nations to understand their issues and concerns with the proposed Project and will respond to all issues raised throughout the engagement process.

This list of key issues will be refined for the final DPD as Key Issues are defined by FortisBC.

Table 11-1. Summary of Key Issues Raised by Indigenous Nations

Issues Raised	FortisBC Response
Potential effects of the proposed Project on fish and fish habitat, including migratory habitats and shoreline habitats near the proposed Project Site.	Potential effects to fish and fish habitat for all proposed Project phases will be assessed in the Application under the Fish and Fish Habitat VC. Details of the effects assessment requirements are provided in the draft AIR that is appended to the DPD.
Potential effects on cultural continuation and identity related to Project effects on fish and fish habitat, especially salmon. Salmon and salmon harvesting are closely linked to the cultural identity of Indigenous nations in the proposed Project Area.	FortisBC acknowledges the cultural importance of salmon to Indigenous nations in the proposed Project Area. Potential effects to cultural continuation, and cultural relationships with salmon, will be assessed in the Indigenous nation-specific assessment chapters of the Application and the following Indigenous Interests: Harvesting and Subsistence Activities, Cultural Use Sites and Areas, Indigenous Health and Well-being, and Economic Activities.
Use of present-day conditions, rather than historical or pre-contact conditions, to characterize baseline conditions.	The draft AIR has been updated to include a description for each VC of past and present projects and activities (existing and historical context) in the study area and their effect on linked VCs, the Indigenous effects assessments, and Section 25 requirements of the 2018 B.C. <i>Environmental Assessment Act</i> (or Section 22 requirements of the 2019 IAA), to support the consideration of potential Project effects and cumulative effects. FortisBC will engage with the B.C. EAO, IAAC and Indigenous nations when developing a methodology for assessing pre-baseline historical conditions in the assessment of cumulative effects on Indigenous interests.

Table 11-1. Summary of Key Issues Raised by Indigenous Nations

Issues Raised	FortisBC Response
Changes in air quality and the potential effects to human health, wildlife, cultural continuation, and subsistence and cultural use of the proposed Project Area.	FortisBC acknowledges the importance of air quality. The Application will consider a project case and cumulative case for air quality emissions. These assessments will use the latest available air quality monitoring data from the vicinity of the proposed Project for the background and existing conditions. The methodology used in the Air Quality assessment of the Assessment will satisfy the requirements of Metro Vancouver, B.C. EAO, IAAC, and the SACC.
Potential effects to the accessibility and availability of Traditional Lands and resources during the construction and operations phases.	FortisBC acknowledges Indigenous nations' concerns regarding Project-related activities that could affect rights to access Traditional Lands and resources. Effects to local vegetation and harvesting sites will be assessed in the Vegetation section of the proposed Project Application. Effects on wildlife habitat will be included in the Wildlife and Wildlife Habitat section.
Concerns with increases in noise and the potential effects to human health, wildlife, including marine mammals, cultural continuation, and subsistence and cultural use of the proposed Project Area.	<p>Environmental noise is included in the draft AIR. Human health effects from environmental noise will be assessed using Health Canada's 2017 'Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise'. FortisBC will determine location of the sound level meters in consultation with Indigenous nations and the TACs as part of the EA process.</p> <p>Potential noise effects will be assessed in the proposed Project Application under the Acoustic VC. Potential effects to marine mammals will be evaluated in detail in the Project Application under the Wildlife and Wildlife Habitat VC, including potential effects as a result of noise.</p> <p>Each Indigenous nation will also have a subsection within Section 11, Indigenous Interests that will speak to that Indigenous nation's specific issues including cultural continuation, and subsistence and cultural use. The assessment of effects on Indigenous interests will be informed by the Human Health VC.</p>
Sufficient capacity funding to enable meaningful participation within the EA process.	FortisBC has been engaging with Indigenous nations regarding capacity funding.
Human Health VC should consider Indigenous health determinants and VCs linked to human health should include indicators of risks to Indigenous health that can be used to assess effects to cultural use and cultural continuation.	Indigenous health will be considered separately in the proposed Project Application under the Human Health VC. The information is aggregated in the VC assessment and is applicable to all Indigenous nations that are potentially affected by the proposed Project. Each Indigenous nation will also have a subsection within Section 11, Indigenous interests that will speak to that Indigenous nation's specific issues and unique information.
Disturbance of or damage to archaeological or historical sites, features, and objects as a result of proposed Project activities.	FortisBC acknowledges that a new archaeological assessment is required for the locations that will be disturbed during construction and operations of the proposed Project. FortisBC has completed an AOA for the whole Tilbury site and will conduct an AIA for the Phase 2 Expansion project activities.
Project's GHG emissions, including cumulative contributions to Provincial, National, and sector GHG emissions.	The DPD includes a preliminary GHG estimate for the proposed Project and a discussion and comparison against Provincial and Federal targets. FortisBC will address GHG emissions and cumulative effects in the proposed Project Application and will include a detailed GHG analysis with an updated comparison to Provincial and Federal targets.

11.3.5.1 Key Procedural Issues Raised by the Indigenous Nations

In addition to engaging on the key issues identified above, Indigenous nations have raised procedural and engagement issues with FortisBC, as is summarized in Appendix H. FortisBC will address all issues raised throughout the engagement process of the proposed Project.

Refer to Appendix D for a detailed list of issues and responses cited from the Joint Summary of Issues and Engagement.

11.3.6 Summary of Changes to the Detailed Project Description

Comments received from Indigenous nations on the IPD were taken into consideration in the development of the DPD. The following key updates and changes have been made to the DPD since the submission of the IPD:

- FortisBC has added a land acknowledgement to Section 1 Introduction of the DPD: "We acknowledge that we are located on the Traditional Territories of the Coast Salish peoples of southern B.C. We also acknowledge the Métis peoples who make their home in this area." Katzie First Nation requested this change as a way for FortisBC to show respect to Indigenous nations.
- FortisBC has updated subsection 10.11 to include that monitoring programs will be developed in collaboration with Indigenous nations, per a comment received from Cowichan Tribes.
- FortisBC has updated subsection 11.1 to include five Indigenous nations of Cowichan Nation Alliance (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation) and added a statement indicating Cowichan Nations Alliance's position on exclusive Aboriginal title including Tilbury Island, per a comment received from the Cowichan Nation Alliance.
- FortisBC updated subsection 11.1 to indicate the Cowichan Nation Alliance commenced legal action on behalf of Penelakut Tribe, Halalt First Nation, Stz'uminus First Nation, and Lyackson First Nation, with the trial expected to begin September 9.
- In subsection 11.1, FortisBC added a statement indicating Cowichan Nation Alliance's position on exclusive Aboriginal Title including Tilbury Island, per a comment received from the Cowichan Nation Alliance.
- FortisBC has incorporated comments from Tsleil-Waututh Nation on their review of the IPD into the DPD as feasible.
- FortisBC has updated the text in Section 10 to state FortisBC plans to include Indigenous Knowledge in sections of the Application related to both physical non-biophysical aspects as it is made available, including indicator measures including but not limited related to non-biophysical changes to land and resource uses.
- FortisBC updated the introductory paragraph to Table 11-2 to identify how FortisBC had arrived at its preliminary understanding of the potential effects to Indigenous interests resulting from the proposed Project. FortisBC also updated Table 11-2 to include a column titled "Identified Interests" to demonstrate the connection between potential Project effects and the Indigenous interests that have been identified to-date.
- FortisBC moved the Indigenous interests that have been identified by Indigenous nations during Early Engagement from subsection 11.2 to 11.3 to ensure that they are included in the summary of engagement of each Indigenous nation.
- FortisBC updated the list of participating Indigenous nations as per the list provide by the B.C. EAO.

- FortisBC updated subsection 11.3 to include engagement activities conducted with Indigenous nations in subsection 11.1, which were identified by B.C. EAO and IAAC in the Joint Summary of Issues and Engagement, but who were not included in the IPD.
- FortisBC updated subsection 11.1 to mirror language in the Joint Summary of Issues and Engagement regarding participating Indigenous nations and Indigenous nations whose interests could reasonably be expected to be affected by the proposed Project. This update was made to better reflect IAAC and B.C. EAO guidance language.
- FortisBC updated multiple subsections within Section 11 to clarify the relationship between the Sol'h Téméxw Stewardship Alliance and People of the River Referrals Office, in response to comments received from the S'ólh Téméxw Stewardship Alliance on DPD.
- FortisBC has updated subsection 11.3 to clarify the scope and purposes of engagement with Indigenous nations.
- FortisBC updated Appendix I to clarify the inherent jurisdiction the Cowichan Nation Alliance holds over the proposed Project Area, per comments received from the Cowichan Nation Alliance.
- FortisBC updated Table 11-2 to align with the Indigenous interests and Potential Effects outlined in Table 11-2 of the draft AIR. Information relating to the way each Indigenous nation has identified the Indigenous interests is presented in subsections 11.2 to 11.18 of the AIR.
- FortisBC included Table 11-3 of the IPD in Appendix H and redrafted Table 11-2 to present overarching issues raised by Indigenous nations. FortisBC took this approach to emphasize key proposed Project issues that were raised multiple times by Indigenous nations and prioritize them for FortisBC's review and consideration.
- FortisBC updated Appendix H to respond to comments provided by Tsawwassen First Nation and Tsleil-Waututh Nation.

FortisBC will continue to share proposed Project information and engage with Indigenous nations in relation to the proposed Project. FortisBC will incorporate further comments received on the draft DPD from Indigenous nations and make changes, where necessary, to the final DPD prior to submitting to B.C. EAO.

11.3.7 Detailed Project Description Changes Triggered by B.C. EAO Summary of Engagement Regarding Indigenous Nations

FortisBC incorporated the results of B.C. EAO's and IAAC's engagement with Indigenous nations and described in the Joint Summary of Issues and Engagement throughout Section 11 by:

- Updating subsection 11.2 to include supplementary information on Indigenous nation's interests in existing community profiles.
- Addressing the Summary of Issues provided in the Joint Summary of Issues and Engagement throughout the entirety of the DPD and specifically within subsection 11.3 and Appendix D.
- Ensuring Indigenous nations and organizations provided in the Joint Summary of Issues and Engagement are included in the list of Identified Indigenous nations (subsection 11.1).
- Updating subsection 11.1 to include identified participating Indigenous nations and other Indigenous nations identified by FortisBC whose established or asserted Traditional Territories overlap with the Tilbury facility.

Adding the “effects to the rights of Indigenous Peoples and their TLU through the construction and operation of the proposed Project” (IAAC & B.C. EAO 2020) to subsection 11.4. FortisBC will also support B.C. EAO-led activities such as attending meetings or information sessions and include the B.C. EAO in information-sharing meetings, if requested by Indigenous nations. FortisBC will provide a description of opportunities for FortisBC to work with the B.C. EAO and Indigenous nations, per B.C. EAO’s Engagement Policy (B.C. EAO 2019).

11.3.8 Preliminary Assessment of Potential Effects to Indigenous Nations Resulting from Project Activities

Potential effects to the general health, social, and/or economic conditions of Indigenous Peoples in Canada will be assessed in the Human and Community Well-being Assessment. Table 10-22 Potential Differential Positive and Adverse Effects as Part of the Human and Community Well-being Assessment of the DPD, outlines potential social and economic effects of the proposed Project on Indigenous nations as a general population. Effects specific to individual Indigenous nations and their Indigenous interests will be assessed in the Indigenous Nations Effects Assessment of the Project Application.

This section identifies FortisBC’s preliminary understanding of the potential effects to Indigenous interests resulting from the proposed Project and is based on regulatory guidelines and engagement with Indigenous nations. Indigenous interests include but are not limited to the current use of land and resources for traditional purposes, physical and cultural heritage, and environmental, health, social, and economic conditions of Indigenous nations. How these Indigenous interests and related potential effects will be categorized and carried through the assessment is explained in more detail in Appendix F – the Draft AIR. Information relating to the specific Indigenous Interest of each Indigenous nation is included in Subsections 11.2 to 11.18 of the draft AIR. Further understanding of these Indigenous interests and potential Project effects is expected to result from engagement with Indigenous nations throughout the assessment process. FortisBC has summarized the potential effects identified by Indigenous nations which will be assessed in the proposed Project Application in Table 11-2.

Table 11-2. Preliminary Identification of Potential Effects to Indigenous Interests Resulting from Project Activities

Project Activities	Indigenous Interest	Potential Effect
Site Preparation and Construction		
<ul style="list-style-type: none"> ▪ Mobilization of construction equipment, temporary offices, and materials to the site by truck ▪ Clearing, filling, and grading of mostly paved/disturbed site ▪ Relocation/ improvements to storm water and erosion and sediment control measures ▪ Ground preparation ▪ Construction Project infrastructure as identified in Table 7-1 ▪ Site clean-up, installation of security 	<ul style="list-style-type: none"> Harvesting and Subsistence Activities Cultural Use Sites and Areas Economic Conditions Indigenous Health and Well-being Cultural Continuation Indigenous Governance Systems 	<ul style="list-style-type: none"> Effects on harvesting and subsistence activities <ul style="list-style-type: none"> ▪ Effects on Aboriginal Rights to fish, harvest and hunt for food, ceremonial, and social purposes: <ul style="list-style-type: none"> – Changes to harvesting methods and practices (such as, timing, seasonality) – Changes to the use of lands and resources for traditional purposes – Alteration of harvesting-based livelihoods ▪ Changes to the experience of practicing harvesting rights and effects on the quality, quantity, and availability of resources: <ul style="list-style-type: none"> – Loss or alteration of habitat supporting harvested wildlife, fish, bird, or plant species including species of cultural and medicinal importance – Change in surface water quality or quantity (turbidity, hydraulic changes) – Sensory disturbances (such as, noise, odour, dust, visual landscape) ▪ Effects to the accessibility and availability of Traditional Lands and resources:

Table 11-2. Preliminary Identification of Potential Effects to Indigenous Interests Resulting from Project Activities

Project Activities	Indigenous Interest	Potential Effect
<ul style="list-style-type: none"> ▪ Emissions, discharges, and waste 		<ul style="list-style-type: none"> – Changes in the ability to travel to or through current use areas <p>Cultural Use Sites and Areas</p> <ul style="list-style-type: none"> ▪ Effects on cultural heritage, and structures, sites or things of historical, archaeological, paleontological or architectural significance: <ul style="list-style-type: none"> – Effects to cultural sites including storied places, habitation sites, place names, and archaeological sites along the South Arm of the Fraser River, Tilbury Island, Lulu Island, and Tl'uqtinus Village site – Effects of proposed Project activities on cultural/archaeological resources – Changes to the experience using cultural sites and areas ▪ Loss of access to and disenfranchisement from cultural sites including: <ul style="list-style-type: none"> – Changes to physical and cultural or spiritual sites or areas – Disruption or alteration of trails, travelways, navigable waterways and waterbodies – Sensory disturbance (such as, noise, odour, dust, visual landscape) ▪ Effects to cultural and spiritual practices caused by damage or loss of access to cultural sites and areas <p>Social and Economic Conditions</p> <ul style="list-style-type: none"> ▪ Effects on Indigenous nations' ability to improve economic conditions ▪ Effects on Indigenous nations' future aspirations for sites or area surrounding the proposed Project ▪ Changes to employment opportunities, Indigenous businesses, Indigenous Governments revenue ▪ Effects on intercommunity relations and trade ▪ Effects on commercial and non-commercial fishing, hunting, trapping and gathering and cultural or ceremonial activities and practices ▪ Effects on infrastructure and services <p>Indigenous Health and Well-being</p> <ul style="list-style-type: none"> ▪ Effects on the quality, quantity, and availability of harvested country foods ▪ Effects on the value and perceived quality of country foods ▪ Effects on air quality, noise, water quality ▪ Effects on health and well-being from the impacts to traditional ways of life and to cultural sites <p>Cultural Continuation</p> <ul style="list-style-type: none"> ▪ Effects on ability to revitalize, develop and participate in intergenerational cultural transmission ▪ Experiences of being on the land (such as, changes in air quality, noise exposure, effects of vibrations from blasting or other activities) ▪ Current and future availability and quality of country foods (traditional foods) ▪ Disconnection from cultural heritage due to:

Table 11-2. Preliminary Identification of Potential Effects to Indigenous Interests Resulting from Project Activities

Project Activities	Indigenous Interest	Potential Effect
		<ul style="list-style-type: none"> Changes to sense of place and identity due to changes in accessibility and real and perceived disturbance of the environment Interruption of the use of travel ways, navigable waterways and water bodies <p>Indigenous Governance Systems</p> <ul style="list-style-type: none"> Change to an Indigenous nation's cultural traditions, laws and governance systems that inform how they exercise their Aboriginal Rights: <ul style="list-style-type: none"> Effects on the ability to use, develop and control traditional land, territories and resources Effects on the ability to implement Indigenous laws, customs and protocols Participation in decision-making in matters which affect Aboriginal Rights and Title in the proposed Project Area Changes to ongoing conservation efforts to restore important fish species and habitat Ability to engage in stewardship of lands and resources
Operations		
<ul style="list-style-type: none"> Natural gas receiving Natural gas processing and liquefaction LNG Storage Control, inspection, and maintenance of Project components 	<ul style="list-style-type: none"> Indigenous interests are anticipated to be similar to the Site Preparation and Construction Phase (above) 	<ul style="list-style-type: none"> Potential effects on Indigenous interests are anticipated to be similar to the Site Preparation and Construction Phase (above)
Decommissioning		
<ul style="list-style-type: none"> De-energizing, decommissioning purging and dismantling of LNG facilities Repurposing, recycling and disposal of materials and equipment Reclamation of the proposed Project Site for alternate use 	<ul style="list-style-type: none"> Indigenous interests are anticipated to be similar to the Site Preparation and Construction Phase (above) 	<ul style="list-style-type: none"> Potential effects on Indigenous interests are anticipated to be similar to the Site Preparation and Construction Phase (above)

* Identified Interests determined from engagement with Indigenous nations (see subsection 11.3), Table 1 of the Joint Summary of Issues and Engagement, and review of the B.C. EAO's EPIC website ([B.C. EAO 2020](#))

An additional issue identified by IAAC and the B.C. EAO in the Joint Summary of Issues and Engagement: "Effects to the rights of Indigenous Peoples and their TLU through the construction and operation of the proposed Project" (IAAC & B.C. EAO 2020). FortisBC will include the assessment of these potential effects by evaluating changes in the ability to exercise Aboriginal Rights including subsistence use, cultural use, Indigenous governance systems, cultural continuation, as well as any additional Rights-related activities as identified by Indigenous nations throughout engagement activities, as outlined in Appendix F.

FortisBC is continuing to engage with Indigenous nations to understand their Indigenous interests in the proposed Project and the areas influenced by the proposed Project.

FortisBC is continuing to engage with Indigenous nations to determine how the proposed Project aligns with a given Indigenous nation's laws, customs, and policies.

Examples of this alignment includes acknowledging:

- the principles of sustainable development, government to government relationships, and commensurate benefits set out in the Tsleil-Waututh Nation Stewardship Policy (2009);
- declarations of stewardship of lands and waters including Tl'uqtinus and Tilbury Island by Cowichan Nation Alliance members: Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribes, Stz'uminus First Nation;
- Musqueam Indian Band's governance role in the proposed Project Area;
- Skawahlook First Nation's Aboriginal Rights and governance responsibilities (Skawahlook First Nation 2020);
- Chawathil First Nation's governance and self-determination rights;
- Ts'uubaa-asatx Nation's Lower Mainland Policies;
- S'ólh Téméxw Stewardship Alliance Land and resource use Consultation and Decision Making Policy, Stó:lō Heritage Policy and S'ólh Téméxw Use Plan Policy;
- Tsawwassen First Nation Treaty Final Agreement as well as Tsawwassen First Nation Acts and Laws; and
- the overview Tsawwassen First Nation provided of the Tsawwassen First Nation's Rights Assessment Approach's.

11.3.8.1 Preliminary Consideration of Indigenous Interests in Project Design

This section discusses how FortisBC has worked to refine the proposed Project to avoid or mitigate effects on Indigenous interests. FortisBC's understanding of these Indigenous interests and mitigations has been informed by input from Indigenous nations in the Joint Summary of Engagement Interests and Concerns, and ongoing discussions with the Indigenous nations. FortisBC will continue to develop mitigation measures and appropriate management plans based on comments received from Indigenous nations through the EA process.

FortisBC engaged with Indigenous nations in the proposed Project planning process to incorporate their input into the DPD. During Early Engagement with the Indigenous nations, FortisBC has committed to the following:

- Coordinate with other operators on cumulative effects;
- Coordinate with Delta on water issues;
- Plan Project decommission before development;
- Include Indigenous nations in baseline studies; and
- Ongoing engagement with Indigenous nations.

FortisBC will continue to engage with Indigenous nations on the proposed Project design.

12. Engagement with Governments, the Public, and Other Parties

12.1 Summary of Preliminary Engagement Activities

This section has been updated to include a summary of Early Engagement activities with the public, government, and other interested parties. It includes a description of changes to engagement methods as a result of the COVID-19 pandemic and how engagement was able to continue in a safe way, compliant with public health restrictions. Subsection 12.2 includes a summary of engagement with government representatives during the Early Engagement Phase, including review of the IPD, draft DPD, draft VC Selection document, and draft AIR by Technical Advisors from regulatory agencies. Subsection 12.3 provides a summary of outcomes from the public comment period and virtual open houses. Lastly, subsections 12.4 provides a description of planned engagement activities, including the application of GBA+ principles to ensure equitable participation of diverse groups.

As the foremost energy provider in the Province, FortisBC has a successful history operating throughout B.C. and has a long-established commitment to engage with a wide range of stakeholders, including members of the public, customers, suppliers, regulators, and public safety agencies. FortisBC recognizes the importance of meaningful engagement and strives to develop and maintain strong relationships in the community. FortisBC has been consulting with government, the public, and other parties on projects at the Tilbury LNG facility since 2012. As identified in the Early Engagement Plan, FortisBC began engagement with stakeholders specific to this proposed Project in the fall of 2019 (FortisBC 2020).

To support this engagement, FortisBC sent notification letters to businesses and residents in the area surrounding the Tilbury LNG facility and sent email notifications to Provincial and local government officials and industry stakeholders. FortisBC has also participated in meetings with local government and other groups, as requested. FortisBC customers and the public were notified of the proposed Project through several channels, including digital media and customer communication channels, as well as public open houses, where FortisBC presented information and encouraged community feedback.

Due to the extraordinary circumstances of the COVID-19 pandemic, FortisBC has adapted its engagement processes for Early Engagement on the proposed Project. Many community events that FortisBC would normally participate in were cancelled; however, FortisBC is continuing to engage on projects that are considered vital to FortisBC's energy infrastructure, including the proposed Project. FortisBC is also taking steps to keep FortisBC customers, FortisBC employees, and the public safe:

- FortisBC temporarily cancelled in-person meetings and engagement activities to support physical distancing and is using digital alternatives such as teleconferences, virtual open houses, and other digital tools to engage with governments, the public, and other parties.
- FortisBC is working with regulatory agencies to ensure any engagement is safe and effective in facilitating meaningful dialogue.
- FortisBC requested the B.C. EAO extend Early Engagement from 90 days to 150 days and asked IAAC to pause the Planning Process to allow additional time to ensure meaningful engagement.

The company's primary engagement objectives are to raise awareness of the proposed Project in neighbouring communities, receive feedback, and respond to any proposed Project-related inquiries. The following sections outline engagement that has already taken place during the Early Engagement Phase. Ongoing engagement will build on these existing relationships and engagement activities.

12.2 Government

FortisBC is committed to early and transparent engagement with local governments, Federal and Provincial governments, and regulatory agencies. FortisBC meets regularly with Delta to inform them of updates related to the Tilbury LNG facility and provides advance notice of FortisBC-related activities taking place in their community. FortisBC also engages local government staff, local first responders, and other stakeholders in full-scale emergency exercises at the Tilbury LNG facility.

Table 12-1 provides a list of local government, Provincial and Federal governments, and regulatory agencies that FortisBC regularly communicates with to provide updates and respond to questions about the Tilbury LNG facility and the proposed Project.

Table 12-1. Government Agencies FortisBC Engages

Local Government	Provincial	Federal
<ul style="list-style-type: none"> ▪ Delta ▪ Richmond ▪ Metro Vancouver ▪ Fraser Health Authority 	<ul style="list-style-type: none"> ▪ MLA Delta South ▪ MLA Delta North ▪ MLA Richmond North Centre ▪ MLA Richmond-Queensborough ▪ MLA Richmond South Centre ▪ MLA Richmond-Steveston ▪ B.C. EAO ▪ B.C. OGC ▪ BCUC ▪ B.C. MFLNRORD ▪ Ministry of Energy, Mines, and Low Carbon Innovation ▪ Ministry of Agriculture, Food and Fisheries ▪ Ministry of Health ▪ Ministry of Transportation and Infrastructure ▪ B.C. ENV ▪ Washington State Department of Ecology, Spill Prevention, Preparedness, and Response Program 	<ul style="list-style-type: none"> ▪ Crown Indigenous Relations and Northern Affairs Canada ▪ Delta MP ▪ Richmond MP ▪ IAAC ▪ DFO ▪ Transport Canada ▪ Vancouver Fraser Port Authority ▪ ECCC ▪ WAGE ▪ Indigenous Services Canada ▪ NRCan

Note:

WAGE = Department of Women and Gender Equality

Through its engagement with these representatives, FortisBC has gained an understanding of community values, and sought recommendations on preferred engagement methods and other matters relating to engagement. Table 12-2 provides a summary of engagement activities with local government, Provincial, and Federal representatives since filing the IPD.

Table 12-2. Summary of Engagement with Governments To-Date

Activities	Description
Project Introduction	<ul style="list-style-type: none"> FortisBC emailed local government agencies to introduce the proposed Project and FortisBC representatives.
Meetings	<ul style="list-style-type: none"> FortisBC has weekly meetings (via phone calls) with B.C. EAO, IAAC to discuss the proposed Project. Meetings (via phone calls) were held with B.C. EAO and IAAC to discuss approach for incorporating Indigenous interests in the draft AIR. Meetings with Delta representatives to provide an overview of the proposed Project and Project updates. Meetings with Richmond representatives to provide an overview of the proposed Project and Project updates. Meetings (via phone calls): <ul style="list-style-type: none"> With Metro Vancouver to discuss Air Modelling Plan development With Delta's Fire Chief to better understand how the Delta and Richmond Fire Departments would coordinate response if there was an emergency in the Tilbury facility, and to discuss LNG training for department staff With the Mayor of Delta to discuss the proposed Project and potential concerns from Delta With Delta MLA to provide Project updates With Richmond to discuss seismic safety protocols, local traffic impacts, and overseas exports With Richmond to discuss the proposed Project benefit reports and feedback for the DPD, AIR, and VC documents With Richmond's Fire Chief to introduce FortisBC and the proposed Project and to provide the Fire Chief with an overview of the previous expansion, future expansion, and the EA process, and to discuss LNG training for department staff and participating in future emergency exercises that FortisBC hosts With Richmond MLA to provide Project updates With MEMPR to discuss the DPD and the Application, reinforcing resiliency with social/economic benefits, CPCN application ECCC to discuss SACC requirements Climate Action Secretariat to provide an overview of the Project, clarification of proposed Project scope, and regulation of proposed Project-related GHG emissions
Engagement on Stakeholder Engagement Plan	<ul style="list-style-type: none"> FortisBC emailed local government agencies to provide the Stakeholder Engagement Plan developed for the proposed Project.
Workshops and Technical Meetings with Technical Advisors and Indigenous nations	<ul style="list-style-type: none"> Tilbury Phase 2 LNG Expansion Project – Detailed Project Description Workshop for Part 1 of the Draft DPD was held on October 17, 2020. Tilbury LNG Development History Presentation by held on May 4, 2021 A second workshop was held June 16 on the revised Part 1 and Part 2 DPD A meeting with Metro Vancouver technical staff on air quality on July 7, 2021
Pause / Extension of the Early Engagement Phase	<ul style="list-style-type: none"> FortisBC emailed IAAC, B.C. EAO, and other local government representatives to notify them of the request to pause engagement timeline due to COVID-19 to allow more time to ensure meaningful engagement.
Commencement of Public Comment Period	<ul style="list-style-type: none"> FortisBC emailed local government agencies to notify them of the engagement timeline extension, commencement of public comment period, and included information about the upcoming virtual open houses.
Virtual Open Houses	<ul style="list-style-type: none"> Local governments were informed about virtual open houses hosted by IAAC and the B.C. EAO on June 18 and 23, 2020.

Table 12-2. Summary of Engagement with Governments To-Date

Activities	Description
Engagement on Draft DPD	<ul style="list-style-type: none"> ▪ The IPD and draft DPD were shared with B.C. EAO, IAAC, and other local government agencies for review. Comments received on both documents have been incorporated accordingly. <ul style="list-style-type: none"> – Adding additional Federal requirements – Details on which topics were raised in Early Engagement and how they were addressed in the DPD – Additional information on potential effects on several topics – Compliance comments related to DPD guidance – Clarification on proposed Project scope – Additional information on Indigenous interests – Summary of changes made between IPD and DPD ▪ FortisBC received comments from members of TAC, including Indigenous nations for the IPD and draft DPD. Details of comments received are included in Appendix G. Key concerns include: <ul style="list-style-type: none"> – Consultation with Delta on Emergency and Fire response plans for the proposed Project – Potential spills, accidents and malfunctions, environmental effects on the Fraser River Estuary, air quality contamination – Tracking of specific concerns raised – GHG and air quality assessment methods – Acoustic monitoring methods ▪ Other comments noted the following: <ul style="list-style-type: none"> – B.C. ENV informed FortisBC about the new B.C. Climate Action Secretariat lead on EA who would review and comment on the draft DPD. – More information on proposed Project benefits should be included in the DPD. – B.C. MoTI would not have feedback on the proposed Project unless it has direct implications for their highway system. – Transport Canada noted that approval required under the <i>Canadian Navigable Waters Act</i> may apply to water works related to the MOF upgrades. ▪ FortisBC discussed with MEMPR on the DPD and the Application, reinforcing resiliency with social/economic benefits, and CPCN application in a phone call meeting. MEMPR did not have comments on the draft DPD.
Engagement on VC Selection Document	<ul style="list-style-type: none"> ▪ FortisBC discussed with B.C. EAO and IAAC about approach for incorporating Indigenous interests in the VC list. ▪ The draft VC Selection document was shared with B.C. EAO, IAAC and other local government agencies for review. ▪ FortisBC received comments from members of TAC, including Indigenous nations for the draft VC Selection document. Details of comments received are included in Appendix G. ▪ Fraser Health Authority did not have any additional comments on the draft VC Selection document. ▪ Ministry of Agriculture noted that the concerns for agriculture are limited and the existing VC list appears to sufficiently cover agriculture related concerns. ▪ FortisBC had a meeting with the City of Richmond to review comments on the draft VC Selection document.
Meetings with Technical Advisors	<ul style="list-style-type: none"> ▪ Meetings were held with the B.C. EAO, IAAC and other members of TAC to discuss the EA process, next steps in the EA, the proposed Project updates and DPD overview. ▪ FortisBC, B.C. EAO, IAAC, ECCC, Energy and Transportation Directorate, and Jacobs had a technical discussion on the SACC requirements on March 31, 2021.

Table 12-2. Summary of Engagement with Governments To-Date

Activities	Description
Engagement on draft AIR	<ul style="list-style-type: none"> FortisBC discussed with B.C. EAO and IAAC about approach for incorporating Indigenous interests in the draft AIR. The draft AIR was shared with B.C. EAO, IAAC and other local government agencies for review. FortisBC received comments from members of TAC, including Indigenous nations for the draft AIR. Details of comments received are included in Appendix G. Fraser Health Authority did not have any additional comments on the draft AIR. FortisBC had a meeting with the City of Richmond to review comments on the draft AIR. Ministry of Health provided a link to B.C. Guidance for Prospective Human Health Risk Assessment (Version 1.0) and noted that Version 1.0 will be a 'living document' until April 2022.
Engagement on EA Process	<ul style="list-style-type: none"> FortisBC was advised by B.C. ENV that the Environmental Protection Regional Operation Branch had decided not to participate in EA review as Metro Vancouver is participating and their subject matter experts overlap with B.C. ENV in the key area of air quality. FortisBC discussed with MEMPR on the DPD and the Application, reinforcing resiliency with social/economic benefits, and CPCN application in a phone call meeting.

Notes:

B.C. MoTI = British Columbia Ministry of Transportation and Infrastructure

MEMPR = Ministry of Energy, Mines and Petroleum Resources

During the period of April 4, 2020 to June 15, 2020, the following Technical Advisors from regulatory agencies provided comments on the IPD:

- B.C. OGC
- Richmond
- ECCC, Climate Action Secretariat
- Fraser Health Authority
- Metro Vancouver
- B.C. MFLNRORD, South Coast Regional Initiatives
- B.C. MFLNRORD, Archaeology Branch
- B.C. Ministry of Agriculture
- MEMPR
- B.C. Ministry of Health
- Washington State Department of Ecology, Spill Prevention, Preparedness, and Response Program

These comments have been incorporated into the Appendix G of this DPD, as appropriate, or tracked in responses to key issues raised. Refer to Appendix D a list of responses to issues and concerns raised throughout engagement.

During the period of September 30, 2020 to July 19, 2021, the following Technical Advisors from regulatory agencies provided comments on the draft DPD, draft VC Selection document and draft AIRs:

- B.C. EAO
- Delta
- DFO
- WAGE
- Richmond
- Fraser Health Authority
- Health Canada
- IAAC
- Metro Vancouver

- B.C. Ministry of Agriculture
- ECCC, Climate Action Secretariat
- B.C. Ministry of Health
- NRCan
- B.C. OGC
- B.C. MFLNRORD, Archaeology Branch
- B.C. MFLNRORD, South Coast Regional Initiatives
- Vancouver Fraser Port Authority
- Washington State Department of Ecology, Spill Prevention, Preparedness, and Response Program

These comments have been incorporated into the DPD, draft VC Selection document, and draft AIRs, as appropriate, or tracked in responses to key issues raised. Refer to Appendix D and Appendix G for a comprehensive list of responses to all issues and concerns raised throughout engagement.

12.3 Public and Other Interested Parties

Since the submission of the IPD, FortisBC has continued to engage with various members of the public and other interested parties. FortisBC recognizes that members of the public require meaningful consultation and engagement and expect work to be conducted in a safe and environmentally responsible manner. FortisBC is aware that the public is interested in learning more about LNG in general and understanding more about the proposed Project, specifically. FortisBC is committed to providing this information through various engagement activities and uses a number of communication channels to share information with the public including FortisBC's major projects website: TalkingEnergy.ca, a dedicated Project email address and phone number, a dedicated e-newsletter, and through social media platforms. FortisBC has spoken with or responded to members of the public who contacted FortisBC directly with comments or questions. As of August 2021, there have been approximately 5,000 visitors to the Project webpage. FortisBC has received and responded to 15 emails and 10 phone inquiries.

FortisBC is actively involved in events in the communities near the Tilbury LNG facility, which provide the public and other interested parties with an opportunity to learn more about the company and the facility. FortisBC also participated in open houses in 2015 and 2019 for the Tilbury Marine Jetty project in Delta and Richmond, which provided the public with opportunities to ask questions about the Tilbury LNG facility and plans for future expansion.

The proposed Project was announced to the broader public on February 27, 2020. FortisBC mailed notification letters to businesses and residents within a 2 km radius of the Tilbury LNG facility on May 29, 2020, and again in January 2021 to inform them of the filing of the CPCN to the BCUC. During the June 2020 billing cycle, FortisBC informed residential and commercial customers about the proposed Project via bill inserts, email, and a tile advertisement in the online account portal, which is viewed by up to 20,000 customers per month.

A 45-day public comment period was held from June 1, 2020 to July 16, 2020. Due to the COVID-19 pandemic and the associated physical distancing requirements, two open houses hosted by IAAC and the B.C. EAO were held virtually via webcast and teleconference on June 18 and 23, 2020. The open houses included presentations from IAAC, B.C. EAO, and the FortisBC Project team, followed by a question-and-answer period. Approximately 150 and 100 participants joined the virtual open houses respectively and about 80 comments and questions were received in total. The topics raised during the virtual open houses reflect similar issues submitted in writing to the B.C. EAO during the public comment period including:

- Project details
- Purpose and need for the proposed Project
- Accidents, malfunctions, and public safety

- Noise and lighting
- Climate change and GHG emissions
- Cumulative effects
- Economic information about the proposed Project
- Potential effects to environment including marine mammals, fish, and fish habitat

Overall, more than 2,500 public comments were received during the public comment period. These were categorized into key themes by IAAC and the B.C. EAO in the Joint Summary of Issues and Engagement for the Tilbury Phase 2 LNG Expansion project (Joint Summary of Issues and Engagement). FortisBC's responses to the key issues raised are provided in Appendix D.

Table 12-3 provides a summary of engagement activities with the public and other interested parties since filing the IPD.

Table 12-3. Summary of Engagement with the Public and Other Interested Parties

Activities	Description
Meetings	<ul style="list-style-type: none"> ▪ FortisBC met with BC Building Trades Council to introduce FortisBC and provide an overview of the proposed Project, and to discuss workforce development and training programs. ▪ FortisBC met with Delta Chamber of Commerce and Richmond Chamber of Commerce to provide an overview of the proposed Project. ▪ FortisBC presented to the Ladner Business Association to provide an overview of the proposed Project, and members were curious about LNG safety and economic benefits. ▪ FortisBC presented to the Richmond Rotary Club to provide an overview of the proposed Project. Members discussed funding and investments for the Project, and employment benefits. ▪ FortisBC presented to the Ladner Rotary Club to provide an overview of the proposed Project. Members discussed export versus domestic use of LNG from Tilbury, LNG marine fuelling, price differences between conventional marine bunker fuel and LNG, and community investments.
Commencement of Public Comment Period, and Virtual Open Houses	<p>FortisBC notified the following parties about IPD filing, engagement timeline extension, commencement of the Early Engagement and public comment period, and about the virtual open houses hosted by IAAC and the B.C. EAO on June 18 and 23, 2020:</p> <ul style="list-style-type: none"> ▪ BC Building Trades Council ▪ Burns Bog Conservation Society ▪ Delta Chamber of Commerce ▪ Fraser River Discovery Centre ▪ Richmond Chamber of Commerce <p>FortisBC also provided these parties with links to the B.C. EAO and FortisBC websites.</p>
Project Introduction and Public Comment Period	<p>FortisBC received an email from Boilermakers International noting their support for the proposed Project. FortisBC acknowledged the support and provided the company with links to the B.C. EAO and FortisBC websites for feedback during the public comment period.</p>
Procurement	<p>FortisBC received emails from the following companies enquiring about opportunities as potential vendors for the proposed Project:</p> <ul style="list-style-type: none"> ▪ M.A. Stewart & Sons Ltd. ▪ Northern Light Images ▪ Sonic Enclosures Ltd. <p>FortisBC replied to these companies noting that a general contractor has not been selected as the proposed Project is still in the EA process. FortisBC provided these companies with a link to the FortisBC website for the contractors.</p>

12.4 Summary of Planned Engagement Activities with Governments, the Public and Other Interested Parties

The focus of FortisBC's engagement with government, the public, and other interested parties is to ensure that they are informed, have access to information, and are provided with multiple opportunities to provide feedback throughout all phases of the proposed Project. FortisBC will continue to maintain and strengthen relationships developed during previous engagement, primarily with those located near the facility including Delta and Richmond.

The following is a list of principles that will continue to guide proposed Project engagement:

- Inform the public, Indigenous nations, government, and stakeholders about the proposed Project using plain language to clearly communicate the potential effects, opportunities, and potential solutions associated with the proposed Project.
- Provide timely and relevant updates to enable Indigenous nations, the public, government, and stakeholders to provide input during the EA, IA, and other regulatory processes.
- Gather feedback from Indigenous nations, the public, government, and stakeholders on the impact of the proposed Project on the community and gather input on their interests related to the proposed Project. Where possible, refine the proposed Project or develop mitigation measures.
- Meet regulatory requirements for Indigenous and public consultation, including public comment periods and information sessions where the public can learn more about the proposed Project, ask questions and provide feedback.
- Work with the community to ensure engagement is inclusive and designed to reach the diversity of people within the community. The company is committed to incorporating principles of GBA+ recognizing that inequalities in communities affect people differently and to mitigate barriers that limit participation and engagement from distinct groups in the community.

12.4.1 Government

FortisBC will continue to meet regularly with local governments and elected officials to keep them informed of the proposed Project and seek their input to help address potential concerns of local residents, businesses, and constituents.

When feasible, visits to the proposed Project Site will be offered to government representatives to provide on-site information and opportunities for questions and feedback. FortisBC will continue to seek participation from local government staff and local first responders in future emergency preparedness exercises. FortisBC will also participate in any B.C. EAO-led engagement activities with local government, Provincial and Federal government representatives, and agencies as appropriate.

Once formed, FortisBC will work with representatives of the TAC throughout the proposed Project Application process. The TAC is established as a forum for detailed, independent, and technical review of all documents and studies. Members of the TAC typically include participating Indigenous nations, local governments, representatives from Provincial and Federal agencies, and subject matter experts.

FortisBC will also work with local government, the B.C. OGC, and other agencies regarding permitting requirements to maintain transparency, ensure compliance, and seek and address feedback throughout the process.

12.4.2 Public and Other Interested Parties

FortisBC will continue to engage the public and other interested parties throughout all phases of the proposed Project to seek input, answer questions, and address potential issues. FortisBC will continue to update [TalkingEnergy.ca](https://talkingenergy.ca) and monitor the dedicated Project-specific email and phone line to respond to questions and requests for information.

While COVID-19 public health restrictions are in place, FortisBC will continue to participate in online events with the B.C., Richmond, and Delta chambers of commerce and will continue to support local community events virtually.

FortisBC is committed to ensuring the safety of FortisBC employees and the public and will explore additional opportunities to host virtual or in-person activities to educate interested parties and help the public learn about the properties of LNG. FortisBC may also promote educational materials such as videos and articles through social media channels.

FortisBC anticipates additional open houses will be planned as part of the B.C. EAO process. Once the process is confirmed, FortisBC will share its next steps for engagement with the public and other interested parties. Methods for notification may include letters, emails, phone calls, updates to [TalkingEnergy.ca](https://talkingenergy.ca), and meeting requests. FortisBC's commitment to engagement extends beyond the proposed Project and will continue for as long as FortisBC operates in, and continues to deliver essential services to, the communities of B.C.

13. List of Contributors

Below is a list of contributors to the Draft Detailed Project Description.

Contributors	Credentials	Company	Section(s)	Relevant Experience
Todd Smith	P.Eng.	FortisBC	Section 1 (Introduction), Section 2 (Project Overview)	20+ years experience in engineering, construction and business development for energy projects and utilities
Andrew Hamilton	B.Sc., MS, MBA, P.Ag.	FortisBC	All	25+ years of experience working in the environmental and energy development sectors
James Humble	B.Sc., M.Sc., P.Ag.	FortisBC	All	15+ years of experience working in the environmental and resource development sectors
Roger Ord	BASc., P.Ag., MBA	FortisBC	Sections 6 (GHG), 10.2.2 (GHG)	30+ years of experience working in the environmental and energy development and consulting sectors
Ian Finke	P.Eng., MBA	FortisBC	Section 2 (Project Overview)	20+ years experience in engineering and business development for various industries
Olivia Stanley	MA, Public Policy	FortisBC	Section 11 (Engagement and Consultation with Indigenous Nations)	7 years Indigenous engagement experience
Courtney Hodson	BBA	FortisBC	Section 12 (Engagement and Consultation with Governments, the Public, and other Parties)	10+ years of relevant experience in community engagement
Scott Neufeld	BA	FortisBC	Section 12 (Engagement and Consultation with Governments, the Public and other Parties)	10+ years' experience in media, public engagement and corporate communications
Tara Lindsay	B.Sc., MCIP, RPP, P.Ag.	Jacobs Consultancy Canada Inc.	All	19 years of environmental experience including 14 years B.C. and oil and gas and Environmental Assessment experience
Megan Barnes	B.Sc. M.Plan. P.Bio	Jacobs Consultancy Canada Inc.	All	8 years Environmental Assessment experience
Katie Tableman	B.Sc.	Jacobs Consultancy Canada Inc.	All	10 years Environmental Assessment experience

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Contributors	Credentials	Company	Section(s)	Relevant Experience
Mike Climie	B.Sc., R.P.Bio., P.Biol.	Jacobs Consultancy Canada Inc.	Section 10 (Environmental, Economic, Social, Culture, and Health Effects)	14 years B.C. and oil and gas regulatory experience
Andy Smith	M.Sc., R.P.Bio., P.Biol.	Jacobs Consultancy Canada Inc.	Section 10 (Environmental, Economic, Social, Culture, and Health Effects)	20+ years experience in ecology
Tyler Innes	M.Sc., R.P.Bio., P.Biol.	Jacobs Consultancy Canada Inc.	Section 10 (Environmental, Economic, Social, Culture, and Health Effects)	20+ years experience in biology
Sarah McLaughlin	B.Sc., R.P.Biol	Jacobs Consultancy Canada Inc.	Section 10 (Environmental, Economic, Social, Culture, and Health Effects)	5 years experience in biology
Julie Swinscoe	B.A.	Jacobs Consultancy Canada Inc.	Section 11 (Engagement with Indigenous Nations), Section 12 (Engagement with Governments, Public, and Other Parties)	25+ years' experience in Indigenous engagement and impact assessment
Jennifer Campbell	PMP, EP, BSc	Two Worlds Consulting Ltd.	Section 11 (Engagement with Indigenous Nations)	20+ years' experience in Indigenous engagement and impact assessment
Heidi Klein	MES, BSc.	Two Worlds Consulting Ltd.	Section 2 (Project Overview), Section 10 (Environmental, Economic, Social, Heritage, and Health Effects)	25+ years of experience in socio-economic impact assessment
Francoise Robe (RWDI)	Ph.D.	RWDI Inc.	Section 6 (air contaminants), subsection 10.2 (climate and air quality)	30 years experience in meteorology and air quality
Christian Reuten (RWDI)	Ph.D., ACM	RWDI Inc.	Section 6 (GHG), subsection 10.2 (greenhouse gases)	20 years experience in atmospheric science and GHG quantification
Teresa Drew	B.Sc.	RWDI Inc.	Subsection 10.2 (noise)	30 years experience in noise acoustics and vibration

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Appendix A
Table of Concordance – *Impact Assessment Act*

Appendix A. Table of Concordance – *Impact Assessment Act* Requirements

The following Table of Concordance cross references sections of this DPD with the list of requirements for a Detailed Project Description under Schedule 2 of the *Information and Management of Time Limits Regulations* under the *Impact Assessment Act* (IAAC 2019).

Item	DPD Section	Information Requirements
Part A – Updated General Information		
DPD 1-1	1 (Introduction)	The project's name, type or sector and proposed location.
DPD 1-2	1.1.1 (Project Contacts)	The proponent's name and contact information and the name and contact information of their primary representative for the purpose of the description of the project.
Part B – Planning Phase Results		
DPD 2-1	12 (Engagement with Governments, the Public, and Other Parties) Appendix D - Responses to Joint Summary of Issues and Engagement for the Proposed Tilbury Phase 2 LNG Expansion Project Appendix G - Summary of Comments Received for the DPD, Draft AIR and Valued Component Selection Documents	A summary of and the results of any engagement undertaken with any jurisdiction or other party, including a description of how the proponent intends to address the issues raised in the summary referred to in subsection 14(1) of the Act.
DPD 2-2	11 (Engagement with Indigenous Nations) Appendix H – Summary of Key Issues Raised by Indigenous Nations	A summary of and the results of any engagement undertaken with Indigenous peoples of Canada, including
DPD 2-2a	11.1 (Identified Indigenous Nations)	a) a list of the Indigenous groups that may be affected by the project, including those groups that identified themselves during the planning phase as being potentially affected; and
DPD 2-2b	11.3 (Summary of Early Engagement) 11.3.5 (Key Issues Raised) 11.3.6 (Summary of Changes to the Detailed Project Description) 11.3.8 (Preliminary Assessment of Potential Effects to Indigenous Nations Resulting from Project Activities)	b) a description of how the proponent intends to address the issues raised in the summary of issues, including the perspective of Indigenous groups regarding any potential adverse impact the project may have on the rights of the Indigenous peoples of Canada recognized and affirmed by Section 35 of the Constitution Act, 1982 .
DPD 2-3	N/A	Any study or plan, relevant to the project, that is being or has been conducted in respect of the region where the project is to be carried out, including a regional assessment that is being or has been carried out under Section 92 or 93 of the Act or by any jurisdiction, including by or on behalf of an Indigenous governing body, if the study or plan is available to the public.
DPD 2-4	10.2.2 (Greenhouse Gases)	Any strategic assessment, relevant to the project, that is being or has been carried out under section 95 of the Act.

Appendix A
Table of Concordance – *Impact Assessment Act*

Item	DPD Section	Information Requirements
Part C - Project Information		
DPD 3-1	2.2 (Project Need and Purpose) 10.5.2 (Economic Conditions)	An updated statement of the purpose of and need for the project, including any potential benefits.
DPD 3-2	8.2 (Federal <i>Impact Assessment Act</i>)	The provisions in the schedule to the Physical Activities Regulations describing the project, in whole or in part.
DPD 3-3	2.3 (Project Components) 2.5 (Infrastructure Requirements) 7 (Construction, Operations, and Decommissioning Phases)	A description of all activities, infrastructure, permanent or temporary structures and physical works to be included in and associated with the construction, operation and decommissioning of the project, including their purpose, size and capacity.
DPD 3-4	2 (Project Overview) 2.3 (Project Components)	An estimate of the maximum production capacity of the project and a description of the production processes to be used.
DPD 3-5	2.6 (Project Schedule)	The anticipated schedule for the project's construction, operation, decommissioning and abandonment, including any expansions of the project.
DPD 3-6a	2.8 (Alternative Means of Carrying Out the Project)	A description of potential c) alternative means of carrying out the project that the proponent is considering and that are technically and economically feasible, including through the use of best available technologies; and
DPD 3-6b	2.7 (Alternatives to the Project)	d) alternatives to the project that the proponent is considering, that are technically and economically feasible and directly related to the project.
Part D – Location Information		
DPD 4-1	3 (Project Location)	A description of the project's proposed location, including:
DPD 4-1a	3 (Project Location) 4 (Spatial Boundaries)	a) its proposed geographic coordinates including, for linear development projects, the proposed locations of major ancillary facilities that are integral to the project, and a description of the spatial boundaries of the proposed study corridor;
DPD 4-1b	Figure 1-1 Project Overview Figure 2-1 Phase 2 Project Facilities Figure 2-4 Phase 2 Project Facilities Artistic Rendering Figure 3-2 Project Site Plan	b) site maps produced of an appropriate scale in order to determine the project's general location and the spatial relationship of the project components;
DPD 4-1c	3 (Project Location)	a) the legal description of land to be used for the project, including, if the land has already been acquired, the title, deed or document and any authorization relating to a water lot;
DPD 4-1d	3 (Project Location)	b) the project's proximity to any permanent, seasonal or temporary residences and to the nearest affected communities;
DPD 4-1e	11.2 (Summary of Information Regarding Indigenous Nations' Lands and Interests) Appendix C (Indigenous Traditional Territories, Treaty Lands, and Reserve Locations)	c) the project's proximity to: <ul style="list-style-type: none"> land used for traditional purposes by Indigenous peoples of Canada; land in a <i>reserve</i> as defined in subsection 2(1) of the Indian Act; <i>First Nation land</i> as defined in subsection 2(1) of the First Nations Land Management Act; land that is subject to a comprehensive land claim agreement or a self-government agreement; and any other land set aside for the use and benefit of Indigenous peoples of Canada.
DPD 4-1f	9 (Federal Involvement – Financial Support, Lands and Legislative Requirements)	d) the project's proximity to any federal lands.
DPD 4-2	10.2 (Atmospheric Environment) 10.3 (Physical Environment) 10.4 (Biological Environment)	A description of the physical and biological environment of the project's location based on information that is available to the public.

Table of Concordance – *Impact Assessment Act*

Item	DPD Section	Information Requirements
DPD 4-3	10.5 (Human and Community Well-being Conditions)	A description of the health, social and economic context in the region where the project is located, based on information that is available to the public or derived from any engagement undertaken.
Part E – Federal, Provincial, Territorial, Indigenous and Municipal Involvement and Effects		
DPD 5-1	9 (Federal Involvement – Financial Support, Lands and Legislative Requirements)	A description of any financial support that federal authorities are, or may be, providing to the project.
DPD 5-2	9 (Federal Involvement – Financial Support, Lands and Legislative Requirements)	A description of any federal lands that may be used for the purpose of carrying out the project.
DPD 5-3	8 (Regulatory Context)	A list of the permits, licenses or other authorizations that may be required by jurisdictions that have powers, duties or functions in relation to an assessment of the project's environmental effects.
Part F – Potential Effects of the Project		
DPD 6-1	N/A	A description of any changes that, as a result of the carrying out of the project, may be caused to the following components of the environment that are within legislative authority of Parliament:
DPD 6-1a	10.4.3 (Fish and Fish Habitat)	e) <i>fish</i> and <i>fish habitat</i> , as defined in subsection 2(1) of the Fisheries Act ;
DPD 6-1b	10.4.3 (Fish and Fish Habitat)	f) <i>aquatic species</i> , as defined in subsection 2(1) of the Species at Risk Act ; and
DPD 6-1c	10.4.2 (Wildlife and Wildlife Habitat)	g) <i>migratory birds</i> , as defined in subsection 2(1) of the Migratory Birds Convention Act, 1994 .
DPD 6-2	10.1 (Environmental Impacts on Federal Lands, in a Province Other Than British Columbia, or Outside of Canada)	A description of any changes to the environment that, as a result of the carrying out of the project, may occur on: <ul style="list-style-type: none"> ▪ federal lands, ▪ in a province other than the province in which the project is proposed to be carried out, or ▪ outside Canada.
DPD 6-3	11.3.8 (Preliminary Assessment of Potential Effects to Indigenous Nations Resulting from Project Activities)	With respect to the Indigenous peoples of Canada, the description of any impact — that, as a result of carrying out the project, may occur in Canada and result from any change to the environment — on: <ul style="list-style-type: none"> ▪ physical and cultural heritage; ▪ the current use of lands and resources for traditional purposes; and ▪ any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, based on information that is available to the public or derived from any engagement undertaken with Indigenous peoples of Canada.
DPD 6-4	11.3.8 (Preliminary Assessment of Potential Effects to Indigenous Nations Resulting from Project Activities)	A description of any change that, as a result of the carrying out of the project, may occur in Canada to the health, social or economic conditions of Indigenous peoples of Canada, based on information that is available to the public or derived from any engagement undertaken with Indigenous peoples of Canada.
DPD 6-5	6.1 (Greenhouse Gas Emissions) 10.2.2 (Greenhouse Gases)	An estimate of any greenhouse gas emissions associated with the project.
DPD 6-6	6.2 (Other Emissions, Discharges, and Waste)	A description of any waste and emissions that are likely to be generated — in the air, in or on water and in or on land — during any phase of the project and a description of the plan to manage them.
Part G – Summary		
DPD 7-1	Provided as a separate file with the DPD submission.	A plain-language summary of the information that is required under items 1 to 24 in English and in French.

Appendix B
Table of Concordance – B.C. *Environmental*
Assessment Act

Appendix B. Table of Concordance – BC Environmental Assessment Act

The following Table of Concordance cross references sections of the Detailed Project Description (DPD) with the list of requirements for a DPD under the British Columbia (B.C.) *Environmental Assessment Act* from Appendix 3 of the Early Engagement Policy (B.C. EAO December 2019).

Item	DPD Section	Information Requirements
Executive Summary		
BC-DPD 1-1	Executive Summary	Any updates to information in the Initial Project Description (IPD).
General Information and Contacts		
BC-DPD 2-1	1 (Introduction)	Any updates to information in the IPD; and
BC-DPD 2-2	2.4 (Anticipated Project Cost)	Anticipated cost for construction and decommissioning as well as projected annual operating costs.
Purpose and Rationale		
BC-DPD 3-1	2.2 (Project Need and Purpose)	Any updates to information in the IPD.
Legislative and Regulatory Context		
BC-DPD 4-1	8 (Regulatory Context)	Any updates to information in the IPD.
Project Status and History		
BC-DPD 5-1	1.1.2.5 (The Tilbury LNG Facility)	Any updates to information in the IPD.
Project Timing		
BC-DPD 6-1	2.6 (Project Schedule)	Any updates to information in the IPD, including a justification for any updates/changes to project timing and a description of how engagement was considered; and
BC-DPD 6-2	2.6 (Project Schedule) 8.3 (Other Permits and Approvals)	A list of timelines for the proposed project's environment assessment (EA) and permitting processes and expected timing to submit key permit applications.
Project Location, Activities and Components		
BC-DPD 7-1	2 (Project Overview) 3 (Project Location) 7 (Construction, Operations, and Decommissioning Phases)	Any updates to information in the IPD, including a justification for any updates/changes to the project location, activities and/or components, and a description of how engagement was considered;
BC-DPD 7-2	2 (Project Overview)	Include what further information, if any, is needed to confirm design and siting options, and approximate timelines; and
BC-DPD 7-3	2.7 (Alternatives to the Project) 2.8 (Alternative Means of Carrying Out the Project)	A description of the work that has been conducted to arrive at the proposal, including what other options were considered and how engagement was considered.
Maps and Shapefiles		
BC-DPD 8-1	1 (Introduction) 2 (Project Overview) 3 (Project Location) 5 (Land and Water Use) Appendix C (Indigenous Traditional Territories, Treaty Lands, and Reserve Locations)	Any updates to information in the IPD;

Appendix B

Table of Concordance – British Columbia *Environmental Assessment Act*

Item	DPD Section	Information Requirements
BC-DPD 8-2	5 (Land and Water Use) Appendix C (Indigenous Traditional Territories, Treaty Lands, and Reserve Locations)	When known, include landscape features of importance to Indigenous nations and local communities in maps;
BC-DPD 8-3	1 (Introduction) 2 (Project Overview) 3 (Project Location) 5 (Land and Water Use) Appendix C (Indigenous Traditional Territories, Treaty Lands, and Reserve Locations)	Any new maps showing the boundary within which the project would be built, including updated location, project components, and transportation routes;
BC-DPD 8-4	1 (Introduction) 2 (Project Overview) 3 (Project Location) 5 (Land and Water Use) Appendix C (Indigenous Traditional Territories, Treaty Lands, and Reserve Locations)	Maps must be presented in the required standard format with legible grids and suitable scaling (typically 1:100,000 to 1:150,000 for centralized projects such as a mine, and up to 1:1,500,000 or 1:1,250,000 scale for linear projects such as a pipeline or transmission line); and
BC-DPD 8-5	1 (Introduction) 2 (Project Overview) 3 (Project Location) 5 (Land and Water Use) Appendix C (Indigenous Traditional Territories, Treaty Lands, and Reserve Locations)	Maps must also include NTS Maps number, latitude, and longitude references, titles, a north arrow, and relevant legends.
Indigenous Nation Interests		
BC-DPD 9-1	11.3 (Summary of Early Engagement) 11.3.6 (Summary of Changes to the Detailed Project Description) Appendix I (Summary of Engagement with Indigenous Nations)	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered;
BC-DPD 9-2	11.3.1 (Summary of Engagement with Indigenous Nations) 11.3.5 (Key Issues Raised) 11.3.6 (Summary of Changes to the Detailed Project Description) Appendix H (Summary of Key Issues Raised by Indigenous Nations) Appendix I (Summary of Engagement with Indigenous Nations)	For each Indigenous nation identified, an overview of engagement activities that have been carried out, a description of issues that have been raised with respect to the proposed project, and an explanation of how those issues have been or will be addressed by the proponent;
BC-DPD 9-3	11.3.3 (Summary of Agreements and Opportunities for Indigenous Nations and FortisBC to Work Together) 11.3.4 (Summary of Planned Engagement Activities with Indigenous Nations)	A description of how Indigenous nations plan to work with the proponent moving forward;

Table of Concordance – British Columbia *Environmental Assessment Act*

Item	DPD Section	Information Requirements
BC-DPD 9-4	11.3.3 (Summary of Agreements and Opportunities for Indigenous Nations and FortisBC to Work Together)	A list of agreements the proponent has entered into with Indigenous nations during Early Engagement;
BC-DPD 9-5	11.3.3 (Summary of Agreements and Opportunities for Indigenous Nations and FortisBC to Work Together) 11.3.4.1 (Opportunities for FortisBC to Work with the B.C. EAO, IAAC, and Indigenous Nations)	A description of opportunities for the proponent to work with the B.C. EAO and Indigenous nations;
BC-DPD 9-6	11.3 (Summary of Early Engagement) Appendix I (Summary of Engagement with Indigenous Nations)	Additional information provided by participating Indigenous nations;
BC-DPD 9-7	11.3.8 (Preliminary Assessment of Potential Effects to Indigenous Nations Resulting from Project Activities)	An identification of potential effects on Indigenous interests;
BC-DPD 9-8	11.3.6 (Summary of Changes to the Detailed Project Description)	A description of how this engagement and information was considered in the DPD, and corresponding changes that were made with justification for these changes; and
BC-DPD 9-9	11.3.7 (Detailed Project Description Changes Triggered by B.C. EAO Summary of Engagement regarding Indigenous Nations)	A description of how information contained in the B.C. EAO's Summary of Engagement provided by the B.C. EAO was addressed in the DPD.
Biophysical Environment		
BC-DPD 10-1	10 (Environmental, Economic, Social, Culture and Health Effects)	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered;
BC-DPD 10-2	10 (Environmental, Economic, Social, Culture and Health Effects)	A table showing a list of studies that are underway and those that are anticipated, including guidance and standards to be used in preparing these studies;
BC-DPD 10-3	10 (Environmental, Economic, Social, Culture and Health Effects)	A description of engagement that occurred following acceptance of the IPD and Engagement Plan, including any additional information collected during this period on sensitive or vulnerable environmental values that may be affected by the proposed project and any further understanding of the potential effects of the project, including cumulative effects;
BC-DPD 10-4	10 (Environmental, Economic, Social, Culture and Health Effects)	A description of future methods of information collection that will occur through continuing engagement;
BC-DPD 10-5	10 (Environmental, Economic, Social, Culture and Health Effects) 11.3.4.2 (Inclusion of Indigenous Knowledge)	A description of Indigenous Knowledge that may have been incorporated into the description of existing biophysical environment, with permission of the Indigenous nation; and
BC-DPD 10-6	10.2 (Atmospheric Environment) 10.3 (Physical Environment) 10.4 (Biological Environment) 10.5 (Human and Community Well-being Conditions) 10.6 (Anticipated Cumulative Effects) 10.7 (Accidents and Malfunctions)	A description of how this engagement and information was considered, and corresponding changes that were made with justification for these changes.

Appendix B

Table of Concordance – British Columbia *Environmental Assessment Act*

Item	DPD Section	Information Requirements
Human and Community Wellbeing		
BC-DPD 11-1	10.5 (Human and Community Well-being Conditions)	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered;
BC-DPD 11-2	10.5.2 (Economic Conditions)	An outline of the anticipated number of construction and operating jobs and anticipated percent of workforce from local community;
BC-DPD 11-3	10.5.2 (Economic Conditions)	A description of how the proposed project may affect the local and regional economy;
BC-DPD 11-4	10.5 (Human and Community Well-being Conditions) 12 (Engagement with Governments, the Public, and Other Parties)	A description of the engagement that occurred following acceptance of IPD and Engagement Plan and any additional information collected during this period regarding sensitive or vulnerable economic, social, heritage, or health values that may be affected by the proposed project; and
BC-DPD 11-5	10.5 (Human and Community Well-being Conditions)	A description of how this engagement and information was considered, and corresponding changes that were made with justification for these changes.
Emissions, Discharges, and Waste		
BC-DPD 12-1	6 (Emissions, Discharges, and Waste) 10.2 (Atmospheric Environment)	Any updates to information in the IPD, including a justification for updates or changes and a description of how engagement was considered;
BC-DPD 12-2	6.1 (Greenhouse Gas Emissions) 10.2.2 (Greenhouse Gases)	An estimate of direct and indirect project greenhouse gas emissions by phase;
BC-DPD 12-3	10.2.2 (Greenhouse Gases)	A description of the potential effects on the province being able to meet its targets under the <i>Greenhouse Gas Reduction Targets Act</i> ; and
BC-DPD 12-4	10.2 (Atmospheric Environment)	A justification for updates or changes to expected emissions, effluents, discharges and/or wastes and a description of how engagement was considered.
Public and Environmental Safety		
BC-DPD 13-1	10.7 (Accidents and Malfunctions)	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered;
BC-DPD 13-2	10.7 (Accidents and Malfunctions)	Include a description of potential project-related scenarios when there is a real or perceived risk of a malfunction or accident; and,
BC-DPD 13-3	10.7 (Accidents and Malfunctions)	Identification of moderate-to high-risk potential malfunctions or accidents associated with the proposed project and how they will be managed.
Alternative Means of Carrying out the Project		
BC-DPD 14-1	2.8 (Alternative Means of Carrying Out the Project)	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered; and
BC-DPD 14-2	2.8 (Alternative Means of Carrying Out the Project)	Provide clear definitions with transparent weighting and criteria for assessing alternative means.
Effects of the Environment on the Project		
BC-IPD 15-1	10.8 (Effects of the Environment on the Project)	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered; and
BC-IPD 15-2	10.8 (Effects of the Environment on the Project)	A justification for updates/changes to potential effects and a description of how engagement was considered, especially Indigenous Knowledge and local knowledge gathered during Early Engagement.





Table of Concordance – British Columbia *Environmental Assessment Act*

Item	DPD Section	Information Requirements
Land and Water Use		
BC-DPD 16-1	5 (Land and Water Use)	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered;
BC-DPD 16-2	5 (Land and Water Use) 3 (Project Location)	Identification of the location of previously disturbed site or green field site, agricultural land, foreshore;
BC-DPD 16-3	3 (Project Location)	Legal information regarding land title, authorization, permits;
BC-DPD 16-4	3 (Project Location)	Identification of the proximity to seasonal or temporary residences;
BC-DPD 16-5	5 (Land and Water Use)	Description of the relationship to known regional initiatives (such as, Elk Valley Water Quality Plan or Indigenous land use plans); and
BC-DPD 16-6	5 (Land and Water Use)	A description of project land and water use following engagement clearly noting any changes and a justification for why changes were made and how engagement was considered.
Land Use Plans		
BC-DPD 17-1	5 (Land and Water Use)	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered; and
BC-DPD 17-2	5 (Land and Water Use)	A justification for updates/changes to relevant provincial land use plans and a description of how engagement was considered.
Potential Project Effects		
BC-DPD 18-1	10 (Environmental, Economic, Social, Culture and Health Effects) and subsections	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered;
BC-DPD 18-2	10 (Environmental, Economic, Social, Culture and Health Effects) and subsections 11.3.8 (Preliminary Assessment of Potential Impacts to Indigenous Nations Resulting from Project Activities) 10.6 (Anticipated Cumulative Effects)	A description of potential positive and negative effects of the project on the biophysical and human environments, and Indigenous interests, including any potential cumulative effects;
BC-DPD 18-3	N/A	A summary of key conclusions from any biophysical feasibility studies undertaken that may be pertinent to understanding potential interactions, if applicable;
BC-DPD 18-4	10.9 (Mitigation and Management Strategies)	An initial description of measures to prevent or reduce the potential negative effects to an acceptable level. Include measures that could be integrated into project design, compliance with applicable regulations, standards, codes of practice, or Best Management Practices, corporate management systems, and/or project-specific measures that will be implemented; and
BC-DPD 18-5	10.9 (Mitigation and Management Strategies)	A brief description of proposed monitoring programs, if known, that will be implemented to measure the effectiveness of mitigations to prevent or reduce the potential negative project effects.

Appendix C
**Indigenous Traditional Territories,
Treaty Lands, and Reserve Locations**

September 2021

FIGURE 1A
PARTICIPATING
INDIGENOUS NATIONS
IN RELATION TO
TILBURY PHASE 2 LNG
EXPANSION PROJECT

-  Hul'qumi'num Treaty Group
- Cowichan Tribes (Hul'qumi'num Treaty Group; Cowichan Nation Alliance)
 - Halalt First Nation (Hul'qumi'num Treaty Group; Cowichan Nation Alliance)
 - Ts'uubaa-asatx (Lake Cowichan First Nation) (Hul'qumi'num Treaty Group)
 - Lyackson First Nation (Hul'qumi'num Treaty Group; Cowichan Nation Alliance)
 - Penelakut Tribe (Hul'qumi'num Treaty Group; Cowichan Nation Alliance)
-  Stz'uminus First Nation (Cowichan Nation Alliance)
-  Tsawwassen First Nation
-  Tsawwassen Treaty Lands

Base Map

 Project Area

 First Nations Reserve

 International Border

Scale: 1:425,000

0 4.5 9 13.5 18 km

(All Locations Approximate)

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Project Number CE778100

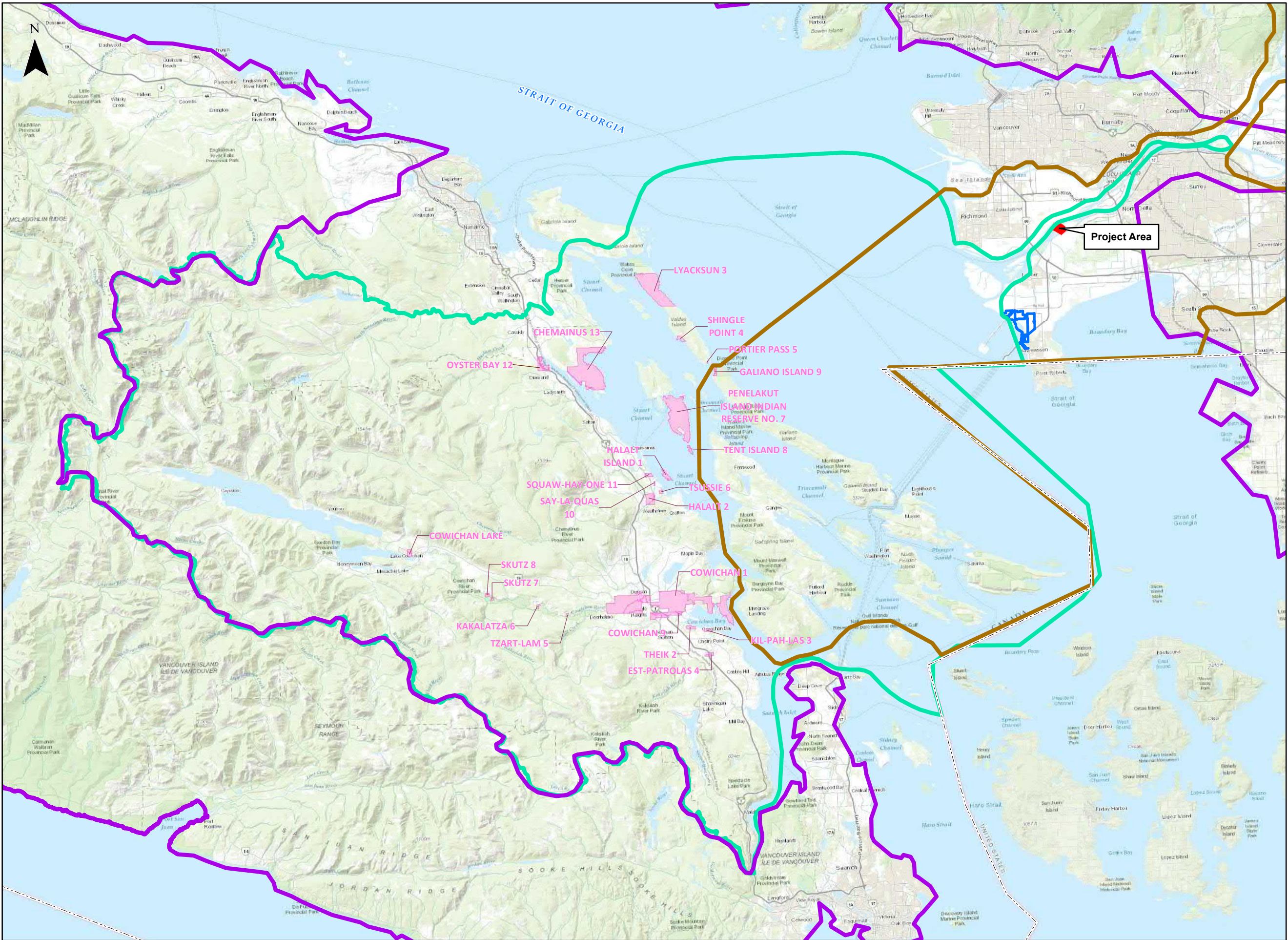
BC Albers Projection, NAD83. Graticule: UTM Zone 10 North.

Traditional Territory/Statement of Intent: BC MLNRO 2013, TERA Environmental Consultants 2009; First Nation Reserves: Government of Canada 2018; International Boundary: ESR 2005; Service Layer Credits: 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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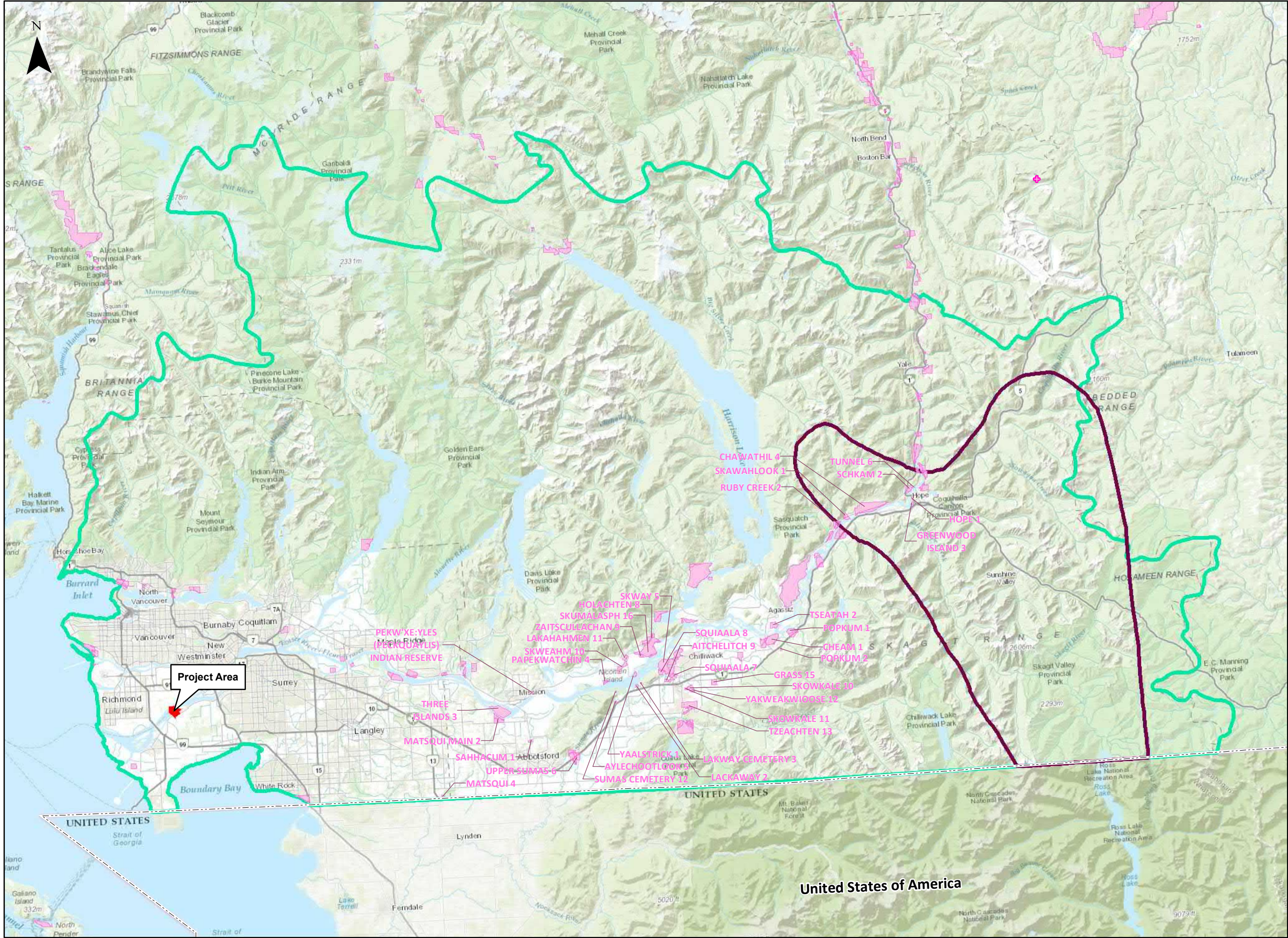


FIGURE 1B
PARTICIPATING
INDIGENOUS NATIONS
IN RELATION TO
TILBURY PHASE 2 LNG
EXPANSION PROJECT

- Chawathil First Nation
- S'olh Téméxw Territory
- Cheam First Nation
- S'olh Téméxw Stewardship Alliance

- Base Map
- Project Area
 - First Nations Reserve
 - International Border

Scale: 1:570,000
0 6 12 18 24 km
(All Locations Approximate)

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Project Number CE778100
BC Albers Projection, NAD83. Graticule: UTM Zone 10 North.
Traditional Territory/Statement of Intent: BC MLNRO 2013, TERA Environmental Consultants 2009; First Nation Reserves: Government of Canada 2018; International Boundary: ESRI 2005; Service Layer Credits: 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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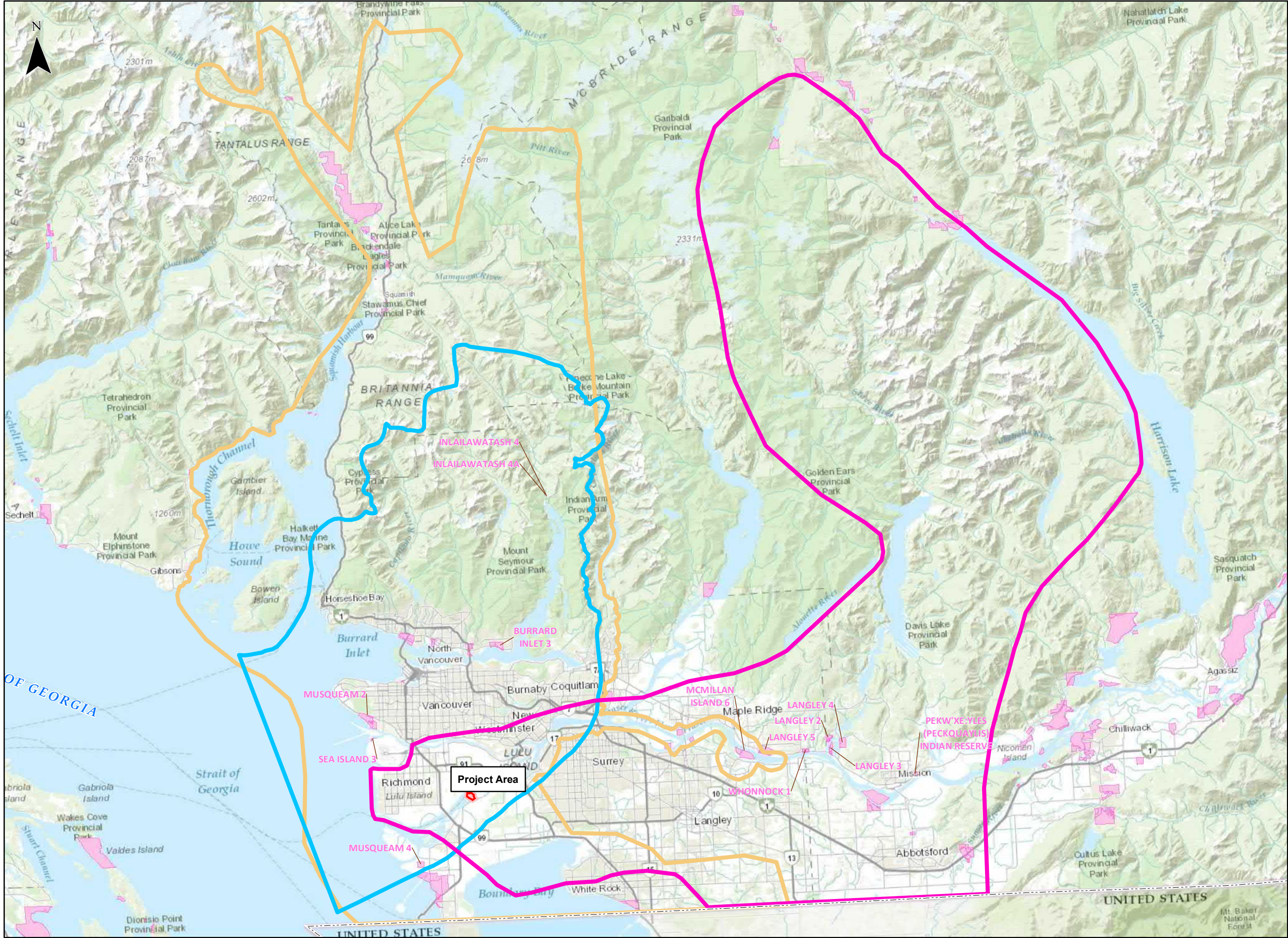
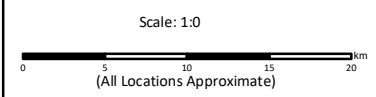


FIGURE 1C
PARTICIPATING
INDIGENOUS NATIONS
IN RELATION TO
TILBURY PHASE 2 LNG
EXPANSION PROJECT

- Legend**
-  Kwantlen First Nation
 -  Musqueam Indian Band
 -  Tsleil-Waututh Nation
- Base Map**
-  Project Area
 -  First Nations Reserve
 -  International Border



Project Number CE778100



BC Albers Projection, NAD83. Graticule: UTM Zone 10 North.
Traditional Territory/Statement of Intent: BC MLNRO 2013, TERA Environmental Consultants 2009; First Nation Reserves: Government of Canada 2018; International Boundary: ESRI 2005; Service Layer Credits: 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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INDIGENOUS NATIONS NOT
FORMALLY IDENTIFIED
AS A PARTICIPATING
INDIGENOUS NATION
IN RELATION TO
TILBURY PHASE 2 LNG
EXPANSION PROJECT

-  Semiahmoo First Nation
-  Métis Nation B.C. Chartered Communities
- Chilliwack Métis Association
 - Cowichan Valley Métis Association
 - Fraser Valley Métis Association
 - Golden Ears Métis Association
 - North Fraser Métis Association
 - Nova Métis Heritage Association
 - Waceya Métis Society

Base Map

-  Project Area
-  First Nations Reserve
-  International Border

Scale: 1:700,000



(All Locations Approximate)

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Project Number CE778100

BC Albers Projection, NAD83, Graticule: UTM Zone 10 North.

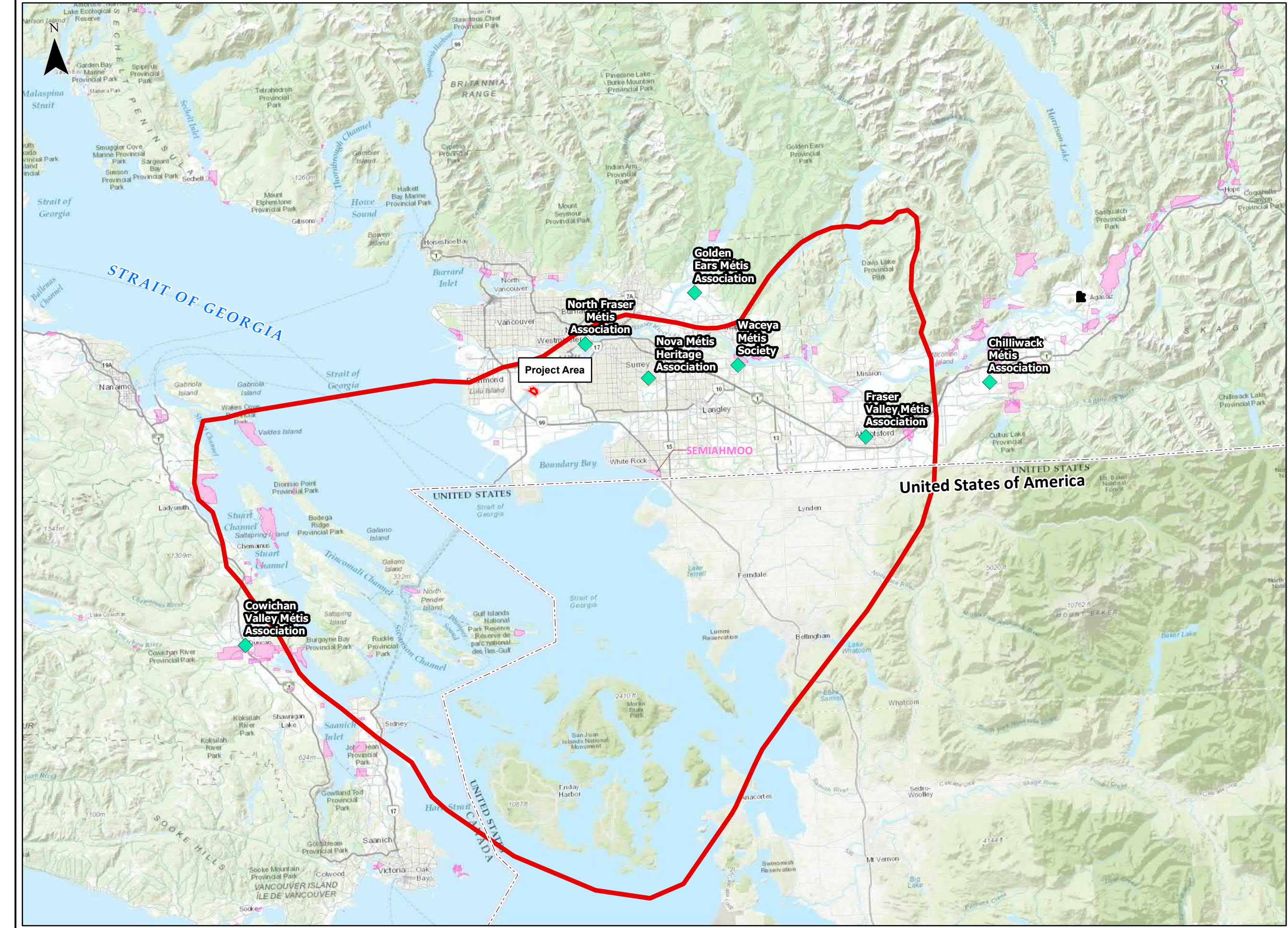
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September 2021

FIGURE 2B

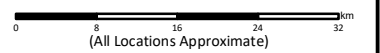
**INDIGENOUS NATIONS
NOT FORMALLY IDENTIFIED
AS A PARTICIPATING
INDIGENOUS NATION
IN RELATION TO
TILBURY PHASE 2 LNG
EXPANSION PROJECT**

-  Katzie First Nation
-  S'olh Téméxw Territory
-  Squamish Nation

Base Map

-  Project Area
 First Nations Reserve
 - - - - International Border

Scale: 1:0

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Project Number CE778100

BC Albers Projection, NAD83. Graticule: UTM Zone 10 North.

Traditional Territory/Statement of Intent: BC MFLNRO 2013, TERA Environmental Consultants 2009; First Nation Reserves: Government of Canada 2018; International Boundary: ESRI 2005; Service Layer Credits: 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

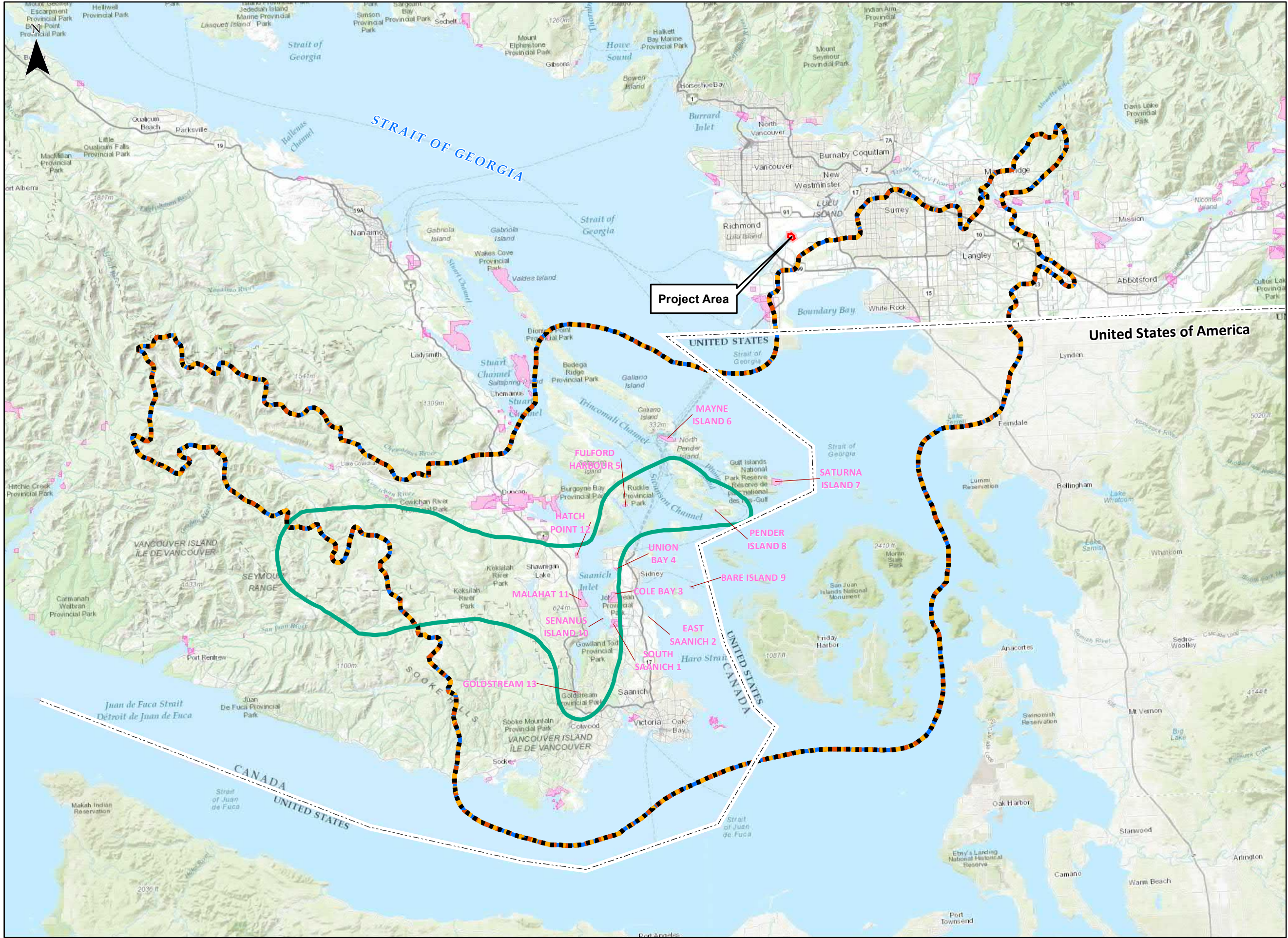
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ADDITIONAL INDIGENOUS NATIONS IDENTIFIED IN THE JOINT SUMMARY OF ISSUES AND ENGAGEMENT IN RELATION TO TILBURY PHASE 2 LNG EXPANSION PROJECT

- Malahat Nation
- Pauquachin First Nation
- Tsartlip First Nation
- Tsawout First Nation
- Tseycum First Nation

- Base Map
- Project Area
 - First Nations Reserve
 - International Border

Scale: 1:0
0 5 10 15 20 km
(All Locations Approximate)

JACOBS®

Project Number CE778100

BC Albers Projection, NAD83, Graticule: UTM Zone 10 North.
Traditional Territory/Statement of Intent: BC MLNRO 2013, TERA Environmental Consultants 2009; First Nation Reserves: Government of Canada 2018; International Boundary: ESRI 2005; Service Layer Credits: 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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September 2021

FIGURE 3B

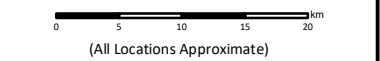
**ADDITIONAL INDIGENOUS
NATIONS IDENTIFIED IN THE
JOINT SUMMARY OF ISSUES
AND ENGAGEMENT
IN RELATION TO
TILBURY PHASE 2 LNG
EXPANSION PROJECT**

-  Kwikwetlem First Nation
-  Sq'éwlets First Nation (Scowlitz)
-  S'olh Téméxw Territory
- Popkum First Nation

Base Map

-  Project Area
 First Nations Reserve
 - - - International Boundary

Scale: 1:0



(All Locations Approximate)

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Project Number CE778100

BC Albers Projection, NAD83. Graticule: UTM Zone 10 North.

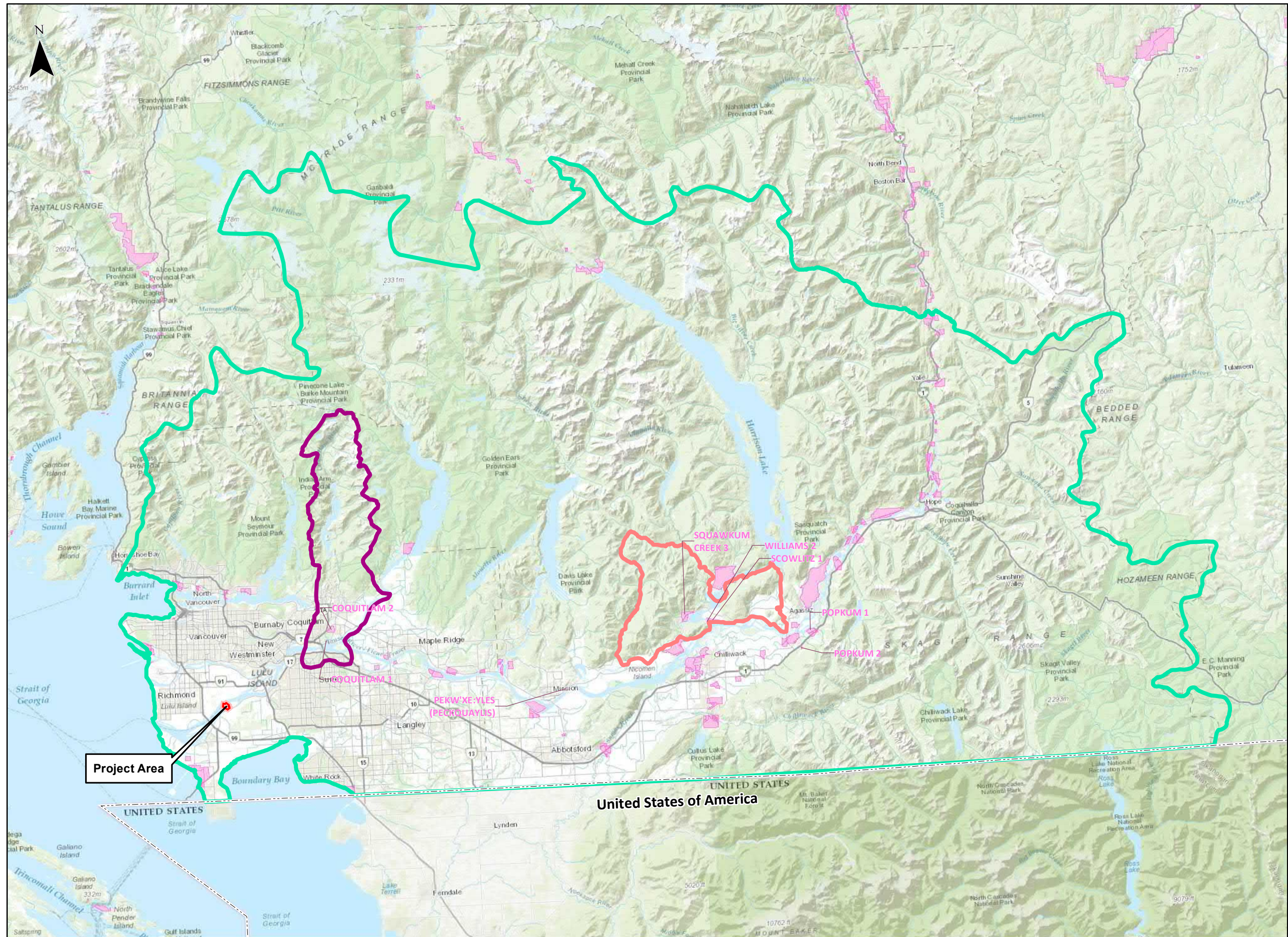
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BRITISH COLUMBIA



Appendix D
Responses to Joint Summary of Issues and
Engagement for the Proposed Tilbury Phase 2 LNG
Expansion Project

Appendix D. Joint Summary of Issues and Engagement for the Proposed Tilbury Phase 2 LNG Expansion Project

Table D-1 provides the responses to the Joint Summary of Issues that reflect the issues raised through comments received from the public, Indigenous nations and technical advisors (Federal authorities, Provincial ministries, local governments, health authorities, and Washington State Department of Ecology) during the comment period. The Impact Assessment Agency of Canada (IAAC) and British Columbia's (B.C.'s) Environmental Assessment Office (EAO) conducted a comment period from June 1, 2020 to July 16, 2020, inviting participants to provide feedback related to the Tilbury LNG Phase 2 Expansion Project (the proposed Project). The responses provided by FortisBC Holdings Inc. with its natural gas subsidiary FortisBC Energy Inc. (collectively defined as FortisBC) consider both the Provincial and Federal environmental assessment (EA) processes.

Given that both the Federal and Provincial EA processes are triggered, it is assumed that the Province will request that the Federal Minister of Environment and Climate Change Strategy approve a substitution of the Provincial EA process for the Federal impact assessment process. If substitution is approved for the proposed Project, it is expected that the B.C. EAO will conduct the Project Application in accordance with the Conditions set out in the Substitution Decision, and at the end of the assessment process the B.C. EAO will provide its report to both the Provincial and Federal Ministers for their consideration. As such, where the B.C. EAO process is referenced, it is assumed that it is a Substituted process that meets both Provincial and Federal requirements.

Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
Accidents, Malfunctions, and Public Safety		
1	Potential for adverse environmental and human health effects from accidents and malfunctions, such as leaks or spills, during the construction and operation of the Project, and details on proposed prevention, mitigation and response measures that will be implemented.	Subsection 10.7 of the Detailed Project Description (DPD) has been updated to include a preliminary list of accidents and malfunctions that are proposed for assessment in the Application. The Application will include the effect of such incidents on the environment and human health and will develop specific mitigation measures to reduce or eliminate the likelihood or consequence of potential incidents. The same list has been added to the draft Application Information Requirement (AIR) appended to the DPD. The Application will include measures for prevention, mitigation, and response to these accidents and malfunctions. The preliminary list of accidents and malfunctions will be amended as appropriate during the Process Planning Phase of the B.C. EAO process before the AIR is finalized.
2	Potential impacts of accidents and malfunctions on nearby urban areas and businesses.	Subsection 10.7 of the DPD has been updated to include a preliminary list of accidents and malfunctions that are proposed for assessment in the Application. The Application will include the effect of such incidents on the environment and surrounding urban areas and businesses and will develop specific mitigation measures to reduce or eliminate the likelihood or consequence of potential incidents. The same list has been added to the draft AIR appended to the DPD. The Application will include measures for prevention, mitigation, and response to these accidents and malfunctions. The preliminary list of accidents and malfunctions will be amended as appropriate during the Process Planning Phase of the B.C. EAO process before the AIR is finalized.
3	Concern regarding the Project's proximity to the Vancouver Airport Fuel Delivery Project and the potential for an accident between the two projects.	Subsection 10.7 of the DPD has been updated to include a preliminary list of accidents and malfunctions that are proposed for assessment in the Application. The Application will include the effect of such incidents on the environment and surrounding urban areas and businesses and will develop specific mitigation measures to reduce or eliminate the likelihood or consequence of potential incidents. The same list has been added to the draft AIR appended to the DPD. The Application will include measures for prevention, mitigation, and response to these accidents and malfunctions. The preliminary list of accidents and malfunctions will be amended as appropriate during the Process Planning Phase of the B.C. EAO process before the AIR is finalized.
4	Inclusion of reliable modelling for contaminants released to air or spilled to water to inform the emergency management plans and associated response measures and capacities for each major type of foreseeable incident.	Accidental release of contaminants and spills will be assessed in the Application. Subsection 10.7 of the DPD has been updated to include a preliminary list of accidents and malfunctions that are proposed for assessment in the Application. The Application will include modelling that will inform the emergency management plans. The same list has been added to the draft AIR appended to the DPD. The Application will include measures for prevention, mitigation, and response to these accidents and malfunctions. The preliminary list of accidents and malfunctions will be amended as appropriate during the Process Planning Phase of the B.C. EAO process before the AIR is finalized.

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Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
5	Concerns regarding the safety of people living in urban/residential areas near the Project Site, including in relation to flaring.	<p>FortisBC has an excellent safety record and the Tilbury liquefied natural gas (LNG) facility has been operating safely in Delta, B.C. since 1971.</p> <p>Flares are a common feature of LNG facilities and act as safety devices designed to relieve pressure. This proposed Project is at an early design stage including working on the flare. Additional detail about safety and the proposed flare will be provided in the Application.</p> <p>LNG is made from the same natural gas we use in our homes every day. To make it easier to store and transport by truck or ship, it is cooled to a liquid form.</p> <ul style="list-style-type: none"> ▪ When stored in a double-walled steel container, LNG is not flammable or explosive as there is no oxygen or air to react with the fuel. ▪ The Tilbury existing facility and the proposed Project will have procedures and safety measures in place for preventing and managing spills, leaks, and vapour clouds. It also has the capability to shut down automatically during an emergency. ▪ These safeguards will protect the facility, employees, and the public. ▪ The facility has complete on-site fire control and response systems independent of the fire department. ▪ The facility is also monitored 24/7 year-round by highly trained site personnel who have been producing LNG for decades. <p>Subsection 10.7 of the DPD has been updated to include a preliminary list of accidents and malfunctions that are proposed for assessment in the Application. Also, subsection 2.8.4 speaks to the flare technologies being considered for the proposed Project.</p>
6	Risk of a terrorist attack on the Project site or LNG ships.	<p>Through the Certificate of Public Convenience and Necessity application process, a preliminary risk assessment, in combination with an assessment of the security environment in the Tilbury region assessed the risk of terrorism as negligible. As such, FortisBC has determined that accidents and malfunctions from intentional acts of terrorism are beyond the scope of the assessment for the proposed Project. Subsection 10.7 of the DPD has been updated to include a preliminary list of accidents and malfunctions that are proposed for assessment in the Application. The preliminary list of accidents and malfunctions will be amended as appropriate during the Process Planning Phase of the B.C. EAO process before the AIR is finalized.</p>
7	Concerns that Canada lacks regulations for LNG siting similar to regulations in the USA that would prohibit this proposal.	<p>The Tilbury LNG facility has been safely operating in Delta since 1971. The B.C. Oil and Gas Commission (B.C. OGC) oversees the safe construction and operation of the facility. FortisBC will be required to comply with the <i>Liquefied Natural Gas Facility Regulation (LNGFR)</i> under the <i>Oil and Gas Activities Act</i>. The <i>LNGFR</i> requires various safety and risk assessment studies to be carried out at appropriate stages of the proposed Project. These studies follow a process of hazard identification, risk assessment, mitigation, and monitoring. The facility will be designed and built in accordance with the results of the risk assessment as well as appropriate codes and standards, including the B.C. Building Code, Canadian Standards Association (CSA) Z276, and the standards identified in the <i>LNGFR</i>. The latter of which is specific to LNG facilities.</p>
8	Concerns related to locating LNG facilities near populated areas in an environment such as the Fraser River, in consideration of safety concerns and recommendations by the Society of International Gas Tanker and Terminal Operators.	<p>The aim of Society of International Gas Tanker and Terminal Operators is to enhance the safety and operational reliability of gas tankers and terminals. The Tilbury facility is an LNG storage facility and not a terminal or tanker loading facility. The Tilbury Marine Jetty project conducted an assessment on societal risk assessment. The proposed Project will involve conducting other risk assessments as part of the Project Application.</p> <p>The Tilbury LNG facility has been safely operating in Delta since 1971. The B.C. OGC oversees the safe construction and operation of the facility. FortisBC will be required to comply with the <i>LNGFR</i> under the <i>Oil and Gas Activities Act</i>. The <i>LNGFR</i> requires various safety and risk assessment studies to be carried out at appropriate stages of the proposed Project. These studies follow a process of hazard identification, risk assessment, mitigation, and monitoring. The facility will be designed and built in accordance with the results of the risk assessment as well as appropriate codes and standards, including the B.C. Building Code, CSA Z276, and the standards identified in the <i>LNGFR</i>. The latter of which is specific to LNG facilities.</p>

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ID	Joint Summary Comment	Response
Acoustic Environment		
9	Effects due to underwater noise.	The potential for underwater noise has been identified for upgrades to the Material Offload Facility (MOF) as well as vessel traffic during construction for bringing equipment to the site via barges. No underwater noise effects are anticipated during operations. The potential environmental effects of underwater noise will be investigated in the Application.
10	Details of the noise and steam vapour characteristics of the Project.	Subsections 10.2, 10.3, and 10.4 of the DPD summarize the atmospheric, physical, and biological environmental components of the proposed Project. The potential environmental effects will be investigated in the Application. FortisBC will review possible impacts from the environmental factors for both the construction and operation phases of the proposed Project.
Alternative Means of Carrying Out the Project		
11	Clarity and further detail on the alternative means of carrying out the Project listed in the Initial Project Description and the rationale for why the current technologies and processes were chosen.	Subsection 2.8 of the DPD has been updated to include a preliminary list of alternative means of carrying out the proposed Project. The DPD includes a preliminary discussion of proposed Project locations, components, and technologies that are considered for alternatives, summarizes the criteria for evaluation of the alternatives considered, information on how engagement feedback was considered, and provides rationale for the preferred alternative, where available. It is proposed that additional details about alternative means of carrying out the proposed Project will be provided in the Project Application.
Alternatives to the Project		
12	Clarity and further detail on the alternatives to the Project that were considered and rationale for why the current approach was selected.	Subsection 2.7 of the DPD has been updated to include additional detail on the alternatives to the proposed Project and rationale as to why the current approach was selected. It is proposed that additional details about alternatives to the Project will be provided in the Application.
Atmospheric Environment		
13	Effects on air quality from construction, operation and decommissioning, including activities associated with combustion (for example, transportation, construction vehicles, compression), intentional and non-intentional releases from equipment, electricity generation, flaring and venting, fugitive sources and physical disturbance to land causing dust (particulate matter).	Subsections 6.2 and 10.2.1 have been updated in the DPD to provide more information on the effects of air quality from proposed Project activities. The draft AIR appended to the DPD details the scope proposed for assessment of effects for the Project Application.
14	Use of the most stringent Canadian Ambient Air Quality Standards or B.C. Ambient Air Quality Objectives to undertake an assessment of existing (baseline) and predicted future (project, project + baseline, accidents and malfunctions, and cumulative) air quality.	Subsection 10.2.1 has been added to the DPD to provide more information on the use of Canadian Ambient Air Quality Standards in the assessment of the proposed Project.
15	Alignment of the Project with Metro Vancouver's regional air quality objectives.	Subsection 10.2.1 has been added to the DPD to provide more clarity on the use of Metro Vancouver's regional air quality objectives for the proposed Project.

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Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
Climate Change and Greenhouse Gas (GHG) Emissions		
16	Contribution of the Project's carbon dioxide and methane emissions to climate change and how this could impact local, provincial, and federal government ability to meet climate change commitments and GHG emission targets.	Subsection 10.2.2.2 of the DPD has been updated to provide context around the contribution of the proposed Project's preliminary carbon dioxide equivalent (CO ₂ e) emission estimates compared to local, Provincial, and Federal emission targets. FortisBC is committed to assisting jurisdictions in meeting their GHG reduction targets. FortisBC has set a target to reduce customer GHG emissions by 30 percent by the year 2030. The 30BY30 target is the next phase of FortisBC's plan to reduce emissions, called the Clean Growth Pathway to 2050, which is summarized in subsection 1.1.2. In addition to FortisBC's Company commitments, FortisBC will be considering proposed Project-specific design measures and Company practices to optimize and mitigate proposed Project GHG emissions.
17	Clarity on the scope of activities included in the GHG emissions estimates (including methane leakage during life cycle of LNG production), and descriptions of the methodologies and assumptions used for the quantification of GHG emissions from each activity.	Subsections 6.1 and 10.2.2.1 of the DPD have been updated to include additional details on the scope of proposed Project activities included in the GHG emissions estimates and descriptions of methodologies and assumptions used for the quantification of GHG emissions. The estimates of direct and indirect (acquired) proposed Project GHG emissions have been updated since the Initial Project Description based Project design and representative equipment specifications available at this time. The GHG estimates are therefore preliminary. It is proposed that updated GHG emission estimates will be prepared for the Project Application to satisfy the B.C. EAO, Impact Assessment Agency of Canada (IAAC), and Strategic Assessment of Climate Change requirements.
18	Inclusion of net GHG emissions quantified on an annual basis.	Subsection 10.2.2 of the DPD has been updated and provides a preliminary net GHG emission estimate on an annual basis.
19	Consideration of best available technologies, best environmental practices, and emerging technologies for all aspects and phases of the Project to maximize GHG reductions and energy efficiency.	Subsection 2.8 of the DPD has been updated to include a preliminary list of alternative means of carrying out the proposed Project, including technologies being considered for emission reduction and energy efficiency. One of the key design features of the proposed Project to minimize emissions is the use of renewable hydroelectricity to power the compression of natural gas for liquefaction. The use of electric drives helps make the Tilbury LNG facility one of the lowest carbon intensity LNG facilities in the world. It is proposed that the Application will include additional details about the evaluation of best available technologies, best environmental practices, and emerging technologies that were considered in the proposed Project design to increase energy efficiency and reduce GHG emission.
20	Impacts of the Project on FortisBC being able to meet its corporate 30BY30 objective.	FortisBC has set a goal of reducing customers' GHG emissions by 30 percent by the year 2030 in its 30BY30 target. The proposed Project is expected to play a vital role in meeting this target by producing LNG as a lower-carbon fuel for marine and overseas customers. More detail is provided in Section 2 of the draft DPD.
Country Foods		
21	Effects on country foods from the release of contaminants of potential concern into the environment (air, water, soil) which could be absorbed by foods sourced through hunting, trapping, fishing and harvesting, grown for subsistence or medicinal purposes or having Indigenous cultural importance.	Subsection 10.3 of the DPD includes information on the existing issues in the Fraser River related to country food contamination. Subsection 10.3 of the DPD notes that the 7651 Hopcott Road, on Tilbury Island in the City of Delta, B.C. (the proposed Project Site) has already been subject to contamination remediation efforts because of previous activities. It is proposed that potential impacts of the proposed Project on the quality and quantity of country foods will be assessed under the Human Health Valued Component (VC) as well as the Indigenous Interests sections in the Application. If required, mitigation measures to reduce or avoid adverse effects to country foods will be included in the Application.
Cumulative Effects		
22	Cumulative effects on regional traffic and land use, including lands within the Agricultural Land Reserve and in the lower Fraser River area.	It is proposed that cumulative effects on regional traffic will be assessed in the Application under the Land and Resource Use VC. Cumulative effects to regional traffic will be assessed in the Application under the Infrastructure and Services VC.

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23	Cumulative effects of the Project and other industrial projects, such as the Trans Mountain Expansion and Woodfibre LNG Projects, on Southern Resident Killer Whales.	The proposed Project is expected to have limited interactions with Southern Resident Killer Whales. It is estimated that six to eight cargo vessel deliveries will be required during the 3 to 6 year construction period. Some additional deliveries may be required for aggregate and other construction material delivery. The vessel/barge deliverables are expected to come from Sand Heads lighthouse at the mouth of the Fraser River along the shipping channel of the South Arm of the Fraser River to the proposed Project Site. Barges will use established navigation channels to travel to and from the site. Shipping of LNG during operations is assessed in a separate EA for the Tilbury Marine Jetty, which is proposed to operate adjacent to the proposed Project Site.
24	Cumulative effects on air quality from an increase in water and land-based transportation due to the number of developments proposed in the Project area.	Cumulative effects on air quality will be assessed in the Application under the Air Quality VC.
25	Cumulative effects from underwater noise on Southern Resident Killer Whales, their food sources and habitat.	The proposed Project is expected to have limited interactions with Southern Resident Killer Whales. A small number of barges are likely required to deliver materials to the site during construction. Barges will use established navigation channels to travel to and from the proposed Project Site. Shipping of LNG during operations is assessed in a separate EA for the Tilbury Marine Jetty, which is proposed to operate adjacent to the proposed Project Site.
26	Cumulative climate change effects from the Project and other industrial projects.	The Application will include a Cumulative Effects Assessment that will identify potential cumulative effects to each VC by comparing the current and future conditions. Climate change will be considered as part of future conditions, where appropriate, for the specific VC.
Current and Future Generations		
27	Project impacts on future generations due to GHG emissions and climate change.	The Application will include an evaluation of how VCs and Indigenous interests contribute to the proposed Project's positive or negative effects on Current and Future Generations. Since climate change will be considered as part of future conditions when evaluating specific VCs, these impacts will be included in the Current and Future Generations evaluation, where appropriate.
Economic Conditions		
28	Effects of the Project construction on the local and regional economy, local job creation and labour force.	The Application will include an evaluation of how the Project's construction and operations phases will affect the local and regional economy, including local job creation and the labour force. Potential effects of the proposed Project on the local and regional economy, local job creation and labour force will be assessed under the Employment and Economy VC as well as the Indigenous Interests sections in the Application, as applicable.
29	Consideration of whether the Project will generate significant social and economic benefits and opportunities for local communities, including women's employment or entrepreneurship opportunities.	<p>FortisBC is an equal opportunity employer and supports an inclusive and diverse workforce. In addition, FortisBC requires contractors to keep a record of employment, training, and business opportunities provided to Indigenous individuals, local workforce, and contractors. FortisBC monitors the implementation of these hiring practices through regular reporting with contractors.</p> <p>FortisBC has developed Indigenous skills, employment and career-training initiatives, including the Residential Energy Efficiency Works (REnEW) program. FortisBC has also engaged with industry partners like the Electrical Joint Training Committee Society, PLATO Testing, and Industry Training Authority to provide relevant training to Indigenous participants.</p> <p>FortisBC will prioritize local and Indigenous hiring on the proposed Project, where possible, and explore additional programs through ongoing engagement to create training and employment opportunities for under-represented communities.</p>

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Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
30	Details on how women, men, and diverse groups of people are employed either as wage earners in the labour market or in customary livelihood occupations, and employment rates and the level or nature of unemployment in the local area.	The Application will include a description of the existing conditions of the labour market. As per Provincial and Federal requirements (that is, assessing the disproportionate effects on distinct human populations, including populations identified by gender, and the intersection of sex and gender with other identity factors), the Application will describe existing labour conditions that relate to diverse groups of people, including differential conditions for women, men, and other diverse groups. The Application will rely on existing data sets to describe labour conditions. Where existing data sets present limitations to an understanding of diverse labour conditions, the Application will note those limitations and their respective constraints on understanding differential effects.
31	Inclusion of measures that will be undertaken to support the recruitment, development and retention of workers.	FortisBC has a comprehensive training program to develop employees' skills and improve retention. FortisBC has a dedicated human resources team to recruit, develop, and retain workers.
Ecosystems		
32	Effects on the sensitive Fraser River estuary ecosystem including its ecosystem function to reduce flooding impacts.	The Fraser River estuary ecosystem, including its ecosystem function, will be considered in the Summary of Biophysical Factors that Support Ecosystem Function section of the Application. The design of the MOF is ongoing and new in-water structures (such as, piles) may be part of the design. Should the in-water works be necessary, the design will seek to minimize impacts to the Fraser River estuary ecosystem and its overall function.
Effects of the Environment on the Project		
33	Effects of the environment on the Project such as fire, floods, extreme weather events, increased precipitation, and higher water levels due to climate change. Future climate projections should be taken into account.	Subsection 10.8 of the DPD has been updated to include a preliminary list of effects of the environment that are proposed for assessment in the Application. The same list has been added to the draft AIR appended to the DPD. The Application will include measures for prevention, mitigation, and response to these effects of the environment, including climate change adaptation measures. The preliminary list of effects of the environment will be amended as appropriate during the Process Planning Phase of the B.C. EAO process before the AIR is finalized.
Environmental and Impact Assessment Processes		
34	Concerns about the credibility of information generated throughout the assessment process and the opportunity to participate in the process.	FortisBC is committed to undertaking meaningful engagement and encouraging participation by the public. FortisBC has hired qualified, experienced EA professionals to prepare the Application. In accordance with the B.C. EAO AIR Guidance "The Application must identify key personnel responsible for preparing the Application including, their employers, qualifications, and the sections for which they were contributors. The Application must identify key information, reports and data used to support the development of the Application and the associated contributing organization and relevant qualifications. The Application must demonstrate that a qualified individual has prepared the information or studies provided. A qualified individual would include someone who, through education, experience or knowledge relevant to a matter, may be relied on by the proponent to provide advice within his or her area of expertise. Knowledge relevant to a matter may include Indigenous and local knowledge." FortisBC is also in accordance with the guidance developed for the <i>Impact Assessment Act</i> that "is informed and guided by consultation and engagement that occurs with the public, Indigenous groups, lifecycle regulators, jurisdictions, federal authorities (FAs) and other interested parties during early planning." (Tailored Impact Statement Guidelines [Government of Canada 2020]).

Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
35	Concerns regarding public confidence in the assessment process; including lack of advertising of the open houses and opportunities for meaningful public engagement.	<p>FortisBC will continue to help support communicating opportunities for public engagement on the proposed Project. In addition to the engagement opportunities through the B.C. EAO/IAAC EA process, FortisBC regularly shares information related to the proposed Project through the talkingenergy.ca website and has a phone line and email for members of the public to engage directly with FortisBC about the proposed Project. FortisBC paid for advertisements in seven local publications, including translated print ads in Punjabi and Chinese language newspapers. A polling feature was set up for the Virtual Open House and public questions that received the most "votes" were answered sooner. The presentation was posted online afterwards. Section 12 of the DPD details the engagement with governments, public, and other parties.</p> <p>To note, due to the extraordinary circumstances of the COVID-19 pandemic, FortisBC has adapted its engagement processes for Early Engagement on the proposed Project. Many community events that FortisBC would normally participate in were cancelled; however, FortisBC is continuing to engage on projects that are considered vital to FortisBC's energy infrastructure, including the proposed Project. FortisBC is also taking steps to keep FortisBC customers, FortisBC employees, and the public safe:</p> <ul style="list-style-type: none"> FortisBC temporarily cancelled in-person meetings and engagement activities to support physical distancing and are using digital alternatives such as teleconferences, Virtual Open Houses, and other digital tools to engage with governments, the public, and other parties. FortisBC is working with regulatory agencies to ensure any engagement is safe and effective in facilitating meaningful dialogue. FortisBC requested the B.C. EAO extend Early Engagement from 90 days to 150 days and asked the IAAC to pause the planning process to allow additional time to ensure meaningful engagement.
Fish and Fish Habitat		
36	Effects on fish (including salmon, sturgeon, steelhead, and eulachon) mortality, lifecycle, productivity and habitat through alteration, disruption, and destruction of fish habitat during all Project phases.	Subsection 10.4.3 of the DPD provides preliminary details of the baseline conditions and potential effects of the Project on Fish and Fish Habitat. Potential effects to fish and fish habitat for all proposed Project phases will be assessed in the Application under the Fish and Fish Habitat VC. Details of the proposed effects assessment requirements are provided in the draft AIR that is appended to the DPD.
37	Additional information to determine if the upgrades to the temporary construction jetty requires a Fisheries Act authorization.	The Application will consider potential effects to fish and fish habitat associated with upgrades to the MOF. A Permit Plan will be prepared during the Process Planning Phase that will include more details on potential authorization requirements under the <i>Fisheries Act</i> . In addition, a representative from Fisheries and Oceans Canada will participate in the Technical Advisory Committee during the EA process.
38	Mitigation plan, including timing windows for construction of the temporary construction jetty, for impacts to fish and fish habitat.	Mitigation measures will be developed during the proposed Project's detailed design stage and design considerations will be used to reduce impacts of construction and operation of the MOF on fish and fish habitat. The scope of the details for the mitigation plan will be amended as appropriate during the Process Planning Phase of the B.C. EAO process before the AIR is finalized. The details will be outlined in the Project Application.
Geology, Geochemistry, and Geological Hazards		
39	Inclusion of a seismic hazard assessment and effects related to seismic activity including liquefaction and other relevant hazards.	Subsections 10.3.1, 10.8.1, and 10.8.2 of the DPD discusses the seismicity as a potential effect. The Application will include an assessment of Effects of the Environmental on the proposed Project, including earthquakes.

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ID	Joint Summary Comment	Response
Human Health and Well-Being		
40	The Human Health Risk Assessment should include baseline, Project-attributed and cumulative health effects (for example hazard quotients for non-carcinogenic and incremental cancer risks for potentially carcinogenic contaminants of potential concern).	FortisBC will complete a Human Health Risk Assessment and this will part of the analysis of possible proposed Project impacts (both positive and negative) on the Human Health VC within the effects assessment.
41	Inclusion of a detailed noise assessment and any related health effects on all potential human receptor locations in accordance with Health Canada guidance. The assessment should include sensitive human receptor locations (for example schools, hospitals, retirement and care homes), residences, cabins and other temporary/seasonal traditional use sites such as hunting, fishing, trapping, berry picking and ceremonial and other use (for example recreational) within the Project area and their distances to key Project components that maybe have potential impacts on these receptors.	Health Canada's (HC) Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise (HC 2017) will be implemented for the construction and operational phases of the proposed Project in order to assess potential health risks associated with noise. Under the HC guideline, any human receptor within the proposed Project study area that may have a heightened sensitivity to noise exposure should be evaluated (for example, Indigenous Peoples, schools, childcare centres, hospitals).
42	Consideration of effects on human health from all pollutants, including emissions from vessel/barge deliveries, use of portable generator systems or temporary construction power, and potential use of self-generation and/or gas combustion compressor drives.	The proposed Project proposes to align with Metro Vancouver Ambient Air Quality Objective (AAQOs), Canadian Ambient Air Quality Standards, and B.C. Provincial AAQOs. The Application will consider potential health effects due to air quality changes under the Human Health VC. Information from the Air Quality assessment (including emissions from all proposed Project activities during all phases) will be pulled into the Human Health assessment to consider effects of air emissions on Human Health.
43	Consideration of effects on human health of released contaminants against federal and provincial standards during all Project phases, including abnormal operating scenarios.	In the Application, FortisBC will consider potential health effects due to release of contaminants under the Human Health VC. Information from the Air Quality assessment and Soil assessment (which includes an assessment of contamination) will be pulled into the Human Health assessment to consider effects of contaminants on Human Health.
44	Effects on human health and sensitive ecosystem receptors from emission of air pollutants (particulate matter [PM], PM _{2.5} , PM ₁₀), sulfur oxides, nitrogen oxides, volatile organic compounds, hydrogen sulphide, polycyclic aromatic hydrocarbons, carbon monoxide and other pollutants) and degradation of local or regional ambient air quality.	In the Application, FortisBC will consider potential health effects due to air emissions under the Human Health VC. Information from the Air Quality assessment will be pulled into the Human Health assessment to consider effects of air emissions on Human Health. Ecosystem effects related to air emissions will be evaluated in the Application in the Summary of Biophysical Factors that Support Ecosystem Function.
45	Diesel particulate matter should be assessed for potential effects on human health.	The Application will consider potential health effects due to air quality changes under the Human Health VC, including from the use of diesel fuel. Information from the Air Quality assessment will be pulled into the Human Health assessment to consider effects of air emissions on Human Health.
46	Inclusion of information on populations and activities in the area, including Indigenous peoples who practice traditional activities, their distances in relation to the Project and what Project components may affect which population/activity.	It is proposed that the Application will include an overview of the current state of human and community well-being in the proposed Project area, including local and Indigenous perspectives. An evaluation of potential positive and negative effects on human and community well-being will be included in the Application as well as proposed measures to reduce or avoid negative effects.

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47	Information on how products of LNG processing, such as wastewater including accidental wastewater discharge, hydrogen sulfide, mercury, acid gas and heavy hydrocarbons, will be treated and/or disposed of on Tilbury Island.	Preliminary information about waste and emissions is provided in Section 6 of the DPD. Additional details on waste management will be provided in the Application. FortisBC will comply with all applicable acts and regulations related to waste disposal. During operations, FortisBC will refer to their existing Environmental Management System, environmental standards, and guidance documents. These processes will be updated, as needed, prior to commissioning the upgrades.
Indigenous Peoples' Rights		
48	Effects to the rights of Indigenous peoples and their traditional land use through the construction and operation of the Project.	Effects to the rights of Indigenous Peoples and their Traditional Land Use will be assessed in the Application. Changes in the ability to exercise Indigenous Rights will be assessed including subsistence use, cultural use, Indigenous governance systems, cultural continuation, and additional rights-related activities as identified by Indigenous nations.
Infrastructure and Services		
49	Clarity on the relationship between the Tilbury Marine Jetty project and the Tilbury Phase 2 LNG Expansion Project.	The Tilbury Jetty Limited Partnership is the proponent of the Tilbury Pacific Marine Jetty project and is jointly owned by affiliates of FortisBC and Seaspan. The Tilbury Marine Jetty would be constructed next to the proposed Project Site to enable ship-to-ship LNG fueling and bulk loading of LNG on to specialized carrier vessels. The Tilbury Marine Jetty project is separate and distinct from the proposed Project and the existing Tilbury LNG facility. The EA process for the Tilbury Marine Jetty project began in 2015 and is currently undergoing a combined Federal and Provincial EA, under a Substituted Provincial process that is led by the B.C. EAO. The proposed Project is intended to increase the resilience of the natural gas distribution system. As a regulated utility, FortisBC has an obligation under the <i>Utilities Commission Act</i> to provide adequate, safe, efficient, just, and reasonable natural gas service to its customers. The Tilbury LNG facility plays a vital role in the resilience of the natural gas system in B.C. but requires additional capacity to continue to provide energy security. The benefit will be primarily for customers in the Lower Mainland. The proposed Project is also intended to provide production capacity to meet growing local and global market demand. Local and global demand for LNG is currently being met through truck loading and containerized shipping. The Tilbury Marine Jetty project and Tilbury Phase 2 Expansion are independent with unique economic drivers and will proceed based on their own merits.
50	Additional details on other infrastructure upgrades that will be required, including the transmission line and offsite lay down and storage areas.	Project Components of the DPD has been updated. See Table 2-2. Additional details will also be provided in the Application.
51	Further description of the temporary construction jetty and upgrades	Project Components of the DPD has been updated. See Table 2-2. Additional details will also be provided in the Application.
52	Traffic impact assessment to understand effects from construction and operation traffic on regional and local traffic and future traffic forecasts.	City of Delta (Delta) has a complex transportation system that accommodates the needs of the mobility challenged, pedestrians, cyclists, local traffic, commuter traffic, and goods movement (Delta 2019). It is proposed that traffic management plans and forecasts for Delta and Metro Vancouver will be reviewed and analyzed in the Application to understand the effects from proposed Project construction and operation traffic on regional and local traffic, as well as future traffic forecasts.
53	Effects on local and regional infrastructure such as water mains, forecasts for Greater Vancouver Water District water demand and City of Delta municipal forecasts.	Critical to Delta's well-being and quality of life is the provision, maintenance, and renewal of the Municipality's infrastructure. Delta works closely with Metro Vancouver in the provision of storm water and sanitary sewer systems, and the provision of the water supply. Metro Vancouver provides Delta with safe drinking water to distribute it to residences and businesses in the Municipality. No effect on the use or availability of current local and regional infrastructure and services, such as water mains is anticipated, however this will be confirmed in the Application. Forecasts for Metro Vancouver's water demand and Delta's Municipal water forecasts will be reviewed and analyzed in the Application.

Appendix D. Responses to Joint Summary of Issues and Engagement for the Tilbury Phase 2 LNG Expansion Project

Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
54	Effects from construction, operation, or associated marine shipping traffic on City of Richmond flood protection infrastructure.	Within Metro Vancouver, the City of Richmond (Richmond) has 49 kilometres (km) of dikes and 39 drainage pump stations that provide the Municipality with flood protection from ocean storm surges, freshet, and sea level rise. A portion of Richmond's flood protection infrastructure is along the Fraser River. Potential impacts from proposed Project construction, operation, or associated marine shipping traffic on Richmond's flood protection infrastructure will be investigated in the Application under the Infrastructure and Services VC.
55	Information on the amount of energy required for processing the LNG and the energy's source.	Electric drives and air-cooling will be used for liquefaction and other process units, that reduces overall emissions compared to gas powered equipment. The Application will estimate the amount of electricity required annually to operate the proposed Project, which will be converted into an indirect emission estimate as part of the GHG assessment.
56	Information on the source of the natural gas and whether a new or expanded pipeline will be needed to service the Project.	The Tilbury facility is already connected to natural gas resources in B.C. and Alberta through the existing Provincial transmission system. FortisBC is planning an upgrade of an approximately 1 to 3 km line between the Tilbury Gate Station and the Tilbury LNG facility. The upgrade is for seismic integrity and increased gas send-out capacity. The upgrade is not part of the proposed Project and is authorized by the B.C. government as part of B.C. Order-in-Council O.C. 557/2013 through Direction No. 5 issued to the B.C. Utilities Commission under the <i>Utilities Commission Act</i> . Refer to ID 64 for more information.
Land and Resource Use		
57	Additional details on subsistence use (for example, fishing and harvesting), recreational use (for example, trails and parks), and sensitive places (for example, schools and hospitals) in the Project area generated by engagement of appropriate Indigenous groups and stakeholders.	Indigenous Peoples began establishing fishing camps, settlements, hunting grounds, and spiritual sites on the banks of the Fraser River, and in the upland areas in Tsawwassen and North Delta, with archaeological sites in the area being amongst the oldest known in the Province. The Musqueam Indian Band has a land reserve in Delta. The Tsawwassen First Nation and the Provincial and Federal Governments have signed a treaty, which includes the Tsawwassen First Nation treaty lands located on the southwest edge of Delta. Today, almost half of Delta is farmland reflecting the early European settlement pattern of the Municipality, and today, agriculture still adds to the economy and to residents' quality of life. Apart from agricultural lands, other significant land uses include Burns Bog, a critical Ecological Conservancy Area, single-family residential uses, parks, Regional parks and open areas, and industry and port/terminal use. Further details on land uses in Metro Vancouver and Delta will be investigated in the Application under the Land and Resource Use VC. In collaboration with Indigenous nations, FortisBC will identify sources of Indigenous Knowledge to incorporate into and use to prepare the assessment of effects for the Project Application.
58	Effects on agricultural land near the Project site.	The DPD has been updated to include additional detail in subsection 10.5.1 Social and Cultural Conditions and 10.5.4 Health Conditions about potential effects on agricultural land near the proposed Project Site. The Application will assess potential effects on agricultural land in more detail under the Land and Resource Uses and Human Health VCs. Mitigation measures to reduce or avoid potential effects on agricultural land will be proposed.
Marine Use (Excluding Navigation)		
59	Clarity around use of the Fraser River during construction of the Project.	Subsection 2.5 describes the use of the river and provides vessel estimates: "Material offloading from the Fraser River of pre-fabricated equipment modules will be required for the proposed Project which would also include marine transportation of vessel/barges along the Fraser River. It is estimated that six to eight Project cargo vessel deliveries will be required during the 3 to 6 year construction period. The cargo vessel deliveries are expected to come from Sand Heads lighthouse at the mouth of the Fraser River along the shipping channel of the South Arm of the Fraser River to the proposed Project Site and will follow the requirements of applicable authorities including Transport Canada. An existing earth jetty on the Fraser River connected to the FortisBC proposed Project Site will be upgraded as part of the proposed Tilbury Marine Jetty project for construction purposes, and additional upgrades may also be required for the T1B development. The proposed Project may require additional upgrades to the MOF barge unloading of equipment modules to accommodate the weight/size of proposed Project modules."

Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
60	Clarity on upgrades and use of the temporary construction jetty and whether upgrades would be completed as part of this Project or the Tilbury Marine Jetty Project.	Subsection 2.3 of the DPD has been updated to include additional details: "Material offloading of pre-assembled equipment modules will be required with access from the Fraser River. An existing earth jetty that will be upgraded as part of the Tilbury Marine Jetty project and the Phase 1 projects may require additional upgrades to accommodate barge unloading of proposed Project equipment modules during construction. The possible additional upgrades are expected to focus on the topside of the jetty and upland areas, which may include improve grading and load bearing and dike upgrades. At the time of writing, design features and construction activities have not been specified for the MOF. The proposed upgrades are expected to focus on the topside of the jetty and upland areas, which may include improving grading, load bearing, and dike upgrades. The design of the MOF is ongoing and new in-water structures (such as, piles) may be part of the design and are therefore included. The design will minimize effects to the surrounding aquatic systems, if the in-water works are necessary. The upgrades may be maintained after completion of the proposed Project for future use."
61	Further details on dredging in the Fraser River.	Dredging has been removed from the DPD and is no longer part of the proposed Project.
Marine Mammals		
62	Effects to marine mammals and their habitat from Project activities including barging that could alter, disrupt or destroy habitat.	Construction activity would likely temporarily displace small mammals, marine mammals, and birds from using nearby adjacent areas during the Construction Phase; however, alternative habitat is available in the surrounding area. Impacts resulting from increased marine traffic during construction may include the potential for collision with marine mammals; however, it is anticipated to be low risk due to the low number (6 to 8) of vessel trips. The resulting potential effects are expected to be minimal. The Application will include an assessment of potential effects to marine mammals under the Fish and Fish Habitat VC.
Natural Gas Extraction using Hydraulic Fracturing (Fracking) Methods and Upstream Effects		
63	Consideration of upstream and downstream climate impacts related to the Project's lifecycle emissions, including fugitive emissions from fracking, processing, transport and final combustion of the gas.	The DPD includes a preliminary estimate of net GHG emissions (includes direct, indirect, and acquired emissions) for all phases of the proposed Project including construction, operations, and decommissioning in subsection 6.1 and 10.2.2.1. The Project Application will include an updated estimate of net GHG emissions. The Application will also include an assessment of "effects of the environment on the Project" per B.C. EAO and IAAC guidance as well as a Climate Resilience Assessment developed in accordance with the Strategic Assessment of Climate Change. FortisBC may be required to provide an estimate of upstream GHG emissions associated with the extraction and transportation of natural gas to the Tilbury facility in the Application. The IAAC will determine if an upstream GHG assessment is required in the Project Application based on the preliminary GHG estimate in the DPD. An assessment of downstream GHG emissions associated with the final combustion of gas are not required under the B.C. EAO or IAAC assessment guidance and will not be included in the Application. However, the proposed Project provides opportunities for downstream users to substantially reduce GHG emissions by replacing conventional fuels (such as, coal and diesel) with low carbon intensity LNG for marine transportation and global markets.
64	Concerns about the effects of fracking on human health, land use, surface water, ground water, agriculture and air quality upstream of the Project.	FortisBC buys both conventional and unconventional gas mainly from B.C.'s Montney region. This includes gas obtained through hydraulic fracturing. Upstream exploration and production are regulated by the B.C. OGC which has the authority to determine if natural gas processing is done in an environmentally safe manner and ensure all regulations are met. Potential effects of fracking are considered under separate regulatory processes and would not be considered as part of the Application for this proposed Project.
65	Information on the companies responsible for upstream and downstream environmental effects of fracking and combustion, including GHGs and effects to water.	The majority of natural gas purchased by FortisBC is produced in B.C., by gas producers who are regulated by B.C. OGC. The B.C. OGC regulates upstream exploration, development, and production. The B.C. OGC has the authority to determine if natural gas production is done in an environmentally safe manner and ensure all regulations are met. The environmental effects of upstream gas production are outside the scope of this Application.

Appendix D. Responses to Joint Summary of Issues and Engagement for the Tilbury Phase 2 LNG Expansion Project

Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
Navigation		
66	Concerns around increased shipping use of the Fraser River and effects to marine navigation in the narrow inland waterway.	Additional details about the use of the Fraser River during construction has been provided throughout the DPD, especially in subsection 2.5 and Section 5. It is estimated that six to eight cargo vessel deliveries will be required during the 3 to 6 year construction period. Some additional deliveries may be required for aggregate and other construction material delivery. The vessel/barge deliverables are expected to come from Sand Heads lighthouse at the mouth of the Fraser River along the shipping channel of the South Arm of the Fraser River to the proposed Project Site and will follow the requirements of applicable authorities including Transport Canada. An EA for the Tilbury Marine Jetty project, a separate project, is currently undergoing review through the B.C. EAO process that assesses potential impacts from shipping LNG from the proposed Project Site.
67	Consideration of vessel movement and transits both directly to and from the terminal and interaction with existing vessel traffic and safety areas related to the loading of LNG carriers.	An EA for the Tilbury Marine Jetty project, a separate project, is currently undergoing review through the B.C. EAO process that assesses potential impacts from shipping LNG from the proposed Project Site.
Project Contribution to Sustainability		
68	Project impacts on B.C.'s fossil fuel use.	The Province of B.C.'s CleanBC Strategy includes LNG as a transitional fuel to displace more carbon intensive fuels and provide emissions reductions. FortisBC is a critical implementation partner for the Provincial government's GHG reduction objectives. To demonstrate our commitment to B.C.'s climate goals, FortisBC developed the Clean Growth Pathway to 2050 – the public statement to the Provincial government's consultation period as they developed CleanBC. The Pathway highlights four action areas that FortisBC can take to help the government achieve its GHG reduction objectives and reduce GHG emissions globally: 1) Energy Efficiency 2) Renewable Gas 3) Low Carbon Transport and 4) LNG to displace higher carbon fuels for marine transportation and global markets. Each of these actions are described in further detail in subsection 2.2 of the DPD.
Public and Stakeholder Engagement		
69	Engagement of the local agricultural community to discuss ways to minimize the effects to agriculture.	FortisBC recognizes that the local agricultural community is a neighbour to the Tilbury LNG facility and an important stakeholder in the operation and expansion of the facility. FortisBC will seek opportunities to engage the agriculture community on issues of concern. As one of the largest energy providers in the Province, FortisBC has a successful history operating throughout B.C. and has long-established commitment to engagement with a wide range of stakeholders, including members of the public, customers, suppliers, regulators, and public safety agencies. FortisBC recognizes the importance of meaningful engagement and strives to develop and maintain strong relationships with these parties. FortisBC's proven processes have been adapted as appropriate to support the proposed Project. FortisBC has been consulting with government, the public, and other parties on projects for the Tilbury LNG facility since 2012. The focus of FortisBC's engagement on the proposed Project will be to ensure that Municipalities, Federal and Provincial governments, Indigenous nations, the public, and other interested parties are informed about the proposed Project, have access to information, and are encouraged to provide feedback throughout each phase of the proposed Project.

Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
70	Concerns about holding public consultation during the COVID-19 pandemic.	FortisBC recognized the impact that COVID-19 had on the public, Indigenous nations, and governments. FortisBC requested extensions of the Early Engagement Phase from 90 days to 150 days to allow more time for consultation and to push the public comment period into June, avoiding the early phase of the pandemic response. The public comment period was extended from the typical 30 days to 45 days to allow the public more time to submit comments. FortisBC recognizes the importance of meaningful engagement and strives to develop and maintain strong relationships with these parties. FortisBC worked closely with the B.C. EAO and IAAC to develop an engagement approach for the Early Engagement Phase of the proposed Project that was accessible to the public. Two Virtual Open Houses were held on different days of the week and different times of day to accommodate a diversity of schedules. Extra efforts were undertaken to provide both phone and online access to the Virtual Open Houses. FortisBC paid for advertisements in seven local publications, including translated print ads in Punjabi and Chinese language newspapers. A polling feature was set up for the Virtual Open House and public questions that received the most "votes" were answered sooner. The presentation was posted online afterwards. In addition, FortisBC continued to have discussions with key stakeholders and Indigenous nations, while respecting the needs of each group and individual during this time. Engagement during the EA process will occur over the next approximately 2 years and will include numerous opportunities for the public to engage on the proposed Project.
Purpose of and Need for the Project		
71	Consideration of the need for LNG by Asian markets and the economic sustainability of exporting LNG to Asia.	<p>The Tilbury Phase 2 LNG Expansion is intended to meet the growing local and global demand for LNG as a low carbon intensity fuel to displace higher GHG emitting fuels. The liquefaction capacity will be developed as market demand materializes. The world's largest LNG importers are located in Asia and the proposed Project would be well-positioned to meet future demand. For example, China is the biggest of the Asian economies and the National Development and Reform Commission forecasts Chinese annual gas demand to nearly double from 237 billion cubic metres (BCM) in 2017 to 450 BCM by 2030. This increased demand equates to 157 million tonnes (mt) of LNG equivalent or more than 40 percent of the global LNG market as of 2018. Other large Asian economies such as Japan, South Korea, Taiwan, and India are also looking to increase the use of gas to displace higher carbon energy such as coal.</p> <p>There are significant economic benefits for B.C. and Canada associated with the proposed Project. The following benefits are associated with serving local and global markets. In addition to construction related benefits, once the facility is fully operational, annual sales of LNG are expected to contribute \$258 million annually to B.C.'s Gross Domestic Product (GDP) directly and \$457 million when including indirect and induced effects (PwC 2019). Once operating, the proposed Project is anticipated to create 105 direct full-time equivalent (FTE) jobs in B.C., with an additional 575 indirect jobs, and 160 induced FTE jobs. Total annual tax revenues generated from proposed Project operations are anticipated to exceed \$67.5 million in B.C. and \$133 million in Canada (PwC 2019). At this time, the economic benefits have not been split into domestic and global markets at this time.</p> <p>Additional details regarding the need for LNG by local and global markets and the economic sustainability of selling LNG is provided in subsections 2.2 and 10.5.1 of the DPD.</p>

Appendix D. Responses to Joint Summary of Issues and Engagement for the Tilbury Phase 2 LNG Expansion Project

Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
72	Consideration of the purpose of the Project and economics for LNG export versus need by the domestic market.	The proposed Project is being proposed to increase the storage and production of LNG to add resiliency to FortisBC's gas system, improve security of supply to FortisBC's approximately 1.1 million natural gas customers in B.C. and to supply incremental LNG for marine transportation and global markets where low carbon intensity LNG can displace the use of higher carbon emitting fuels such as coal, bunker fuels, and diesel. The economics of the proposed Project are outlined in subsections 2.2 and 10.5.1 of the DPD. At this time, the economic benefits have not been split into domestic and global markets.
73	Information on the percentage of LNG produced by the Project that FortisBC plans to export.	Customer interest in LNG for bulk export ranges from short- to long-term supply agreements of varying quantities. Similarly, interest in LNG for bunkering is also high. While market outlook is positive at this time, there is no certainty on how these markets will evolve. However, by virtue of its integrated design, the facility will have the capacity to supply the domestic market, bunkering, and global markets, thereby enhancing market resiliency for the long-term. Additional details regarding the need for LNG by local and global markets and the economic sustainability of selling LNG is provided in subsections 2.2 and 10.5.1 of the DPD.
74	Details on the economic feasibility of the Project in the context of the current LNG market, including a cost/benefit analysis.	Information on market feasibility has been provided in subsection 2.2 of the DPD. Economic benefits resulting from the proposed Project include increased economic activity, business demand, employment, labour income, and government revenues through taxes and royalties, as well as the enhancement of workforce and business capacity. Subsection 10.5 of the DPD provides a preliminary economic assessment of the proposed Project including its contribution to GDP, employment levels, and tax revenues during construction and operations for both the Province and Canada. These estimates are based on preliminary information and will be updated for the Project Application.
Social Conditions		
75	Inclusion of details on what was heard through the engagement and consultation process on social needs and well-being.	The Joint Summary of Engagement summarizes what was heard through the engagement and consultation process. Some Indigenous nations expressed concerns about potential impacts to rights to fish that can impact economic, social and cultural well-being. The public expressed concerns about potential impacts related to GHG emissions, climate change, to human health and well-being including impacts from noise and potential exposure to contaminants. FortisBC will continue to engage with the public and Indigenous nations to understand social needs and well-being and to incorporate them into the proposed Project design and the Application. The Application will include an assessment of social needs and well-being under Social VCs and the Summary of Human and Community Well-Being.

Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
76	Inclusion of engagement activity methodology that will be used to ensure that the specific needs of men, women and diverse groups of people are understood.	<p>FortisBC is committed to working with the community to ensure engagement is inclusive and designed to reach the diversity of people within the community. The Company is committed to incorporating principles of Gender-Based Analysis (GBA+) recognizing that inequalities in communities affect people differently and to mitigate barriers that limit participation and engagement from distinct groups in the community. In keeping with the GBA+ principles outlined in the preceding sections, FortisBC will seek input from Indigenous nations regarding any limitations that may be a barrier to participation in the process for their respective community members. If these limitations exist, FortisBC will consult with the Indigenous nation on best practices to address these barriers. We will seek feedback from local government on reaching diverse populations within the community to help ensure engagement activities are inclusive and representative of the community at-large.</p> <p>FortisBC has considered potentially impacted populations that may be under-represented by traditional engagement methods. The proposed engagement methods consider different languages, engagement timing and locations, as well as accessibility requirements. FortisBC is proposing the following measures to reach under-represented communities (in-person activities will be limited in the immediate term in response to COVID-19 may be used later in the EA process when it is safe to do so):</p> <ul style="list-style-type: none"> ▪ Any news releases will be distributed to in-language media, and in-language ads inviting the public to any B.C. EAO-led engagement activities to help to promote awareness amongst people who speak English as a second language. Furthermore, proposed Project information cards will include a statement that says 'Important information, please have translated' in multiple languages, to encourage readers to have the card translated by someone they know in their language. ▪ Project materials will be both in digital and print form, to ensure that people without access to a computer can learn about the proposed Project. These materials will be mailed upon request to the local community. ▪ Venues of all public open houses and information sessions to be held in the communities of Delta and Richmond will be in accessible locations to public stakeholders. Venues will have automatic doors, elevators, and obstacle-free pathways for people who use mobility aids such as wheelchairs. Diverse gender representation will be ensured to facilitate any in-person engagement activities. ▪ Virtual settings will include a phone line for those without internet access or computer. ▪ As public safety is the number one priority; all venues will be in safe locations. Events will begin during daylight hours and on routes that are accessible by transit. ▪ FortisBC may also host informal outreach activities such as community pop-up booths and coffee chats. The purpose of these more informal activities is to reach people where they are (that is, at a shopping centre) and engage with those who may not take the time to attend a more formal event. These additional outreach activities will be at different times, and days, as well as in different locations than any B.C. EAO-led engagement activities, in an effort to be accessible to more people.
77	Inclusion of a description of the social norms and broader social power structure that could impact women, men and diverse groups of people's abilities to equally benefit from the Project.	<p>When assessing potential socio-economic proposed Project effects, the principles of GBA+ will be applied to determine whether there are different impacts for different subsets of the population in the study area. The Application will include existing environment descriptions of the under-represented populations and an effects evaluation will consider the impacts of the proposed Project on that population. This analysis will inform the development of socio-economic monitoring plans and programs related to the proposed Project. Proposed Project benefits will consider measures to increase benefits to under-represented groups through contracting, training, and other economic opportunities.</p>

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Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
Species at Risk, Terrestrial Wildlife and their Habitat		
78	Effects on aquatic Species at Risk (for example, white sturgeon, eulachon, Southern Resident Killer Whales), and their habitat, including injury or mortality, sensory disturbance, and change in habitat as a result of noise, vibration, wake and artificial lighting.	Preliminary information about potential effects to aquatic species at risk is provided in subsection 10.4 of the DPD. The Application will assess potential effects to aquatic species at risk and their habitat under several VCs, including Freshwater Fish, Marine Resources, and Wildlife. Mitigation measures will be provided to reduce or avoid potential effects to these species.
79	Effects on terrestrial wildlife resources, migratory birds protected under the <i>Migratory Birds Convention Act</i> , and non-aquatic Species at Risk (amphibians, arthropods, birds, lichens, terrestrial mammals, mosses, reptiles and vascular plants) protected under the <i>Species at Risk Act (SARA)</i> , and their habitat (including residences and critical habitat defined under <i>SARA</i>).	Preliminary information about potential effects to terrestrial wildlife resources, migratory birds, and non-aquatic species at risk is provided in subsection 10.4 of the DPD. The Application will assess potential effects to these species at risk and their habitat under Fish and Fish Habitat and Wildlife VCs. Mitigation measures will be provided to reduce or avoid potential effects to these species.
80	Inclusion of a nest survey to determine potential effects on nesting birds at the site.	The Application will include an effects assessment on nesting birds, which will include the results of a nest survey at the proposed Project Site. Mitigation measures will be provided to reduce or avoid potential effects to these species.
81	Inclusion of measures to avoid, reduce, or compensate for potential adverse effects to federally and provincially listed Species at Risk.	Preliminary information about potential effects to species at risk is provided in subsection 10.4 of the DPD. The Application will assess potential effects to species at risk and their habitat under several VCs, including Fish and Fish Habitat and Wildlife and Wildlife Habitat. Mitigation measures will be provided to reduce or avoid potential effects to these species.
Vegetation		
82	Inclusion of a vegetation inventory in the Project area and mitigation for the effects of construction and operation on vegetation.	The proposed Project Site is a developed, industrial site that has largely been cleared of vegetation. However, there are a few areas on the proposed Project Site that may require vegetation removal during construction. The Application will include a vegetation inventory of the proposed Project Site and will assess potential effects to vegetation under the Vegetation VC. Mitigation measures will be proposed to reduce or avoid potential effects to vegetation.
Visual Environment		
83	Analysis of the visual impacts of construction and operation from significant City of Richmond viewpoints for example west/south dyke trails and parks.	The proposed Project Site is an existing industrial site located in an industrial neighbourhood. The proposed design for the expansion will be consistent with the existing buildings and infrastructure on the proposed Project Site. FortisBC recognizes the importance of Richmond viewpoints to residents and visitors. The Application will include a visual impact assessment under the Land and Resource Use VC. FortisBC will engage with stakeholders, Indigenous nations, and Richmond to identify key viewpoints to use in the visual assessment. Visual impacts will be taken into consideration when making siting and design decisions. Mitigation measures will be proposed to reduce or avoid potential visual effects.
Vulnerable Population Groups (GBA+)		
84	Use of a GBA+ lens throughout the Project lifecycle to understand the differential impacts and experiences of risk, benefits and impacts of the Project on men, women, diverse persons and people from a range of groups and communities.	When assessing potential socio-economic proposed Project effects, the principles of GBA+ will be applied to determine whether there are different impacts for different subsets of the population especially vulnerable groups in the study area. The Application will include existing environment descriptions of the vulnerable populations and an effects evaluation will consider the impacts of the proposed Project on that population. This analysis will inform the development of socio-economic monitoring plans and programs related to the proposed Project.

Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
85	Consideration of equity throughout the design and implementation of engagement and consultation processes to ensure inclusiveness.	<p>FortisBC is committed to working with the community to ensure engagement is inclusive and designed to reach the diversity of people within the community. The Company is committed to incorporating principles of GBA+ recognizing that inequalities in communities affect people differently and to mitigate barriers that limit participation and engagement from distinct groups in the community. In keeping with the GBA+ principles outlined in the preceding sections, FortisBC will seek input from Indigenous nations regarding limitations that may be a barrier to participation in the process for their respective community members. If these limitations exist, FortisBC will consult with the Indigenous nation on best practices to address these barriers. FortisBC will seek feedback from local government on reaching diverse populations within the community to help ensure engagement activities are inclusive and representative of the community at-large.</p> <p>FortisBC has considered potentially impacted populations that may be under-represented by traditional engagement methods. The proposed engagement methods consider different languages, engagement timing and locations, as well as accessibility requirements. FortisBC is proposing the following measures to reach under-represented communities (in-person activities will be limited in the immediate term in response to COVID-19 may be used later in the EA process when it is safe to do so):</p> <ul style="list-style-type: none"> ▪ Any news releases will be distributed to in-language media, and in-language ads inviting the public to any B.C. EAO-led engagement activities to help to promote awareness amongst people who speak English as a second language. Furthermore, proposed Project information cards will include a statement that says 'Important information, please have translated' in multiple languages, to encourage readers to have the card translated by someone they know in their language. ▪ Project materials will be both in digital and print form, to ensure that people without access to a computer can learn about the proposed Project. These proposed Project materials will be mailed upon request to the local community. ▪ Venues of all public open houses and information sessions to be held in the communities of Delta and Richmond will be in accessible locations to public stakeholders. FortisBC will ensure venues have automatic doors, elevators, and obstacle-free pathways for people who use mobility aids such as wheelchairs. FortisBC will also ensure diverse gender representation to facilitate any in-person engagement activities. ▪ Virtual settings will include a phone line for those without internet access or computer. ▪ As public safety is our number one priority, FortisBC will ensure all venues will be in safe locations. Events will begin during daylight hours and on routes that are accessible by transit. ▪ FortisBC may also host informal outreach activities such as community pop-up booths and coffee chats. The purpose of these more informal activities is to reach people where they are (that is, a shopping centre) and engage with those who may not take the time to attend a more formal event. These additional outreach activities will be at different times, and days, as well as in different locations than any B.C. EAO-led engagement activities, in an effort to be accessible to more people.
86	Inclusion of adequate consultation with women or diverse groups when negotiating access to land, compensation, or benefit-sharing agreements.	<p>FortisBC is committed to working with the community to ensure engagement is inclusive and designed to reach the diversity of people within the community. FortisBC is committed to incorporating principles of GBA+ recognizing that inequalities in communities affect people differently and to mitigate barriers that limit participation and engagement from distinct groups in the community. In keeping with the GBA+ principles outlined in the preceding sections, FortisBC will seek input from Indigenous nations regarding limitations that may be a barrier to participation in the process for their respective community members. If these limitations exist, FortisBC will consult with the Indigenous nation on best practices to address these barriers. FortisBC will seek feedback from local government on reaching diverse populations within the community to help ensure engagement activities are inclusive and representative of the community at-large.</p>

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Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
87	Use of language and information materials that are accessible to all.	<p>FortisBC has considered potentially impacted populations that may be under-represented by traditional engagement methods. The proposed engagement methods consider different languages, engagement timing and locations, as well as accessibility requirements. FortisBC is proposing the following measures to reach under-represented communities (in-person activities will be limited in the immediate term in response to COVID-19 may be used later in the EA process when it is safe to do so):</p> <ul style="list-style-type: none"> Any news releases will be distributed to in-language media, and in-language ads inviting the public to any B.C. EAO-led engagement activities to help to promote awareness amongst people who speak English as a second language. Furthermore, proposed Project information cards will include a statement that says 'Important information, please have translated' in multiple languages, to encourage readers to have the card translated by someone they know in their language. Project materials will be both in digital and print form, to ensure that people without access to a computer can learn about the proposed Project. These proposed Project materials will be mailed upon request to the local community. Venues of all public open houses and information sessions to be held in the communities of Delta and Richmond will be in accessible locations to public stakeholders. FortisBC will ensure venues have automatic doors, elevators, and obstacle-free pathways for people who use mobility aids such as wheelchairs. FortisBC will also ensure diverse gender representation to facilitate any in-person engagement activities. Virtual settings will include a phone line for those without internet access or computer. As public safety is the number one priority; we will ensure all venues will be in safe locations. Events will begin during daylight hours and on routes that are accessible by transit. FortisBC may also host informal outreach activities such as community pop-up booths and coffee chats. The purpose of these more informal activities is to reach people where they are (that is, a shopping centre) and engage with those who may not take the time to attend a more formal event. These additional outreach activities will be at different times, and days, as well as in different locations than any B.C. EAO-led engagement activities, in an effort to be accessible to more people.
88	Use of disaggregated baseline information (at a minimum, by sex, age and ethnicity, and where possible, by other factors such as Indigeneity or education levels) and inclusion of descriptions of data gaps, where applicable.	When assessing potential socio-economic proposed Project effects, the principles of GBA+ will be applied to determine whether there are different impacts for different subsets of the population especially vulnerable groups in the study area. The Application will include existing environment descriptions of the vulnerable populations and an effects evaluation will consider the impacts of the proposed Project on that population. This analysis will inform the development of socio-economic monitoring plans and programs related to the proposed Project.
89	Inclusion of qualitative insights from studies, consultations, and other sources to complement quantitative information.	When assessing potential socio-economic proposed Project effects, the principles of GBA+ will be applied to determine whether there are different impacts for different subsets of the population especially vulnerable groups in the study area. The Application will include existing environment descriptions of the vulnerable populations and an effects evaluation will consider the impacts of the proposed Project on that population. This analysis will inform the development of socio-economic monitoring plans and programs related to the proposed Project.
90	Inclusion of information on how the Project intends to support culturally sensitive participation of women and diverse groups in decision making.	Throughout all phases of the proposed Project, the principles of GBA+ will be applied to engagement and consultation in order to ensure fair and equitable participation of women and diverse groups. Engagement and consultation will solicit feedback from women and diverse groups on decisions that have the potential to disproportionately affect them.
91	Inclusion of scoping, assessment and mitigation measures for potential issues of gender-based violence (for example, sexual harassment, violence against women, and human trafficking) and identification of vulnerable groups among women (for example, Indigenous and younger women).	When assessing potential socio-economic proposed Project effects, the principles of GBA+ will be applied to determine whether there are different impacts for different subsets of the population especially vulnerable groups in the study area. The Application will include existing environment descriptions of the vulnerable populations and an effects evaluation will consider the impacts of the proposed Project on that population. This analysis will inform the development of socio-economic monitoring plans and programs related to the proposed Project.

Table D-1. Responses to Summary of Issues

ID	Joint Summary Comment	Response
Water – Groundwater and Surface Water		
92	Effects on water quality from in-stream, upland and on-site activities during construction, closure and decommissioning, such as disturbances from upgrades to the temporary construction jetty (dredging, installation of piles, placement of fill and riprap and vegetation removal), discharge of water from hydrostatic tests, construction water and increased marine traffic for material delivery.	The DPD provides details on potential activities that could impact water quality. The Application will assess the potential effect of these activities on water quality under the Surface Water, Groundwater, Infrastructure and Services, and Human Health VCs. Mitigation measures will be proposed to reduce or avoid potential effects to water quality.
93	Details on the volume, timing and frequency of removing and redepositing large quantities of water in the Fraser River and its effects on turbidity and water quality.	The Application will provide additional details about water withdrawal and discharge volumes, timing, and frequency. The DPD provides details on potential activities that could impact water quality. The Application will assess the potential effect of these activities on water quality under the Surface Water, Groundwater, Infrastructure and Services, and Human Health VCs. Mitigation measures will be proposed to reduce or avoid potential effects to water quality.
94	Effects of construction on the turbidity of the Fraser River.	The DPD provides details on potential activities that could impact water quality, including turbidity. The Application will assess the potential effect of these activities on water quality under the Surface Water, Groundwater, Infrastructure and Services, and Human Health VCs. Mitigation measures will be proposed to reduce or avoid potential effects to water quality.
95	Long-term effects on water quality from deposition of airborne particulate matter generated by the plant operation, discharges related to effluent (for example, cooling process) and storm water management.	The DPD provides details on potential activities that could impact water quality during operations, including potential long-term impacts of facility operations. The Application will assess the potential effect of these activities on water quality under the Surface Water, Groundwater, Infrastructure and Services, and Human Health VCs. Mitigation measures will be proposed to reduce or avoid potential effects to water quality.

References

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Appendix E
Draft Valued Component Selection –
Tilbury Phase 2 LNG Expansion

Appendix E. Valued Component Selection Document

This document outlines candidate Valued Components (VCs), supporting rationale for those selections and a process for tracking issues and interests in order to meet requirements under the British Columbia (B.C.) *Environmental Assessment Act* (B.C. *EAA* or the *2018 Act*) and the Federal Impact Assessment Agency of Canada (IAAC) *Impact Assessment Act* (IAA).

As part of the early engagement of the B.C. Environmental Assessment Office (B.C. EAO) regulatory process and the planning phase of the IAAC process, FortisBC Holdings Inc. (FortisBC) with its natural gas subsidiary FortisBC Energy Inc. (FEI) has begun and will continue to gather input from Indigenous nations and Technical Advisors on the concepts outlined in this document to inform VC selection as well as the draft Application Information Requirements (AIRs). It is important to note that the concepts in this document will reflect values and interests identified by Indigenous nations and Technical Advisors based on issues and interests received during the Early Engagement and Process Planning Phases. The VC list for the proposed Tilbury Phase 2 LNG Expansion Project (the proposed Project) will be considered final following the Process Planning Phase of the assessment process when the Process Order is issued.

VCs are those components of the environment, economy, social, health, and cultural pillars (the five pillars referenced by the B.C. EAO assessment process) considered to be important and have the potential to interact with the proposed Project. The B.C. EAO refers to VCs broadly as components of the natural and human environment that are considered by the proponent, public, Indigenous nations, scientists, and other technical specialists, and applicable authorities involved in the assessment process to have scientific, ecological, economic, social, cultural, archaeological, historical, or other importance (B.C. EAO 2020c).

Under the *2018 Act*, the B.C. EAO defines sub-components as smaller distinct aspects of a VC that can be used to classify, assess, or characterize the effects assessment into meaningful parts (B.C. EAO 2019). Topics to be Captured by the Assessment that include indicators and measurable parameters are meant to narrow the scope of the assessment further to identify relevant, practical, measurable, responsive, accurate, and predictable parameters for those VCs and sub-components. Selecting VCs, sub-components, and Topics to be Captured by the Assessment is part of the scoping phase of an Environmental Assessment (EA). Scoping determines the important issues and parameters that should be addressed in the project and focuses the assessment on relevant issues. VCs and sub-components influence the baseline data collection and analysis for the Project Application for an Environmental Assessment Certificate.

The candidate VCs, sub-components, and Topics to be Captured by the Assessment selected are intended to provide a foundation to encourage meaningful engagement while modifications and/or additions to VCs or sub-components may be made as additional issues and interests are heard as the Early Engagement Phase continues and as the proposed Project progresses into the Process Planning Phase. The candidate VCs and sub-components for this proposed Project were selected based on the B.C. EAO's AIR Guidelines (B.C. EAO 2020a) and the IAAC Tailored Impact Statement Guidelines (TISG) Template for Designated Projects Subject to the IAA (IAAC 2020).

The candidate VCs, sub-components, and Topics to be Captured by the Assessment are considered the starting point of VC selection for the proposed Project and also reflect FortisBC's current understanding of the proposed Project location and what is important to Indigenous nations and Technical Advisors. Where there are discrepancies in approach, additions were made in this document to verify the TISG Template for Designated Projects is being met.

E.1 Assessment Matters and Tailored Impact Statement Guidelines Consideration

A revitalized B.C. *EAA* received royal assent in November 2018 and came into force on December 19, 2019. Section 25 of the *2018 Act* defines assessment matters that must be considered in the assessment. The proposed Project will address all assessment matters to the extent that these matters apply to the proposed Project. The candidate VCs for the proposed Project should allow for the collection of information to inform a consideration of all the required assessment matters, including:

- Project's greenhouse gas (GHG) emissions and the potential effects of those emissions on the Province being able to meet its legislated emission reduction targets (Section 8 of the draft AIR);
- Risk of malfunctions and accidents (Section 9 of the draft AIR);
- Potential disproportionate effects on distinct human populations (Section 13 of the draft AIR);
- Effects on biophysical factors that support ecosystem function (Section 12 of the draft AIR); and
- Potential effects to current and future generations (Section 14 of the draft AIR).

The proposed Project will also refer to the Section 22 factors to be considered of the *2020 IAA*. The proposed Project will address applicable factors to be considered to the extent that these matters apply to the proposed Project. The candidate VCs for the proposed Project should allow for the collection of information to inform the Section 22 factors to be considered, including:

- The extent to which the project contributes to sustainability (Section 15 of the draft AIR);
- The extent to which the effects of the project hinder or contribute to the Government of Canada's ability to meet its environmental obligations and its commitments in respect of climate change (Section 8 of the draft AIR);
- Any relevant assessment referred to in Section 92, 93, or 95 of the *2020 IAA*. For the proposed Project, this would include the Strategic Assessment of Climate Change (Section 8 of the draft AIR); and
- The intersection of sex and gender with other identity factors (subsections 7.10, 7.11, 7.12, 7.15, Sections 11, 13, and 14 of the draft AIR).

VCs and sub-components, including their potential residual effects, will be reviewed to inform these assessment matters sections. FortisBC will use the guidance outlined in this document to properly scope issues, interests, identify linkages, and carry forward VCs and sub-components to the Section 25 requirements as appropriate. Table E-2 includes a list of VCs, sub-components, and how they are linked to Section 25 requirements.

E.2 Project Planning and Early Engagement

The Early Engagement Phase plays an important role in the selection of VCs and their respective sub-components. Under the B.C. *EAA*, the B.C. EAO suggests that proponents seek input from Indigenous nations and appropriate Technical Advisors (identified during the Early Engagement Phase prior to the Technical Advisory Committee [TAC] being formed in the Process Planning Phase) and work with Indigenous nations to select appropriate proposed Project-specific VCs and identify Indigenous interests.

FortisBC understands that identifying Indigenous interests is critical to a successful EA Application and that unique considerations and information sources such as ethnography, language, governance, economy, population, communities, reserves, and health and social conditions may be used in the assessment process.

FortisBC is taking a comprehensive approach to identifying VCs and their sub-components by utilizing an issues and interests tracker (Figure E-1) that will help identify and track interests raised through all phases of the assessment process. Rationale for decision-making will be provided and tracked at each stage to drive transparency throughout the assessment process. Ultimately, seeking alignment for these decisions is an integral part of the issues and interests tracker and will allow interests to be tracked in a comprehensive, transparent, and inclusive manner. FortisBC will provide a detailed summary of the issues and interests tracker that follows the guidance in the Effects Assessment Policy (B.C. EAO 2020c) and TISG Template for Designated Projects Subject to the IAA (IAAC 2020).

The Effects Assessment Policy states that Indigenous interests should be identified early on through an iterative process with the Indigenous nation to identify and refine those interests that may be affected by the proposed Project. The proponent uses the term Indigenous interests in accordance with B.C. EAO's definition as *"those interests related to an Indigenous nation and their rights recognized and affirmed by Section 35 of the Constitution Act, 1982, including Treaty rights and Aboriginal rights and title, that may be impacted by a proposed project"* (B.C. EAO 2020a).

The use of the term Indigenous interests also accords with Section 22 (1)(c) of the IAA 2019, which requires an assessment of the impact that the proposed Project may have *"on any Indigenous group and any adverse impact that the designated project may have on the rights of the Indigenous peoples of Canada recognized and affirmed by Section 35 of the Constitution Act, 1982"* (Government of Canada 2019).

Indigenous interests may be a VC or they may be a topic that will inform one or more VCs. The selection of proposed Project-specific VCs should be informed by these identified Indigenous interests. The VCs selected for the proposed Project should allow for an efficient and robust assessment of potential proposed Project effects, including effects to Indigenous interests (B.C. EAO 2019) or effects on rights of Indigenous peoples (IAAC 2020).

Figure E-1 will confirm that issues and identified interests are captured and tracked throughout the assessment process. Guidance on how issues and interests are identified, reviewed, and tracked throughout the assessment process and using the B.C. EAO Effects Assessment Policy framework is outlined in Table E-1. FortisBC will capture issues and interests through collecting information raised during engagement and those raised through Information Requests. Through these two avenues, issues and interests will be carried forward into an issues and interests tracking log that will then be subject to go through the issues and interests tracker. FortisBC anticipates the proposed Project will be substituted and that additional information requirements will be added to the B.C. EAO EA process to address the Federal requirements under the IAA.

FortisBC is following the B.C. EAO framework while confirming the proposed Project also meets the requirements of the IAAC TISG Template for Designated Projects Subject to the IAA (IAAC 2020).

Appendix E. Valued Component Selection Document – Tilbury Phase 2 LNG Expansion

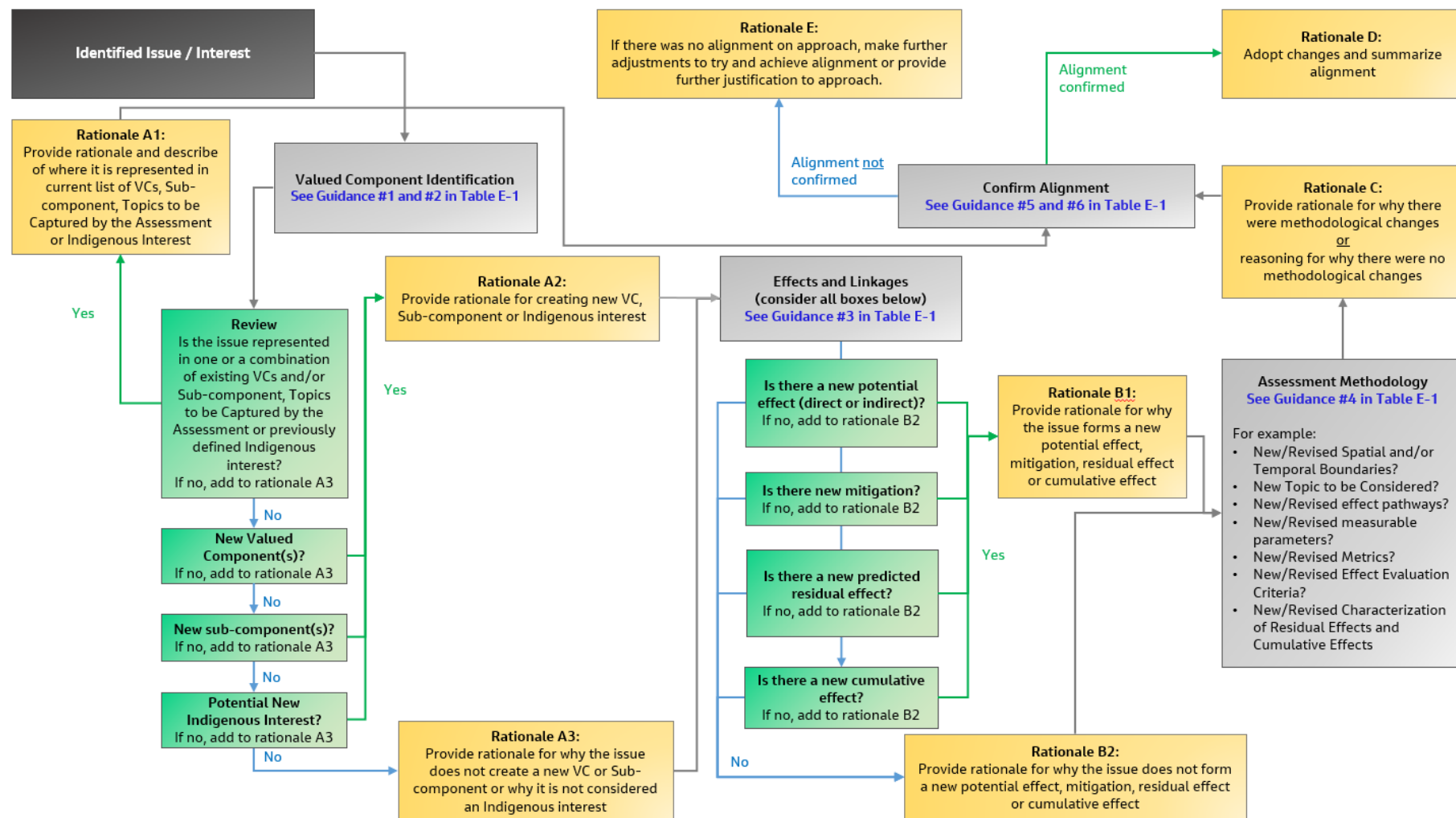


Figure E-1. Valued Component, Issue, and Interests Tracking for the Tilbury Phase 2 LNG Expansion

Table E-1. Valued Component, Issues, and Interests Tracking Guidance

Guidance Number	Guidance Framework
Guidance 1	<p>Evaluating Existing or Potential New Valued Components Based on Issues or Interests Raised</p> <p>When identifying and evaluating an issue raised, first determine if a candidate VC or sub-component has been established that will appropriately evaluate the issue in the assessment process or if a new VC or sub-component should be considered.</p> <p>Refer to Figure E-1 and provide rationale for decision-making while following this guidance.</p> <p>Guidance presented in a) to f) determine whether an issue raised has been considered or if the issue fits under a candidate VC or sub-component.</p> <ol style="list-style-type: none"> Group the issue raised into one of the following categories: environment, economic, social, cultural health, and/ or Indigenous interest. Once the issue has been grouped, determine the theme or VC which the issue identifies with. For example, it could fit under the VC 'Wildlife and Wildlife Habitat' or the theme of 'greenhouse gases' which is not a VC in the assessment. Once the issue(s) raised have been accurately categorized under a VC or theme, the following questions should be considered: <ul style="list-style-type: none"> Is the issue present in the Local Assessment Area (LAA) or Regional Assessment Area (RAA)? <ul style="list-style-type: none"> If the issue is known to be absent from the proposed Project area, it is unlikely to be affected by the proposed Project and will not warrant assessment. Do the proposed Project and related activities have the potential to interact with and positively or negatively affect the issue? <ul style="list-style-type: none"> An issue may occur in the proposed Project area, but if the proposed Project does not result in some emission, effluent, or other source of effect (direct or indirect) on that issue, assessment may not be warranted. Have community residents, land and resource users, Indigenous nations, applicable authorities raised issues or concerns related to how the proposed Project could interact with the VC? Has this issue been identified as an interest of an Indigenous nation? Do changes to the issue due to the proposed Project and related activities have the potential to affect biophysical factors that support ecosystem function? Consider whether there is a legally binding government requirement for the issue raised that needs to be considered for existing or newly identified VCs or sub-components. Guidance questions are as follows: <ul style="list-style-type: none"> Does the issue reflect a legislative, regulatory, or other requirement or Provincial/Federal/ Indigenous government management priority (for example, species at risk)? Is the issue or interest important for the assessment of effects on Indigenous nations? Is there potential for adverse cumulative effects on the issue (for example, are there known stressors already occurring on the land base that will also affect the issue)? Is the issue or interest particularly sensitive or vulnerable to disturbance? Has the issue or interest been identified as a value in the B.C. Cumulative Effects Assessment framework or in regional cumulative effects assessments? Would climate change projections or other future activities on the land base result in the inclusion of an issue or interest that may have reduced resilience and might not otherwise have been considered in the current state? If the issue does not warrant the creation of a new VC or sub-component, should the issue be listed as a Topic to be Captured by the Assessment under an existing sub-component? Questions to consider include: <ul style="list-style-type: none"> Is the issue or interest already covered by one of the topics listed? Review the level of detail of the other topics, is it appropriate to include the issue as a topic or should it be carried forward into the Effects and Linkages or Methodology sections of the issue tracker? Does the issue or interest help define the scope of the VC or sub-component assessment?

Table E-1. Valued Component, Issues, and Interests Tracking Guidance

Guidance Number	Guidance Framework
Guidance 1 (cont'd)	<p>f) Additionally, the following key questions should be considered when evaluating VCs or sub-components to determine suitability, as per the Effects Assessment Policy (B.C. EAO 2020c):</p> <ul style="list-style-type: none"> – Can the potential effects of the project on the candidate VC be measured and monitored? Is the candidate VC better represented by another VC? – Can the potential effects on the candidate VC be effectively considered within the assessment of another VC?
Guidance 2	<p>Indigenous-Specific Interests</p> <p>As per the Effects Assessment Policy (B.C. EAO 2020c), Indigenous interests may be a VC or they may be informed by one or more VCs. The selection of proposed Project-specific VCs should be informed by these identified Indigenous interests. The VCs selected for the proposed Project should allow for an efficient and robust assessment of proposed Project effects, including effects to Indigenous interests.</p> <p>Sub-components and assessment methods/parameters selected will reflect Indigenous Knowledge following consultation and engagement with an Indigenous nation.</p> <p>When discussing Indigenous interests, it is important that unique considerations and information sources are being used and applied appropriately and to confirm whether or not they have been appropriately carried forward into the assessment process through issues scoping. This early understanding can be refined through further discussions during the Early Engagement and Process Planning Phases. The following questions may be used to further refine the identified Indigenous interests:</p> <ul style="list-style-type: none"> ▪ Is the Indigenous interest an Aboriginal Right or Treaty Right? ▪ Does the Indigenous nation consider the interest to be a key information requirement when determining whether or not to consent to the proposed Project proceeding? ▪ Is the interest listed as a standard Indigenous Interest in an agreement with the B.C. EAO or in policies established by the Indigenous nation? ▪ Is the interest in the LAA/RAA? Does the proposed Project have the potential to interact with the interest? ▪ Are there specific issues or interest raised by the Indigenous nation regarding how the proposed Project could interact with the interest? <p>FortisBC will seek to identify where interests raised by Indigenous nations are specific to that Indigenous nation. For example, food security may be a sub-component that is of interest to all Indigenous nations, however, if there is a specific food source that is of cultural importance to an Indigenous nation where specific effects and mitigation may apply, that interest will be carried forward to that Indigenous nation's specific effects assessment and may be represented as a VC or sub-component.</p> <p>Following these parameters, Guidance 3 through 6 is then intended to work with Indigenous nations to identify potential linkages and pathways in the assessment process. Where required, pathway diagrams may support the review and identification of interests.</p>

Table E-1. Valued Component, Issues, and Interests Tracking Guidance

Guidance Number	Guidance Framework
Guidance 3	<p>Effects and Linkages</p> <p>At this stage of the process, it is important to understand if the issue raised has the potential to create or change potential effects, mitigation measures, residual effects of cumulative effects. Reviewing potential effects and mitigation provides a starting point to identifying effects and linkages, whether they are known or need further consideration or refinement in the effects assessment.</p> <p>To support this process, it is useful to examine how the project may interact with the biophysical and human environment. As described in the Effects Assessment Policy, the term effect pathway refers to the cause-effect linkage between a project and VCs of the biophysical or human environment. Understanding the effect pathways and the interaction between effects helps to clarify the relationship between candidate VCs and can be used to focus the assessment. In some cases, the pathway between a project and a VC of the biophysical or human environment is direct, while in others the project may affect the VC indirectly, by causing changes in the biophysical or human environment on which the VC depends (B.C. EAO 2020c).</p> <p>Where required, pathway diagrams may be utilized in order to show how effect pathways and linkages were identified and may be used as an engagement tool. When considering effects and linkages, the following key questions should be considered when evaluating VCs or sub-components to determine suitability, as per the Effects Assessment Policy (B.C. EAO 2020c):</p> <ul style="list-style-type: none"> ▪ Taken together, do the candidate VCs adequately represent the important effect pathways, either directly or by proxy? ▪ Do the candidate VCs adequately capture the effects identified along the effect pathway? ▪ Do the proposed Project and related activities have the potential to effect: habitats supporting ecosystem function; pattern, quantity, size, and connectivity of habitat patches; continuation of key natural disturbance regimes; structural complexity; hydrologic or oceanographic patterns; nutrient cycling; purification services; biotic interactions; population dynamics and genetic diversity? ▪ Refer to Section 5.3 of the Effects Assessment Policy (B.C. EAO 2020c) on biophysical factors that support ecosystem function for more detailed descriptions of these biophysical factors. <p>2018 B.C. EAA Assessment Matters and TISG Template for Designated Projects Subject to the IAA (IAAC 2020)</p> <p>While evaluating effects and linkages, the Section 25 requirements will be assessed to verify issues raised are accurately assessed and carried forward into the Assessment Matters sections. Using the guidance provided, the issue raised will be directly carried forward into the Section 25 assessment matters or will identify how the candidate VCs or sub-components will be carried forward into the Section 25 assessment matters sections as identified here:</p> <ul style="list-style-type: none"> ▪ Risk of malfunctions and accidents (Section 9 of the draft AIR) ▪ Potential disproportionate effects to distinct human populations (Section 13 of the draft AIR) ▪ Biophysical factors that support ecosystem function (Section 12 of the draft AIR) ▪ Potential effects to current and future generations (Section 14 of the draft AIR) <p>The proposed Project will also refer to the TISG Template for Designated Projects Subject to the IAA. FortisBC will incorporate these requirements similar to how the B.C. EAO Section 25 requirements will be incorporated which is carrying candidate VCs or sub-components forward into the respective sections where these requirements will be located. These include:</p> <ul style="list-style-type: none"> ▪ the extent to which the project contributes to sustainability (Section 15 of the draft AIR) ▪ the extent to which the effects of the project hinder or contribute to the Government of Canada's ability to meet its environmental obligations and its commitments in respect of climate change (Section 8 of the draft AIR) ▪ the intersection of sex and gender with other identity factors (Section 13 of the draft AIR) <p>After evaluating effects and linkages as well as how an issue raised will fit into the Assessment Matters sections, rationale will be provided and documented to verify decision-making is transparent and can be shared with the Indigenous nations and Technical Advisors.</p>

Table E-1. Valued Component, Issues, and Interests Tracking Guidance

Guidance Number	Guidance Framework
Guidance 4	<p>Assessment Methodology</p> <p>After evaluating an issue raised and how it effects VC or sub-component selection and identifies effects and linkages, it is important to consider how methodology may be impacted as a result. For example, the following methodology changes may occur as a result of an issue raised that could ultimately impact how a VC or sub-component is evaluated:</p> <ul style="list-style-type: none"> ▪ New/revised spatial and/or temporal boundaries? ▪ New topic to be considered? ▪ New/revised effect pathways? ▪ New/revised measurable parameters? ▪ New/revised metrics? ▪ New/revised effect evaluation criteria? ▪ New/Revised Characterization of Residual Effects and Cumulative Effects
Guidance 5	<p>Confirm Alignment</p> <p>At this step, FortisBC should have a strong understanding of how the issue identified fits into the assessment process. FortisBC will work with the Indigenous nations, the public, and Technical Advisors that raised a specific issue and summarize the decision-making process as outlined in Table E-1 and the associated guidance that informed decision-making in Table E-1.</p> <p>Should alignment be confirmed, FortisBC will provide a summary of how alignment was achieved and share it with the B.C. EAO and Indigenous nations.</p>
Guidance 6	<p>No Alignment</p> <p>FortisBC believes that by identifying issues early through engagement efforts and putting those issues through the steps outlined in the Feedback Loop and the associated guidance, alignment will typically be achieved.</p> <p>If the party that raised the issue is not satisfied with how their issue is being considered in the assessment, further adjustments will be made to achieve alignment or further justification for the approach will be provided.</p> <p>Refer to the steps outlined through the Issues Tracker and seek missing information that may not have been identified through issues scoping.</p> <p>Consider any new information and how it could change outcomes from each step of the issues tracker.</p>

E.3 Candidate Valued Components

Table E-2 lists the candidate VCs for the proposed Project. The candidate VCs have been shared with Indigenous nations, the public, and Technical Advisors during the Early Engagement Phase of the proposed Project. FortisBC will continue to work with Indigenous nations and Technical Advisors and receive feedback and issues to support the B.C. EAO in finalizing VC selection in the Process Planning Phase.

The candidate VCs have undergone changes since the previous version shared with Technical Advisors and Indigenous nations. Those changes are summarized here and reflect comments and issues heard through consultation and engagement activities. The following list of bullets detail the key changes captured in this VC iteration:

- Odour has been moved to be an indicator under the Air Quality sub-component as it is related to ambient air concentrations of odorous compounds.
- The sub-components Acidifying emissions and Eutrophying emissions have been changed to Acid Deposition as eutrophication is related to acid deposition rather than air quality.

- Surface Water VC will encompass both freshwater and marine water quality. 'Metals', a previous Topic to be Captured in the Assessment, has been expanded to include 'Contaminants', 'Total Suspended Solids' and 'Turbidity' as measurable parameters, and 'Sedimentation' as an indicator. This change was made to be consistent with the AIR guidance for the Marine Water Quality VC and to cover a full spectrum of potential pollutants.
- The surface water quantity sub-components have been updated to include surface water quantity, interactions with groundwater, and tidal patterns as indicators to be consistent with the AIR guidance for groundwater quality.
- Sediment Quality has been added as a sub-component to the Surface Water VC because the proposed Project may require upgrades to the temporary Material Offloading Facility for use during construction.
- Site excavations will not encounter bedrock. It is assumed that if rockfill is brought onto the proposed Project Site it will be tested. Therefore, acid rock drainage does not need to be considered at the proposed Project Site and has been removed.
- Old forest, grasslands or alpine/subalpine ecosystems have been removed from the Topics to be Captured by the Assessment as the proposed Project is located in a disturbed industrial setting near sea level.
- Marine Water and Sediment Quality are being captured in the Surface Water VC due to the proposed Project's limited interaction with marine water. Additionally, Marine Resources is being captured within the Fish and Fish Habitat VC.
- The marine mammal sub-component within the Wildlife and Wildlife Habitat VC has been moved to be part of the Fish sub-component within the Fish and Fish Habitat VC.
- Unique Geologic Landforms has been removed as a VC. The proposed Project is situated in a delta and near the mouth of the Fraser River, however, the proposed Project and surroundings are highly industrialized and have been for the past 50 years. As a result, this has removed the emphasis of the geological landform on how the soils continue to be developed. Awareness of the past development of soils process are important but is obscured by the industrial occupation of the area.
- The sites of historical importance and archaeological importance bullet has been modified to include Federal wording.
- Under the Fish and Fish Habitat VC, Bioaccumulation, Periphyton and Fish Tissue have been removed as Topics to be Captured by the Assessment. Rationale for removing the three topics includes:
 - Bioaccumulation - there is no anticipated creation or introduction of bioaccumulative substances by the proposed Project. Potential disturbances in the aquatic environment are anticipated to be localized and consist primarily of physical disturbances or minor introductions of local sediments.
 - Fish Tissue - there is no anticipated interaction with fish health that would justify consideration of fish tissue. There is not anticipated creation or introduction of persistent, bioaccumulative, or toxic substances from proposed Project activities.
 - Periphyton - riverbed substrates consist mostly of sand and finer substrates in the proposed Project area, which is naturally depositional. Therefore, interactions with surface-colonizing organisms are not expected to be a material concern.

It should also be noted FortisBC carried out engagement with Indigenous nations and Technical Advisors which resulted in some modifications to the VCs identified in Table E-2. Engagement is considered ongoing and FortisBC anticipates further modifications to what is presented in Table E-2 based on the finalization of Information Requests and alignment being confirmed by FortisBC and those that raised the issue.

Key changes made as a result of ongoing engagement activities include the following:

- Under the sub-component 'Surface water quality', we have included dissolved oxygen, pH and conductivity as measurable parameters under Topics to be Captured by the Assessment based on a Tsleil-Waututh Nation Information Request.
- The Land and Resource Use VC has been updated to include potential linkages between the Wildlife and Wildlife Habitat VC and the Air Quality VC based on a Cowichan Tribes Information Request.
- The Culture VC has been amended to read "community, cultural cohesion and continuity" in Topics to be Captured by the Assessment as a result of an Information Request from Cowichan Tribes. FortisBC is interested to learn more about what information Cowichan Nation Tribes envision should be addressed in this section.
- The Infrastructure and Services VC now includes Acoustic and Human Health as linkages as a result of engagement with the City of Richmond.

Engagement and changes to VC selection is considered ongoing with the City of Delta, City of Richmond, Cowichan Tribes, Metro Vancouver, and Tsleil-Waututh Nation. Key considerations from these groups include, however are not limited to (based on ongoing engagement), Indigenous Health, Climate Change as a VC, and Indigenous Nation-specific VCs. FortisBC will continue to work with Indigenous nations and Technical Advisors and receive feedback and issues into the Process Planning Phase to inform VC selection.

Four Indigenous interests have been identified and will be assessed in the Indigenous Effects Assessment (Section 11 of the draft AIR). The four Indigenous interests include Harvesting and Subsistence Activities, Cultural Use Sites and Areas, Social and Economic Conditions and Indigenous Health and Well-being. The B.C. EAO will consider the candidate VCs and will seek to achieve consensus with participating Indigenous nations. The B.C. EAO also engages the members of the TAC and Community Advisory Committee, when appropriate, in customizing the VCs for each assessment during the Process Planning Phase. The B.C. EAO involves the proponent in this customization to verify that the required information can be collected and submitted in the indicated timeframe (B.C. EAO 2020b).

Table E-2. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections	Valued Component and Sub-Component Rationale
		Indicator	Measurable Parameter		
Air Quality	Air Quality	<ul style="list-style-type: none"> Ambient concentrations of criteria air contaminants Odour 	<ul style="list-style-type: none"> Nitrogen dioxide [NO₂], sulphur dioxide [SO₂], carbon monoxide [CO], fine particulates smaller than 2.5 microns [PM_{2.5}], respirable particulates of less than 10 microns [PM₁₀], total suspended particulate [TSP], total reduced sulphur, and volatile organic compounds [VOCs]) Modelled concentrations of total reduced sulphur and VOC 	<ul style="list-style-type: none"> Human Health Vegetation Water Quality Fish and Fish Habitat Wildlife and Wildlife Habitat Summary of Biophysical Factors that Support Ecosystem Function Soil 	<p>This VC is intended to capture ambient concentrations of criteria air contaminants, VOCs, and other air pollutants to quantify and report on potential changes to air quality as a result of the proposed Project. Odour is related to ambient air concentrations of odorous compounds.</p> <p>The sub-components Acidifying emissions and Eutrophying emissions has been changed to Acid Deposition as Eutrophication is related to acid deposition rather than air quality. Anticipated linkage to soil has been added</p> <p>Information requirements related to greenhouse gas emissions and climate change will be included in the proposed Project Application (Section 8 of the draft AIR).</p>
	Acid Deposition	<ul style="list-style-type: none"> Acidification and eutrophication 	<ul style="list-style-type: none"> Deposition quantities of sulphur/ sulphates, nitrogen, and acid 		
Acoustic	Noise	<ul style="list-style-type: none"> Audible noise levels Low-frequency noise levels 	<ul style="list-style-type: none"> Changes to audible noise levels (including low-frequency noise) 	<ul style="list-style-type: none"> Human Health Wildlife and Wildlife Habitat Land and Resource Use Summary of Biophysical Factors that Support Ecosystem Function Fish and Fish Habitat 	<p>Acoustic was selected as a VC to capture potential proposed Project effects related to noise during construction and operation of the proposed facility. Noise and vibration were identified as sub-components to facilitate the analysis of the proposed Project's interaction with the acoustic environment. Underwater noise is assessed in the Wildlife and Wildlife Habitat and Fish and Fish Habitat VCs.</p>
	Vibration	<ul style="list-style-type: none"> Ground borne vibration 	<ul style="list-style-type: none"> Changes to vibration levels 		
Surface Water	Surface water quality	<ul style="list-style-type: none"> Changes in water quality relative to baseline conditions Sedimentation 	<ul style="list-style-type: none"> Contaminants Nutrients Total Suspended Solids Turbidity Dissolved oxygen pH Conductivity 	<ul style="list-style-type: none"> Fish and Fish Habitat Human Health Wildlife and Wildlife Habitat Summary of Biophysical Factors that Support Ecosystem Function Groundwater 	<p>Surface water was selected as a VC as it provides an important ecological function for aquatics and terrestrial organisms as well as human populations.</p> <p>Proposed Project activities have the potential to cause changes in surface water quality and quantity, and sediment quality.</p> <p>Surface water quality covers freshwater and marine water quality. Key indicators for water quality are provided in the topics and are intended to include pollutants and physical parameters as detailed in Provincial and Federal water quality guidelines.</p> <p>Potential effects of the proposed Project on surface water quality such as sedimentation and acidification and eutrophication are also identified as assessment topics.</p>
	Surface water quantity (Hydrology)	<ul style="list-style-type: none"> Changes to surface water quantity Interactions with groundwater Tidal patterns 	<ul style="list-style-type: none"> Peak runoff rate to City of Delta's Storm Sewer Changes to groundwater recharge 		

Table E-2. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections	Valued Component and Sub-Component Rationale
		Indicator	Measurable Parameter		
Surface Water (cont'd)	Sediment quality	<ul style="list-style-type: none"> Sediment disturbance Changes in sediment quality relative to baseline conditions 	<ul style="list-style-type: none"> Total Suspended Solids Contaminants 	<ul style="list-style-type: none"> See above 	<p>Surface water quantity (hydrology) covers potential changes to flow regimes of watercourses including tidal patterns and potential interactions with groundwater.</p> <p>Sediment quality covers the potential changes in sediment as a results of potential in-river works and potential discharges from the proposed Project Site.</p>
Groundwater	Groundwater quality	<ul style="list-style-type: none"> Changes to groundwater quality 	<ul style="list-style-type: none"> Contaminants 	<ul style="list-style-type: none"> Surface Water Human Health Vegetation Summary of Biophysical Factors that Support Ecosystem Function 	<p>Groundwater was selected as a VC as proposed Project activities have the potential to interact with groundwater and cause changes in groundwater quality.</p>
	Groundwater quantity	<ul style="list-style-type: none"> Changes to groundwater quantity Interactions with surface water 	<ul style="list-style-type: none"> Groundwater elevation Changes to groundwater recharge 		
Soil	Terrain	<ul style="list-style-type: none"> Terrain Instability 	<ul style="list-style-type: none"> Altered topography following construction Terrain instability during and following construction 	<ul style="list-style-type: none"> Vegetation Human Health Summary of Biophysical Factors that Support Ecosystem Function Air Quality Land and resource use 	<p>The Soil VC was selected to capture potential proposed Project interactions with soils, which can subsequently affect plant growth.</p> <p>Soil Quality and Quantity were identified as sub-components based on the potential for the proposed Project to have impact to soil capability. The topics to be Captured by the Assessment will help define where the proposed Project may have potential interactions with soil quality and quantity. Potential linkage to Air Quality has been added (to account for acid deposition effect on soil)</p>
	Soil Quality	<ul style="list-style-type: none"> Changes to soil quality 	<ul style="list-style-type: none"> Exposure to areas of previously recorded contamination Spot spills Wind and water erosion Admixing, compaction, and rutting Dust accumulation in surrounding agricultural lands within the LAA. 		
	Soil Quantity	<ul style="list-style-type: none"> Reduction in soil quantity 	<ul style="list-style-type: none"> Terrain instability during and following construction Wind and/or water erosion during and following construction 		

Table E-2. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections	Valued Component and Sub-Component Rationale
		Indicator	Measurable Parameter		
Vegetation	Plant Species and Ecological Communities of Interest	<ul style="list-style-type: none"> Plant species at risk Ecological communities of conservation concern Invasive plant species Culturally important Traditional Use species 	<ul style="list-style-type: none"> Number of known locations of plant species of management concern affected by the proposed Project 	<ul style="list-style-type: none"> Land and Resource Use Wildlife and Wildlife Habitat Fish and Fish Habitat Summary of Biophysical Factors that Support Ecosystem Function Air Quality 	<p>Vegetation was selected as a VC to support analyses of potential proposed Project interactions with vegetation and support analyses for other VCs. There is potential for Provincially-listed ecological communities of conservation concern to occur within the vegetation VC LAA and/or RAA. Provincially and Federally-listed plant species at risk have the potential to occur within the vegetation VC Assessment Areas.</p> <p>The proposed Project is in a disturbed industrial setting near sea level with modified landscapes in the Assessment Areas where no old forest, grasslands, or alpine/subalpine ecosystems occur.</p>
	Wetland functions	<ul style="list-style-type: none"> Wetland ecosystems 	<ul style="list-style-type: none"> Area (ha) of wetland ecosystems affected by the proposed Project 		
	Ecosystems	<ul style="list-style-type: none"> Riparian ecosystems 	<ul style="list-style-type: none"> Area (ha) of riparian ecosystems affected by the proposed Project 		
Wildlife and Wildlife Habitat	Birds (forest birds and water/shore birds/migratory birds) <i>Including species at risk and culturally important Traditional Use species</i>	<ul style="list-style-type: none"> Wildlife Habitat Quality and Quantity Wildlife Movement Wildlife Mortality 	<ul style="list-style-type: none"> Loss or alteration of wildlife habitat: <ul style="list-style-type: none"> Direct habitat disturbance (area and suitability of habitat) and within zone of influence, as appropriate Change in wildlife movement: <ul style="list-style-type: none"> Duration of barriers or filters to wildlife movement Increased wildlife mortality risk: <ul style="list-style-type: none"> Sources of mortality and intensity of effect (qualitative) 	<ul style="list-style-type: none"> Air Quality Acoustic Surface Water Vegetation Land and Resource Use Summary of Biophysical Factors that Support Ecosystem Function 	<p>Wildlife and wildlife habitat have intrinsic value and are an integral component of the ecosystem. Provincially- and Federally-listed wildlife species have the potential to occur within the LAA; other species are culturally important. Wildlife and Wildlife Habitat was selected as a VC given potential for interaction with the proposed Project, as well as its importance for cultural purposes and ecosystem function.</p> <p>Three sub-components are proposed for the Wildlife and Wildlife Habitat VC, which group together functionally similar species. The selection of sub-components for the wildlife and wildlife habitat assessment allows for a focused evaluation of potential effects from the proposed Project. Birds, mammals, and reptiles and amphibians will be assessed by evaluating the potential effects of the proposed Project on habitat, movement, health, and mortality risk for the groups, species at risk and species of management importance, or of social or cultural importance.</p> <p>Birds were included as a sub-component in recognition of the considerable use for foraging and refuge by birds of the fields adjacent to the proposed Project and because of the importance of the Fraser River Estuary as part of the Pacific flyway for a wide range of migratory birds and species at risk. Birds are protected under several provincial and Federal Acts, including the <i>Migratory Birds Convention Act</i>, the <i>Species at Risk Act</i>, and the <i>B.C. Wildlife Act</i>.</p>
	Mammals (terrestrial) <i>Including species at risk and culturally important Traditional Use species</i>				

Table E-2. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections	Valued Component and Sub-Component Rationale
		Indicator	Measurable Parameter		
Wildlife and Wildlife Habitat (cont'd)	Amphibians (pond-dwelling) <i>Including species at risk and culturally important Traditional Use species</i>	▪ See above	▪ See above	▪ See above	<p>The mammal sub-component will include terrestrial mammals species with potential to forage within and interact with the proposed Project Footprint, which primarily includes small mammals associated with highly modified environments.</p> <p>Tilbury Slough provides potentially suitable habitat for the species, but it is anticipated that the tidally-influenced brackish waters of the slough are likely too saline for their occurrence as they prefer freshwater habitat. The absence of contiguous aquatic or riparian habitat between the Critical Habitat polygon outside of the LAA and Tilbury Slough, and relatively poor-quality habitat within and around the brackish slough, suggests that occurrence of the species within the proposed Project Site is unlikely. Therefore, it was concluded that there is low potential for an adverse interaction between the proposed Project and Pacific water shrew, and the species was determined to be an unsuitable sub-component.</p> <p>Reptiles and amphibians were combined into one sub-component to capture the impact analysis and potential threats that might be unique to them. Although riparian habitat and slow-moving water is present within Tilbury Slough, the slough does not provide suitable habitat for the majority of amphibian and turtle species potentially present in the Wildlife and Wildlife Habitat LAA as it contains salt/brackish waters.</p>

Table E-2. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections	Valued Component and Sub-Component Rationale
		Indicator	Measurable Parameter		
Fish and Fish Habitat	Fish habitat	<ul style="list-style-type: none"> Riparian ecosystems 	<ul style="list-style-type: none"> Loss or alteration of functional riparian habitat from direct disturbance (such as, from clearing) 	<ul style="list-style-type: none"> Air Quality Acoustic Human Health Surface Water Vegetation Wildlife and Wildlife Habitat Land and Resource Use Summary of Biophysical Factors that Support Ecosystem Function 	<p>Fish and Fish Habitat are an important component of functioning aquatic and terrestrial ecosystems. Economically, fisheries provide government and business revenue from recreational harvesting and commercial operations. Additionally, Indigenous fisheries are of importance for sustenance and cultural reasons (Traditional and ceremonial uses).</p> <p>Fish of management concern and ecological importance will be considered, including those that may be vulnerable to habitat perturbations and fish species with Provincial or Federal at-risk status.</p> <p>The sub-components include the habitats and resources that support freshwater and marine fish. Assessment of fish habitat will consider potential effects such as the loss of habitat, alteration of flows, reduction of cover elements, and degradation of substrates. Interactions with the aquatic resources on which fish depend, such as benthic invertebrates and clean water will also be assessed.</p> <p>Marine Resources are associated within the lower Fraser River and estuarine environment and were combined with this VC as applicable. At the proposed Project Site, the Fraser River is tidally-influenced and subject to saltwater wedge intrusion. This ecological transition zone is highly biodiverse and provides important habitats for fish and wildlife, such as for Pacific salmon species and waterfowl that provide health, ecological, commercial, recreational, and Indigenous nation value.</p> <p>Marine mammals have high value from a conservation perspective, are an integral component of marine ecosystem function, are of importance to humans for economic resource use and have important cultural and traditional purposes.</p> <p>Changes potentially affecting marine mammals are linked and defined as fish and fish habitat in the <i>Fisheries Act</i> and linked and defined as aquatic species in subsection 2(1) of the <i>Species at Risk Act</i>. This includes potential proposed Project-related changes to marine mammals and their habitats regulated under Federal Acts.</p>
	Aquatic resources	<ul style="list-style-type: none"> Benthic invertebrates 	<ul style="list-style-type: none"> Benthic community-level metrics such as total abundance, taxonomic richness, and evenness 		
	Fish (marine and freshwater, including marine mammals and migratory species)	<ul style="list-style-type: none"> Fish communities Species at risk Culturally important Traditional Use species Other aquatic species of management concern Underwater noise 	<ul style="list-style-type: none"> Loss or alteration of instream habitat from direct disturbance (such as, from infrastructure placement) Water quality relative to baseline conditions and guidelines Timing and duration of underwater noise relative to guidelines 		

Table E-2. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections	Valued Component and Sub-Component Rationale
		Indicator	Measurable Parameter		
Employment and Economy	Employment	<ul style="list-style-type: none"> Employment Wages Education and skills Access to economic opportunities/economic equity 	<ul style="list-style-type: none"> Income (median and mean) (\$) Unemployment rate and labour force participation rate (%) Job Market and skills Level of education 	<ul style="list-style-type: none"> Land and Resources Summary of Human and Community Well-being 	<p>Jobs and training, labour income and access to economic opportunities/economic equity were selected as topics to represent potential Proposed Project interactions with the Local and Regional labour market.</p> <p>Topics under the Economy sub-component were selected as a VC to represent potential proposed Project interactions with Local and Regional economies and were identified to create measurable parameters for economic activity generated by the proposed Project to the extent possible.</p>
	Economy	<ul style="list-style-type: none"> Tax revenues GDP contributions Business revenue 	<ul style="list-style-type: none"> Municipal and regional government revenues, including property tax revenue and total revenue Total gross output (total expenditure by suppliers) (\$) Total induced effect (consumer expenditures) (\$) 		
Land and Resource Use	Private property	<ul style="list-style-type: none"> Use and enjoyment of private property Agriculture use 	<ul style="list-style-type: none"> Noise Ambient air quality Odour 	<ul style="list-style-type: none"> Air Quality Acoustic Vegetation Wildlife and Wildlife Habitat Fish and Fish Habitat Summary of Human and Community Well-being 	<p>Land and Resources was selected as a VC to represent potential interactions between the proposed Project and existing or proposed land use and management plans.</p> <p>Known land uses in the proposed Project area were selected as sub-components and include Private property, Tenured land and resource use, Public land and resource use, Parks and protected areas, and visual resources.</p>
	Tenured land and resource use	<ul style="list-style-type: none"> Industrial land uses (for example, cement production, shipping, and gas storage and processing) Tenured, permitted, or licensed marine uses (for example, aquaculture, moorage, commercial fishing) Other tenured, permitted, or licensed land uses 	<ul style="list-style-type: none"> Percentage of leases or licence of occupation Changes in tenure Changes in land and marine environments for resource use Conversion of land from resource use 		

Table E-2. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections	Valued Component and Sub-Component Rationale
		Indicator	Measurable Parameter		
Land and Resource Use (cont'd)	Public land and resource use	<ul style="list-style-type: none"> ▪ Consumptive land uses (for example, hunting, fishing, trapping, vegetation gathering) ▪ Non-consumptive land uses (for example, dog walking) ▪ Consumptive marine uses (for example, fishing) ▪ Non-consumptive marine uses (for example, boating, canoeing, kayaking) ▪ Tourism 	<ul style="list-style-type: none"> ▪ Percentage of land use for consumptive and non-consumptive purposes ▪ Changes in tenure or land use ▪ Conversion of land and marine resources from public land and resource use 	<ul style="list-style-type: none"> ▪ See above 	See above
	Parks and protected areas	<ul style="list-style-type: none"> ▪ Federal, Provincial, Regional, Municipal parks ▪ Other protected areas and environmentally sensitive areas ▪ Recreation sites and Trails BC areas ▪ Marine protected areas ▪ Habitat restoration sites 	<ul style="list-style-type: none"> ▪ Percentage of land and marine for parks and protected areas ▪ Changes in land and marine resources for parks and protected areas ▪ Conversion of land and marine resources from parks and protected areas 		
	Visual quality	<ul style="list-style-type: none"> ▪ Visual resources 	<ul style="list-style-type: none"> ▪ Changes to visual quality (that is, percent change in visible landscape/skyline from non-industrial to industrial) 		
	Navigation	<ul style="list-style-type: none"> ▪ River and marine navigation 	<ul style="list-style-type: none"> ▪ Changes in mooring locations ▪ Wake size ▪ Changes in navigation scheduling ▪ Navigation obstacles 		

Table E-2. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections	Valued Component and Sub-Component Rationale
		Indicator	Measurable Parameter		
Infrastructure and Services	Community infrastructure and services	<ul style="list-style-type: none"> Health care and social services facilities Emergency response services Domestic water supply Sewage/water treatment facilities Landfills and recycling facilities Community recreational facilities Educational services and facilities, including daycare 	<ul style="list-style-type: none"> Changes in expenses or personnel in Health care and social services facilities Emergency response services Domestic water supply Sewage/water treatment facilities Landfills and recycling facilities Community recreational facilities Educational services and facilities, including daycare 	<ul style="list-style-type: none"> Employment and Economy Acoustic Human Health Summary of Human and Community Well-being 	<p>Infrastructure and Services was selected as a VC to represent potential interactions of the proposed Project and proposed Project workforce with Local and Regional infrastructure and facilities.</p> <p>Community infrastructure and services, transportation infrastructure and Housing and accommodation were identified as sub-components to assess the potential effects the proposed Project will have on personnel in the proposed Project Area.</p>
	Transportation infrastructure	<ul style="list-style-type: none"> Transportation infrastructure 	<ul style="list-style-type: none"> Changes in road access Increased traffic Parking changes 		
Archaeological and Heritage Resources	--	<ul style="list-style-type: none"> Sites of historical importance and archaeological importance Sites of archaeological importance (including culturally modified trees) Paleontological resources 	<ul style="list-style-type: none"> Number of paleontological, archaeological or historical or sites, features and objects affected 	<ul style="list-style-type: none"> Land and Resource Use Culture Summary of Human and Community Well-being 	<p>Heritage Resources was selected as a VC as the proposed Project has the potential to interact with heritage resources. In addition, desktop review indicated that the proposed Project Footprint overlaps with established or asserted Traditional Territories of 18 Indigenous nations. Heritage resources sites were identified as topics and include sites of historical importance and archaeological importance, sites of archaeological importance (including culturally modified trees) and paleontological resources. Examples of heritage resources include:</p> <ul style="list-style-type: none"> Architectural sites Buildings Ceremonial/religious features Cultural depressions Cultural materials Habitation features Human remains Landmarks Other structures Rock art Transportation Other historic site types <p>Note the "Sites of historical importance and archaeological importance" bullet under Topics to be Captured by the Assessment has been modified to include Federal wording.</p>

Table E-2. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections	Valued Component and Sub-Component Rationale
		Indicator	Measurable Parameter		
Culture	--	<ul style="list-style-type: none"> Governance and stewardship systems Customs, beliefs, and values Language and intergenerational knowledge transfer Community, cultural cohesion and continuity 	<ul style="list-style-type: none"> Changes in governance and stewardship systems such as changes in policy direction or decision-making structures Changes to cultural practices (customs, beliefs and values) including social norms and behaviours Changes in use of language and intergenerational knowledge transfer Changes in community, cultural cohesion, and continuity such as family disruption, divorce, or size of community. 	<ul style="list-style-type: none"> Summary of Human and Community Well-being 	<p>Desktop review indicated that the Project Footprint overlaps with established or asserted Traditional Territories of 17 Indigenous nations. Therefore, culture was selected as a VC as the proposed Project has the potential interact with cultural practices. Examples of Culture include:</p> <ul style="list-style-type: none"> Subsistence Activities Subsistence Resources Trails and Travelways Habitation Sites Cultural Sites Cultural Heritage Resources <p>The proposed Project has included governance and stewardship systems, customs, beliefs, and values; language and intergenerational knowledge transfer; and community and cultural cohesion as topics to identify community interests and values and the linkages with cultural, socio-economic, and natural values to help understand community expectations and requested outcomes. Existing definitions may be weighed but not prescribed to reach desired community-based outcomes.</p> <p>This VC is intended to identify themes where culture may be impacted as a result of the proposed Project. Where specific cultural themes or interests are identified, they may be carried forward into the Indigenous nations effects assessment (that is, Section 11 of the draft AIR).</p>
Human Health	--	<ul style="list-style-type: none"> Air quality Drinking water quality Noise Soil quality Quality and quantity of country foods Population health 	<ul style="list-style-type: none"> Changes to measurements/predictions for air, noise, water, soil and country foods applicable to human health guidelines/standards Changes in population health (such as asthma, diabetes, obesity) 	<ul style="list-style-type: none"> Air Quality Acoustic Surface Water Groundwater Soil Vegetation Employment and Economy Infrastructure and Services Land and Resource Use Culture Summary of Human and Community Well-being 	<p>Human Health was selected as a VC to represent proposed Project interactions with the health of residents, communities, and land users. Topics selected to represent human health include:</p> <ul style="list-style-type: none"> Air quality Drinking water quality Noise Soil quality Quality and quantity of country foods Population health <p>This VC was selected to represent the interactions of the proposed Project with the identified anticipated linkages. Other aspects of ecological health are captured in Environmental VCs such as Vegetation and Wildlife and Wildlife Habitat.</p>

Table E-2. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections	Valued Component and Sub-Component Rationale
		Indicator	Measurable Parameter		
[Indigenous nation VC] (Placeholder)	--	<ul style="list-style-type: none">Specific to an Indigenous nation's Indigenous interests	<ul style="list-style-type: none">Specific to an Indigenous nation's Indigenous interests	<ul style="list-style-type: none">Other related VCs depending on VCIndigenous nation-specific assessment	Indigenous nations may identify a VC that specifically fits within their Effects Assessment section which will be in Section 11. These VCs are still being discussed through consultation and engagement.

E.4 References

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Appendix F
Draft Application Information Requirements for the
Tilbury Phase 2 LNG Expansion Project

Appendix F

Draft Application Information Requirements for the Tilbury Phase 2 LNG Expansion Project

Draft Application Information Requirements

Revisions proposed by Jacobs Consultancy Canada Inc. on behalf of FortisBC Energy Inc.

Rev 0 Draft 6

August 2021

Preface to the Application Information Requirements

FortisBC Holdings Inc. with its natural gas subsidiary FortisBC Energy Inc. (collectively defined as FortisBC) propose to expand storage and production capacity at the existing Tilbury liquefied natural gas (LNG) facility. The Tilbury Phase 2 LNG Expansion Project (the proposed Project) consists of construction and operation of a new LNG storage tank with a working volume of 142,400 cubic metres (approximately 3.5 petajoules) and new liquefaction facilities with a capacity of up to 7,700 tonnes per day of LNG production. The proposed Project will receive natural gas at 7651 Hopcott Road, on Tilbury Island in the City of Delta, British Columbia (B.C.) through established gas line systems.

The proposed Project is being assessed under the B.C. *Environmental Assessment Act*, S.B.C 2018, c. 51 (B.C. *EAA*) and the *Impact Assessment Act*, S.C. 2019, c. 28, s. 1 (*IAA*).

Given that environmental assessment under B.C. *EAA* and impact assessment under the *IAA* are being triggered, the Province of B.C. requested that Canada's Minister of Environment and Climate Change approve the substitution of the assessment under B.C. *EAA* for assessment under the *IAA*.

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Tables of Concordance

A Table of Concordance will be included in the Application. The Table of Concordance will demonstrate where the information requirements are found in the Application, with volume and section in the format in the Table 1. The following provides an example of what the Table of Concordance will look like.

Table 1. Table of Concordance between Application Information Requirements and Application

AIR Section & Page No.	AIR Title	AIR Section Language	Application Section Title	Application Volume, Section (or Subsection)	Relevant Application Appendix

Abbreviations and Acronyms

The Application must include a list of all acronyms and abbreviations used and their definitions. This list will likely be an expanded version of the list as follows, which consists of terms that appear in this document.

AIR	Application Information Requirement
Application	an Application for an Environmental Assessment Certificate
BAT	Best Available Technology
B.C.	British Columbia
B.C. CDC	British Columbia Conservation Data Centre
B.C. EAA	British Columbia <i>Environmental Assessment Act</i>
B.C. EAO	British Columbia Environmental Assessment Office
B.C. ENV	British Columbia Ministry of Environment and Climate Change Strategy
B.C. MFLNRORD	British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development
B.C. OGC	British Columbia Oil and Gas Commission
BCR	Bird Conservation Region
BEC	Biogeoclimatic Ecosystem Classification
BEP	Best Environmental Practice
CAAQS	Canadian Ambient Air Quality Standards
CAC	Community Advisory Committee
CEA	Cumulative Effects Assessment
CO	carbon monoxide
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
DFO	Fisheries and Oceans Canada
EA	Environmental Assessment
EAC	Environmental Assessment Certificate
ECCC	Environment and Climate Change Canada
FortisBC	FortisBC Holdings Inc. with its natural gas subsidiary FortisBC Energy Inc.
FRAMP	Fraser River Ambient Monitoring Program
GBA+	Gender-Based Analysis Plus ¹
GHG	greenhouse gas
ha	hectare(s)
IAA	<i>Impact Assessment Act</i>

¹ Gender Based Analysis Plus (GBA+) provides a framework to describe the full scope of potential adverse and positive effects under the proposed *Impact Assessment Act* (IAA). GBA+ is an analytical framework that guides practitioners, proponents, and participants to ask important questions about how designated projects may affect diverse or potentially vulnerable population groups (IAAC 2020).

Draft Application Information Requirements

IAAC	Impact Assessment Agency of Canada
IBA	Important Bird Area
km	kilometre(s)
LAA	Local Assessment Area
LNG	liquified natural gas
m	metre(s)
NO ₂	nitrogen dioxide
NOC	National Occupational Classification
PM _{2.5}	fine particulates smaller than 2.5 microns
PM ₁₀	respirable particulates of less than 10 microns
proposed Project	Tilbury Phase 2 LNG Expansion Project
proposed Project Site	7651 Hopcott Road, on Tilbury Island in the City of Delta, British Columbia
RAA	Regional Assessment Area
SARA	<i>Species at Risk Act</i>
SACC	Strategic Assessment of Climate Change
SO ₂	sulphur dioxide
TAC	Technical Advisory Committee
TDR	Technical Data Report
TISG	Tailored Impact Statement Guidelines Template
TSP	total suspended particulate
TUS	Traditional Use Study
US	United States
VOC	volatile organic compound
VC	Valued Component

Application Summary

The proponent must:

- a) prepare a stand-alone plain language summary of the Impact Statement in both of Canada's official languages (French and English). The summary must contain sufficient details for the reader to understand the project, any potential environmental, economic, social, culture, and health effects, potential adverse effects on Indigenous nations, proposed mitigation measures, residual effects, and any required follow-up programs as determined in an assessment conducted in accordance with these AIR.
- b) The Application must include a summary with the following:
 - i. A summary description of the project;
 - ii. A summary description of the assessment scope;
 - iii. A brief overview of engagement activities with Indigenous nations, the public, Local governments, Provincial and Federal government agencies, and stakeholders;
 - iv. A summary of the key issues raised by Indigenous nations, the public, Local governments, Provincial and Federal government agencies, and stakeholders;
 - v. A summary of key effects by Valued Component, proposed mitigation measures, and predicted residual and cumulative effects and any required follow-up programs;
 - vi. A summary of key effects on Indigenous nations and their rights, and proposed mitigation measures; and
 - vii. Key maps or figures illustrating the project location and key project components.

1. Project Overview

1.1 Project Introduction

The Application for an Environmental Assessment Certificate (the Application) will provide a high-level overview of the Tilbury Phase 2 LNG Expansion Project (the proposed Project) including:

- The type of project;
- The objective of the project;
- Key project components;
- A statement of the general project location and names of the nearest communities; and
- The relevant history of the project, including exploratory or investigative history.

The Application must outline the larger context of FortisBC Holdings Inc. with its natural gas subsidiary FortisBC Energy Inc. (collectively defined as FortisBC) developments on Tilbury Island and their relationship to the proposed Project including:

- The Phase 1 developments constructed and those in development; and
- The Tilbury Marine Jetty Project, which is currently being assessed under the British Columbia (B.C.) *Environmental Assessment Act* (B.C. *EAA*) (2002) and the *Canadian Environmental Assessment Act, 2012*.

1.2 Proponent Description

The Application must:

- Describe the proponent, including company history, type of company or organization, affiliations, headquarter location, corporate and management structures;
- Provide contact information for proponent representatives for the project (for example, name, address, phone, fax, email);
- Specify the mechanism used to ensure that corporate policies will be implemented and respected for the project; and
- Identify the main Contractor/company responsible for the preparation of the Application. Refer to subsection 19.4 that identifies key personnel responsible for preparing the Application including their qualifications.

1.3 Project Location

The following information will be included and, where appropriate, located on map(s):

- Project site including the latitude and longitude coordinates (using international standard representation in degrees, minutes, seconds) of the main project site;
- Past development or existing infrastructure;
- Distance of the project components to any Federal lands and the location of any Federal lands within the Regional Assessment Area (RAA);
- All waterbodies and their location on a map;
- Navigable waterways;
- Project access route and transportation corridors;

- Summary of historical environmental characteristics of the area;
- Environmentally sensitive areas, such as National, Provincial, and Regional parks, ecological reserves, marine protected areas, marine refuges, ecologically and biologically sensitive areas, wildlife habitat areas, old growth management areas, ungulate winter ranges, wetlands, estuaries, habitats of Federally- or Provincially-listed species at risk, and other identified sensitive areas;
- Lands subject to conservation agreements;
- Description and locations of all potable drinking water sources (that is, Municipal or private);
- Description of local and nations, including distances to these communities;
- Distance to the international border (for example, the United States [US]) if the potential for effects to cross a border is identified;
- Indigenous Traditional Territories and/or consultation areas, Treaty and/or Title lands, and Indian Reserve lands; Indigenous harvesting regions (with permission of Indigenous nations); and
- Summary of culturally and locally important features of the landscape (both Indigenous and non-Indigenous).

Maps are to be provided as electronic geospatial data file(s) compliant with the ISO 19115 standard. The following information will be included on maps:

- All waterbodies and their location;
- On- and off-site project components;
- Indigenous Traditional Territories and/or consultation areas, Treaty and/or Title lands, and Reserve lands;
- Local and Indigenous nation communities;
- International, Provincial, and Territorial boundaries, where applicable;
- Parks and protected areas;
- Legally-protected wildlife habitat;
- Geographic coordinates;
- Major existing infrastructure;
- Proponent lands, properties, or leased lands; and
- Adjacent land uses and any important environmental features.

The following shapefiles and .kmz files for the project will be provided, where not previously provided or where updates have been made to the shapefiles submitted with the Initial or Detailed Project Description:

- Project footprint;
- Known or proposed project components;
- Project access route; and
- Boundaries of Local Assessment Area (LAA) and RAA for each Valued Component (VC).

1.4 Project Components

The components of the Project, associated and ancillary works, including both on-and off-site facilities and associated activities are described in the Detailed Project Description (DPD). Any updates or changes to the project components since submission of the DPD must be described in detail in the Application.

The Application must provide a summary of the information in the DPD, including the project components, associated and ancillary works, including both on-and off-site facilities and associated activities, past development, and other characteristics to assist in understanding the potential environmental, economic, social, culture, and health effects of the Project, and the potential for interaction of the Project with the interests and rights of Indigenous Peoples.

The project components are set out in DPD. They are:

- Temporary Construction Components:
 - Material Offloading Facility;
 - Construction materials delivery;
 - Construction laydown and staging;
 - Construction infrastructure/service;
 - Water management and hydro-testing; and
 - Ground preparation.
- Operation Components:
 - Liquefied natural gas (LNG) storage;
 - Natural gas receiving;
 - Natural gas processing and liquefaction; and
 - Supporting infrastructure, including a safety flare.

1.5 Project Activities

The Application must provide a description of the applicable construction, operations, and decommissioning activities of the project, including duration and proposed scheduling. Proposed scheduling should identify the time of year, frequency, and duration for key project activities. Any overlapping phases should be described. The Application must highlight activities that involve periods of increased disturbance to environmental, economic, social, culture, and health conditions, or effects to Indigenous nations and their rights.

The Application will identify a pre-construction phase and describe any activities that are planned to be conducted prior to construction of the full project.

The Application must also provide a summary of the changes that have been made to the project since submission of the DPD, including the rationale for the changes.

1.5.1 Site Preparation and Construction

- The Application must include a description of the site preparation and construction activities associated with the following (as applicable to the project):
 - Construction staging;
 - Site grubbing/clearing and excavation, including tree and vegetation removal;

- Changes to existing infrastructure (such as, relocation of pipelines and the removal of legacy equipment);
- Borrow materials requirement (source and quantity);
- Storage areas for material stockpiles;
- Water management, including water diversions, dewatering or deposition activities, stormwater management required (location, methods, timing);
- Operation of light duty, heavy-duty, and mobile off-road equipment (type, quantity);
- Construction of administrative buildings, garages, and other ancillary facilities;
- Storage and management of hazardous materials, fuels, and residues; and
- Installation of production platforms and mooring systems.

1.5.2 Operation

- The Application must include a description of the operation activities associated with the following:
 - LNG Storage;
 - Natural gas receiving;
 - Natural gas processing and liquefaction;
 - Supporting infrastructure;
 - Management and disposal of wastes onshore;
 - Storage, handling, and transport of materials;
 - Water management, including hydrotest water, potable water, water use requirements, storm water, process water, wastewater, water recycling, and effluent treatment (quantity, treatment requirements, release point[s]);
 - Storage and handling of reagents, petroleum products, chemical products, hazardous materials, and residual materials; and
 - Waste management and recycling.

1.5.3 Decommissioning and Reclamation

- The Application must include a preliminary outline of decommissioning and reclamation phase associated with the following activities:
 - De-energizing, decommissioning purging, and dismantling of LNG facilities;
 - Repurposing and recycling of materials and equipment; and
 - Reclamation of site located at 7651 Hopcott Road, on Tilbury Island in the City of Delta, British Columbia (the proposed Project Site) for alternate use.

1.6 Workforce Requirements

The Application must describe the anticipated labour requirements, employee programs and policies (if available), and workforce development opportunities for the project, including:

- Opportunities for employment outlining the anticipated number of full-time and part-time positions to be created for each project phase, the skill and education levels required for the positions, and working conditions;
- Anticipated workforce region of origin (that is, local and regional employees);
- Investment in training opportunities;
- Expected workforce requirements based on the National Occupational Classification (NOC) system and timelines for employment opportunities;
- Anticipated work rotation schedules and means to get employees to the project site for construction and operation (for example, hours of work, transportation);
- Anticipated hiring policies including hiring programs;
- Workplace policies and programs for Indigenous nation employment and employment of underrepresented groups;
- Employee assistance programs and benefits including career planning, employee counselling, family support, transition planning, pension plan, and group insurance benefit plans; and
- Workplace policies and programs including codes of conduct, workplace safety programs, and cultural training and awareness programs.

1.7 The Need for and Purpose of the Project and Alternatives Considered

1.7.1 Need for the Project

The Application must describe the underlying opportunity or issue that the project intends to seize or solve. The Application must provide supporting information that demonstrates the need for a project. The Application must include a summary of any comments or views of Indigenous nations, the public, and other participants the proponent received on the proponent's need statement.

1.7.2 Purpose of the Project

The Application must outline what is to be achieved by carrying out the project including:

- The target market (such as, international, domestic, local); and
- Objectives the proponent has in carrying out the project.

1.7.3 Alternatives to the Project

The Application must:

- Provide a description of the functionally different ways that are technically and economically feasible to meet the need and achieve the purpose of the project. For these technically and economically feasible alternatives to the project, the Application must:
 - Provide sufficient information for the selection of alternatives to the project; and
 - Demonstrate how the views, information, and knowledge from Indigenous nations, the public and other participants, as well as existing studies and reports were considered in meeting these AIR.

The analysis of alternatives to the project will validate that the preferred alternative is a reasonable approach.

1.7.4 Alternative Means of Carrying out the Project

The Application must identify and consider alternative means of carrying out the project that are technically and economically feasible, including the use of Best Available Technologies (BATs), and the potential environmental, economic, social, culture, and health effects, risks, and uncertainties of those alternatives. The alternative means analysis will address all project components for all project phases, where relevant to the project activities and design. Considerations include, but are not limited to, alternative technologies, processes, mitigation, and design.

The assessment of the alternatives to, and alternative means of carrying out, the Project, must account for the following:

- Any regional or strategic assessment;
- Any study or plan that is conducted or prepared by a government (including Local, Provincial, Federal or Indigenous nation) —in respect to the project region and that has been provided with respect to project;
- Any relevant assessment of the effects of the project that is conducted by or on behalf of an Indigenous nation and that is provided with respect to the project;
- Indigenous Knowledge, community, or local knowledge, comments received by the public, comments received; and
- Other studies or assessments realized by other proponents.

The assessment of the alternative means of carrying out the project must provide the following:

- Description of all alternative means considered;
- The BATs considered and applied in determining alternative means;
- The methods and criteria used to determine technical and economic feasibility of possible alternative means;
- Identify alternative means that are technically and economically feasible;
- The methodology and criteria used to determine the preferred alternative means and the unacceptability of excluded alternative means, including consideration of trade-offs associated with the preferred and alternative means;
- Criteria to examine the environmental, economic, social, culture, and health effects of each remaining alternative means to identify a preferred alternative;
- The elements of each technically and economically feasible alternative means and the associated adverse and positive environmental, economic, social, culture, and health effects including effects on rights or interests of Indigenous nations, including those identified by the Indigenous nation(s); greenhouse gas (GHG) emissions; and risks and uncertainties;
- Where alternative means for carrying out the project result in corresponding changes to the health, social, cultural or economic conditions, Gender-Based Analysis Plus (GBA+) and the Provincial guidelines on Human and Community Well-being will be applied to the effects analysis to describe disproportionate effects on distinct human populations who may be more vulnerable to adverse effects. The proponent will also consider the views or information provided by Indigenous nations, the public and other participants in establishing parameters to compare the alternative means and predicted effects;

- All project elements, including, but not limited to, the following project elements and components, where relevant to the project activities and design:
 - Project site location;
 - Route or corridor and means options for transportation of LNG;
 - Access to the project site;
 - Location of key project components;
 - Facility design;
 - Energy sources to power the project site and other stationary sources to provide heat to the project;
 - Management of water supply and wastewater;
 - Water management and location of the final effluent discharge points;
 - Construction alternatives;
 - Timing options for various components and phases of the project; and
 - Suspension, abandonment, or decommissioning options.

2. Regulatory Framework

2.1 Assessment Process

The Application must identify where the project has met the definition of a reviewable project, with reference to the appropriate section of the Reviewable Projects Regulation and provide a high-level overview of the assessment process. It will also state if there is a Federal review and whether it is coordinated or substituted with the Provincial assessment and whether there is an Indigenous nation-led assessment. Provide a reference to the Assessment Plan which provides details of the process.

2.2 Relevant Policies, Initiatives, and Assessments

The Application must:

- Identify and take into account government policies, resource management plans, planning or study initiatives, and Regional studies and strategic assessments relevant to the project and/or assessment and their implications.

2.3 Land and Marine Use Plans

The Application must:

- Summarize any land and/or marine use plans, land zoning of a government (Municipal, Provincial, Federal, or an Indigenous nation) that may be relevant to the project area including whether the project is consistent with the identified plans.
- Describe any land lease agreements or land tenures required for construction and operation of each component of the proposed Project.

2.4 Indigenous Nation Arrangements

The Application must identify and describe how the assessment has considered the following arrangements:

- Any applicable Indigenous nation arrangements between Federal or Provincial governments and Indigenous nations that are pertinent to the project and/or Environmental Assessment (EA) (for example, any Treaty, self-government, land claims); and
- The Application must, subject to confidentiality requirements, identify and describe all agreements entered into with Indigenous nations as applicable to the project, as set out in:
 - The Application Information Requirements (AIRs);
 - An engagement plan approved under Section 13 of the *B.C. EAA*;
 - A Process Order issued under Section 19 of the *B.C. EAA*; and
 - Notices issued under Sections 18(a) and (b) of the *Impact Assessment Act (IAA)*.

2.5 Permitting

The Application must provide an update to the information provided on permitting in the DPD, which will:

- Describe existing licences, permits, approvals, or tenures and the date received; and
- Describe anticipated Federal, Provincial, Regional, and Municipal authorizations and permits, their expected submission dates, and an indication of whether they would be submitted during the assessment.

3. Public Engagement

The Application must describe the public and stakeholder engagement on the project and proposed activities during the development of the Application. The proponent must conduct public and stakeholder engagement in accordance with the Assessment Plan issued by the B.C. Environmental Assessment Office (B.C. EAO) or the Public Participation Plan issued by the Impact Assessment Agency of Canada (IAAC). The Application must describe whether the engagement is consistent with the requirements in the Assessment Plan, and if not, provide a rationale.

The Application must provide a description of the information and materials that were distributed, and describe the efforts made to distribute project information during Early Engagement, Process Planning, and Application development. The Application must indicate engagement methods, the groups consulted, the issues identified as well as the location of any in-person engagement, the number of participants and the views expressed. The Application must also describe the extent to which public and stakeholder feedback was incorporated in the design of the project and in the Application.

The Application must provide a summary of key issues related to the project, which were raised through engagement with the public and stakeholders and the potential environmental, economic, social, cultural and health effects, including disproportionate effects, for diverse subgroups within the population and effects to current and future generations.

The Application must describe ways to address the issues raised, such as alternative means, specific mitigation measures, or specific monitoring programs and adaptive management to deal with uncertainty. The Application must identify the public and stakeholder concerns that were not addressed, if any, and provide reasons why the concerns were not addressed.

The Application must also provide details regarding how the public and stakeholders will be engaged during all phases of the project, if the project is approved and proceeds. This includes public and stakeholder involvement in follow-up and monitoring programs.

4. Local Government Engagement

The Application must:

- Describe the proponent's ongoing Local government engagement on the project and proposed activities during the development of the Application. The proponent must conduct engagement with Local governments in accordance with the Assessment Plan issued by the B.C. EAO or the Public Participation Plan issued by the IAAC.
- Describe whether the engagement is consistent with the requirements in the Assessment Plan, and the Public Participation Plan, and if not, provide a rationale.
- Describe the information and materials that were distributed, and the efforts made to distribute project information during the project engagement.
- Indicate the methods used, where in-person engagement was held, the views expressed and the extent to which this information was incorporated in the design of the project as well as in the Application.
- Provide a summary of key issues related to the project, which were raised through engagement with Local government and the potential environmental, economic, social, culture, and health effects, including disproportionate effects on distinct human populations and effects to current and future generations.
- Describe ways to address the issues raised, such as alternative means, specific mitigation measures, or specific monitoring programs and adaptive management to deal with uncertainty.
- Identify Local government concerns that were not addressed, if any, and provide reasons why the concerns were not addressed.
- Provide details regarding how Local governments will be engaged during all phases of the project if it is approved and proceeds.

5. Valued Components Selection

The Application must provide a list of the VCs considered in the Effects Assessment (see Table 5-1).

Table 5-1. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections
		Indicator	Measurable Parameter	
Air Quality	Air Quality	<ul style="list-style-type: none"> Ambient concentrations of criteria air contaminants Odour 	<ul style="list-style-type: none"> Nitrogen dioxide [NO₂], sulphur dioxide [SO₂], carbon monoxide [CO], fine particulates smaller than 2.5 microns [PM_{2.5}], respirable particulates of less than 10 microns [PM₁₀], total suspended particulate [TSP], total reduced sulphur, and volatile organic compounds [VOCs]) Modelled concentrations of total reduced sulphur and VOC 	<ul style="list-style-type: none"> Human Health Vegetation Water Quality Fish and Fish Habitat Wildlife and Wildlife Habitat Summary of Biophysical Factors that Support Ecosystem Function Soil
	Acid Deposition	<ul style="list-style-type: none"> Acidification and eutrophication 	<ul style="list-style-type: none"> Deposition quantities of sulphur/sulphates, nitrogen, and acid 	
Acoustic	Noise	<ul style="list-style-type: none"> Audible noise levels Low-frequency noise levels 	<ul style="list-style-type: none"> Changes to audible noise levels (including low-frequency noise) 	<ul style="list-style-type: none"> Human Health Wildlife and Wildlife Habitat Land and Resource Use Summary of Biophysical Factors that Support Ecosystem Function Fish and Fish Habitat
	Vibration	<ul style="list-style-type: none"> Ground borne vibration 	<ul style="list-style-type: none"> Changes to vibration levels 	
Surface Water	Surface water quality	<ul style="list-style-type: none"> Changes in water quality relative to baseline conditions Sedimentation 	<ul style="list-style-type: none"> Contaminants Nutrients Total suspended solids Turbidity Dissolved oxygen pH Conductivity 	<ul style="list-style-type: none"> Fish and Fish Habitat Human Health Wildlife and Wildlife Habitat Summary of Biophysical Factors that Support Ecosystem Function Groundwater
	Surface water quantity (Hydrology)	<ul style="list-style-type: none"> Changes to surface water quantity Interactions with groundwater Tidal patterns 	<ul style="list-style-type: none"> Peak runoff rate to City of Delta's Storm Sewer Changes to groundwater recharge 	
	Sediment quality	<ul style="list-style-type: none"> Sediment disturbance Changes in sediment quality relative to baseline conditions 	<ul style="list-style-type: none"> Total suspended solids Contaminants 	
Groundwater	Groundwater quality	<ul style="list-style-type: none"> Changes to groundwater quality 	<ul style="list-style-type: none"> Contaminants 	<ul style="list-style-type: none"> Surface Water Human Health Vegetation Summary of Biophysical Factors that Support Ecosystem Function
	Groundwater quantity	<ul style="list-style-type: none"> Changes to groundwater quantity Interactions with surface water 	<ul style="list-style-type: none"> Groundwater elevation Changes to groundwater recharge 	

Table 5-1. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections
		Indicator	Measurable Parameter	
Soil	Terrain	<ul style="list-style-type: none"> ▪ Terrain Instability 	<ul style="list-style-type: none"> ▪ Altered topography following construction ▪ Terrain instability during and following construction 	<ul style="list-style-type: none"> ▪ Vegetation ▪ Human Health ▪ Summary of Biophysical Factors that Support Ecosystem Function ▪ Air Quality ▪ Land and resource use
	Soil Quality	<ul style="list-style-type: none"> ▪ Changes to soil quality 	<ul style="list-style-type: none"> ▪ Exposure to areas of previously recorded contamination ▪ Spot spills ▪ Wind and water erosion ▪ Admixing, compaction, and rutting ▪ Dust accumulation in surrounding agricultural lands within the LAA 	
	Soil Quantity	<ul style="list-style-type: none"> ▪ Reduction in soil quantity 	<ul style="list-style-type: none"> ▪ Terrain instability during and following construction ▪ Wind and/or water erosion during and following construction 	
Vegetation	Plant Species and Ecological Communities of Interest	<ul style="list-style-type: none"> ▪ Plant species at risk ▪ Ecological communities of conservation concern ▪ Invasive plant species ▪ Culturally important Traditional Use species 	<ul style="list-style-type: none"> ▪ Number of known locations of plant species of management concern affected by the proposed Project 	<ul style="list-style-type: none"> ▪ Land and Resource Use ▪ Wildlife and Wildlife Habitat ▪ Fish and Fish Habitat ▪ Summary of Biophysical Factors that Support Ecosystem Function ▪ Air Quality
	Wetland functions	<ul style="list-style-type: none"> ▪ Wetland ecosystems 	<ul style="list-style-type: none"> ▪ Area (hectare [ha]) of wetland ecosystems affected by the proposed Project 	
	Ecosystems	<ul style="list-style-type: none"> ▪ Riparian ecosystems 	<ul style="list-style-type: none"> ▪ Area (ha) of riparian ecosystems affected by the proposed Project 	

Table 5-1. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections
		Indicator	Measurable Parameter	
Wildlife and Wildlife Habitat	Birds (forest birds and water/shore birds/migratory birds) <i>Including species at risk and culturally important traditional use species</i>	<ul style="list-style-type: none"> Wildlife Habitat Quality and Quantity Wildlife Movement Wildlife Mortality 	<ul style="list-style-type: none"> Loss or alteration of wildlife habitat: <ul style="list-style-type: none"> Direct habitat disturbance (area and suitability of habitat) and within zone of influence, as appropriate Change in wildlife movement: <ul style="list-style-type: none"> Duration of barriers or filters to wildlife movement Increased wildlife mortality risk: <ul style="list-style-type: none"> Sources of mortality and intensity of effect (qualitative) 	<ul style="list-style-type: none"> Air Quality Acoustic Surface Water Vegetation Land and Resource Use Summary of Biophysical Factors that Support Ecosystem Function
	Mammals (terrestrial) <i>Including species at risk and culturally important traditional use species</i>			
	Amphibians (pond-dwelling) <i>Including species at risk and culturally important traditional use species</i>			
Fish and Fish Habitat	Fish habitat	<ul style="list-style-type: none"> Riparian ecosystems 	<ul style="list-style-type: none"> Loss or alteration of functional riparian habitat from direct disturbance (such as, from clearing) 	<ul style="list-style-type: none"> Air Quality Acoustic Human Health Surface Water Vegetation Wildlife and Wildlife Habitat Land and Resource Use Summary of Biophysical Factors that Support Ecosystem Function
	Aquatic resources	<ul style="list-style-type: none"> Benthic invertebrates 	<ul style="list-style-type: none"> Benthic community-level metrics (such as, total abundance, taxonomic richness, and evenness) 	
	Fish (marine and freshwater, including marine mammals and migratory species)	<ul style="list-style-type: none"> Fish communities Species at risk Culturally important Traditional Use species Other aquatic species of management concern Underwater noise 	<ul style="list-style-type: none"> Loss or alteration of instream habitat from direct disturbance (such as, from infrastructure placement) Water quality relative to baseline conditions and guidelines Timing and duration of underwater noise relative to guidelines 	

Table 5-1. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections
		Indicator	Measurable Parameter	
Employment and Economy	Employment	<ul style="list-style-type: none"> Employment Wages Education and skills Access to economic opportunities/economic equity 	<ul style="list-style-type: none"> Income (median and mean) (\$) Unemployment rate and labour force participation rate (%) Job Market and skills Level of education 	<ul style="list-style-type: none"> Land and Resources Summary of Human and Community Well-being
	Economy	<ul style="list-style-type: none"> Tax revenues GDP contributions Business revenue 	<ul style="list-style-type: none"> Municipal and Regional government revenues, including property tax revenue and total revenue Total gross output (total expenditure by suppliers) (\$) Total induced effect (consumer expenditures) (\$) 	
Land and Resource Use	Private property	<ul style="list-style-type: none"> Use and enjoyment of private property Agricultural use 	<ul style="list-style-type: none"> Noise Ambient air quality Odour 	<ul style="list-style-type: none"> Air Quality Acoustic Vegetation Wildlife and Wildlife Habitat Fish and Fish Habitat Summary of Human and Community Well-being
	Tenured land and resource use	<ul style="list-style-type: none"> Industrial land uses (for example, cement production, shipping, and gas storage and processing) Tenured, permitted, or licensed marine uses (for example, aquaculture, moorage, commercial fishing) Other tenured, permitted, or licensed land uses 	<ul style="list-style-type: none"> Percentage of leases or licence of occupation Changes in tenure Changes in land and marine environments for resource use Conversion of land from resource use 	
	Public land and resource use	<ul style="list-style-type: none"> Consumptive land uses (for example, hunting, fishing, trapping, vegetation gathering) Non-consumptive land uses (for example, dog walking) Consumptive marine uses (for example, fishing) Non-consumptive marine uses (for example, boating, canoeing, kayaking) Tourism 	<ul style="list-style-type: none"> Percentage of land use for consumptive and non-consumptive purposes Changes in tenure or land use Conversion of land and marine resources from public land and resource use 	

Table 5-1. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections
		Indicator	Measurable Parameter	
Land and Resource Use (cont'd)	Parks and protected areas	<ul style="list-style-type: none"> Federal, Provincial, Regional, Municipal parks Other protected areas and environmentally sensitive areas Recreation sites/Trails BC areas Marine protected areas Habitat restoration sites 	<ul style="list-style-type: none"> Percentage of land and marine for parks and protected areas Changes in land and marine resources for parks and protected areas Conversion of land and marine resources for parks and protected areas 	<ul style="list-style-type: none"> See above
	Visual quality	<ul style="list-style-type: none"> Visual resources 	<ul style="list-style-type: none"> Changes to visual quality (that is, percent change in visible landscape/skyline from non-industrial to industrial). Changes to visible light at night. Changes in the visibility of the industrial site from publicly used locations. 	
	Navigation	<ul style="list-style-type: none"> River and marine navigation 	<ul style="list-style-type: none"> Changes in mooring locations Wake size Changes in navigation scheduling Navigation obstacles 	
Infrastructure and Services	Community infrastructure and services	<ul style="list-style-type: none"> Health care and social services facilities Emergency response services Domestic water supply Sewage/water treatment facilities Landfills and recycling facilities Community recreational facilities Educational services and facilities, including daycare 	Changes in expenses or personnel in: <ul style="list-style-type: none"> Health care and social services facilities Emergency response services Domestic water supply Sewage/water treatment facilities Landfills and recycling facilities Community recreational facilities Educational services and facilities, including daycare 	<ul style="list-style-type: none"> Employment and Economy Acoustic Human Health Summary of Human and Community Well-being
	Transportation infrastructure	<ul style="list-style-type: none"> Transportation infrastructure 	<ul style="list-style-type: none"> Changes in mooring locations Wake size Changes in navigation scheduling Navigation obstacles 	

Table 5-1. Candidate Valued Components and Sub-Components Selection

Valued Components	Sub-Components	Topics to be Captured by the Assessment		Anticipated Linkages to other Valued Components or Sections
		Indicator	Measurable Parameter	
Archaeological and Heritage Resources	--	<ul style="list-style-type: none"> Sites of historical importance and archaeological importance Sites of archaeological importance (including culturally modified trees) Paleontological resources 	<ul style="list-style-type: none"> Number of paleontological, archaeological or historical or sites, features, and objects affected 	<ul style="list-style-type: none"> Land and Resource Use Culture Summary of Human and Community Well-being
Culture	--	<ul style="list-style-type: none"> Governance and stewardship systems Customs, beliefs, and values Language and intergenerational knowledge transfer Community, cultural cohesion, and continuity 	<ul style="list-style-type: none"> Changes in governance and stewardship systems such as changes in policy direction or decision-making structures Changes to cultural practices customs, beliefs and values) including social norms and behaviours Changes in use of language and intergenerational knowledge transfer Changes in community, cultural cohesion, and continuity (such as, family disruption, divorce, or size of community) 	<ul style="list-style-type: none"> Summary of Human and Community Well-being
Human Health	--	<ul style="list-style-type: none"> Air quality Drinking water quality Noise Soil quality Quality and quantity of country foods Population health 	<ul style="list-style-type: none"> Changes to measurements/predictions for air, noise, water, soil and country foods applicable to human health guidelines/standards Changes in population health (such as, asthma, diabetes, obesity) 	<ul style="list-style-type: none"> Air Quality Acoustic Surface Water Groundwater Soil Vegetation Employment and Economy Infrastructure and Services Land and Resource Use Culture Summary of Human and Community Well-being
[Indigenous nation VC] (Placeholder)	--	<ul style="list-style-type: none"> Specific to an Indigenous nation's Indigenous interests 	<ul style="list-style-type: none"> Specific to an Indigenous nation's Indigenous interests 	<ul style="list-style-type: none"> Other related VCs depending on VC Indigenous nation-specific assessment

6. Valued Component Assessment Methods

The Application must describe the assessment of the potential effects of the project conducted in accordance with these AIR.

The Application must describe how scientific, Indigenous Knowledge, and local knowledge was used in the assessment. For Indigenous Knowledge, the Application must outline how the Indigenous Knowledge was used in alignment with the Indigenous Knowledge policies and protocols of the Indigenous nations. Further, the Application must confirm that the Indigenous nation has provided consent for its use and public disclosure and that the Indigenous nation agrees that the Indigenous Knowledge has been appropriately characterized within the Application. The application of GBA+ to the effects' analysis will be used to describe disproportionate effects for diverse subgroups.

6.1 Relevant Statutes, Policies, and Frameworks

The Application must summarize the regulatory and planning context for the management of the VC, including relevant legislation, policies, and frameworks specific to the VC, such as various acts, regulations, policies, standards, cooperation agreements, and/or decision-making frameworks including Indigenous nation legislation or policy.

6.2 Assessment Boundaries

The Application must describe the spatial, temporal, administrative, and technical boundaries for each VC (or sub-component) included in assessing the potential adverse and positive environmental, economic, social, culture, and health effects of the project and provide a rationale for each boundary, as provided in Table 6-1.

The Application must also describe the methods used to identify the boundaries and provide a rationale for each boundary. Information on boundaries for each VC (or sub-component) will be included in the appropriate VC sections of the Application, and will encompass baseline conditions, all relevant project phases, components, and activities. In some cases, spatial boundaries may extend to areas outside of the Province of B.C.'s or Government of Canada's jurisdiction. These transboundary spatial boundaries will be identified where transboundary effects are expected. The spatial boundary maps for VCs (or sub-components) will clearly identify parts of the proposed Project footprint located on lands and waters that lie within Federal jurisdiction or Treaty Lands.

The following spatial boundaries will be used in the Effects Assessment:

- **Proposed Project footprint** - The proposed Project footprint is the area directly disturbed by construction activities, including associated physical works and activities.
- **LAA** - The LAA varies with the VC being considered. The LAA includes the proposed Project footprint and extends beyond it to incorporate the area within which the VC is most likely to be affected by the project.
- **RAA** - The RAA varies with the VC being considered and includes the proposed Project footprint and LAA, and the area extending beyond the LAA where there is potential for the proposed Project to have regional effects on the VC. The RAA is also used to assess potential cumulative effects.

No Cumulative Effects Assessment (CEA), provincial, national, or international boundaries have been determined for the proposed Project. See the spatial boundary rationale provided in Table 6-1.

Indigenous Knowledge, when available, has the potential to inform VC linkages related to Land and Resource Use, and as a result to affect spatial boundaries.

Table 6-1 provides the LAA and RAA for each of the proposed Project VCs.

Figures 6.2-1 to 6.2-14 map the spatial boundaries for each VC for the proposed Project.

Table 6-1. Spatial Boundaries for each Valued Component

Spatial Boundary	Description	Rationale
Air Quality		
LAA	The LAA for air quality is a 20 km by 20 km domain centered on the proposed Project.	The LAA is consistent with other similar projects and assessments.
RAA	The RAA covers a 30 km by 30 km area centered on the proposed Project, and extends to the coast on the west, the US border to the south, Vancouver and Burnaby to the north, and Surrey to the east.	<p>The RAA extent is consistent with the presence of external emissions sources in the vicinity of the proposed Project and cumulative assessment requirements.</p> <p>Based on proposed Project design, available data and preliminary modelling, there is no evidence of transboundary effects.</p>
Acoustic		
LAA	<p>The LAA will be defined as a 1.5 km wide zone around the perimeter of the proposed Project Area.</p> <p>The historical village of Tl'uq̓tinus as well as portions of the City of Delta and the City of Richmond fall within this study area.</p>	<p>British Columbia Noise Control Best Practice Guideline (B.C. OGC 2018a) is a receptor-based noise regulation that defines a noise receptor as any permanent or seasonally-occupied dwelling that may be affected by the proposed Project. In areas where there are no nearby receptors, the B.C. OGC Noise Guideline sets limits on the noise levels at a distance of 1.5 km from the proposed Project fence line. For the purposes of this assessment, the "facility fence line", as termed in B.C. OGC, is the Tilbury Project Area boundary.</p> <p>Receptors beyond the 1.5 km LAA may be included in the assessment if there is reason to believe that there may be appreciable noise effects.</p>
RAA	The RAA will be defined as a 3 km wide zone around the perimeter of the proposed Project Area.	The Acoustic RAA consists of a 3 km buffer from the proposed Project Site, which corresponds to the extent beyond which proposed Project noise emissions cannot be distinguished from existing ambient noise levels.

Table 6-1. Spatial Boundaries for each Valued Component

Spatial Boundary	Description	Rationale
Surface Water		
LAA	The LAA for Surface Water encompasses the area 100 m upstream and 200 m downstream of the proposed Project footprint. The LAA also includes 100 m upstream and 200 m downstream within the Tilbury Slough from the culvert outlet that drains stormwater from the proposed Project Site.	The Surface Water LAA encompasses the proposed Project footprint and extends beyond it to include the surrounding area where there is a reasonable potential for proposed Project-specific effects to occur. The LAA includes the terrestrial footprint of the proposed Project to account for potential riparian disturbances. The LAA also includes the Tilbury Slough between 100 m upstream and 200 m downstream of the culvert outlet that drains stormwater from the proposed Project Site.
RAA	The RAA for Surface Water encompasses the Fraser River for 500 m upstream and 1,000 m downstream of the proposed Project footprint. The RAA also includes Tilbury Slough for 500 m upstream and 1000 m downstream of the culvert outlet that drains stormwater from the proposed Project Site.	The Surface Water RAA encompasses the proposed Project footprint, Surface Water RAA, and the surrounding area where there is potential for the proposed Project to interact with other activities to have cumulative adverse effects. Extending the RAA upstream 500 m of the proposed Project Site includes the FRAMP Site 4 monitoring station and 1,000 m downstream considering tidal flows and potential mobilization of sediment.
Groundwater		
LAA	The LAA encompasses the terrestrial footprint of the proposed Project Site.	The Groundwater LAA encompasses the Terrestrial proposed Project footprint where there is a reasonable potential for proposed Project-specific effects to occur.
RAA	The RAA encompasses the mapped extent of the aquifer that is within the proposed Project Site.	The Groundwater RAA encompasses the proposed Project footprint, Groundwater LAA, and the extent of mapped aquifers within the proposed Project footprint where there is potential for the proposed Project to interact with other activities to have cumulative adverse effects.
Soil		
LAA	The proposed Project footprint plus a 100 m buffer around the proposed Project footprint and a 50 m buffer around truck routes between the highway and the proposed Project Site.	The Soil LAA encompasses the proposed Project footprint and extends beyond it to include the surrounding area to identify existing contamination that may affect the soil. An additional 50 m buffer around truck routes has been added to assess potential dust accumulation effects from truck traffic.
RAA	The RAA is the same as the LAA for Soil.	The RAA for Soil is the same as the proposed LAA because proposed Project activities are not anticipated to interact with soil beyond the LAA.

Table 6-1. Spatial Boundaries for each Valued Component

Spatial Boundary	Description	Rationale
Vegetation		
LAA	The LAA for Vegetation will consist of the proposed Project footprint plus a 100 m buffer around the proposed Project footprint and includes both aquatic and terrestrial habitat. The LAA also includes 100 m upstream and 200 m downstream within the Tilbury Slough from the culvert outlet that drains stormwater from the proposed Project Site.	<p>The Vegetation LAA encompasses the proposed Project footprint and extends beyond it to include the surrounding area where there is a reasonable potential for proposed Project-specific effects to occur. The Vegetation LAA considers plant species and ecosystem communities expected to interact with the proposed Project, the effect pathways, and available information on vegetation sensitivity to disturbance (such as, area of influence for biotic edge effects).</p> <p>Riparian vegetation along the Fraser River and Tilbury Slough is included in the Vegetation LAA, as well as the intertidal zones and marine areas (delineated by the coastline) within the 100 m buffer area.</p>
RAA	The RAA for Vegetation will consist of a 1 km buffer surrounding the proposed Project footprint and includes both aquatic and terrestrial habitat.	<p>The Vegetation RAA encompasses the proposed Project footprint, Vegetation LAA, and the surrounding area (including larger drainage area) where there is potential for the proposed Project to interact with other activities to have cumulative adverse effects.</p> <p>Riparian vegetation along the Fraser River and Tilbury Slough, as well as intertidal zones and marine areas (delineated by the coastline), are included in the Vegetation RAA, given the proposed Project has potential to interact with marine habitats.</p>
Wildlife and Wildlife Habitat		
LAA	The LAA for Wildlife consists of the proposed Project footprint plus a 300 m buffer around the proposed Project footprint and includes both aquatic and terrestrial habitat.	The Wildlife and Wildlife Habitat LAA encompasses the proposed Project footprint and extends beyond it to include the surrounding area, where there is a reasonable potential for proposed Project-specific effects to occur. The Wildlife and Wildlife Habitat LAA considers the wildlife species expected to interact with the proposed Project, the effect pathways, and available information on wildlife sensitivity to disturbance (such as, setback distances).
RAA	The RAA for Wildlife consists of the proposed Project footprint and the LAA and includes both aquatic and terrestrial habitat. The LAA also encompasses the Fraser River for 300 m upstream and 2 km downstream of the proposed Project footprint, including a 50 m buffer from the high-water mark on either side.	The Wildlife and Wildlife Habitat RAA encompasses the proposed Project footprint, the Wildlife and Wildlife Habitat LAA and the surrounding area, where there is potential for the proposed Project to interact with other activities to have cumulative adverse effects.

Table 6-1. Spatial Boundaries for each Valued Component

Spatial Boundary	Description	Rationale
Fish and Fish Habitat		
LAA	The LAA for Fish and Fish Habitat encompasses the Fraser River for 100 m upstream and 200 m downstream of the proposed Project footprint. The LAA also includes Tilbury Slough for 100 m upstream and 200 m downstream of the culvert outlet that drains stormwater from the proposed Project Site.	The Fish and Fish Habitat LAA encompasses the proposed Project footprint and extends beyond it to include the surrounding area where there is a reasonable potential for proposed Project-specific effects to occur, such as habitat alterations or sediment mobilization. The LAA also includes Tilbury Slough between 100 m upstream and 200 m downstream of the culvert outlet that drains stormwater from the proposed Project Site where there is potential for changes in water quality to occur.
RAA	The RAA for Fish and Fish Habitat encompasses the Fraser River for 500 m upstream and 1,000 m downstream of the proposed Project footprint. The RAA also includes Tilbury Slough for 500 m upstream and 1000 m downstream of the culvert outlet that drains stormwater from the proposed Project Site.	The Fish and Fish Habitat RAA encompasses the proposed Project footprint and surrounding area, including the Surface Water RAA, where there is potential for the proposed Project to interact with other activities to have cumulative adverse effects. The upstream extension of the RAA to the FRAMP Site 4 monitoring station considers flow reversal on flood tide, while the downstream reach considers river flows and tidal influence.
Employment and Economy		
LAA	Metro Vancouver	The LAA for Employment and Economy reflects the area within which the proposed Project is anticipated to interact with the labour market and regional economic development. City-specific data and effects will be included where available/applicable.
RAA	The RAA is the same as the LAA for Employment and Economy	The RAA for Employment and Economy provides a regional context for the assessment of proposed Project-related effects on the labour market and regional economic development.
Land and Resource Use		
LAA	<p>The LAA will include the City of Delta, which comprises three urban communities: Ladner (administrative centre), Tsawwassen, and North Delta.</p> <p>The LAA will include all lands with a potential viewpoint of proposed Project components for potential effects to views. This includes the area within the foreground (less than 1 km from the proposed Project boundary), and middle ground (1 to 5 km from the proposed Project boundary).</p> <p>Where the Land and Resource Use has the potential to be affected by changes to the Acoustic VC, the LAA for the Acoustics VC may be included in the Land and Resource Use assessment.</p>	The LAA for Land and Resource Use reflects the area within which the proposed Project is anticipated to interact with land- and marine-based activities, be they industrial, commercial, agricultural, or recreational in nature. The LAA may be adjusted based on linked VCs, including Air Quality and Acoustics, as necessary. City-specific data and effects will be included where available/applicable.

Table 6-1. Spatial Boundaries for each Valued Component

Spatial Boundary	Description	Rationale
RAA	Metro Vancouver	<p>The RAA for Land and Resource Use provides a regional context for the assessment of proposed Project-related effects on Land and Resource Use.</p> <p>The RAA may be adjusted based on linked VCs (such as, Air Quality and Soil), as necessary.</p>
Infrastructure and Services		
LAA	<p>The City of Delta, including Ladner (administrative centre), Tsawwassen and North Delta.</p> <p>LAA boundaries may be adjusted to consider other areas beyond the City of Delta where they have the potential to be affected by infrastructure and service needs directly related to the proposed Project (such as, dikes, landfills, emergency response).</p> <p>The LAA will include consideration of flood protection infrastructure along the Fraser River in an area that has the potential to be affected by use of the Fraser River for construction of the proposed Project. This would include flood protection infrastructure along relevant portions of the Fraser River shoreline.</p>	<p>The LAA will reflect the Regional and Municipal governments from which the proposed Project may source health and emergency services and community infrastructure.</p> <p>Will include traffic effects from construction and operation traffic on Ladner, Tsawwassen, and North Delta residents and farmers. Boundaries will encompass effects on local water infrastructure, including the City of Delta Municipal water demand and forecasts.</p> <p>City-specific data and effects will be included where available/applicable.</p>
RAA	Metro Vancouver	<p>Encompasses the area where other projects and activities may result in direct use of health and emergency services and community infrastructure that may interact cumulatively with the effects of the proposed Project.</p> <p>Boundaries will include effects from construction, operation, or associated marine shipping traffic on City of Richmond flood protection infrastructure and effects on local and regional infrastructure such as water mains and forecasts for Greater Vancouver Water District.</p>
Archaeological and Heritage Resources		
LAA	The area of ground disturbance for the proposed Project plus a 100 m buffer around the proposed Project Site.	Ground disturbance is the only identified potential effect on potential heritage resources for the proposed Project.
RAA	The RAA for the Archaeological and Heritage Resources Assessment will include the LAA and the South Arm of the Fraser River from the proposed Project Site downstream to Sand Heads and upstream to Annacis Island and extending 1 km inland from the north and south shores of the river.	The RAA provides the Regional cultural context for the assessment of effects to Archaeological and Heritage Resources.

Table 6-1. Spatial Boundaries for each Valued Component

Spatial Boundary	Description	Rationale
Culture		
LAA	The LAA for Culture will include the City of Delta, which comprises three urban communities: Ladner (administrative centre), Tsawwassen, and North Delta. The LAA will include the boundaries of the VCs that interact with Indigenous interests, including: Wildlife and Wildlife Habitat, Vegetation, Air Quality, Acoustic Environment, Surface Water, Infrastructure and Services, Land and Resource Use, Fish and Fish Habitat, and Archaeological and Heritage Resources.	Linked to related VCs including: Wildlife and Wildlife Habitat, Vegetation, Air Quality, Acoustic Environment, Surface Water, Infrastructure and Services, Land and Resource Use, Fish and Fish Habitat, and Archaeological and Heritage Resources. City-specific data and effects will be included where available/applicable.
RAA	The RAA for Culture will include Metro Vancouver. The RAA will include the boundaries of the VCs that interact with Indigenous interests including: Wildlife and Wildlife Habitat, Vegetation, Air Quality, Acoustic Environment, Surface Water, Infrastructure and Services, Land and Resource Use, Fish and Fish Habitat, and Archaeological and Heritage Resources.	Linked to related VCs including: Wildlife and Wildlife Habitat, Vegetation, Air Quality, Acoustic Environment, Surface Water, Infrastructure and Services, Land and Resource Use, Fish and Fish Habitat, and Archaeological and Heritage Resources.
Human Health		
LAA	<p>Air Quality: The LAA for the assessment of potential health effects to humans from potential changes to air quality will be the same as that for the Air Quality VC.</p> <p>Country Foods: The LAA for health risks related to the quality and quantity of country foods will be the same as the LAA for the Land and Resource Use VC and the LAAs for VCs for potentially harvested species (that is, Vegetation VC, Wildlife and Wildlife Habitat VC, and Fish and Fish Habitat VC).</p> <p>Soil, Sediment, Groundwater, Surface Water: Health risks related to soil, sediment quality, and groundwater contaminants will be assessed in the proposed Project footprint. The LAA for health risks related to surface water quality will be determined using the Surface Water LAA and its areas of overlap with land uses and activities.</p> <p>Social Determinants of Health: Spatial boundaries for assessment of changes to social determinants of health, including well-being, will refer to the spatial boundaries relevant to linked VCs such as Employment and Economy (due to the potential link between incomes and health/well-being), and Infrastructure and Services (because of the potential link between access to services and health/well-being). For health effects related to changes in the acoustic environment, the LAA is the footprint plus 1.5 km.</p>	<p>Country foods are expected to be present throughout the LAA and impacted by activities in the proposed Project footprint.</p> <p>Potential adverse effects to soil, sediment quality, and groundwater are expected to be limited to the proposed Project footprint. The Surface Water LAA informs any potential use of surface water as drinking water.</p> <p>Federal guidance on assessment of effects to health includes factors such as social determinants of health, including well-being.</p>

Table 6-1. Spatial Boundaries for each Valued Component

Spatial Boundary	Description	Rationale
RAA	<p>Air Quality: The RAA for the assessment of potential health risks to humans from potential changes to air quality will be the same as that for the Air Quality VC.</p> <p>Country Foods: The RAA for health risks related to quality and quantity of country foods will be the same as the RAA for the Land and Resource Use VC and the RAAs for VCs for potentially harvested species (that is, Vegetation VC, Wildlife and Wildlife Habitat VC, and Fish and Fish Habitat VC).</p> <p>Soil, Sediment, Groundwater, Surface Water: Health risks related to soil, sediment quality, and groundwater contaminants will be assessed in the proposed Project footprint. The RAA for assessing health risks related to water quality will be determined using the Surface Water RAA and its areas of overlap with land uses and activities.</p> <p>Social Determinants of Health: Federal guidance on assessment of effects to health includes factors such as social determinants of health, including well-being. Spatial boundaries for assessment of changes to social determinants of health, including well-being, will refer to the spatial boundaries relevant to linked VCs such as Employment and Economy (due to the potential link between incomes and health/well-being), and Infrastructure and Services (due to the potential link between access to services and health/well-being). For health effects related to the acoustic environment, the RAA is the footprint plus 5 km (compared to footprint plus 3 km in the Acoustic VC). The RAA for the health component of acoustics was expanded to include the possibility of nearby sensitive receptors that may be affected.</p> <p>The RAA for assessing health risks related to water quality will be determined using the Surface Water RAA and its areas of overlap with land uses and activities).</p>	<p>Country foods are expected to be present throughout the RAA. Effects are most likely in the LAA due to activities in the proposed Project footprint.</p> <p>The Surface Water LAA informs any potential use of surface water as drinking water where direct and indirect activities may impact drinking water for cumulative effects.</p> <p>Federal guidance on assessment of effects to health includes factors such as social determinants of health, including well-being.</p>
Indigenous Nation identified VC		
LAA	No Indigenous nation-specific VCs have been identified to-date. The LAA for VCs requested by Indigenous nations will be defined if Indigenous nation VCs are identified.	Not applicable at this time.
RAA	No Indigenous nation-specific VCs have been identified to-date. The RAA for VCs requested by Indigenous nations will be defined if Indigenous nation VCs are identified.	Not applicable at this time.

Notes:

B.C. OGC = British Columbia Oil and Gas Commission

FRAMP = Fraser River Ambient Monitoring Program

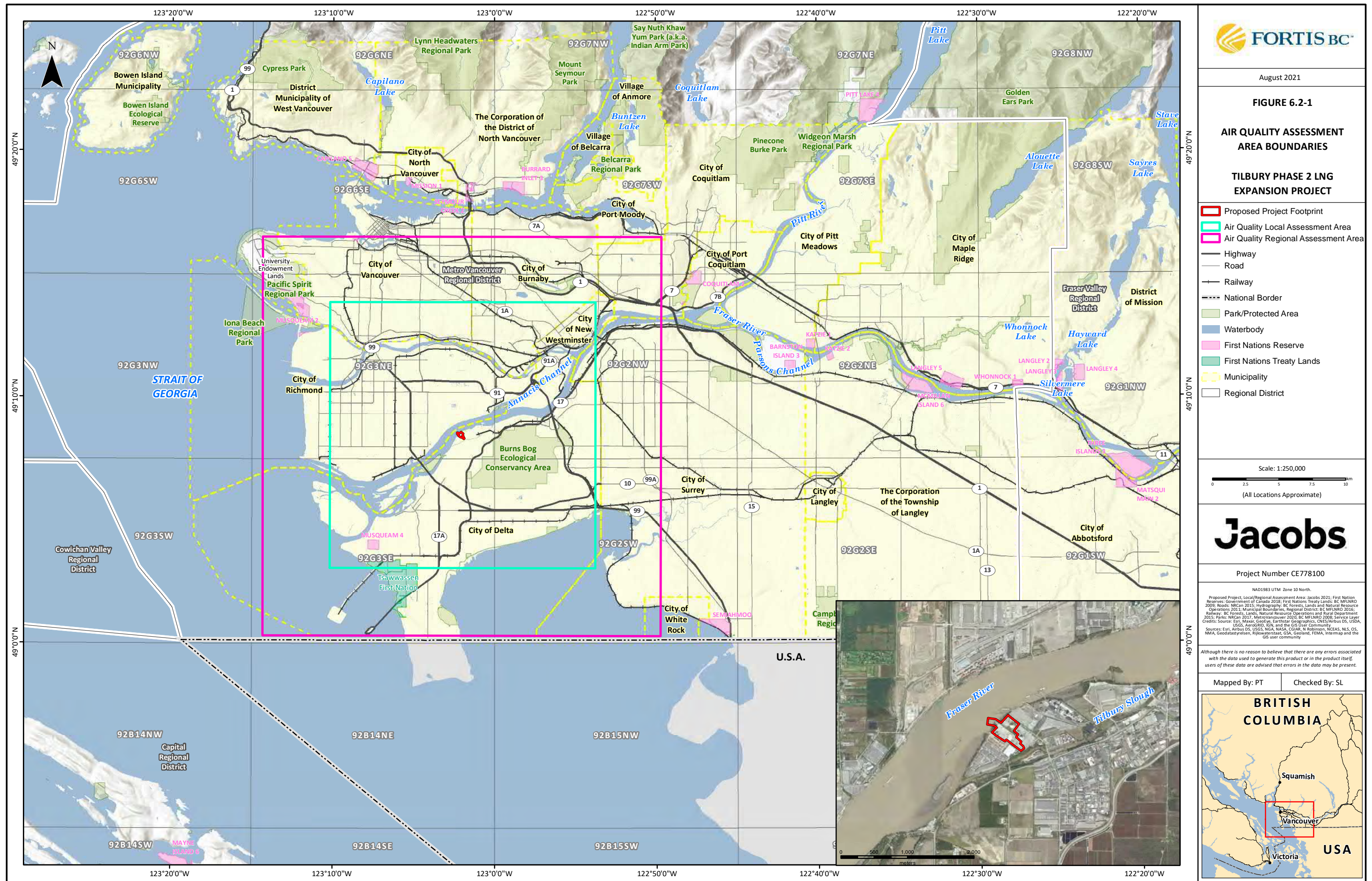
km = kilometre(s)

m = metre(s)

The Temporal Boundary include all proposed Project phases as follows:

- Construction – Estimated 3-year duration
- Operations and Maintenance – Estimated 40+ year duration
- Decommissioning or Abandonment – Estimated 2-year duration

Where administrative or technical boundaries have constrained the assessment of potential effects, the nature of the boundaries and their influence on the assessment will be documented in the Application.



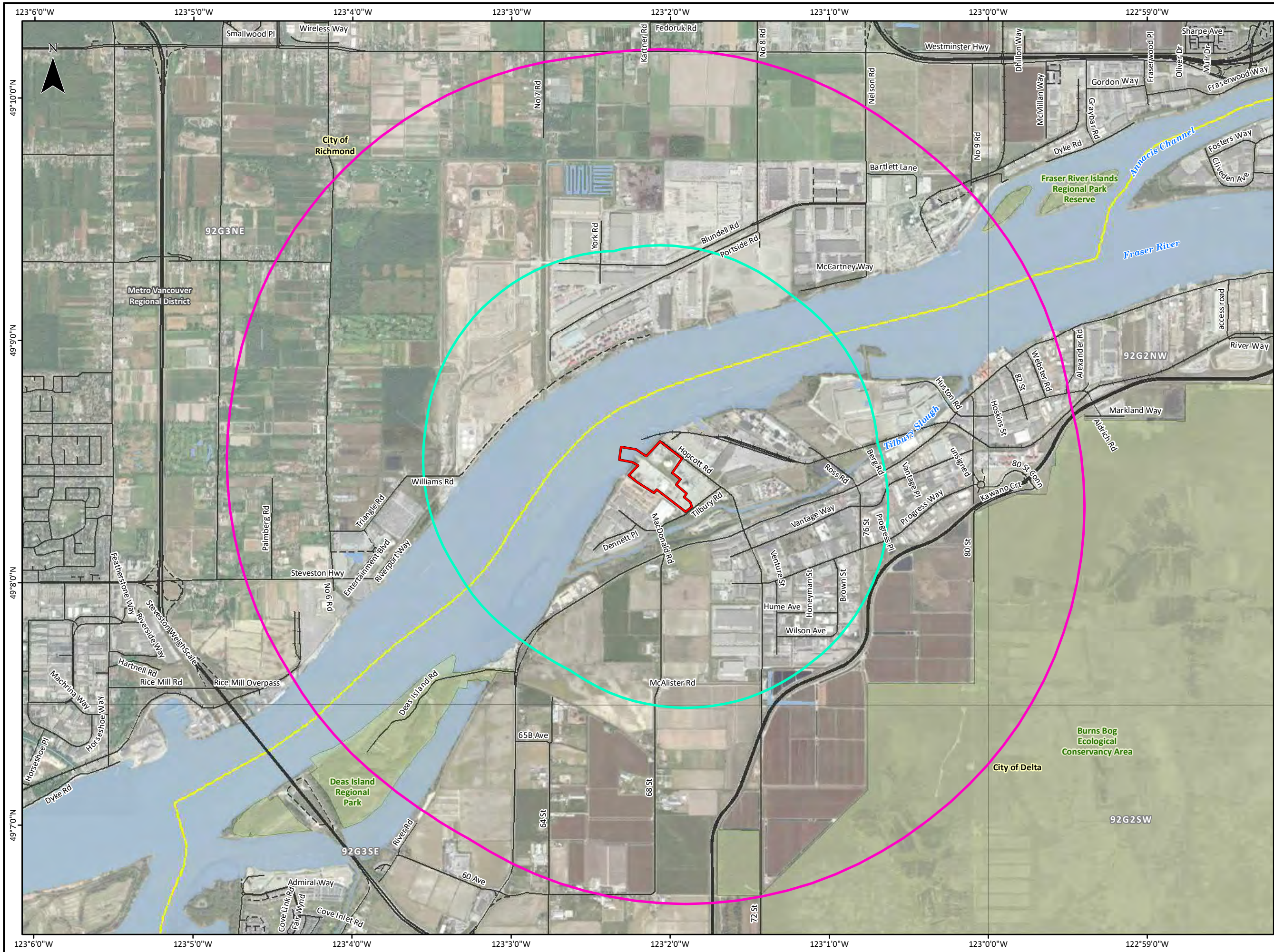


FIGURE 6.2-2

ACOUSTIC ASSESSMENT
AREA BOUNDARIES

TILBURY PHASE 2 LNG
EXPANSION PROJECT

- Proposed Project Footprint
- Acoustic Local Assessment Area
- Acoustic Regional Assessment Area
- Highway
- Road
- Secondary Road
- Railway
- Park/Protected Area
- Waterbody
- Municipality

Scale: 1:27,500

(All Locations Approximate)

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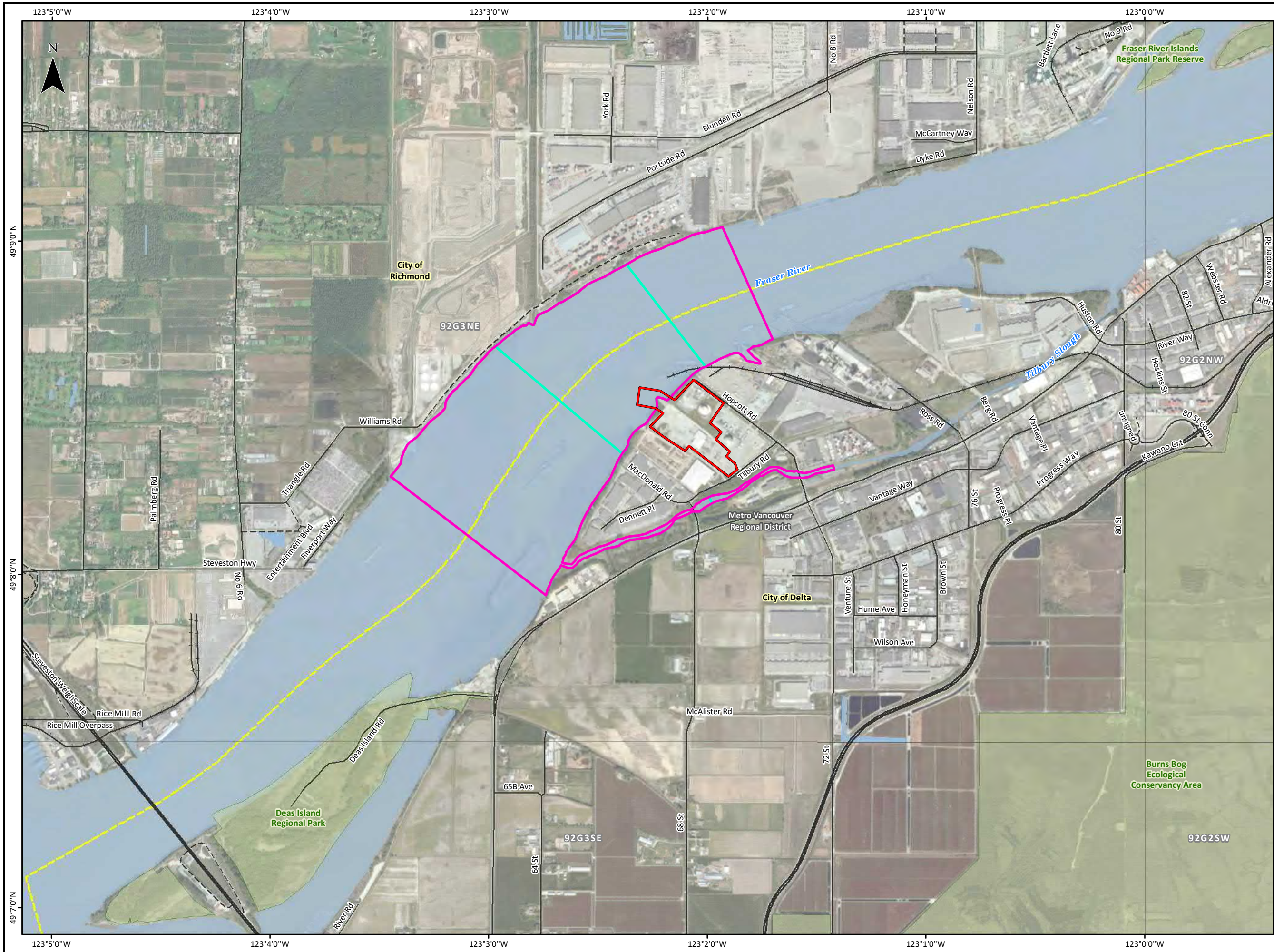
Project Number CE778100

NAD1983 UTM Zone 10 North.
Proposed Project, Local/Regional Assessment Area: Jacobs 2021; First Nation Reserves: Government of Canada 2018; First Nations Treaty Lands: BC MFLNRO 2009; Roads: NRCAN 2015; Hydrography: BC Forests, Lands and Natural Resource Operations 2011; Municipal Boundaries, Regional District: BC MFLNRO 2016; Railway: BC Forests, Lands, Natural Resource Operations and Rural Department 2015; Canada Parks: NRCAN 2017; Metro Vancouver 2020, BC MFLNRO 2008; Service Layer Credits: Source: Esri, Mapbox, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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FIGURE 6.2-3

**SURFACE WATER ASSESSMENT
AREA BOUNDARIES**

**TILBURY PHASE 2 LNG
EXPANSION PROJECT**

- Proposed Project Footprint
- Surface Water Local Assessment Area
- Surface Water Regional Assessment Area
- Highway
- Road
- Secondary Road
- Railway
- Park/Protected
- Waterbody
- Municipality

Scale: 1:20,000
0 200 400 600 800 m
(All Locations Approximate)

Jacobs

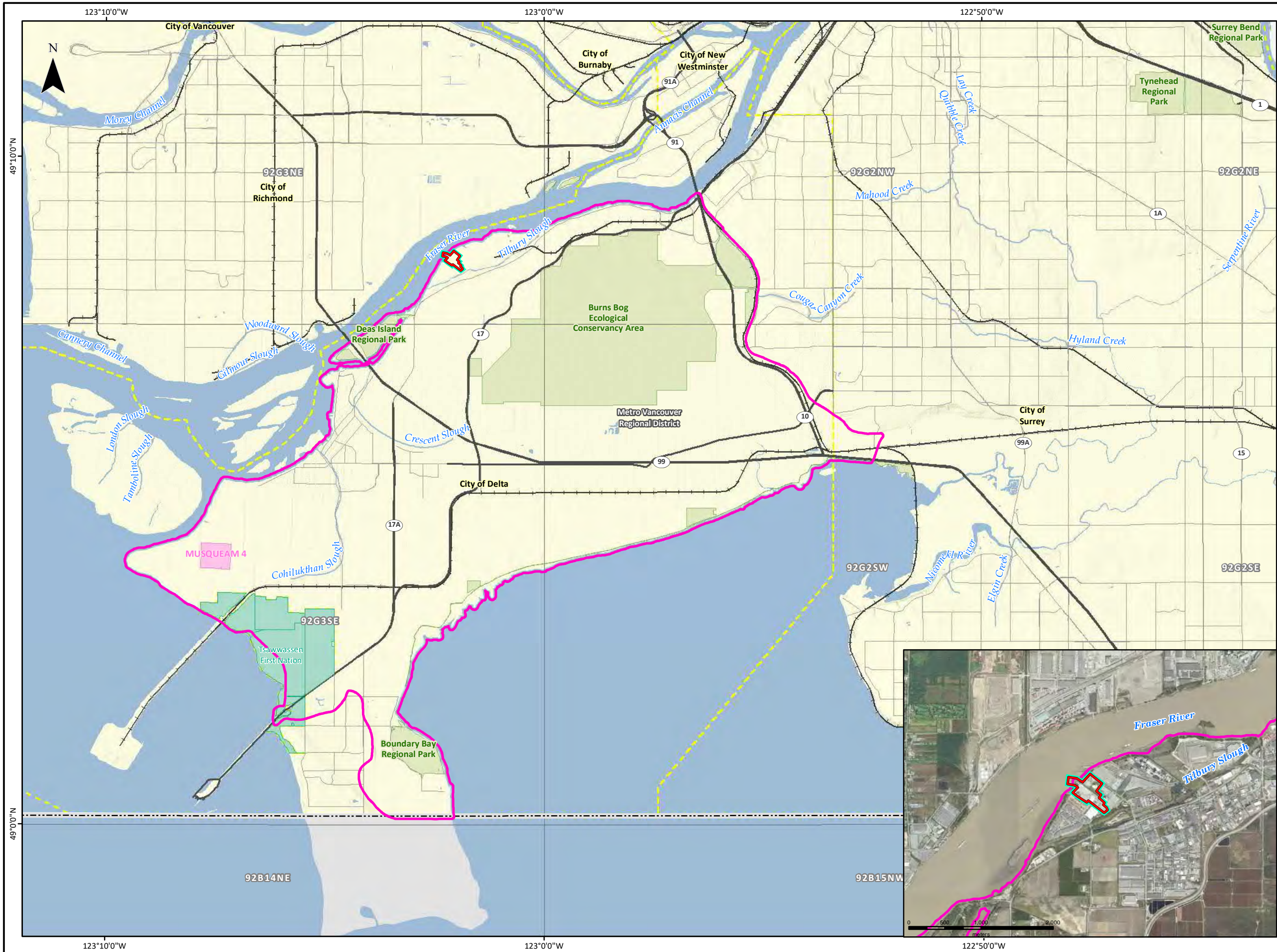
Project Number CE778100

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Proposed Project, Local/Regional Assessment Area: Jacobs 2021; First Nations Reserves: Government of Canada 2018; First Nations Treaty Lands: BC MFLNRO 2009; Roads: NRCAN 2015; Hydrography: BC Forests, Lands and Natural Resource Operations 2011; Municipal Boundaries, Regional District: BC MFLNRO 2016; Railways: BC Forests, Lands, Natural Resource Operations and Rural Development 2015; Canada Parks: NRCAN 2017; Metro Vancouver 2020, BC MFLNRO 2008; Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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FIGURE 6.2-4
GROUNDWATER ASSESSMENT
AREA BOUNDARIES

TILBURY PHASE 2 LNG
EXPANSION PROJECT

Proposed Project Footprint

Groundwater Local Assessment Area

Groundwater Regional Assessment Area

Highway

Road

Railway

National Border

Park/Protected Area

Waterbody

First Nations Reserve

First Nations Treaty Lands

Municipality

Scale: 1:100,000
0 1 2 3 4 km
(All Locations Approximate)

Jacobs

Project Number CE778100

NAD1983 UTM Zone 10 North.
Proposed Project, Local/Regional Assessment Area: Jacobs 2021; First Nations Reserves: Government of Canada 2018; First Nations Treaty Lands: BC MFLNRO 2009; Roads: NRCAN 2015; Hydrography: BC Forests, Lands and Natural Resource Operations 2011; Municipal Boundaries, Regional District: BC MFLNRO 2016; Railways: BC Forests, Lands, Natural Resource Operations and Rural Development 2015; Parks: NRCAN 2017, MetroVancouver 2020, BC MFLNRO 2008; Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, Airbus DS, USGS, NGA, NASA, CGAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatasystemen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

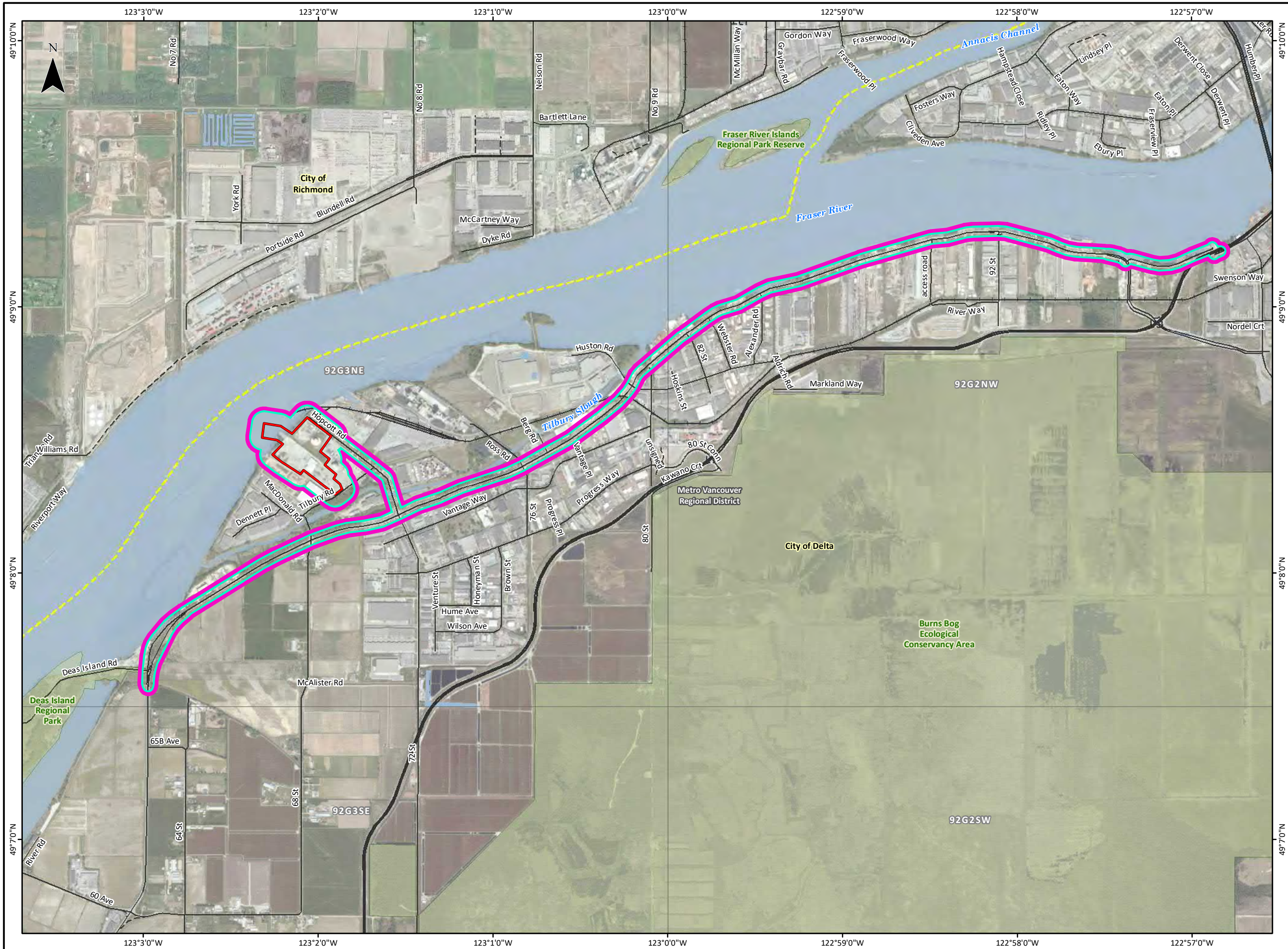
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BRITISH COLUMBIA
Squamish
Vancouver
Victoria
USA

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August 2021

FIGURE 6.2-5

**SOIL ASSESSMENT
AREA BOUNDARIES**

**TILBURY PHASE 2 LNG
EXPANSION PROJECT**

- Proposed Project Footprint
- Soil Local Assessment Area
- Soil Regional Assessment Area
- Highway
- Road
- Secondary Road
- Railway
- Park/Protected Area
- Waterbody
- Municipality

Scale: 1:25,000
0 250 500 750 1,000 m
(All Locations Approximate)



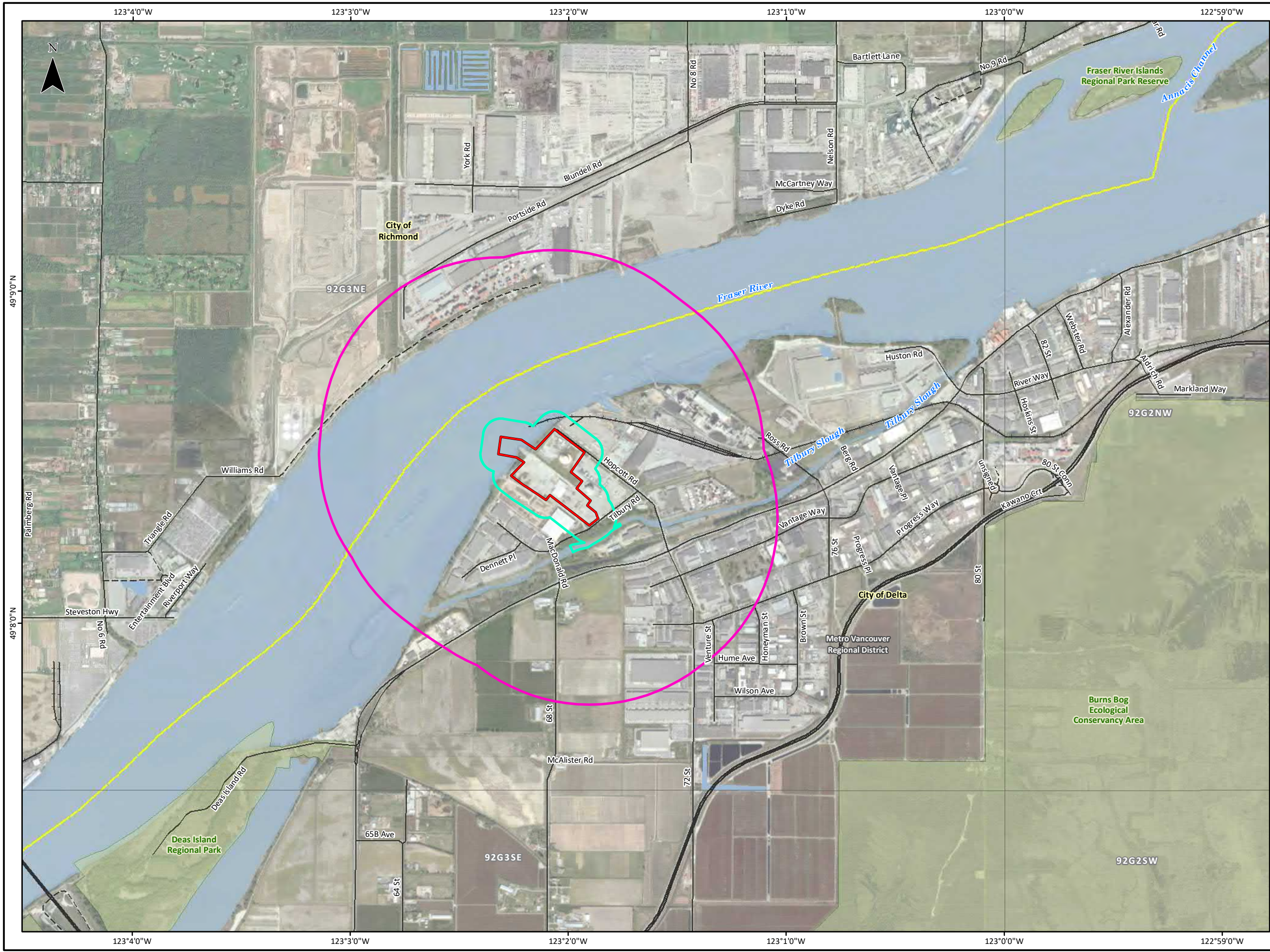
Project Number CE778100


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FIGURE 6.2-6

**VEGETATION ASSESSMENT
AREA BOUNDARIES**

**TILBURY PHASE 2 LNG
EXPANSION PROJECT**

Proposed Project Footprint

Vegetation Local
Assessment Area

Vegetation Regional
Assessment Area

Highway

Road

Secondary Road

Railway

Park/Protected Area

Waterbody

Municipality

Scale: 1:20,000
0 200 400 600 800 m
(All Locations Approximate)

Jacobs

Project Number CE778100


NAD1983 UTM Zone 10 North.
Proposed Project, Local/Regional Assessment Area: Jacobs 2021; First Nation
Reserves: Government of Canada 2018; First Nations Treaty Lands: BC MFLNRO
2009; Roads: NRCan 2015; Hydrography: BC Forests, Lands and Natural Resource
Operations 2011; Municipal Boundaries, Regional District: BC MFLNRO 2016;
Railways: BC Forests, Lands, Natural Resource Operations and Rural Department
2015; Canada Parks: NRCan 2017; Metro Vancouver 2020, BC MFLNRO 2008;
Service Layer Credits: Source: Esri, Mapbox, GeoEye, Earthstar Geographics,
CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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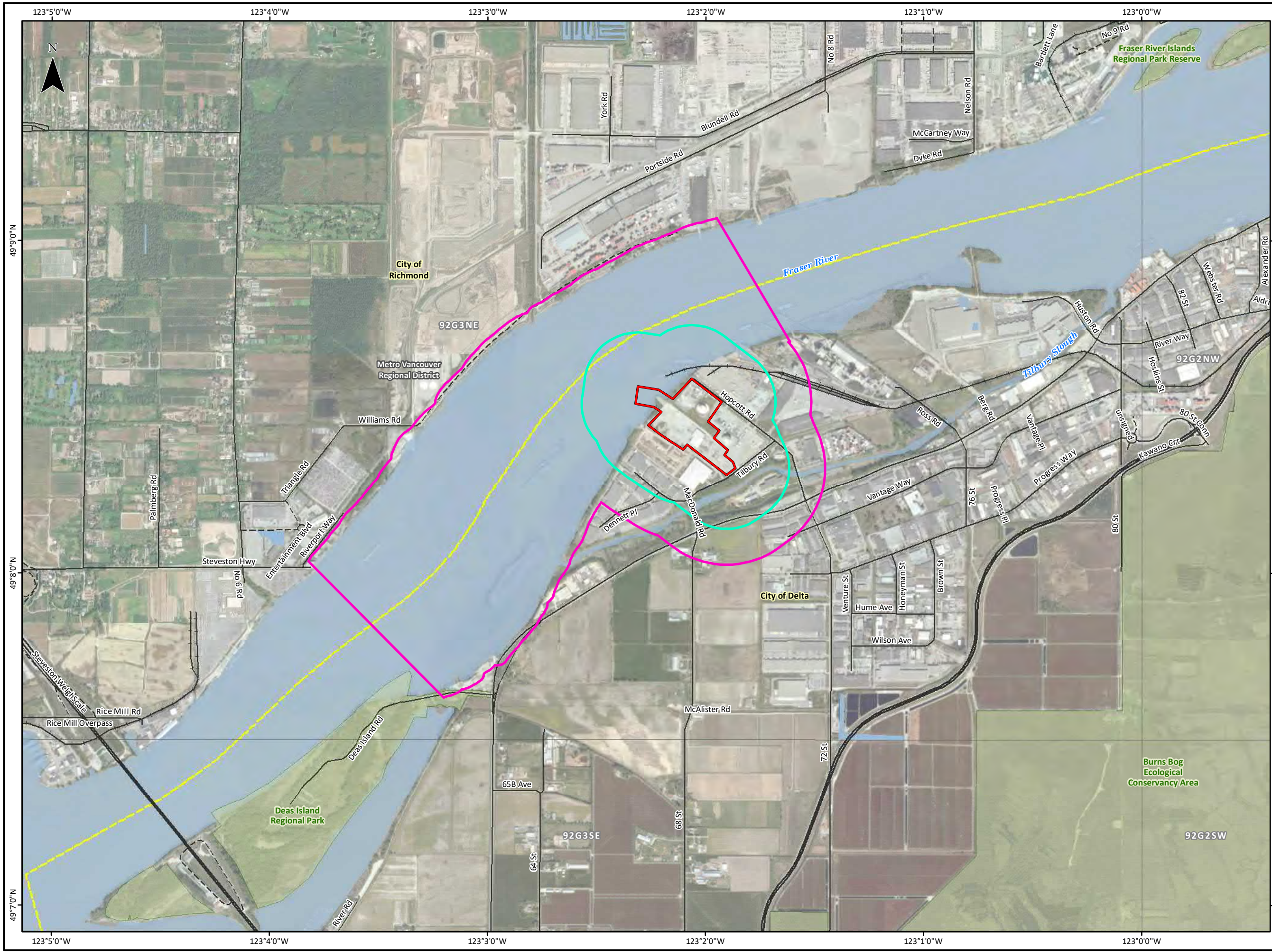
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**BRITISH
COLUMBIA**



Squamish
Vancouver
Victoria
USA





August 2021

FIGURE 6.2-7

WILDLIFE AND WILDLIFE HABITAT ASSESSMENT AREA BOUNDARIES

TILBURY PHASE 2 LNG EXPANSION PROJECT

Proposed Project Footprint

Wildlife and Wildlife Habitat Local Assessment Area

Wildlife and Wildlife Habitat Regional Assessment Area

Highway

Road

Secondary Road

Railway

Park/Protected Area

Waterbody

Municipality

Scale: 1:20,000
0 200 400 600 800 m
(All Locations Approximate)

Jacobs


Project Number CE778100

NAD1983 UTM Zone 10 North.
Proposed Project, Local/Regional Assessment Area: Jacobs 2021; First Nation Reserves: Government of Canada 2018; First Nations Treaty Lands: BC MFLNRO 2009; Roads: NRCAN 2015; Hydrography: BC Forests, Lands and Natural Resource Operations 2011; Municipal Boundaries, Regional District: BC MFLNRO 2016; Railways: BC Forests, Lands, Natural Resource Operations and Rural Development 2015; Canada Parks: NRCAN 2017; Metro Vancouver 2020; BC MFLNRO 2008; Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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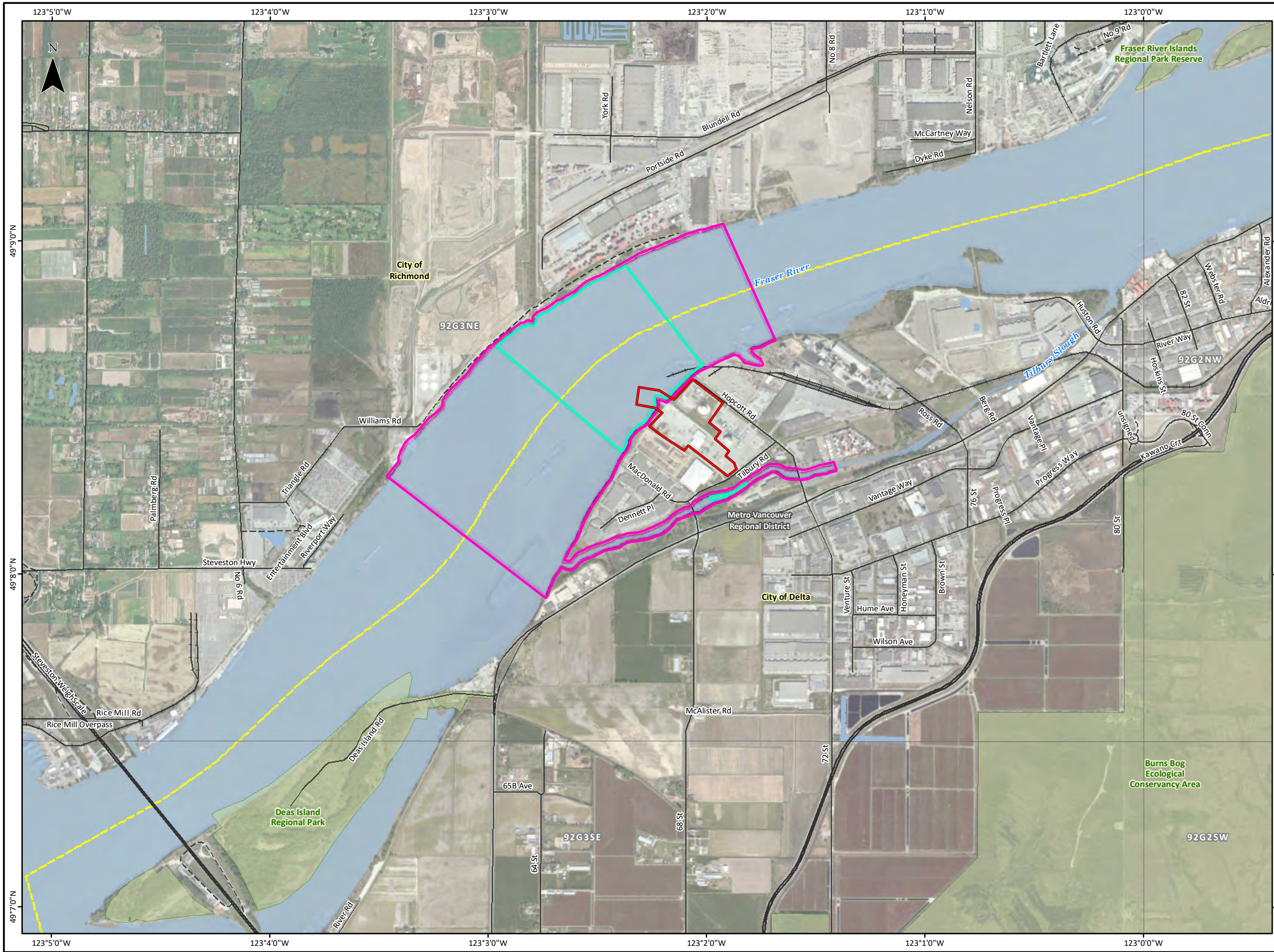
Squamish

Vancouver

Victoria

USA

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August 2021

FIGURE 6.2-8
FISH AND FISH HABITAT
ASSESSMENT AREA BOUNDARIES

TILBURY PHASE 2 LNG
EXPANSION PROJECT

Proposed Project Footprint

Fish and Fish Habitat Local Assessment Area

Fish and Fish Habitat Regional Assessment Area

Highway

Road

Secondary Road

Railway

Park/Protected Area

Waterbody

Municipality

Scale: 1:20,000
0 200 400 600 800 m
(All Locations Approximate)

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Project Number CE778100

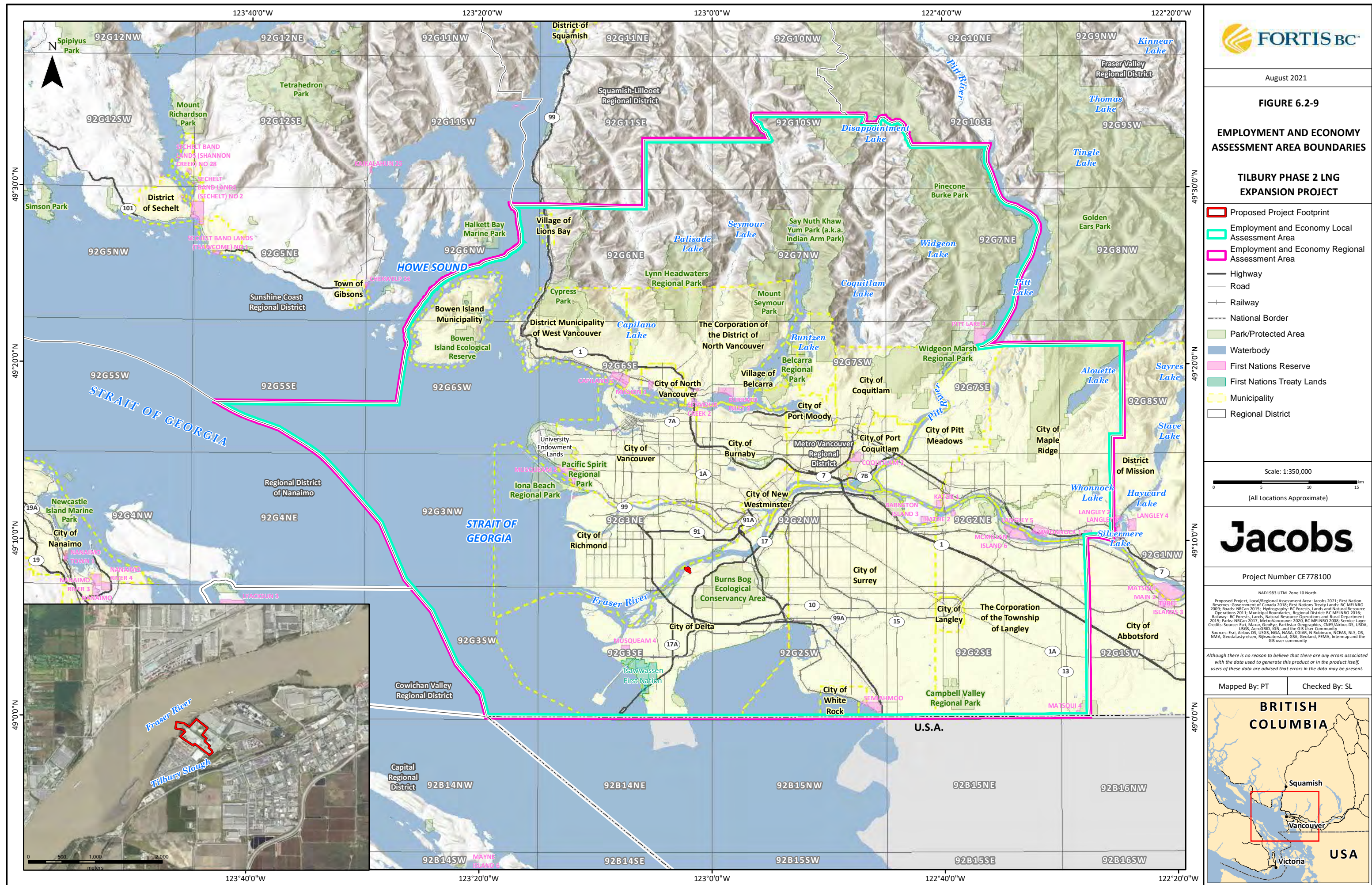
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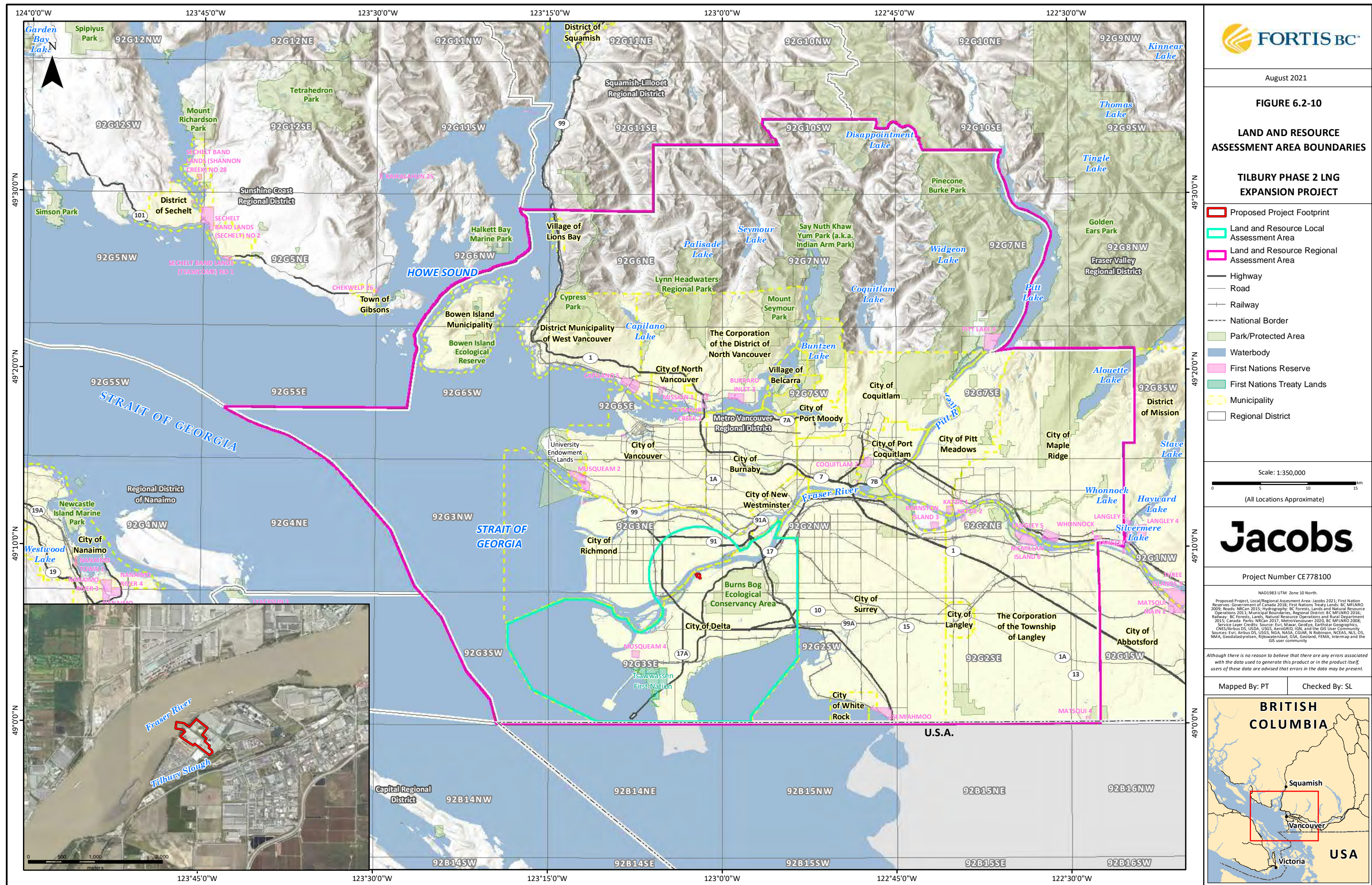
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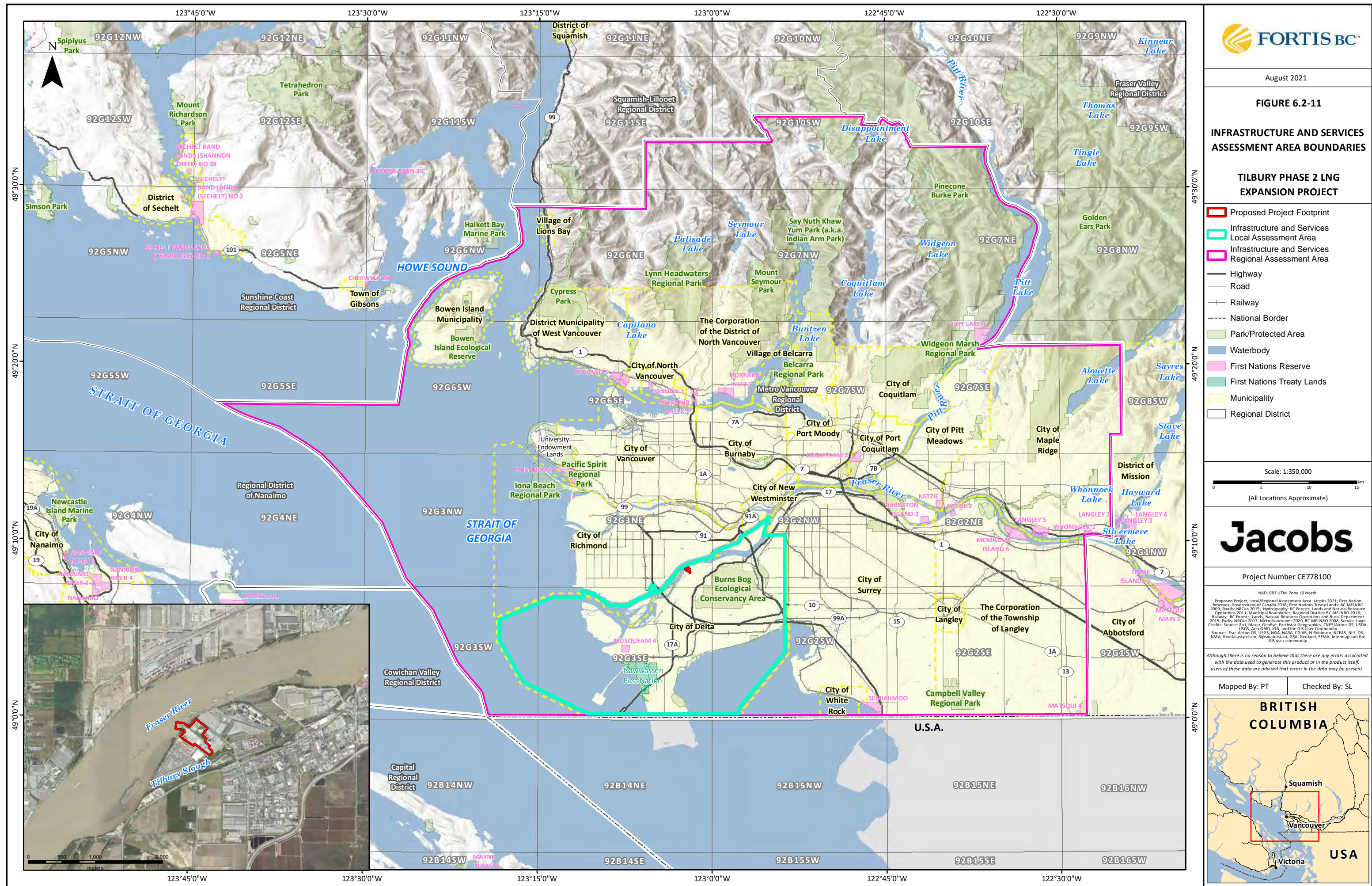
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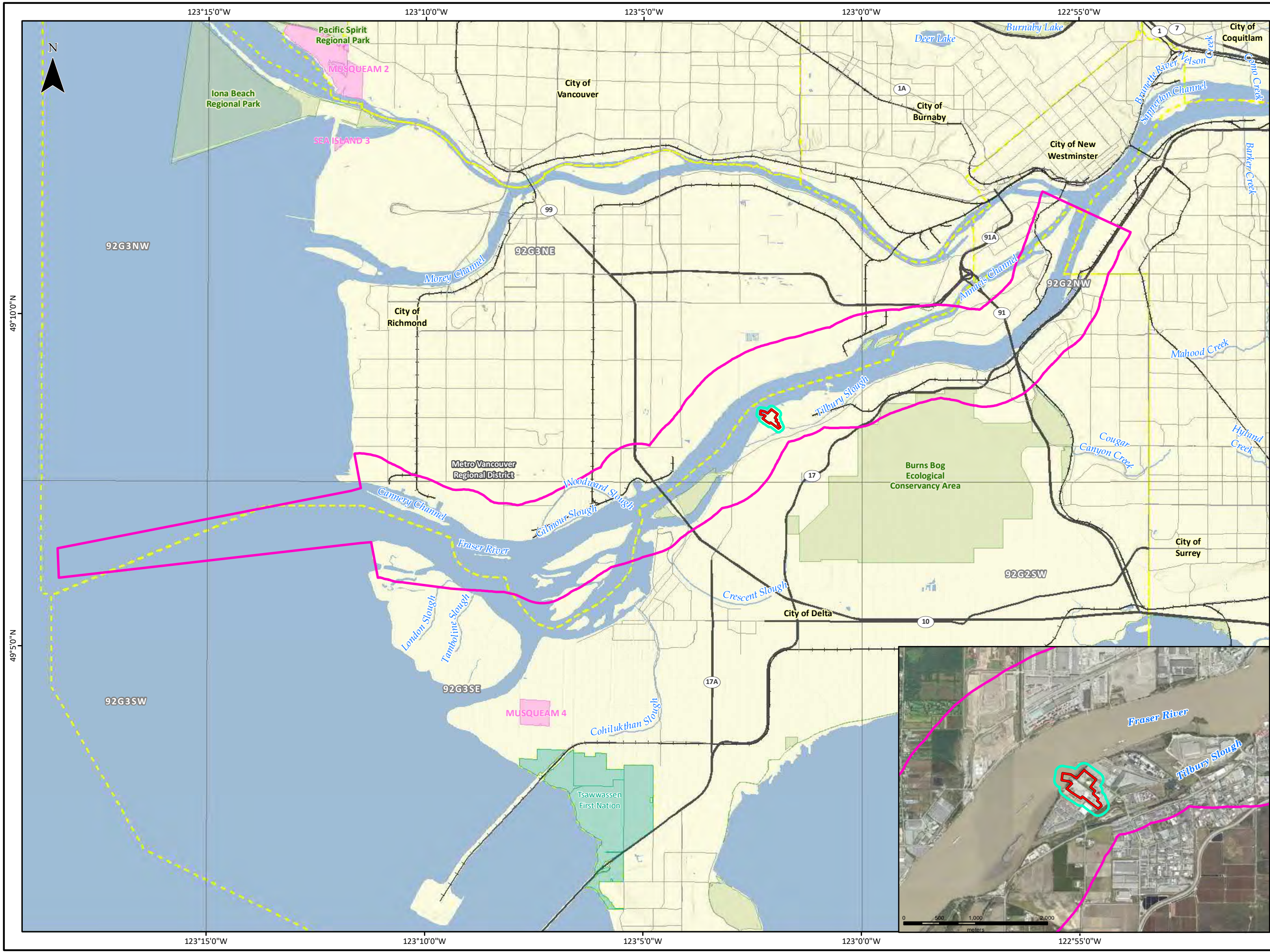
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August 2021

FIGURE 6.2-13
ARCHAEOLOGICAL AND HERITAGE RESOURCES ASSESSMENT AREA BOUNDARIES
TILBURY PHASE 2 LNG EXPANSION PROJECT

Proposed Project Footprint

Archaeological and Heritage Resources Local Assessment Area

Archaeological and Heritage Resources Regional Assessment Area

Highway

Road

Railway

Park/Protected Area

Waterbody

First Nations Reserve

First Nations Treaty Lands

Municipality

Scale: 1:100,000
0 1 2 3 4 km
(All Locations Approximate)

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Project Number CE778100

NAD1983 UTM Zone 10 North.
Proposed Project, Local/Regional Assessment Area: Jacobs 2021; First Nations Reserves: Government of Canada 2018; First Nations Treaty Lands: BC MFLNRO 2009; Roads: NRCan 2015; Hydrography: BC Forests, Lands and Natural Resource Operations 2011; Municipal Boundaries, Regional District: BC MFLNRO 2016; Railways: BC Forests, Lands, Natural Resource Operations and Rural Development 2015; Parks: NRCan 2017; MetroVancouver 2020; BC MFLNRO 2008; Service Layer Credits: Source: Esri, Mapbox, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, Airbus DS, USGS, NOAA, NASA, NOAA, N. Robinson, NOAA, NLS, OS, NMA, Geodatasystemen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

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BRITISH COLUMBIA

Squamish
Vancouver
Victoria
USA

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6.3 Existing Conditions

For each VC (or sub-component), the Application must provide a description of the existing conditions (for example, baseline) within the study areas in enough detail to enable potential project-VC interactions to be identified, understood and assessed, including characteristics of the VC (or sub-component) itself and other components upon which the integrity of the VC relies.

The Application must include:

- A description of the quality and reliability of the existing conditions data and its applicability for the purpose used, including any data gaps, insufficiencies and uncertainties, particularly for the purpose of monitoring activities;
- Reference to natural and/or human-caused trends that may alter the VC irrespective of the changes that may be caused by the project or other projects and activities in the local area (for example, climate change);
- An explanation of if and how other past and present projects and activities in the study area have affected, or are affecting, each VC;
- Documentation of the methods and information sources used to compile information on existing (or baseline) conditions, including any standards or guidelines followed;
- Where additional project- and VC-specific field studies are undertaken, the scope and methods used should follow published documents pertaining to data collection and analysis methods, where these are available. Where methods used for data collection deviate from applicable published guidance, the rationale for the variance will be provided in the Application;
- Description of local and Indigenous Knowledge used in the assessment; and
- Evidence that input from diverse subgroups was sought through engagement activities to identify potential effects or other concerns and issues will be provided. The information will be sufficient to provide an analysis regarding the project's effects in the context of potential interaction between VCs.

The Application may provide technical reports that present the existing conditions data in Appendices and summarize the key findings of these technical reports directly in the Application. Regardless of the approach, the description of the existing conditions will be presented in a manner that allows the reader to understand the Effects Assessment for each VC (or sub-component).

The application of GBA+,² including Disproportionate Effects on Human Populations as described in Provincial guidance related to the B.C. EAA, to these baseline descriptions to disaggregate and specify baseline conditions for diverse or distinct subgroups is necessary to support the GBA+ of effects. Both qualitative and quantitative data may be necessary to describe baseline conditions across diverse or distinct subgroups, where GBA+ factors have the potential to be relevant to the understanding of effects. Where the available information presents a limitation on the ability to characterize baseline conditions according to GBA+ approaches, this limitation will be articulated, and its implications for analysis described.

6.4 Potential Effects

The Application must describe in detail the project's potential positive and negative direct and indirect effects in relation to each phase of the project (construction, operation, maintenance, and decommissioning). The Application must describe the methods used to identify and assess the potential

² Throughout the text, the term "GBA+" is also understood to include disproportionate effects on distinct human populations, including populations identified by gender," as described in provincial guidance related to the 2018 Environmental Assessment Act.

effects of the project on the identified VCs and sub-components, including the results of any interaction between effects (to one VC or multiple VCs). For each VC, the Application must identify the potential interactions between the project, including the various physical works and activities, and each VC (or sub-component). The Application must describe any indicators used for the assessment of potential effects and the parameters used to facilitate the evaluation of potential project effects. Potential interactions will be identified using a table format.

As applicable, the Effects Assessment will be sufficiently disaggregated and analyzed to support the analysis of disproportionate effects as per GBA+.

The assessment of the effects of each of the project components and physical activities, in all phases, will be based upon a comparison of baseline environmental, economic, social, culture, and health conditions and the predicted future conditions with the project and the predicted future conditions without the project. The Application must include predictions on future conditions of each VC with the project and without the project as outlined in subsections 6.4.1 and 6.4.2 before potential effects of the project are assessed. The difference between the existing conditions (or future conditions without the proposed Project) and the future conditions with the project is interpreted as the potential effects of the project.

6.5 Effects Management

For each VC section, the Application must:

- Describe the proposed mitigation measures that are technically and economically feasible in hierarchy to avoid, minimize, restore-on-site, and offset adverse effects of the project; the proposed mitigation measures and offsetting will include restitution for any damage caused by those effects through replacement, restoration, compensation or other means;
- Provide justification for moving from one mitigation alternative to the next in the mitigation hierarchy;
- Describe enhancement measures to increase positive effects; enhancement measures may include skills training (including education and hiring practices), local procurement strategies (such as, bid packaging, supplier development initiatives, technology transfer, and research and development programs), investments in community infrastructure (such as, roads or services);
- Proposed mitigation or enhance measures are to be specific, achievable, measurable and verifiable, and described in a manner that avoids ambiguity in intent, interpretation and implementation;
- Describe the best practices and avoidance measures incorporated into the project design to reduce potential effects, including site and route selection, project scheduling, project design (for example, equipment selection, placement, emissions abatement measures), and construction and operation procedures and practices;
- Describe any standard mitigation to be implemented that constitute proven technically and economically feasible mitigation measures, including consideration of best management practices, minimal disturbance footprint techniques, environmental management plans, environmental protection plans, contingency plans, emergency response plans and other general or standard practices, corrective measures or additions planned during the project's various phases to eliminate or reduce adverse effects; where key mitigation measures proposed involve development of a specific management plan, the project Application will include an outline (such as, plan headers) of the management plan;

- Identify and describe mitigation measures, that would avoid or lessen potential adverse effects to terrestrial and aquatic species and/or critical habitat listed under Schedule 1 of the *Species at Risk Act* (SARA). These measures:
 - Are to be consistent with any applicable recovery strategy, action plan or management plan and will also identify and describe mitigation measures to avoid or lessen adverse effects to Committee on the Status of Endangered Wildlife in Canada (COSEWIC)-assessed species; and
 - Must be described in terms of the effectiveness of each measure to avoid the adverse effect and include a comprehensive science-based rationale for proposing the selected mitigation measures.
- Describe the approach used to identify and select additional mitigation measures to be implemented to address potential adverse effects (including any offset plans);
- For projects that propose offsetting, the Application must provide offsetting or compensation plans following the Procedures for Mitigating Effects on Environmental Values (Environmental Mitigation Procedures) (B.C. MOE 2014 or as updated);
- Describe passive and active measures that are specific to each identified effect and clearly indicate how the mitigation measures will reduce the potential adverse effects or enhancement measures will increase positive effects on the VC; measures are to be written as specific commitments that clearly describe how the proponent intends to implement them and the outcome these measures are designed to address;
- Discuss the mechanisms the proponent would use to require its Contractors and Sub-contractors to comply with these commitments and policies and with auditing and enforcement programs;
- Identify the party responsible for the implementation of mitigation measures and the system of accountability;
- Where appropriate, provide details regarding financial liability and compensation in place as required by regulation or company commitment in relation to decommissioning or abandonment;
- Describe how disproportionate effects to distinct human populations were used to inform mitigation and enhancement measures, which should be developed in collaboration with those who are vulnerable and/or disadvantaged;
- If there is little relevant or applicable experience with a proposed mitigation measure and there may be some question as to its effectiveness, clearly describe the potential risks and uncertainties associated with use of the mitigation should those measures not be effective; in addition, the Application must identify the extent to which technological innovations may help mitigate effects. Where possible, it will provide detailed information on the nature of these measures, their implementation, management, and the requirements of the follow-up program;
- Include the anticipated time required for mitigation measures to become effective, to enable understanding of the duration of residual effects and the temporal characteristics of reversibility;
- Summarize the mitigation measures for potential project effects by project phase and identify any mitigation measures that are in management or offset plans;
- Identify other technically and economically feasible mitigation measures that were considered but are not proposed for implementation and explain why they were rejected. Justify any trade-offs between cost savings and effectiveness of the various forms of mitigation measures;
- Assess any potentially negative effects associated with the mitigation method itself;
- Identify and describe the use and application of best available technology and best environmental practice in identifying, assessing and implementing mitigation measures; and

- Provide an assessment of the likely effectiveness of the proposed technically and economically feasible mitigation measures. The reasons for determining if the mitigation measure reduces the extent to which the effects are adverse must be made explicit.

Proposed mitigation and enhancement measures will be discussed during the review of the Application and may be modified as a result of the review. Mitigation and enhancement measures may be considered for inclusion as conditions in the Application Decision Statement. If there is an ongoing or completed regional assessment in the proposed project area, the proponent will use the information generated through that process to inform possible mitigation and enhancement measures.

The Application must describe the project's environmental protection plan and its environmental management system through which the proponent will deliver this plan. The plan must provide an overall perspective on how potentially adverse effects would be minimized and managed over time;

Section 8 includes requirements for measures to mitigate GHG emissions.

6.5.1 Assessing Positive Effects

The Application must:

- Identify and assess predicted positive effects;
- Describe how long-term trends (for example, changing environment, employment, and technology) and market fluctuations have been considered;
- Characterize the positive effect; and
- Describe how the positive effect may be monitored and adaptively managed.

6.5.2 Assessing Negative Effects

Negative effects may result from interactions between the project and VCs, and may be avoided, minimized, restored, or offset through the application of mitigation and management measures. Following the identification of mitigation and management measures, any residual negative effects on VCs will be assessed and described.

The Application must, for each potential effect:

- Describe the analytical methods used to assess the negative effect, including modelling approaches;
- Identify assumptions, parameters, and the quality of the data used in analytical methods and degree of uncertainty of the predictions obtained;
- Present the results of the analyses, including a detailed description of any potential residual effect (the description of the potential effect can be either qualitative or quantitative);
- Describe in qualitative terms the nature and degree of uncertainty or conservatism related to the data, modelling and methods used for the analysis; and
- Describe the effectiveness of mitigation measures and proposed adaptive management measures and describe the probability or likelihood of potential residual effects. If additional risk analysis is required to fully characterize the potential risk where there is high uncertainty about the mitigation effectiveness (for example, where mitigation measures are proposed to be implemented for which there is little experience or questions about their effectiveness), a range of likely, plausible and possible outcomes will be assessed and additional studies, mitigation or contingency plans may be required.

Where appropriate, information regarding potential effects on the human environment will be presented by sex, age, and other community relevant identity factors to identify disproportionate residual effects for diverse subgroups.

Where appropriate, and where the best practice or evidence-based thresholds exist, adverse effects will be described quantitatively using these criteria. Where a quantitative description is not possible, effects will be described qualitatively.

When residual effects on a VC are predicted and the VC is also considered a “pathway” for other potential effects on other VCs, the Application must identify the linkages between the VCs.

Where offsetting measures are proposed to address a potential effect, the Application must first describe any potential effects following the implementation of measures to avoid, minimize, and restore-on-site directly or indirectly. For transparency, the change to the VC prior to the implementation of offsetting should be clearly identified, quantified and characterized in the Application to fully understand the consequences of the project being assessed. The characterization is best undertaken in the context of describing the proposed suite of mitigation, the need for and scope of offset, and residual effect.

6.6 Characterization of Residual Effects

For negative residual effects, the Application must:

- Provide a detailed characterization of residual effects following the implementation of technically and economically feasible mitigation measures;
- For every residual effect, the context needs to be fully described using qualitative and/or quantitative information, including:
 - Effects of past and present projects and activities;
 - Potential trends in the condition of the VC; and
 - Vulnerability and resiliency of the VC.
- For every residual effect use the following criteria in characterizing residual effects:
 - Context;
 - Direction (that is, positive, neutral, or adverse);
 - Magnitude;
 - Geographic extent;
 - Timing;
 - Duration;
 - Frequency;
 - Reversibility;
 - Affected populations;
 - Likelihood; and
 - Risk and uncertainty.
- Where applicable, determine the importance in characterizing residual effects;
- Define the criteria/terms used to characterize the residual effects; and
- Identify and explain relevant sources of information that were used to characterize residual effects, including views of Indigenous nations and other participants.

6.7 Cumulative Effects Assessment

The Application must:

- Identify and provide a rationale for the VCs that will constitute the focus of the CEA. The selected VCs are those most likely to be affected by the project in combination with other projects and activities;
- Include a rationale to justify the exclusion of other VCs from the CEA, as applicable;
- Identify and justify the spatial and temporal boundaries for the cumulative effect assessment for each VC selected. The boundaries for the CEAs may differ for each VC considered, may be larger than the boundaries for the project effects alone, and will not be constrained by jurisdictional boundaries:
- Temporal boundaries will include an appropriate baseline and should look at all potential effects throughout the lifecycle of the project, including decommissioning and abandonment;
- Identify past, present, and reasonably foreseeable future projects and activities that have been or that are likely to be carried out that could interact cumulatively with each selected VC within the boundaries defined, and whose residual effects would act in combination with the residual effects of the project. This assessment will consider the results of any relevant regional study conducted;
- Identify the methods used to determine potential cumulative effects, including data sources and collection methods, data analysis, and any other relevant assessment information;
- Identify potential cumulative effects to each VC selected by comparing the current and future conditions, including future scenarios with the project and without the project. The effects of past and current activities (activities that have been carried out) are to be used to contextualize the current state of the VC. Climate change is to be considered as part of future conditions or provide a rationale to justify the exclusion of climate change effects on the VC;
- Describe the mitigation measures that are technically and economically feasible to eliminate or reduce adverse cumulative effects, including:
 - The criteria or rationale used to determine technically and economically feasible mitigation measures;
 - Describe and provide an assessment of the effectiveness of the measures applied to mitigate the cumulative effects; and
 - In cases where measures to mitigate these effects are beyond the control of the proponent, the Application must identify any parties that have the authority to act on these measures. In such cases, the Application must summarize any commitments by the other parties regarding implementation of the necessary measures and any associated communication plans;
- Quantify, where appropriate, and evaluate residual cumulative effects using the characterization of residual effects described above; and
- Develop a follow-up program to verify the accuracy of the assessment and the effectiveness of mitigation measures for cumulative effects.

The proponent will engage with the B.C. EAO, IAAC, and Indigenous nations when considering historical conditions in the assessment of cumulative effects. The AIR will be updated with additional details on methodology following additional engagement activities.

6.8 Follow-up Strategy

Where a positive or negative residual effect and/or cumulative effect has been identified for a VC, the Application must include a description of a follow-up strategy, where appropriate, that:

- Identifies the measures to ensure that mitigation measures are implemented as planned and evaluates the accuracy of the predicted effects;
- Identifies the measures to evaluate the effectiveness of proposed mitigation measures to meet the intended mitigation commitments and goals;
- Identifies the regulatory instruments that include a monitoring requirement for the VC;
- Proposes an appropriate strategy (for example, adaptive management) to apply if predicted effects and mitigation effectiveness are not as expected. This includes reference to further mitigation, involvement of key stakeholders, Indigenous nations, government agencies, and any other measures deemed necessary to manage the issue;
- Identifies a mechanism to disseminate follow-up results among interested parties;
- Identifies the involvement of Indigenous nations in the follow-up strategy design and the implementation, evaluation of the follow-up results, as well as any updates, including a communication mechanism between the Indigenous nations and the proponent;
- Identifies degree of uncertainty of the effectiveness of Effects Assessment and mitigation measures, duration of follow-up activities and who is responsible, if not only the proponent; and
- Identifies a follow-up program for environmental, economic, social, culture, or health effects, as applicable, include disproportionate effects highlighted by GBA+.

7. Valued Components Effects Assessment

7.1 Environmental and Community Context

This section provides a landscape-level overview of the project area that sets the context for the assessment and will allow a comprehensive understanding of the current level of ecosystem functions and community well-being. This sets the stage for the discussion of biophysical factors that support ecosystem function (Section 12) and factors that support human and community well-being (Section 13), based on the results of the VC assessments completed in the following sections. Detailed information on the baseline conditions for each VC will be included in the relevant VC assessment section.

In describing the biophysical environment, the Application must take an ecosystem approach that considers how the project may affect the structure and functioning of biotic and abiotic components with the ecosystem using scientific, local, and Indigenous Knowledge regarding ecosystem health and integrity, as applicable. The Application must provide a description of the indicators and measures used to determine ecosystem health and integrity, identified during Early Planning and reflected in the Tailored Impact Statement Guidelines Template (TISG). The presence of endangered ecosystems potentially affected by the project will be included in the description of the biophysical baseline conditions.

The Application must consider the resilience of relevant species populations, communities, and associated habitats to the effects of the project. Ecological processes will be evaluated for potential susceptibility to adverse effects from the project.

7.2 Air Quality

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6, and any VC-specific deviations will be described.

The Application must identify which other VCs air quality is linked to and describe how the results of the assessment will be integrated into those of other VCs.

The Air Quality VC includes the following sub-components:

- Air quality; and
- Acid deposition.

7.2.1 Relevant Statutes, Policies and Frameworks

Statutes, policies and frameworks that may be relevant to the Air Quality VC include:

- Canadian *Environmental Protection Act*, 1999 and regulations;
- *Environmental Management Act* and regulations;
- B.C. Air Quality Objectives;
- Canadian Ambient Air Quality Standards;
- B.C. Air Quality Dispersion Modelling Guideline;
- Metro Vancouver Air Quality Management Bylaw (Consolidated) 1082, 1087, 2008 and 1308, 2020;
- Metro Vancouver Air Quality Objectives (Metro Vancouver 2020);
- Guidance within Metro Vancouver Dispersion Modelling Plan template (Version 2.1);

- Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air Quality (Health Canada 2017a);
- IAA, 2019 (Government of Canada 2019); and
- B.C. Field Sampling Manual. Part B: Air and Air Emission Testing (B.C. ENV 2020).

7.2.2 Assessment Boundaries

Assessment boundaries will be defined for the Air Quality VC, including spatial, temporal, and administrative and technical boundaries.

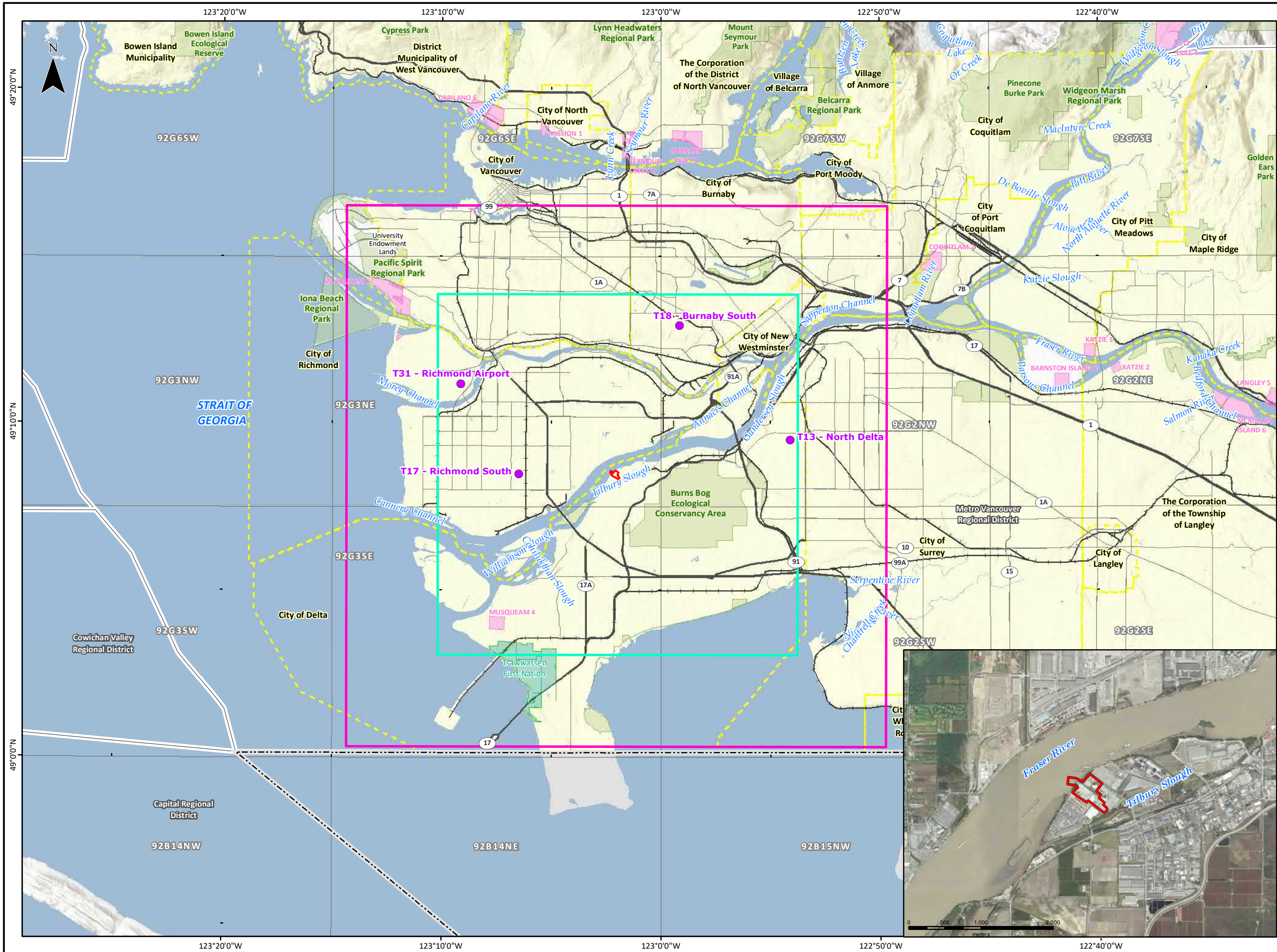
7.2.3 Existing Conditions

As applicable, the Application must:

- Describe major sources of baseline air emissions, including mobile, stationary, and fugitive;
- Provide baseline information to characterize ambient air quality by identifying and quantifying emission sources of criteria/common air contaminants (for example, TSPs, PM_{2.5}, PM₁₀, CO, sulphur oxides, nitrogen oxides, [non-methane] VOCs, hydrogen sulphide, and any other applicable hazardous air pollutants [mobile and stationary sources]), based on monitoring data that will be collected at the following four Metro Vancouver air quality monitoring stations (see Figure 7.2-1):
 - T17-Richmond South (Latitude: 49.1414; Longitude: -123.1082)
 - T13 – North Delta (Latitude: 49.1583; Longitude: -122.9017)
 - T18 – Burnaby South (Latitude: 49.2152; Longitude: -122.9857)
 - T31 – Richmond Airport (Latitude: 49.1863; Longitude: -123.1524)
- Address seasonal variability in the baseline survey and include a determination of background or ambient contaminant concentrations, using monitoring data of appropriate duration, representativeness, data completeness, data validation, and quality control;
- Describe existing radon gas conditions;
- A description of the current and projected climate effects on air quality;
- Describe available Indigenous Knowledge or local knowledge related to current air quality conditions;
- Describe sources of nuisance odour in the study area; and
- If applicable, provide air dispersion models of a base case, developed in accordance with Provincial or Federal standards, to account for existing pollutant sources and to determine the spatial distribution of pollutants in the study area.

Note that fugitive methane emissions are addressed in the GHG section, Section 8.

The description of existing conditions for the Air Quality VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of project effects and cumulative effects.



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FIGURE 7.2-1
PROPOSED AIR QUALITY MONITORING STATIONS
TILBURY PHASE 2 LNG EXPANSION PROJECT

- Proposed Air Quality Monitoring Station
- Proposed Project Footprint
- Air Quality Local Assessment Area
- Air Quality Regional Assessment Area
- Highway
- Road
- Railway
- National Border
- Park/Protected Area
- Waterbody
- First Nations Reserve
- First Nations Treaty Lands
- Municipality

Scale: 1:200,000
0 2 4 6 8 km
(All Locations Approximate)

Jacobs

Project Number CE778100

NAD1983 UTM Zone 10 North.

Proposed Receptor Site: Goldier 2018; Proposed Project, Local/Regional Assessment Area: Jacobs 2021; First Nations Reserves: Government of Canada 2018; First Nations Treaty Lands: BC MFLNDO 2009; Roads: NRCan 2015; Hydrography: BC Forests, Lands and Natural Resource Operations 2011; Municipal Boundaries: Regional District of BC MFLNDO 2016; Railway: BC Forests, Lands, Natural Resource Operations and Rural Development 2015; Parks: NRCan 2017; Metro Vancouver 2020; BC MFLNDO 2008; Service Layer Credits: Source: Esri, Mapbox, GeoEye, Earthstar Community, IGN, and the GIS User Community

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NIMA, Geodatasysteisen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

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.

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7.2.4 Potential Effects

The Application must define potential effects to air quality, identify interactions between the project and these effects, and outline indicators that will be used to measure these effects.

The assessment of Air Quality must follow the process outlined as follows:

- Provide a quantitative assessment of criteria air contaminants (total particulate matter, PM₁₀, PM_{2.5}, sulphur oxides, nitrogen oxides, VOCs, and CO) as well as any air contaminants potentially associated with the proposed Project;
- Provide an assessment of project emissions potentially contributing or adding to existing ground ozone levels;
- Include an atmospheric dispersion model of the criteria air contaminants in order to estimate the contaminant concentrations present in the entire area that could potentially be affected by atmospheric emissions resulting from various project-related activities (sources), including the use of heavy machinery during construction, the facility operations, and road, rail and marine transportation (provide appropriately scaled contour map(s) plotting the predicted emissions). The choice of air quality model must be appropriate for the complexity of sources, terrain, and meteorology;
- Provide details of all air quality model configuration, including meteorology, land use, gridded and sensitive receptors, and chemical and physical transformation settings;
- Assess the potential for emissions from the project to contribute to acid deposition and exceedances of critical loads for terrestrial and aquatic ecosystems;
- Describe the source characteristics (such as, point emissions, area sources, and flaring emissions, and fugitive sources);
- Provide emission rates for all project and regional sources within the study area, including emission factors (with methodology, uncertainty assessment, and references) and all assumptions and related parameters that would enable calculations to be reproduced;
- Use established methods for estimating emissions from on- road and off-road activities;
- Provide a comparison of predicted air quality concentration against the Canadian Ambient Air Quality Standards (CAAQS) for PM_{2.5}, SO₂, and NO₂. Predicted concentrations for other air pollutants relevant to the project will be compared with appropriate B.C. and Metro Vancouver guidelines. The assessment against CAAQS will be based on the principles of “keeping clean areas clean” and “continuous improvement”, and in the context of air sheds and air zones with the Air Quality Management System;
 - If standards are not exceeded, no further assessment to the risk of human or environmental health due to Air Quality will be completed.
- Describe participation in National or Regional air emission tracking and reporting programs or provide rationale why participation is not required;
- Provide a description of all methods and practices (such as, control equipment, heat, or gas recovery systems) to be implemented to reduce and control emissions;
- Provide details of the achievement of emission standards for all mobile and stationary engines used in the project; and
- Provide justification for all control efficiencies used to reduce emission rates of sources within the model, including details of all assumptions associated with the related mitigation measures, and their achievability.

7.2.5 Effects Management

The Application must describe effects management approaches for the Air Quality VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

7.2.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Air Quality VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.2.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Air Quality VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.2.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Air Quality VC, including the criteria outlined in subsection 6.6.

7.2.7 Cumulative Effects

The Application must include an assessment of cumulative effects on air quality following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.2.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Air Quality VC following the approach outlined in subsection 6.8.

7.3 Acoustic

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6 and subsection 7.1, and any VC-specific deviations will be described.

The Application must identify which other VCs acoustic is linked to and describe how the results of the assessment will be integrated into those of other VCs.

The Acoustic VC includes the following sub-components:

- Noise; and
- Vibration.

7.3.1 Relevant Statutes, Policies, and Frameworks

Statutes, policies and frameworks that may be relevant to the Acoustic VC include:

- Municipal bylaws;
- Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise (Health Canada 2017c);
- B.C. Noise Control Best Practices Guideline (B.C. OGC 2018a); and
- Demonstration of compliance with the above guidelines will satisfy noise objectives laid out in B.C.'s *Oil and Gas Activities Act – Liquefied Natural Gas Facility Regulation 146/2014* (B.C. OGC 2014) and B.C. OGC's Liquefied Natural Gas Facility Permit Application and Operations Manual (B.C. OGC 2018b).

7.3.2 Assessment Boundaries

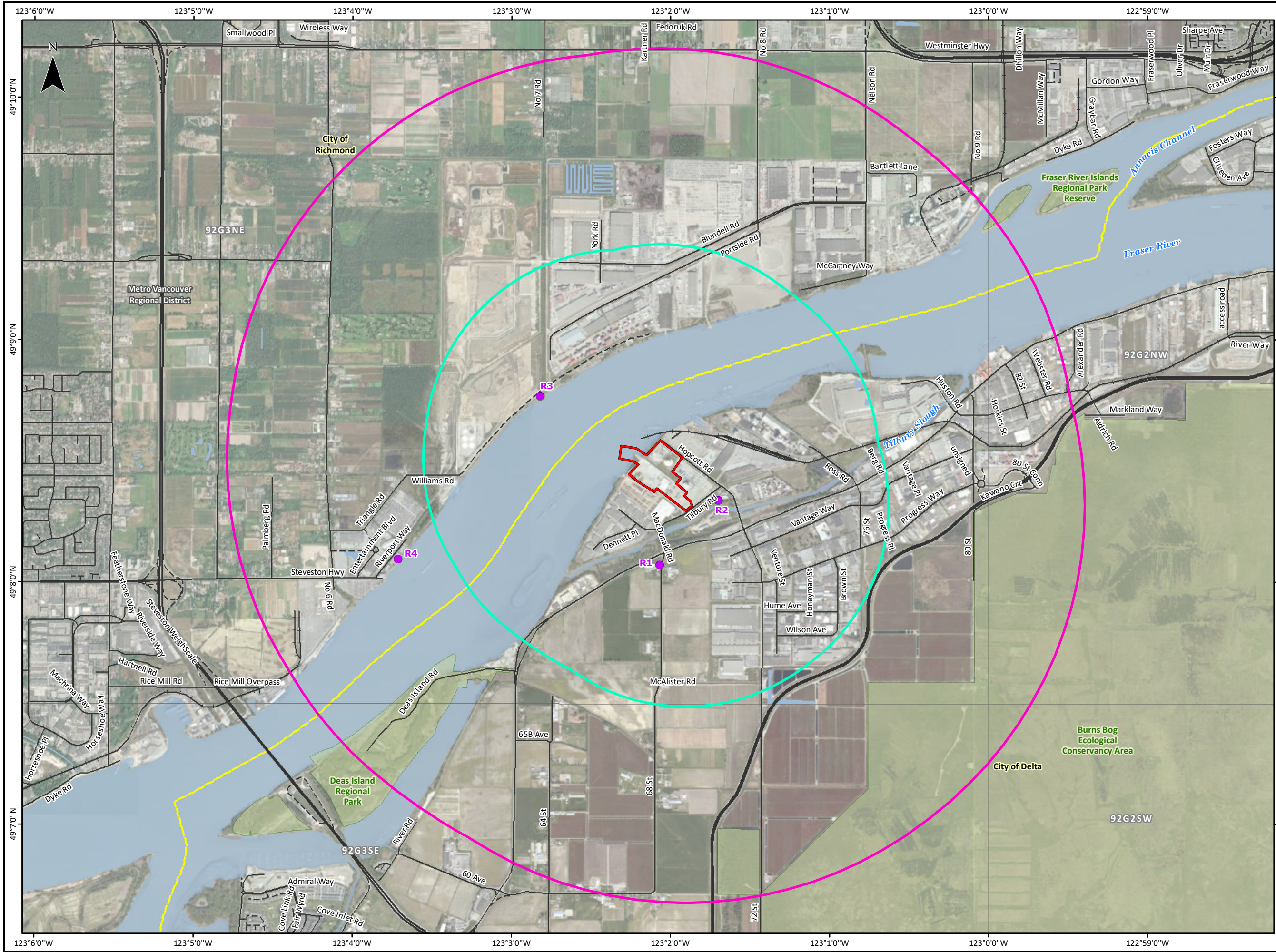
The Application must define assessment boundaries for the Acoustic VC, including spatial, temporal, and administrative and technical boundaries.

7.3.3 Existing Conditions

As applicable, the Application must:

- Describe current ambient noise levels at the following four receptor points where access is possible (see Figure 7.3-1):
 - Residence located south of the intersection of River Road and 68 Street (Receptor 1)
 - Animal shelter located across from Tilbury Road from the Project site, approximately 150 m southeast of the proposed Project boundary (Receptor 2)
 - Indigenous Village (Northwest Shore of Fraser River) (Receptor 3)
 - Waterstone Pier (14100 Riverport, Richmond, B.C.) (Receptor 4)
- Where relevant, the survey results will include baseline ambient noise survey and resulting permissible sound levels according to the B.C. OGC Noise Control Best Practices Guideline for each receptor;
- Describe typical sound sources, geographic extent, and temporal variations;
- Describe noise-sensitive receptors in the study area, including any foreseeable future receptors, and locations and distances of receptors from the project;
- Describe available Indigenous Knowledge or local knowledge related to current noise conditions; and
- Qualitative description of existing vibration, including potential sources at the facility.

The description of existing conditions for the Acoustic VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of proposed Project effects and cumulative effects.



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FIGURE 7.3-1

PROPOSED ACOUSTIC RECEPTOR SITES

TILBURY PHASE 2 LNG EXPANSION PROJECT

- Proposed Receptor Site
- Proposed Project Footprint
- Acoustic Local Assessment Area
- Acoustic Regional Assessment Area
- Highway
- Road
- Secondary Road
- Railway
- Park/Protected
- Waterbody
- Municipality

Scale: 1:27,500
0 270 540 810 1,080
(All Locations Approximate)

Jacobs

Project Number CE778100

NAD1983 UTM Zone 10 North.
Proposed Project, Local/Regional Assessment Area: Jacobs 2021; First Nation Reserves: Government of Canada 2018; First Nations Treaty Lands: BC MFLNRO 2009; Roads: NRCAN 2015; Hydrography: BC Forests, Lands and Natural Resource Operations 2011; Municipal Boundaries, Regional District: BC MFLNRO 2016; Railways: BC Forests, Lands, Natural Resource Operations and Rural Development 2015; Canada Parks: NRCAN 2017; MetroVancouver 2020, BC MFLNRO 2008; Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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: PT Checked By: SL



7.3.4 Potential Effects

The Application must define potential effects to the Acoustic VC, identify interactions between the project, and the effects and outline indicators that will be used to measure these effects. The assessment must follow the process outlined as follows:

- Describe changes in ambient vibration and sound levels resulting from the project; and
- Where there is public concern associated with an increase in sound levels during construction, provide a vibration and sound impact assessment, including an overview of the concerns.

For projects that result or may result in an increase in sound emissions during any phase of the project, the assessment will follow the process outlined as follows:

- Quantify sound levels at appropriate distances from any project facility and/or activities and describe the frequency, duration, and character of sound.
- Describe the locations and characteristics of the most sensitive receptors including species at risk (also see subsection 7.8 Wildlife and Wildlife Habitat);
- Describe consultation with regulators, stakeholders, community groups, landowners, and Indigenous nations about potential effects to the acoustic environment;
- Identify and justify the approach to determine the extent to which sound effects resulting from the project are adverse and describe any changes in night-time light levels as a result of the project; and
- Describe any positive changes.

7.3.5 Effects Management

The Application must describe effects management approaches for the Acoustic VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

7.3.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Acoustic VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.3.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Acoustic VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.3.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Acoustic VC, including the criteria outlined in subsection 6.6.

7.3.7 Cumulative Effects

The Application must include an assessment of cumulative effects on the Acoustic VC following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must

describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.3.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Acoustic VC following the approach outlined in subsection 6.8.

7.4 Surface Water

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6 and subsection 7.1, and any VC-specific deviations will be described.

The Application must identify which other VCs surface water is linked to and describe how the results of the assessment will be integrated into those of other VCs.

The Surface Water VC includes the following sub-components:

- Surface water quality;
- Surface water quantity (Hydrology); and
- Sediment quality.

7.4.1 Relevant Statutes, Policies, and Frameworks

Statutes, policies and frameworks that may be relevant to the Surface Water VC include:

- *Water Sustainability Act*;
- *Environmental Management Act*;
- *Fisheries Act*;
- *Drinking Water Protection Act*;
- B.C. Water Quality Guidelines;
- B.C. Sediment Quality Guidelines;
- Manual of Standard Operation Procedures for Hydrometric Surveys in B.C.;
- B.C. Environmental Flow Needs Policy;
- *Government Actions Regulation* under the *Forest and Range Practices Act*;
- Canadian Environmental Quality Guidelines (CCME 2007); and
- Guidance for Evaluating Human Health Impacts in Environmental Assessment: Water Quality (Health Canada 2017d).

7.4.2 Assessment Boundaries

The Application must define assessment boundaries for the Surface Water VC, including spatial, temporal, and administrative and technical boundaries.

7.4.3 Existing Conditions

As applicable, the Application must:

- Describe the regional and local surface water quantity and quality conditions, including a description of the watersheds and sub-watershed, drainage basins, waterbodies, and watercourses (including intermittent streams), flood risk areas and wetlands, in relation to key project components;
- Describe any project-specific baseline surveys completed, including a detailed description of the methods used and how the results helped to characterize existing conditions (for example, filled an information gap; confirmed or refuted older information);
- Provide surface water quantity and quality data used to develop or inform water balance and water quality models, if required for the assessment;
- Provide Regional and Local hydrologic and climatologic data (hydrometric data collection is to adhere to standardized practices and procedures - refer to the most recent version of the Manual of British Columbia Hydrometric Standards [RISC 2018]) including temperature, precipitation, and evapotranspiration information based on data from nearby weather stations or from a weather station on-site;
- Describe the local and regional climate projections for the area with the rationale of the climate model chosen and including a description of the current and projected climate effects on hydrology;
- Provide for each waterbody potentially affected by the project, the total surface area, local bathymetry, maximum and mean depths, and type of substrate (sediments);
- Describe seasonal and inter-annual patterns in streamflow, tidal patterns, and storm surges for surface waterbodies in the project area;
- Provide local water quality data (water quality data collection is to adhere to standardized practices and procedures - refer to Cavanaugh et al 1998; MWLAP 2003; MELP 1998; B.C. MOE 2010); data for water quality will include sampling site selection, monitoring duration and frequency, sampling protocol, and analytical protocol, including quality assurance and quality control measures;
- Describe seasonal and inter-annual trends in water quality parameters including physicochemical parameters (temperature, pH, electrical conductivity, dissolved oxygen, turbidity, total suspended solids, and salinity) and relevant chemical constituents (major and minor ions, trace metals, hydrocarbons, nutrients, and organic compounds, including those of potential concern), where this information is available. The description will include possible changes due to groundwater/surface water interactions;
- Describe water quality relative to B.C. Water Quality Guidelines, Fraser River Water Quality Objectives, and Canadian Environmental Quality Guidelines;
- Identify all springs and any other potable surface water resources within the LAA and RAA and describe their current use, potential for future use, and whether their consumption has Indigenous nation cultural importance;
- Describe available Indigenous Knowledge or local knowledge related to surface water;
- Describe local sediment quality data including sampling site selection, monitoring duration and frequency, sampling protocol, and analytical protocol, including quality assurance and quality control measures; and
- Describe the historical river use and the potential for contamination of sediments and describe any known or suspected sediment contamination within the study area that could be re-suspended, released or otherwise disturbed as a result of the project.

The description of existing conditions for the Surface Water VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of project effects and cumulative effects.

7.4.4 Potential Effects

The Application must define potential effects to surface water, identify interactions between the project and these effects, and outline indicators that will be used to measure these effects. The assessment must follow the process outlined as follows:

- Provide a project-specific water use assessment identifying and describing the quantity and quality of water resources potentially affected by the project, including water withdrawn from local waterbodies used as a supply source, the flow or volume of water available in the waterbodies, and how and where waste waters would be discharged;
- Describe changes to surface water quality due to effluents from the project including changes to physicochemical parameters (temperature, pH, salinity, dissolved oxygen, turbidity), chemical constituents (major and minor ions, trace metals, radionuclides, nutrients, organic compounds);
- Describe any hydrological or drainage changes that may impact surface water and how that may affect vegetation; and
- Describe any contaminants of concern potentially associated with the project that may affect sediment or water.

7.4.5 Effects Management

The Application must describe effects management approaches for the Surface Water VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

7.4.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Surface Water VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.4.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Surface Water VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.4.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Surface Water VC, including the criteria outlined in subsection 6.6.

7.4.7 Cumulative Effects

The Application must include an assessment of cumulative effects on surface water following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.4.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Surface Water VC following the approach outlined in subsection 6.8.

7.5 Groundwater

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6 and subsection 7.1, and any VC-specific deviations will be described.

The Application must identify which other VCs groundwater is linked to and describe how the results of the assessment will be integrated into those of other VCs.

The Groundwater VC includes the following sub-components:

- Groundwater quality; and
- Groundwater quantity.

7.5.1 Relevant Statutes, Policies, and Frameworks

Statutes, policies, and frameworks that may be relevant to the Groundwater VC include:

- B.C. Guidelines for Groundwater Modelling to Assess Impacts of Proposed Natural Development Activities;
- *Water Sustainability Act*;
- *Environmental Management Act*;
- *Drinking Water Protection Act*;
- *B.C. Contaminated Site Regulation*;
- *Government Actions Regulation* under the *Forest and Range Practices Act*; and
- Canadian Environmental Quality Guidelines.

7.5.2 Assessment Boundaries

The Application must define assessment boundaries for the Groundwater VC, including spatial, temporal, and administrative and technical boundaries.

7.5.3 Existing Conditions

As applicable, the Application must:

- Describe the regional and local groundwater quantity and quality conditions;
- Describe any project-specific baseline surveys completed, including a detailed description of the methods used and how the results helped to characterize existing conditions (for example, filled an information gap; confirmed or refuted older information);
- Provide groundwater quantity and quality data used to develop or inform water balance and water quality models, if required for the assessment;
- Describe seasonal trends in groundwater quality including relevant physicochemical parameters and chemical constituents; illustrate the seasonal and inter-annual variability in baseline groundwater quality; describe possible changes due to groundwater/surface water interactions;
- Describe the groundwater quality baseline characterization program including sampling site selection, monitoring duration and frequency, sampling protocol, and analytical protocol including quality assurance and quality control measures;
- Describe seasonal trends in groundwater quantity;
- Describe possible groundwater/surface water interactions; including an identification of groundwater-dependent ecosystems, wetlands, discharge, and recharge areas;
- Describe baseline groundwater quality relative to B.C. *Contaminated Site Regulation* and Canadian Environmental Quality Guidelines;
- Describe available Indigenous Knowledge or local knowledge related to groundwater;
- Identify all domestic, communal, or municipal water wells within the LAA and RAA, including their screened hydrostratigraphic unit and piezometric level; describe their current use, potential for future use, and whether their consumption has any Indigenous nation cultural importance;
- Identify all groundwater monitoring wells within the project area, including their location, completion details (diameter, screen depth), geological log, screened hydrostratigraphic unit, piezometric level, and monitoring frequency; and
- Provide hydrogeological maps and cross-sections of the study area showing water table elevations, potentiometric contours, interpreted groundwater flow directions, groundwater divides, and areas of recharge and discharge.

The description of existing conditions for the Groundwater VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of project effects and cumulative effects.

7.5.4 Potential Effects

The Application must define potential effects to groundwater, identify interactions between the project and these effects, and outline indicators that will be used to measure these effects.

With respect to potential project effects on the physical hydrogeological system, the assessment must follow the process outlined as follows:

- Describe changes to groundwater quality due to effluents from the project, including changes to relevant physicochemical parameters and chemical constituents;
- Describe any changes to groundwater quality that could affect surface water quality; and
- Provide an assessment for off-site migration pathways for impacted groundwater.

7.5.5 Effects Management

The Application must describe effects management approaches for the Groundwater VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

7.5.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Groundwater VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.5.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Groundwater VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.5.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Groundwater VC, including the criteria outlined in subsection 6.6.

7.5.7 Cumulative Effects

The Application must include an assessment of cumulative effects on groundwater following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.5.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Groundwater VC following the approach outlined in subsection 6.8.

7.6 Soil

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6 and subsection 7.1, and any VC-specific deviations will be described.

The Application must identify which other VCs soil is linked to and describe how the results of the assessment will be integrated into those of other VCs.

The Soil VC includes the following sub-components:

- Terrain;
- Soil quality; and
- Soil quantity.

7.6.1 Relevant Statutes, Policies, and Frameworks

Statutes, policies and frameworks that may be relevant to the Soil VC include:

- B.C. *Contaminated Sites Regulation* under the *Environmental Management Act*;
- *Agricultural Land Commission Act* and *Agricultural Land Reserve Regulations*;
- *Forest Range and Practices Act*; and
- Health Canada's Risk Assessment Guidance Parts I through VII.

7.6.2 Assessment Boundaries

The Application must include assessment boundaries for the Soil VC, including spatial, temporal, and administrative and technical boundaries.

7.6.3 Existing Conditions

The Application must:

- Describe general information about baseline physiography, including landforms, soils and sediments within the local and regional project areas, sediment stratigraphy;
- Provide baseline soil map units and data (soil series distribution and extent);
- Identify any areas of ground instability;
- Provide maps depicting soil depth by horizon and soil order within the project site area to support soil salvage and reclamation efforts;
- Provide baseline maps and data for soil erosion potential;
- Describe the suitability of topsoil and overburden for use in the reclamation of disturbed areas including an assessment of the acid-generating potential of overburden to be used;
- Provide baseline maps and data for land or agricultural capability as relevant;
- Characterize topsoil and subsoil for suitability as growth media for reclamation;
- Characterize land or agricultural capability as relevant;
- Describe available Indigenous Knowledge or local knowledge related to soil;
- Describe the historical land use and the potential for contamination of soils and sediments and describe any known or suspected soil contamination with the study area that could be re-suspended, released or otherwise disturbed as a result of the project;
- Identify ecosystems that are sensitive or vulnerable to acidification resulting from the deposition of atmospheric contaminants;
- Describe the bedrock and host rock geology, including a table of geologic descriptions, including alteration styles, geological maps, and cross-sections of appropriate scale;
- Describe the geomorphology, topography and geotechnical characteristics of areas proposed for construction of major project components, including the presence and distribution of permafrost, if applicable;

- Identify any areas with potential for acid-generating rock and predict metal leaching and acid rock drainage including oxidation of primary sulphides and secondary soluble sulphate minerals;
- Provide a characterization of the geochemical composition of expected mined materials (such as waste rock, ore, low grade ore, tailings, overburden, and potential construction material) which should include: ore mineralogy, major and trace elements, and potential for acid generation, neutralization and contaminated neutral drainage;
- Describe baseline concentrations of contaminants of concern (these may include but are not limited to selenium, sulphate, cadmium, nitrate and calcite, heavy metals) within the local, regional and downstream receiving environments; and
- Provide a geochemical characterization of leaching potential.

The description of existing conditions for the Soil VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 IAA, to support the consideration of project effects and cumulative effects.

7.6.4 Potential Effects

The Application must define potential effects to soil, identify interactions between the project and these effects, and outline indicators that will be used to measure these effects. The assessment must follow the process outlined as follows:

- Provide an overall description of changes related to landscape disturbance including project effects on areas of ground instability;
- Describe any contaminants of concern potentially associated with the project that may affect soil, sediment or water; and
- Describe the historical land use and the potential for contamination of soils and sediments and potential for loss of soil fertility. Describe any known or suspected soil contamination within the that could be re-suspended, released or otherwise disturbed as a result of the proposed Project.

7.6.5 Effects Management

The Application must describe effects management approaches for the Soil VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

7.6.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Soil VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.6.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Soil VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.6.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Soil VC, including the criteria outlined in subsection 6.6.

7.6.7 Cumulative Effects

The Application must include an assessment of cumulative effects on soil following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.6.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Soil VC following the approach outlined in subsection 6.8.

7.7 Vegetation

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6 and subsection 7.1, and any VC-specific deviations will be described.

The Application must identify which other VCs vegetation is linked to and describe how the results of the assessment will be integrated into those of other VCs.

The Vegetation VC includes the following sub-components:

- Plant Species and Ecological Communities of Interest;
- Wetland functions; and
- Ecosystems.

7.7.1 Relevant Statutes, Policies, and Frameworks

Statutes, policies, and frameworks that may be relevant to the Vegetation VC include:

- *Oil and Gas Activities Act* and associated regulations and guidelines;
- *Forest and Range Practices Act*;
- *Forest Act*;
- *Weed Control Act* and regulation;
- *Water Sustainability Act* and regulations;
- B.C. Conservation Framework;
- SARA;
- Federal Policy on Wetland Conservation;
- Canadian Wetland Classification System (National Wetlands Working Group 1997); and
- Wetland Ecological Functions Assessment: An Overview of Approaches (Hanson et al. 2008).

7.7.2 Assessment Boundaries

The Application must define assessment boundaries for the Vegetation VC, including spatial, temporal, and administrative and technical boundaries.

7.7.3 Existing Conditions

As applicable, the Application must:

- Identify and classify terrestrial ecosystems in the LAA according to the Biogeoclimatic Ecosystem Classification (BEC) system and the applicable field guide(s) to site identification;
- Provide ecosystem mapping used to identify and classify terrestrial ecosystems using appropriate Provincial standards (for example, Terrestrial Ecosystem Mapping or Sensitive Ecosystem Mapping) with appropriate field verification;
- Describe the local and regional climate projections for the area with rationale of the climate model chosen and include a description of the current and projected climate effects on vegetation;
- Describe the location, extent, and condition of ecological communities of conservation concern;
- Identify and classify wetland associations following Wetlands of British Columbia: A Guide to Identification (Mackenzie and Moran 2004) and within the scope of Federal permits, authorizations, or other approvals;
- Identify the location and abundance of rare plant species, based on targeted field surveys as applicable;
- Describe the species critical habitat as described in final or draft recovery strategies or action plans;
- Describe the current level of disturbance associated with vegetation, including a description of level of habitat fragmentation;
- Identify the biodiversity metrics, biotic and abiotic indicators that are used to characterize the baseline vegetation biodiversity and discuss the rationale for their selection;
- Provide data files of mapped features depicting vegetation presence within the study area;
- Describe the natural disturbance regime (such as, fire, floods, droughts, etc.);
- Describe the presence and abundance of invasive and non-native species in the project area;
- Provide information on the use of local vegetation as a source of country foods (traditional foods) and the presence and abundance of culturally important traditional use species in the project area, integrating available Indigenous Knowledge and local knowledge as applicable;
- Describe available Indigenous Knowledge or local knowledge related to vegetation; and
- For riparian and wetland environments:
 - Provide pre-project characterization of the shoreline, banks, current and future flood risk areas, wetland catchment boundaries
 - Quantify, delineate and describe wetlands (fens, marshes, peat lands, bogs, etc.) within the potentially directly, indirectly and/or cumulatively affected by the project in the context of:
 - Wetland class, ecological community type and conservation status
 - Biodiversity
 - Abundance at Local, Regional, and Provincial scales
 - Distribution
 - Current level of disturbance
 - Determine whether these wetlands are within a geographic area of Canada where wetland loss or degradation has reached critical levels, or considered ecologically or socially or economically important to a region;

- Identify and describe wetland capacities to perform hydrological and water quality functions, provide for wildlife and wildlife habitat or other ecological functions; and
- Provide a wetland functions assessment in accordance with the guiding principles of Wetland Ecological Functions Assessment: An Overview of Approaches or any subsequent approved guidelines by which to determine the most appropriate functions assessment methodology to use (Appendix 1 of the TISG).

The description of existing conditions for the Vegetation VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of project effects and cumulative effects.

7.7.4 Potential Effects

The Application must define potential effects to vegetation, identify interactions between the project and these effects, and outline indicators that will be used to measure these effects. The assessment must follow the process outlined as follows:

- Provide an overall description of changes related to landscape disturbance including fragmentation of habitats;
- Describe any hydrological or drainage changes that may impact surface water and how that may affect vegetation;
- Describe effects to riparian, wetland and terrestrial biodiversity considering biodiversity metrics, effects of fragmentation, changes to regional biodiversity;
- Describe any positive changes (such as, from offsets that result in revegetation, new wetlands, etc.)

7.7.5 Effects Management

The Application must describe effects management approaches for the Vegetation VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5. The Application must:

- Describe the vegetation standards and controls to be implemented while constructing and operating the project. Describe any integrated vegetation management programs, including:
 - The criteria and circumstances for applying chemical, biological or mechanical control methods;
 - The methods to be used to prevent spread of non-native, invasive species; and
 - The selection of plant species to be kept and planted to promote naturally low-growing plant communities.
- Describe any revegetation procedures to be implemented as part of the project, including:
 - Revegetation techniques and the locations where they would be implemented;
 - Seed mixes to be used, application rates, and location of application;
 - Fertilizers to be used, application rates and locations, and criteria for determining these specifications; and
 - Contingency planting and seeding plans that include a description of species to be replanted, the locations for replanting and criteria for determining these specifications.

7.7.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Vegetation VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.7.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Vegetation VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.7.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Vegetation VC, including the criteria outlined in subsection 6.6.

7.7.7 Cumulative Effects

The Application must include an assessment of cumulative effects on vegetation following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.7.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Vegetation VC following the approach outlined in subsection 6.8.

7.8 Wildlife and Wildlife Habitat

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6 and subsection 7.1, and any VC-specific deviations will be described.

The Application must identify which other VCs wildlife and wildlife habitat is linked to and describe how the results of the assessment will be integrated into those of other VCs.

The Wildlife and Wildlife Habitat VC includes the following sub-components:

- Birds (forest birds and water/shore birds/migratory birds), including species at risk and culturally important traditional use species;
- Mammals (terrestrial), including species at risk and culturally important Traditional Use species; and
- Amphibians (pond-dwelling), including species at risk and culturally important Traditional Use species.

7.8.1 Relevant Statutes, Policies and Frameworks

Statutes, policies and frameworks that may be relevant to the Wildlife and Wildlife Habitat VC include:

- *B.C. Wildlife Act*;
- *SARA*;
- *Migratory Birds Convention Act* and regulation;

- B.C. Conservation Framework;
- *Oil and Gas Activities Act* and associated regulations and guidelines;
- *Government Actions Regulation* under the *Forest and Range Practices Act*;
- A Framework for the Scientific Assessment of Potential Project Impact on Birds. (Hanson et al. 2009);
- Bird Survey Inventories in Canada;
- Breeding Bird Atlases (Birds Canada 2020); and
- COSEWIC status reports.

7.8.2 Assessment Boundaries

The Application must define assessment boundaries for the Wildlife and Wildlife Habitat VC, including spatial, temporal, and administrative and technical boundaries.

7.8.3 Existing Conditions

As applicable, the Application must describe the existing conditions for each sub-component of Wildlife and Wildlife Habitat VC in a manner consistent with subsection 6.3 and will include the following:

- Include a current list of wildlife species expected to occur in the largest spatial boundary for the VC;
 - For each species, provide Federal (COSEWIC and SARA) and Provincial (B.C. Conservation Data Centre [B.C. CDC] List and Conservation Framework Rank) conservation status;
 - Describe the occurrence (for example, months; seasons), distribution (for example, extent of project interaction), population status, life cycle (for example breeding and foraging), seasonal ranges, migration and movements, general habitat associations/requirements (for example, wetlands), and sensitive time periods, threats, and conservation goals of each VC sub-component;
- Describe any locations within the largest spatial boundaries for the VC that might constitute sensitive habitat areas for wildlife (including residences, seasonal movements, movement corridors) and describe and/or map the extent to which these overlap with the spatial boundaries. Key habitat areas may include:
 - Critical Habitat and/or recovery habitat for wildlife species at risk, that is designated or under consideration, as defined in a recovery strategy, conservation plan, or similar document;
 - ecological reserves and protected areas, in proximity to the project location or that could be affected by routine project operations;
 - Ungulate Winter Ranges, Wildlife Habitat Areas, Wildlife Management Areas, Important Bird Areas (IBAs), Bird Conservation Regions (BCRs), or established or proposed sanctuaries; or
 - nearby environmentally significant areas such as; National Parks, Areas of Natural or Scientific Interest, Migratory Bird Sanctuaries or other priority areas or sanctuaries for birds, National Wildlife Areas, World Biosphere Reserves, offshore Marine Protected Areas, Ecologically and Biologically Marine Areas, or UNESCO Natural World Heritage Sites.
- Use existing data and literature, as well as surveys, to provide current field data that reflects the natural inter-annual and seasonal variability. Data must be supplemented by surveys;
- Describe and provide any project-specific baseline surveys completed, including a detailed description of the methods used and how the results helped to characterize existing conditions (for example, filled an information gap; confirmed or refuted older information);
- Survey protocols should optimize detectability and survey effort should provide for comprehensive coverage at the appropriate time of year (such as, survey breeding bird habitat during breeding season);

- Identify the biodiversity metrics, or biotic and abiotic indicators, that are used to characterize the baseline biodiversity for wildlife and discuss the rationale for their selection;
- Describe the location, distribution, condition, and amount of suitable habitat that provides the seasonal and/or annual life requisites for a VC sub-component (including species at risk and migratory birds) that are likely to be directly or indirectly affected by the proposed Project;
- Provide the habitat mapping used to describe baseline conditions, which should be Terrestrial Ecosystem Mapping (RISC 1998, 1999), Predictive Ecosystem Mapping (RISC 2000), or other well-supported and appropriate habitat mapping methods (for example, habitat suitability index model using vegetation resources inventory data);
- Describe the location and relative importance or significance of wildlife habitat features within the VC spatial boundaries (for example, breeding colonies, travel corridors, mineral licks, protected nests, dens, roosts);
- Describe and quantify the habitat type that may be directly or indirectly affected by the proposed Project, including its: function; location; suitability; structure; diversity; relative use, natural inter-annual and seasonal variability, and; abundance as it existed before project construction;
- Describe the local and regional climate projections for the area with rationale of the climate model chosen and including a description of the current and projected climate effects on wildlife and suitable habitat and/or migration patterns of each VC sub-component species;
- Provide a list or description of wildlife and wildlife habitat management objectives as defined in Land and Resource Management Plans or Sustainable Resource Management Plans;
- Describe any established conservation thresholds (for example, as defined in a recovery strategy, conservation plan, or similar document) and whether these are exceeded at baseline (for example, linear feature density, core security habitat, critical habitat);
- Describe the levels of disturbance currently affecting wildlife and wildlife habitat, such as habitat fragmentation and the extent of human access and use (outline any relevant current conditions from B.C. Cumulative Effects Framework reports);
- Reference species of Indigenous cultural use and value; and
- Describe available Indigenous Knowledge or local knowledge related to each VC sub-component species. If applicable, describe the use of wildlife species as a source of country foods (traditional foods) and/or harvesting of fur-bearing species within the VC spatial boundaries and whether consumption has Indigenous cultural importance.

As applicable to birds (forest birds and water/shore birds/migratory birds), including species at risk and culturally important traditional use species, the Application must:

- Describe the biodiversity of bird species and their habitats that are likely to be found in the largest spatial boundary for the VC, including identification of BCRs and BCR strategies;
- Provide estimates of the abundance and distribution, and information on the life history of migratory and non-migratory birds in the study area. Estimates may be based on existing information, or additional surveys, to provide current data sufficient for reliable estimates;
- Provide a characterization of habitat features found in the project area that are associated with the presence of migratory and non-migratory bird species that are likely to be affected, based on the best available existing information (such as, land cover types, vegetation, marine elements), including habitat fragmentation;
- Identify areas of concentration of migratory birds, including sites used for migration, staging, breeding, feeding, and resting;

- Describe food webs and trophic linkages to summarize biotic interactions; and
- Provide an estimate of year-round bird use of the area (such as, winter, spring migration, breeding season, fall migration), based on data from existing sources and surveys to provide current field data if required to generate reliable estimates.

The description of existing conditions for the Wildlife and Wildlife Habitat VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of project effects and cumulative effects.

7.8.4 Potential Effects

The Application must define potential effects to wildlife and wildlife habitat (including species at risk), identify interactions between the project and these effects, and outline indicators that will be used to measure these effects.

As applicable, for each sub-component of Wildlife and Wildlife Habitat VC, the assessment must follow the process outlined as follows:

- Describe the potential direct or incidental adverse effects of the proposed Project to wildlife species and their habitat, critical habitat, migratory birds and non-migratory birds, including population level effects that could be caused by all project activities and, where, appropriate, effects to the extent, availability and presence of biophysical attributes within critical habitat;
- Describe effects to wildlife biodiversity considering biodiversity metrics, effects of fragmentation, changes to regional biodiversity;
- Describe the potential adverse effects of the project on species noted as important to Indigenous nations and local communities and their habitat that are not currently listed under the *SARA* or Provincial statutes; provide an evaluation of the effect of the project on wildlife mortality risk and movement patterns;
- Describe changes to key habitat for species important to current use of lands and resources for traditional purposes;
- Identify critical timing windows (such as, denning, rutting, spawning, calving, breeding, roosting), setback distances, or other restrictions related to wildlife species;
- Identify Provincial, Territorial, or Federal permits or authorizations that may be required in relation to the species at risk;
- Describe short- and long-term changes to habitats and food sources of migratory and non-migratory birds (types of cover, ecological unit of the area in terms of quality, quantity, distribution and functions), with a distinction made between these two birds categories, including losses, structural changes and fragmentation of riparian habitat (aquatic grass beds, intertidal marshes), terrestrial environments (such as, limited vegetated areas) and wetlands frequented by birds;
- Describe the changes to the bird-habitat relationships; the change in biodiversity, abundance, and density of the avian community that utilize the various habitat types or ecosystems;
- Describe the change in mortality risk, including as a result of collision of migratory birds with flaring gas, any project infrastructure, vessels and vehicles; and
- Describe changes in marine animals behaviour, including migration, feeding and breeding patterns due to an increase in noise, destruction of habitat.

7.8.5 Effects Management

The Application must describe effects management approaches for the Wildlife and Wildlife Habitat VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

- As applicable, describe all feasible measures that will be taken to avoid or lessen the impact of the project on wildlife and wildlife habitat, including wildlife species at risk and their critical habitat;
- Identify measures to prevent and mitigate the risk of engaging in harmful, destructive or disruptive activities in key sensitive periods and locations (such as migration and nesting) to migratory birds, their nests and eggs, in water or areas frequented by migratory birds;
- Identify measures to avoid the deposit of substances harmful to migratory birds in water or areas frequented by migratory birds;
- Provide an account of how the project and mitigation measures are consistent with the recovery strategy, action plan, or management plan for wildlife species; and
- Describe all reasonable alternatives to the project that would avoid the potential effect on species and their habitat, with particular attention to critical habitat.

7.8.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Wildlife and Wildlife Habitat VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.8.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Wildlife and Wildlife Habitat VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.8.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Wildlife and Wildlife Habitat VC, including the criteria outlined in subsection 6.6. The Application must:

- Describe the residual effects that are likely to result from the project after avoidance and minimization measures have been applied, including the extent, duration and magnitude of the effects on:
 - The number of individuals killed, harmed, harassed; and
 - The number of residences damaged or destroyed.

7.8.7 Cumulative Effects

The Application must include an assessment of cumulative effects on wildlife following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.8.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Wildlife and Wildlife Habitat VC following the approach outlined in subsection 6.8.

7.9 Fish and Fish Habitat

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6 and subsection 7.1, and any VC-specific deviations will be described.

The Application must identify which other VCs fish and fish habitat is linked to and describe how the results of the assessment will be integrated into those of other VCs.

The Fish and Fish Habitat VC includes the following sub-components:

- Fish habitat;
- Aquatic resources; and
- Fish (marine and freshwater, including marine mammals and migratory species).

7.9.1 Relevant Statutes, Policies, and Frameworks

Statutes, policies, and frameworks that may be relevant to the Fish and Fish Habitat VC include:

- *Fisheries Act* and regulations;
- Fisheries and Oceans Canada (DFO) policies;
- Fisheries Protection Policy Statement;
- *SARA*;
- *Canadian Environmental Protection Act, 1999*;
- Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada;
- *Oil and Gas Activities Act* and associated regulations and guidelines;
- *Water Sustainability Act* and associated regulations;
- *Riparian Areas Protection Act*;
- B.C. Environmental Flow Needs Policy; and
- Burrard Inlet Environmental Action Program and Fraser River Estuary Management Program Atlas.

7.9.2 Assessment Boundaries

The Application must define assessment boundaries for the Fish and Fish Habitat VC, including spatial, temporal, and administrative and technical boundaries.

7.9.3 Existing Conditions

As applicable, the Application must:

- Provide maps of the watershed(s) in the vicinity of the project showing key watercourses and waterbodies;
- Describe and provide maps of relevant fish habitats, including characteristics that directly and indirectly support fish in carrying out their life processes, including critical habitat or sensitive habitat areas. Habitat information includes water depths (bathymetry) and the littoral, sublittoral, bathyal, epipelagic, mesopelagic, bathypelagic zones;
- Describe habitat by mesohabitat (such as, pool, riffle, run), including the length of the section, width of the channel from the high-water mark (bankfull width), water depths, type of substrate (sediments), aquatic and riparian vegetation, and photos;
- Provide a characterization of fish habitat features that may demonstrate the presence of fish species in terms of appropriate habitats—water quality and quantity characteristics, sediment type

characteristics, seafloor terrain features, prey, shelter, refuge, feeding, spawning habitats, nursery habitats, rearing habitats, overwintering, migration routes, and the sensitive times for these activities;

- Describe the historical occurrence, distribution, and conservation status of fish and/or aquatic species in the watercourses and waterbodies;
- Provide a description of the biodiversity within the freshwater and marine environment, including: trophic state, periphyton, phytoplankton, zooplankton, fish and the interactions and relative significance of each species with the identified food chains;
- Identify the biodiversity metrics, biotic and abiotic indicators that are used to characterize the baseline biodiversity for fish and/or aquatic species, including the rationale for their selection;
- Describe and provide any project-specific baseline surveys completed, including the methods used (for example, location of sampling stations, catch methods, date of catches, species, catch-per-unit effort) and how the results helped to characterize existing conditions (for example, the source of data available, filled an information gap; confirmed or refuted older information);
- Describe the fish species present and an estimate of the abundance of those species;
- Describe the location of important fish habitats and their relative significance;
- Describe habitat use, including describing primary and secondary productivity in affected water bodies with a characterization of biotic interaction processes (such as, food web and trophic levels, nutrient cycling), season variability, ranges, and sensitive periods;
- Identify natural obstacles (such as, falls, beaver dams) or existing structures (such as, water crossings) that hinder the free passage of fish;
- Describe the local and regional climate projections for the area with rationale of the climate model chosen and including a description of the current and projected climate effects on fish, habitat and habitat use;
- Provide information on the use of fish and/or aquatic species as country foods and reference to species of Indigenous cultural use and value; and
- Describe available Indigenous Knowledge or local knowledge related to fish and fish habitat.

As applicable to marine fish and fish habitat, the Application must:

- Provide maps of the marine environment in the vicinity of the project showing proximity to marine protected areas and important watercourses supporting fisheries; and
- Describe any existing, designated or proposed special marine areas such as: marine refuges, marine conservation areas, species at risk critical habitat (as defined in a recovery strategy, conservation plan, or similar document), ecological reserves and marine protected areas, in proximity to the project location or that could be affected by routine project operations.

The description of existing conditions for the Fish and Fish Habitat VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of project effects and cumulative effects.

7.9.4 Potential Effects

The Application must define potential effects to fish and fish habitat (marine and freshwater), identify interactions between the project and these effects, and outline indicators that will be used to measure these effects.

The assessment of Fish and Fish Habitat must follow the process outlined as follows:

- Describe any direct, or incidental predicted positive and/or adverse effects to fish and fish habitat as defined in subsection 2(1) of the *Fisheries Act*, including the calculations of any potential habitat loss (temporary or permanent) including spawning grounds, nursery, rearing, food supply, and migration areas, or death of fish. The assessment must include a consideration of:
 - The geomorphological changes and their effects to hydrodynamic conditions and fish habitats (such as, modification of substrates, dynamic imbalance, silting of spawning beds);
 - The modifications of hydrological, hydrometric and oceanographic conditions on fish habitat, critical habitat for aquatic species at risk, and on the fish species' life cycle activities (such as, reproduction, fry-rearing, movements);
 - Potential effects to riparian areas that could affect aquatic biological resources and productivity taking into account any anticipated modifications to fish habitat (such as, structure, cover);
 - Changes to water quality both at the discharge point and in the receiving environment;
 - Describe effects to fish biodiversity considering identified biodiversity metrics;
 - Any potential imbalances in the food web and trophic levels in relation to baseline conditions;
 - Effects to the primary and secondary productivity of water bodies and how project-related effects may affect fish food sources; and
 - Potential direct and incidental effects on fish behaviour, distribution, abundance, migration patterns.
- Describe potential losses of individuals and relationship to population density and the resiliency of a population.
- Describe the effects of changes to the aquatic environment on fish and their habitat, including:
 - The anticipated changes in the composition and characteristics of the populations of various fish species and Provincially or Federally listed aquatic species at risk;
 - Describe any modifications in migration, local movements (such as, upstream and downstream migration, and lateral movements) or stranding of fish, following the construction, operation or closure of works (such as, physical, chemical, and hydraulic barriers); and
 - Describe any modifications and use of habitats, including the ability to access the habitat.
- Include a discussion of how project construction timing correlates to key fisheries windows for freshwater and anadromous/catadromous species, and any potential effects resulting from overlapping periods;
- Describe potential effects from impingement and entrainment of fish and other aquatic biota through water withdrawal and discharge associated with hydrostatic testing;
- Describe any need for a *Fisheries Act* authorization and/or a SARA permit and describe any consideration of DFO guidance documents;
- Describe effects from changes in light level;
- Describe any positive changes, such as habitat creation;
- Describe changes to the marine ecosystem, including effects to biodiversity;

- Describe any project effects to other marine organisms, including but not limited to: sea turtles, benthic organisms, shellfish, coral; and
- Describe any changes to the marine resources and habitat, including marine plants, benthic and detached algae, marine flowering plants, brown algae, red algae, green algae, and phytoplankton.

If in water works are necessary, the Application must:

- Include a discussion of how vibration caused by project activities (such as, installation of piles, removal of piles) may affect fish habitat and behaviour (such as, spawning or migrations);
- Potential for direct effects from contaminants on fish and also bioaccumulation of contaminants (such as, selenium, mercury) in fish downstream of the project;
- Describe the anticipated changes in the composition and characteristics of the populations of fish, following modifications to the aquatic environment, including but not limited to:
 - Disruption of life stages or habitat with regard to their productivity, life cycles, migration, or local movements, including a consideration of feeding, calving, nursing, overwintering, resting;
 - Disruption of feeding activities of fish;
 - Distribution and abundance of fish;
 - Contaminant levels in harvested species and their prey;
 - Acoustic masking of echolocation or communication calls; and
 - A consideration of a change in: behaviour, displacement, access to habitat, habitat structure, species composition, ecosystem structure and function and habitat quality; and marine animal health and condition.

7.9.5 Effects Management

The Application must describe effects management approaches for the Fish and Fish Habitat VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

- Identify measures to prevent and mitigate the risk of engaging in harmful, destructive or disruptive activities in key sensitive periods and locations (such as, spawning and migration) to fish, and in water or areas frequented by fish; and
- Identify measures to avoid the deposit of substances harmful to fish and in water or areas frequented by fish.

7.9.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Fish and Fish Habitat VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.9.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Fish and Fish Habitat VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.9.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Fish and Fish Habitat VC, including the criteria outlined in subsection 6.6.

7.9.7 Cumulative Effects

The Application must include an assessment of cumulative effects on freshwater fish following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.9.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Fish and Fish Habitat VC following the approach outlined in subsection 6.8.

7.10 Employment and Economy

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6, and any VC-specific deviations will be described.

The Application must identify which other VCs which employment and economy is linked to and describe how the results of the assessment will be integrated into those of other VCs.

The Employment and Economy VC includes the following sub-components:

- Employment, and
- Economy.

7.10.1 Relevant Statutes, Policies, and Frameworks

Statutes, policies, and frameworks that may be relevant to the Employment and Economy VC include national, provincial, regional, and/or local economic development plans, strategies, and action plans.

Relevant statutes, policies, and frameworks include:

- Regional Growth Strategies;
- *Coasting Trade Act* (Government of Canada 1992);
- *Labour Mobility Act* (Government of B.C. 2009);
- *Trade, Investment and Labour Mobility Agreement Implementation Act* (Government of B.C. 2008);
- *New West Partnership Trade Agreement Implementation Act* (Government of B.C. 2016);
- *Industry Training Authority Act* (Government of B.C. 2012);
- Agreement on Internal Trade (Government of Canada et al. 2015);
- Community Charter (Government of B.C. 2003);
- Resources from the First Nations Information Governance Centre;
- *Local Government Grants Act* (Government of B.C. 1996e); and
- *Local Government Act* (Government of B.C. 1996d).

7.10.2 Assessment Boundaries

The Application must define assessment boundaries for the Employment and Economy VC, including spatial, temporal, administrative, and technical boundaries.

7.10.3 Existing Conditions

As applicable, the Application must:

- Describe the local and regional economy, including the main economic activities in the LAA and RAA;
- Describe the demographic features of the local and regional population, including educational levels as well as any prevalent economic concerns and economic aspirations of residents, families, and workers in the study areas;
- Provide an overview of the economic well-being in the study areas and impacted communities;
- Describe trends in labour force and employment statistics for residents in the LAA and RAA, including the availability of skilled and unskilled workers, existing working conditions, existing employment rates, full-time and part-time employment, and training;
- Describe wage and income information, including average salary range;
- Characterize the economic conditions to support the assessment of project-related effects, including the differences of experiences by diverse subgroups, including Indigenous nation populations, as appropriate (such as, women, youth, Elders);
- Describe tax revenues and government expenditures;
- Discuss trends and factors influencing cost of living (for example, housing, food, goods and services);
- Describe and quantify, where possible, land and resource valuations;
- Describe available Indigenous or Knowledge or local knowledge related to employment and economy;
- Describe trends in general skills and training for residents in the LAA and RAA; and
- Describe businesses or industry relevant to the project in the LAA and RAA, including availability of businesses that may provide supplies and services required for the project.

As applicable, information will be disaggregated and analyzed to support the analysis of potential effects to distinct human populations, including GBA+. Where the available information presents a limitation on the ability to describe differential effects to distinct populations, this limitation will be articulated, and its implications for analysis described.

The Application must describe how local and Indigenous Knowledge was used to collect baseline data.

The description of existing conditions for the Employment and Economy VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of project effects and cumulative effects.

7.10.4 Potential Effects

The Application must define potential effects to employment and economy, identify interactions between the project and these effects, and outline indicators that will be used to measure these effects.

The Application must apply GBA+ and document how potential effects of changes to economic conditions could be different for particular subgroups, including Indigenous nation populations or other community-relevant subgroups (such as, women, youth, Elders). Where gaps in available data present limitations on the possibility of understanding differential effects, the Application must specify these limitations and their possible implications to understanding of effects.

The Application must describe potential positive and adverse effects to the local, regional, and provincial economies, including whether and how local benefits can be maximized. The assessment must follow the process outlined as follows:

- An estimate of the anticipated levels of local and regional economic participation in the project in comparison to the total project requirements (such as, number of workers and total value of local and regional contracts). The proponent will also:
 - Provide the information in the context of existing employment rates and economic well-being in the community;
 - Include a discussion of skilled versus non-skilled labour requirements of the project including availability and capacity of local workforce and potential for worker shortages in certain sectors within the community;
 - If applicable, describe plans and rationale for hiring short-term workers to address labour and skill shortages;
 - Describe plans to encourage local employment, procurement and contracting opportunities and discuss the potential ability of local businesses to compete for project-related contracting; and
 - Describe any training or education programs or scholarships the proponent is supporting to enhance employment opportunities for local residents.
- The sources and methodologies used for developing multipliers and estimates;
 - Where a generic multiplier may not accurately reflect the specific situation of the project being assessed, evidence will be provided of specific economic activity that will result from the project going ahead;
- A description of potential effects of changes to economic conditions in affected communities including, but not limited to:
 - Commercial recreational and sport fishing;
 - Commercial recreation and tourism; and
 - Agriculture, including predicted effects to livestock health and productivity.
- An estimate of direct, indirect, and induced economic impact of the project including income and/or wages, and the distribution of that income and/or wages, resulting from project expenditures during construction operation, and decommissioning;
- Predicted effects of the project on the quality and quantity of ground or surface water used for commercial uses;
- An estimate of impacts on Local, Regional, Provincial, Federal government or Indigenous nation revenues from tax levies, royalties, revenue sharing and other means during construction and operation, including a quantitative assessment of these impacts;
- A discussion of how the project would impact gross domestic product at the Federal and Provincial levels;
- An assessment of the net economic benefits to the Canadian economy as a whole, which requires a detailed forecast of annual cash flows for the life of the project, including a sensitivity analysis showing the impact of changes in the discount rate, prices, capital and operating costs, or other significant parameters;
- An estimate of potential effects of the project on the traditional economy, including the potential loss of traditional economies and jobs;

- An analysis of potential changes to property values; and
- An analysis of potential changes to the cost of living as a result of the project.

7.10.5 Effects Management

The Application must describe effects management approaches for the Employment and Economy VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

7.10.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Employment and Economy VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.10.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Employment and Economy VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.10.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Employment and Economy VC, including the criteria outlined in subsection 6.6.

7.10.7 Cumulative Effects

The Application must include an assessment of cumulative effects on employment and economy following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.10.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to Employment and Economy VC following the approach outlined in subsection 6.8. Monitoring and evaluation approaches will be informed by the GBA+ analysis.

7.11 Land and Resource Use

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6, and any VC-specific deviations will be described.

The Application must identify which other VCs land and resource use is linked to and describe how the results of the assessment will be integrated into those of other VCs.

The Land and Resource Use VC includes the following sub-components:

- Private property;
- Tenured land and resource use;
- Public land and resource use;
- Parks and protected areas;
- Visual resources; and
- Navigation.

7.11.1 Relevant Statutes, Policies, and Frameworks

Statutes, policies and frameworks that may be relevant to the Land and Resource Use VC include:

- Crown land policies;
- B.C. OGC Light Control Best Practices Guideline;
- B.C. OGC *LNG Facility Regulation*;
- B.C. OGC LNG Application and Operations Manual;
- Land use plans;
- Official Community Plans;
- Regional Growth Strategies;
- Municipal and Regional District bylaws;
- Streamside Protection and Enhancement, Development Permit Area Bylaw No. 6349, 2005;
- Resources from the First Nations Information Governance Centre;
- Noxious Weeds Destruction Bylaw No. 141;
- Soil Deposit and Removal Bylaw No. 7221, 2014;
- Tree Protection and Regulation Bylaw No. 7415, 2015;
- Waterways Protection Bylaw No. 1615, 1969;
- *Agricultural Land Commission Act*;
- *Water Sustainability Act*;
- *Land Act*;
- *Oil and Gas Activities Act* and Associated Guidelines and Regulations;
- *Environmental Management Act*;
- *Parks Act*;
- *Wildlife Act*;
- *Fisheries Act*; and
- *Local Government Act*.

7.11.2 Assessment Boundaries

The Application must define assessment boundaries for the Land and Resource Use VC, including spatial, temporal, and administrative and technical boundaries.

7.11.3 Existing Conditions

As applicable, the Application must:

- Describe any Regional Land and Resource Management Plans and Official Community Plans, as well as associated zoning or land use policies;
- Identify subgroups within the study areas and their vulnerability to land and resource use effects (for example, Indigenous Peoples, farmers);

- Describe the current use of land in the study areas, including:
 - Private property and residential areas;
 - Industrial land uses (for example, mining, oil and gas);
 - Other tenured, permitted or licensed land uses, as appropriate;
 - Consumptive land uses (for example, hunting, fishing, vegetation gathering);
 - Outdoor recreation areas (for example, boating);
 - Agricultural land uses;
 - Tourism;
 - Parks and protected areas; and
 - Institutional use.
- Describe current conditions with respect to air quality, surface water quality and its implications for recreational uses, noise, vibration, odour or night-time light nuisance for occupants or resource users;
- Describe the local and regional climate projections for the area with rationale of the climate model chosen and including a description of the current and projected climate effects on land and resource use;
- Describe the visual landscape from key use areas; and
- Describe available Indigenous Knowledge or local knowledge related to land and resource use.

Information will be sufficiently disaggregated and analyzed to support the analysis of potential effects to distinct human populations, including GBA+.

The description of existing conditions for the Land and Resources VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of project effects and cumulative effects.

7.11.4 Potential Effects

The Application must define potential effects to land and resource use, identify interactions between the project and these effects, and outline indicators that will be used to measure these effects.

The Application must apply GBA+ and document how potential effects of changes to land and resource use could be different for particular subgroups, including Indigenous Peoples or other community relevant subgroups (such as, women, youth, Elders).

Where gaps in available data present limitations on the possibility of understanding differential effects, the Application must specify these limitations and their possible implications to understanding of effects.

The assessment must follow the process outlined as follows:

- Describe the potential Project interactions with local and regional land use and resource activities, including adverse and positive effects to:
 - Transportation and utilities corridors;
 - Residential land use;
 - Commercial outfitters;
 - Agriculture, including predicted effects to livestock health and productivity; and
 - Other land uses.

- Describe predicted effects to recreation (such as, boating, fishing, estuary ecotours, kayak lessons, hiking, biking, dog walking, wildlife viewing, aesthetic enjoyment) by the community and Indigenous nations, including effects to:
 - Access to the resources;
 - Quantity and quality of the resources; and
 - Overall experience when undertaking recreational activities, including noise effects.
- Describe changes to views as a result of the project; and
- Identify predicted effects of the project on the quality and quantity of ground or surface water and implications for recreational uses.

7.11.5 Effects Management

The Application must describe effects management approaches for the Land and Resource Use VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

7.11.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Land and Resource Use VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.11.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Land and Resource Use VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.11.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Land and Resource Use VC, including the criteria outlined in subsection 6.6.

7.11.7 Cumulative Effects

The Application must include an assessment of cumulative effects on land and resource use following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.11.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Land and Resource Use VC following the approach outlined in subsection 6.8. Monitoring and evaluation approaches will be informed by the GBA+ analysis.

7.12 Infrastructure and Services

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6, and any VC-specific deviations will be described.

The Application must identify which other VCs infrastructure and services are linked to and describe how the results of the assessment will be integrated into those of other VCs.

The Infrastructure and Services VC includes the following sub-components:

- Community infrastructure and services; and
- Transportation infrastructure.

7.12.1 Relevant Statutes, Policies, and Frameworks

Statutes, policies and frameworks that may be relevant to the Infrastructure and Services VC include:

- Official Community Plans;
- Regional Growth Strategies;
- Municipal and Regional District bylaws;
- Streamside Protection and Enhancement, Development Permit Area Bylaw No. 6349, 2005;
- Noxious Weeds Destruction Bylaw No. 141;
- Soil Deposit and Removal Bylaw No. 7221, 2014;
- Tree Protection and Regulation Bylaw No. 7415, 2015;
- Waterways Protection Bylaw No. 1615, 1969;
- Service provider management/development plans and strategies;
- Metro Vancouver Proximal Work Requirements;
- Resources from the First Nations Information Governance Centre;
- Community Charters;
- *Transportation Act*;
- *Local Government Act*;
- *Canada Health Act*;
- *Fire Services Act*;
- *Health Act*;
- *School Act*;
- *Teachers Act*;
- *First Nations Education Act*;
- *Community Care and Assisted Living Act*;
- *Emergency Health Services Act*; and
- *Police Act*.

7.12.2 Assessment Boundaries

The Application must define assessment boundaries for the Infrastructure and Services VC, including spatial, temporal, and administrative and technical boundaries.

7.12.3 Existing Conditions

As applicable, the Application must:

- Describe relevant population demographics and trends (for example, birth rates, death rates, health status, community safety and crime, education, and training);

- Describe the capacity and availability of the following:
 - Health care and social services and facilities;
 - Emergency response services;
 - Domestic water supply;
 - Sewage and water treatment facilities;
 - Solid waste collection services, landfills and recycling facilities;
 - Community recreational infrastructure, facilities and services;
 - Educational services and facilities including day care; and
 - Any other relevant public or private sector infrastructure and services;
- Describe the capacity of local and regional transportation infrastructure;
- Describe the capacity of housing and accommodation; and
- Describe available Indigenous Knowledge or local knowledge related to infrastructure and services.

As applicable, information will be disaggregated and analyzed to support the analysis of potential effects to distinct human populations, as per GBA+. Where available information presents a limitation on the ability to describe differential effects to distinct populations, this limitation will be articulated, and its implications for analysis described.

The description of existing conditions for the Infrastructure and Services VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of project effects and cumulative effects.

7.12.4 Potential Effects

The Application must define potential effects to infrastructure and services, identify interactions between the project and these effects, and outline indicators that will be used to measure these effects.

The Application must apply GBA+ and document how potential effects of changes to Infrastructure and Services could be different for particular subgroups, including Indigenous Peoples or other community relevant subgroups (such as, women, youth, Elders).

Where gaps in available data present limitations on the possibility of understanding differential effects, the Application must specify these limitations and their possible implications to understanding of effects.

The assessment must follow the process outlined as follows:

- Describe the predicted effects to the local and regional infrastructure facilities and services in the study area, including adverse and positive effects to:
 - Accommodation/lodging (such as, affordability, availability, appropriateness), including camping facilities;
 - Recreation and parks;
 - Waste disposal;
 - Road infrastructure and traffic safety;
 - Dikes;
 - Police and firefighting;

- Educational services, facilities and day care;
- Ambulance and health care services; and
- Utilities.
- Describe any need for government and/or proponent expenditures for new or expanded services, facilities or infrastructure, arising out of project-related effects.

7.12.5 Effects Management

The Application must describe effects management approaches for the Infrastructure and Services VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

7.12.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Infrastructure and Services VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.12.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Infrastructure and Services VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.12.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Infrastructure and Services VC, including the criteria outlined in subsection 6.6.

7.12.7 Cumulative Effects

The Application must include an assessment of cumulative effects on infrastructure and services following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.12.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Infrastructure and Services VC following the approach outlined in subsection 6.8. Monitoring and evaluation approaches will be informed by the GBA+ analysis.

7.13 Archaeological and Heritage Resources

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6, and any VC-specific deviations will be described.

The Application must identify which other VCs archaeological and heritage resources are linked to and describe how the results of the assessment will be integrated into those of other VCs.

7.13.1 Relevant Statutes, Policies, and Frameworks

Statutes, policies, and frameworks that may be relevant to the Archaeological and Heritage Resources VC include:

- *Heritage Conservation Act*;
- Fossil Management Framework;
- Fossil Management Policy including Fossil Impact Assessment Guidelines;
- *Oil and Gas Activities Act* and Associated Guidelines and Regulations;
- The Corporation of Delta Official Community Plan;
- The Delta Heritage Strategy (2017); and
- Applicable Indigenous Heritage Policies.

7.13.2 Assessment Boundaries

The Application must define assessment boundaries for the Archaeological and Heritage Resources VC, including spatial, temporal, and administrative and technical boundaries.

7.13.3 Existing Conditions

As applicable, the Application must:

- Describe and provide archaeological studies completed in the local and regional study area and any sites found within the project footprint;
- Describe the archaeological potential in the project area;
- Describe any heritage or historical sites identified in the project area;
- Describe the paleontological potential in the project area;
- Describe available Indigenous Knowledge or local knowledge related to archaeological and heritage resources; and
- Describe the natural and cultural heritage, and provide maps for buildings, sites and things of historical, archaeological, paleontological, or architectural significance in the study area. Natural and cultural heritage, as well as structures, sites, or things of importance to communities, includes land, natural features, and resources considered to be heritage, or a structure, site, or thing that is distinguished by its archaeological, paleontological, historical, or architectural significance.

Information will be sufficiently disaggregated and analyzed to support the analysis of potential effects to distinct human populations.

The physical and cultural heritage as well as any structure, site or thing that is of historical, archaeological, paleontological or architectural significance for each Indigenous nation is described in Section 11.

The description of existing conditions for the Archaeological and Heritage Resources VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of project effects and cumulative effects.

7.13.4 Potential Effects

The Application must define potential effects to archaeology and heritage resources, identify interactions between the project and these effects, and outline indicators that will be used to measure these effects.

The assessment must follow the process outlined as follows:

- Assess potential effects to changes to structures, sites or things of historical, archaeological, paleontological or architectural significance and associated effects on other social and economic conditions.

7.13.5 Effects Management

The Application must describe effects management approaches for the Archaeological and Heritage Resources VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

7.13.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Archaeological and Heritage Resources VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.13.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Archaeological and Heritage Resources VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.13.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Archaeological and Heritage Resources VC, including the criteria outlined in subsection 6.6.

7.13.7 Cumulative Effects

The Application must include an assessment of cumulative effects on archaeology and heritage resources following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.13.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Archaeological and Heritage Resources VC following the approach outlined in subsection 6.8.

7.14 Culture

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6, and any VC-specific deviations will be described.

The Application must identify which other VCs culture is linked to and describe how the results of the assessment will be integrated into those of other VCs.

7.14.1 Relevant Statutes, Policies, and Frameworks

Statutes, policies, and frameworks that may be relevant to the Culture VC include Indigenous and non-Indigenous community and land use plans that overlap the project site. Where plans are presented specific to one Indigenous nation, they will be included in the chapters specific to that Indigenous nation.

Relevant Non-Indigenous community and/or land use plans that overlap the project site include the Corporation of Delta Official Community Plan.

7.14.2 Assessment Boundaries

The Application must define assessment boundaries for the Culture VC, including spatial, temporal, and administrative and technical boundaries.

7.14.3 Existing Conditions

As applicable, the Application must:

- Describe the cultural history and identity in the project area including governance and stewardship systems, customs, beliefs, and values;
- Describe language and intergenerational knowledge transfer;
- Describe the socio-cultural environment, identifying Indigenous nations and predominant cultural communities; demographic characteristics and major socio-cultural concerns of the population;
- Describe community and cultural cohesion, including factors such as community or neighbourhood engagement, support, and social networks and other social activities; and
- Describe available Indigenous Knowledge or local knowledge related to culture.

Information will be disaggregated and analyzed to support the analysis of potential effects to distinct human populations, including GBA+. Where available information presents a limitation on the ability to describe differential effects to distinct populations, this limitation will be articulated, and its implications for analysis described.

The description of existing conditions for the Culture VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of project effects and cumulative effects.

7.14.4 Potential Effects

The Application must define potential effects to culture, identify interactions between the project and these effects, and outline indicators that will be used to measure these effects.

The Application must apply GBA+ and document how potential effects of changes to culture could be different for particular subgroups, including Indigenous Peoples or other community relevant subgroups (such as, women, youth, Elders).

Where gaps in available data present limitations on the possibility of understanding differential effects, the Application must specify these limitations and their possible implications to understanding of effects.

7.14.5 Effects Management

The Application must describe effects management approaches for the Culture VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

7.14.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Culture VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.14.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Culture VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.14.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Culture VC, including the criteria outlined in subsection 6.6.

7.14.7 Cumulative Effects

The Application must include an assessment of cumulative effects on culture following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.14.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Culture VC following the approach outlined in subsection 6.8. Monitoring and evaluation approaches will be informed by the GBA+ analysis.

7.15 Human Health

This section of the Application must include the following headings and information. The approach will generally follow the methods outlined in Section 6, and any VC-specific deviations will be described.

The Application must identify which other VCs human health is linked to and describe how the results of the assessment will be integrated into those of other VCs.

7.15.1 Relevant Statutes, Policies, and Frameworks

Statutes, policies, and frameworks that may be relevant to the Human Health VC include:

- *Public Health Act* and regulations;
- *B.C. Contaminated Sites Regulation* under the *Environmental Management Act*;
- *Drinking Water Protection Act*;

- Health Canada Guidance for Evaluating Human Health Effects in Environmental Assessment: Human Health Risk Assessment;
- Ministry of Health Guidance document for Prospective Human Health Risk Assessment;
- Relevant statutes, policies and frameworks for the Air Quality, Surface Water, Groundwater, and Noise VCs;
- Guidance for Evaluating Human Health Effects in Environmental Assessment: Air Quality (Health Canada 2017a);
- Guidance for Evaluating Human Health Effects in Environmental Assessment: Noise (Health Canada 2017c);
- Guidance for Evaluating Human Health Effects in Environmental Assessments: Country Foods (Health Canada 2017b);
- Guidance for Evaluating Human Health Effects in Environmental Assessment: Water Quality (Health Canada 2017d);
- Social determinants of health and health inequalities (Health Canada 2019);
- *Canada Health Act*;
- Guidelines for Canadian Drinking Water Quality (Health Canada 2014);
- First Nations Health Authorities;
- Federal Contaminated Site Risk Assessment in Canada, Part I: Guidance on Preliminary Quantitative Risk Assessment (Health Canada 2012);
- Useful Information for Environmental Assessments (Health Canada 2010d);
- Federal Contaminated Site Risk Assessment in Canada, Part II: Health Canada Toxicological Reference Values and Chemical-Specific Factors (Health Canada 2010a);
- Federal Contaminated Site Risk Assessment in Canada. Part V. Guidance on Human Health Detailed Quantitative Risk Assessment for Chemicals (Health Canada 2010b); and
- Federal Contaminated Site Risk Assessment in Canada.

7.15.2 Assessment Boundaries

The Application must define assessment boundaries for the Human Health VC, including spatial, temporal, and administrative and technical boundaries.

7.15.3 Existing Conditions

As applicable, the Application must:

- Describe which country foods³ (traditional foods) are consumed by which Indigenous nations, how much, how frequently, and where these country foods (traditional foods) are harvested;

³ As per draft provincial guidance dated August 2020, country foods are defined as all foods sourced outside of commercial food systems, also referred to as environmental livelihoods. This includes any food that is trapped, fished, hunted, harvested, or grown for subsistence or medicinal purposes outside of the commercial food chain.

- Describe baseline conditions for quality and quantity of country foods, including baseline contaminant concentrations in the tissues of country foods (traditional foods) consumed by Indigenous nations and local communities. Information can be pulled from relevant VCs, such as:
 - Vegetation;
 - Wildlife and Wildlife Habitat; and
 - Fish and Fish Habitat.
- Describe the consumption of country foods (traditional foods) outside of the commercial food chain, including food that is trapped, fished, hunted, harvested or grown for subsistence, medicinal purposes, or has Indigenous nation cultural value;
- Describe baseline conditions for personal health practices (for example substance use, diet, exercise);
- Describe available Indigenous Knowledge or local knowledge related to human health, and how local and Indigenous Knowledge from relevant populations was used in establishing health baseline conditions, including input from diverse subgroups;
- Apply a social determinants of health approach, recognizing that health is more than the absence of disease but includes broad factors that support well-being;
- Disaggregate and analyze information to support the analysis of potential effects to distinct human populations, including GBA+;
- Where available information presents a limitation on the ability to describe differential effects to distinct populations, articulate this limitation and describe its implications for analysis; and
- Provide information on interested parties, those likely to be affected directly and indirectly by the project, with a consideration of those in the community who are considered particularly vulnerable to changes brought about by the project.

To understand the community and Indigenous context and baseline health profile, the Application must, to the extent feasible:

- Describe any context-specific definitions of health and well-being, including from the perspective of the relevant Indigenous nation cultures;
- Describe relevant community and Indigenous nation history or context, including historical effects on health;
- Relevant social determinants of health will be selected to reflect the setting and circumstances of the affected communities and will be selected from the suite of determinants commonly recommended by the Public Health Agency of Canada, including the following:
 - Physical environments;
 - Employment and working conditions;
 - Social environments;
 - Health services;
 - Income and social status;
 - Education and literacy; and
 - Gender.
- Describe and characterize the existing health services and programs, including health care provider capacity; and
- Describe drinking water sources, both surface and/or groundwater (permanent, seasonal, periodic, or temporary), including approximate wellhead capture zones.

The Application must describe how local and Indigenous Knowledge was used to collect baseline data. The Application must disaggregate the source of local knowledge by representation by sex, age, and other community relevant identity factors, as per GBA+ to the extent feasible.

The description of existing conditions for the Human Health VC will explain if and how other past and present projects and activities (existing and historical context) in the study area have affected or are affecting linked VCs, the Indigenous effects assessments, as well as sections that assess the Section 25 requirements of the 2018 B.C. *EAA* or Section 22 requirements of the 2019 *IAA*, to support the consideration of project effects and cumulative effects.

7.15.4 Potential Effects

The Application must define potential effects to human health, identify interactions between the project and these effects, and outline indicators that will be used to measure these effects.

The Application must apply GBA+ and document how potential effects of changes to human health conditions could be different for particular subgroups, including Indigenous Peoples or other community relevant subgroups (such as, women, youth and Elders). Where gaps in available data present limitations on the possibility of understanding differential effects, the Application must specify these limitations and their possible implications to understanding of effects.

As applicable, the assessment must follow the processes.

- Describe how Indigenous Knowledge and local knowledge was used to assess human health effects;
- Illustrate linkages and effect pathways, so that when a change in one domain is predicted, there is an understanding of what other effects or consequences may be felt across the other domains;
- Describe interconnections between human health and other VCs and interactions between effects;
- Provide an assessment of adverse and positive effects on human health or changes to the baseline community health profile based on changes to the environment, health, social and economic conditions, focusing on effects to health outcomes, risks or social determinants of health in consideration of, but not limited to, potential changes in:
 - Air quality;
 - Noise and vibration;
 - Current and future availability (including contamination/quality) of country foods (traditional foods);
 - Evaluate information related to fish and game, plant tissue and produce harvested as a source of exposure and potential impacts to Indigenous nations health using human health risk assessment methods.
 - Current and future availability (including contamination/quality) of water for drinking, recreational and cultural uses.
- Conduct a problem formulation exercise and/or a preliminary model prediction to determine whether a Human Health Risk Assessment is required. The proponent must provide a rationale/explanation if problem formulation/preliminary model predictions indicate that a Human Health Risk Assessment is not warranted;
- If a Human Health Risk Assessment is conducted, the assessment must examine all exposure pathways for contaminants of concern to adequately characterize potential biophysical risks to human health. A multimedia Human Health Risk Assessment may need to be considered and conducted for any contaminant of potential concern with an identified risk and multiple pathways. The Human Health

Risk Assessment should evaluate potential health effects related to secondary exposure through the deposition of air contaminants into soil or plants and consider secondary sources through country foods and food chain effects when air contaminant uptake into plants occurs from foliar deposition or uptake from soil;

- Provide the rationale if a determination is made that an assessment of the potential for contamination of country foods (traditional foods) (or other exposure pathways, such as inhalation) is not required or if some contaminants are excluded from the assessment;
- Describe and quantify potential effects to mental and social well-being (such as, stress, depression, anxiety, sense of safety);
- Describe and quantify the project-related activities, contaminants of potential concern, nuisances and environmental, social and economic changes that could potentially be sources of adverse human health effects and the potential human receptors of these effects;
- Describe and quantify specific thresholds and document if different thresholds were considered for vulnerable populations, including by sex and age; provide rationale and justification if specific thresholds not used;
- In situations where project-related air, water or noise emissions meet Local, Provincial, Territorial Or Federal guidelines, and yet public concerns were raised regarding human health effects, provide a description of the public concerns and how they were or are to be addressed;
- Identify predicted effects of the project on the quality and quantity of ground or surface water used for domestic uses including drinking, recreational, and cultural uses;
- Identify predicted visual or other aesthetic effects of the project on existing land use in the study area;
- Document potential effects on access to health services, including increased use of health and related health-social services in relevant communities;
- For food security: describe effects to use and consumption of country foods (traditional foods) and health impacts of this effect; and
- Describe any positive health effects (such as, resulting from improved economic opportunities, increased access to services).

7.15.5 Effects Management

The Application must describe effects management approaches for the Human Health VC, including approaches to avoid, reduce, or otherwise address potential negative effects and enhance positive effects, as appropriate, following information requirements described in subsection 6.5.

7.15.5.1 Assessing Positive Effects

The Application must describe any positive effects to the Human Health VC that are anticipated as a result of the project and its associated effects management approaches, following information requirements described in subsection 6.5.1.

7.15.5.2 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess negative effects to the Human Health VC that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account, following information requirements described in subsection 6.5.2.

7.15.6 Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the Human Health VC, including the criteria outlined in subsection 6.6.

7.15.7 Cumulative Effects

The Application must include an assessment of cumulative effects on human health following the methods outlined in subsection 6.7 and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects and provide a summary of the results of the CEA.

7.15.8 Follow-up Strategy

The Application must describe proposed monitoring and follow-up programs applicable to the Human Health VC following the approach outlined in subsection 6.8. Monitoring and evaluation approaches will be informed by the GBA+ analysis.

8. Climate Change and Greenhouse Gas Emissions

The Application must provide the results of an assessment of the GHG emissions of the proposed Project conducted in accordance with Section 8 of these AIR. The assessment must be conducted in accordance with the Strategic Assessment of Climate Change (SACC) (ECCC 2020).

This section provides information on baseline and future conditions of the meteorological environment; GHG emissions; impact of the project on carbon sinks; impact of the project on Provincial and Federal emissions reduction efforts and on global GHG emissions; mitigation measures; and climate change resilience, following guidelines outlined in the SACC (ECCC 2020).

The Application must use available Environment and Climate Change Canada (ECCC) technical guidance in providing the information required in this section. Should ECCC guidance not be available prior to the Process Planning Phase, alternative applicable guidance from other jurisdictions will be used.

For meteorological environment, the Application must:

- Describe the local and regional climate including historical records of relevant meteorological information (such as, total precipitation [rain and snow]);
- Provide mean, maximum and minimum temperatures;
- Provide typical wind speed and direction;
- Identify the potential for extreme weather events such as, wind, precipitation, and temperature extremes;
- Provide hourly meteorological data (wind speed and direction, air temperature, net radiation, turbulence and precipitation data) from a minimum of 1 year to support dispersion modelling that captures the normal variability of meteorological conditions;
- Provide pan evaporation measurements or estimates of monthly (or daily) evapotranspiration; and
- Describe the local and regional climate projections for the area with the rationale of the climate model chosen.

8.1 Effects on Climate Change

As per the SACC Section 5.5.1 (GHG Emissions) the Application must provide:

- A description of each of the project's main sources of GHG emissions and their estimated annual GHG emissions by GHG type over the lifetime of the Project;
- Update the estimate of the annual GHG emissions by project phase as identified during Early Engagement;
- Provide an upstream GHG assessment and related uncertainty assessment:
 - An estimate of upstream GHG emissions of the natural gas used in the production of LNG at the proposed Project must be provided. That estimate must be developed by performing a meta-analysis of the available literature and considering existing Provincial and Federal policy. This must include a critical review of the studies, development of realistic assumptions and scenarios (specifically with respect to the natural gas source formation) for the proposed Project, and estimation of a range of upstream emissions and associated uncertainties for the chosen assumptions and scenarios from the reviewed literature.

- Net GHG emissions by year for each phase of the project based on the project's maximum additional throughput or capacity (refer to Section 3.1.1 of the SACC), including an uncertainty assessment;
- Each term of Equation 1 (direct GHG emissions, acquired energy GHG emissions, carbon dioxide captured and stored, avoided domestic GHG emissions and offset credits, if applicable), per year for each phase of the project (refer to Section 3.1.1 of the SACC);
- Emission intensity for each year of the operation phase of the project (refer to Section 3.1.2 of the SACC), including an uncertainty assessment;
- The quantity and a description of the "units produced" per Equation 2 for each year of the operation phase of the project (refer to Section 3.1.2 of the SACC);
- Methodology, data, emission factors, and assumptions used to quantify each element of the net GHG emissions (refer to Section 3.1.1 of the SACC);
- A discussion on the development of emissions estimates and uncertainty assessment (refer to Section 3.3 of the SACC), including the source and level of uncertainty or a range of values or different possible emissions scenarios; and
- A description of large sources of GHG emissions that may be the consequence of accidents or malfunctions (such as, emergency flaring).

8.2 Impact of the Project on Carbon Sinks

The calculation of a project's net GHG emissions accounts for emissions resulting any change in the use of land at the proposed Project site. The proponent will also provide a qualitative description of the project's positive or negative impact on carbon sinks, because the project may improve or reduce the ability of an ecosystem, land area, or ocean to absorb carbon dioxide from the atmosphere. An impact on a carbon sink implies the interruption or alteration of a natural continual process that removes carbon from the atmosphere.

This information will include:

- Description of project activities in relation to significant landscape features such as topography, hydrology and regionally dominant ecosystems;
- Land areas directly impacted by the project, by ecosystem type (forests, cropland, grassland, wetlands, built-up land) over the course of the project lifetime; this includes the areas of restored or reclaimed ecosystem(s);
- Initial carbon stocks in living biomass, dead biomass and soils (by ecosystem type) on land directly impacted by the project over the course of the project lifetime;
- Fate of carbon stocks on directly impacted land, by ecosystem type: immediate emissions, delayed emissions (timeframe), storage (such as, in wood products); and
- Anticipated land cover on the impacted land areas after the project is in place.

Use available ECCC technical guidance on the quantification of losses or gains to carbon sinks in providing the information required above.

8.3 Impact of the Project on Emissions Reduction Efforts and on Global Greenhouse Gas Emissions

The project proponent must provide:

- An explanation of how the project may impact Canada's efforts to reduce GHG emissions. For example, the project might result in GHG emission reductions in Canada (such as, by replacing higher-emitting activities);
- A discussion on how the project could impact Global GHG emissions. A description of how the project might displace emissions internationally. The Application will describe how the project is likely to result in global emission reductions;
- A description of the potential effects of the project on the Province being able to meet its targets under the *Greenhouse Gas Reduction Targets Act*, now the *Climate Change Accountability Act*; and
- A description of other relevant emissions targets, including those of a Local, Federal, or Indigenous nation government and how the project would affect those targets (including Metro Vancouver targets).

8.4 Greenhouse Gas Mitigation Measures

The Application must:

- Describe the mitigation measures to be taken to reduce GHG emissions throughout all phases of the project. These could include a description of the selected low-emitting technologies, the use of low carbon or renewable fuel, electrification or carbon capture and storage.
- Describe practices that will be taken to mitigate the project's GHG emissions, such as anti-idling practices for mobile equipment, leak detection and repair systems, or continuous monitoring systems.

The Application must describe:

- A BAT/Best Environmental Practices (BEP) determination to identify feasible ways to reduce the project's GHG emissions (refer to Section 5.1.4.1 of the SACC);
- A description of any additional mitigation measures (such as, direct air capture technology and afforestation) that will be taken to mitigate remaining GHG emissions, if applicable;
- A description of any offset credits that have been or will be obtained to mitigate remaining GHG emissions, if applicable. The proponent may also provide information on their intent to acquire or generate international offset credits, which will comply with the criteria in Section 3.1.1 of the SACC. Offset credits will be considered as the last option in terms of GHG mitigation measures;
- Information on any offset credits that have been or will be obtained, including the offset regime that issued the credits, project type, project start date and vintage year;
- A description of measures taken to mitigate the project's impact on carbon sinks, including measures to restore disturbed carbon sinks, if applicable;
- Subject to the public availability of information, a comparison of the project's projected GHG emission intensity to the emission intensity of similar high-performing, energy-efficient project types in Canada and internationally. If applicable, the comparison will explain why the emission intensity of the project is different; and
- A list of the Federal or Provincial GHG legislation, policies, or regulations that will apply to the project.

8.4.1 Best Available Technologies/Best Environmental Practices Assessment

The Application must describe any BAT and BEP standards that may be applicable to the proposed LNG storage tank and the liquefaction facilities whether those facilities would meet those standards.

The BAT/BEP Determination process is outlined in Table 8-1.

Table 8-1. Best Available Technologies/Best Environmental Practices Determination

Process Step	Information Requirement
Listing	Proponent establishes a list of all technologies and practices, including emerging technologies, based on the identified sources of emissions for the project during its lifetime.
Technical Feasibility Assessment	Proponent eliminates options determined to not be technically feasible, providing rationale. Proponent describes the timing and circumstances in which the eliminated options could become technically feasible.
GHG Reduction Potential Assessment	Proponent ranks remaining options based on GHG reduction potential.
Economic Feasibility Assessment and Additional Considerations	Proponent eliminates options determined to not be economically feasible, providing rationale. Proponent describes the timing and circumstances in which the eliminated options could become economically feasible. Proponent outlines additional environmental, social, or other considerations, providing rationale.
Selection of BAT/BEP	Proponent describes the technologies and practices to be used in the project and provides a justification for selecting any technology or practice that is not a BAT/BEP. Proponent provides information on how the options eliminated because of technical and economical unfeasibility could be phased in during the project lifetime, including how they could be considered during periods of project maintenance and facility upgrades.
Review	IAAC or the relevant lifecycle regulator, with support from expert Federal authorities, reviews the BAT/BEP Determination and requests additional information if required.

The conclusion of the BAT/BEP Determination will be provided in the Application and will include:

- The technologies that will be used to mitigate the project's GHG emissions. These could include, for example, the use of low-emitting technologies, the use of low carbon or renewable fuel, electrification, or carbon capture and storage;
- The practices that will be taken to mitigate the project's GHG emissions, such as anti-idling practices for mobile equipment, leak detection and repair systems, continuous monitoring systems, Predictive Emissions Monitoring, or fleet optimization; and
- The additional technologies and practices that could be considered during periods of project maintenance and facility upgrades to further reduce the project's GHG emissions through the lifetime of the project, as well as the planning process, timing and circumstances for that consideration.

ECCC has published a technical guide to help project proponents conduct their BAT/BEP Determination by providing additional information on technical, economic, social, and environmental considerations.

8.4.2 Climate Change Resilience

The proponent will provide information in the Application on how the project is resilient to and at risk from both the current and future effects of a changing climate. This information will include descriptions of:

- The scope and timescale of the climate change resilience assessment and of the methods used to identify, evaluate, and manage the climate risks that could affect the project itself and thereby the surrounding environment; and
- The project's vulnerabilities to climate change both in mean conditions and extremes over the full project lifetime from project construction to decommissioning. This could include the effects of extreme weather events on project infrastructure, effects to water quality and availability, and so forth.

8.4.3 Plan to Achieve Net-Zero Emissions by 2050

The project has a lifetime beyond 2050, therefore the proponent will provide a credible plan that describes how the project will achieve net-zero emissions by 2050. The plan will complement and be informed by the GHG mitigation measures planned by the proponent (refer to Section 5.1.4 of the SACC).

8.5 Canada's Ability to Meet its Environmental Obligations and its Climate Change Commitments

In accordance with paragraph 22(1)(i) of the *IAA*, the Application must describe the effects of the project in the context of environmental obligations and commitments in respect of climate change, with a focus on Government of Canada obligations and commitments relevant to decision-making. IAAC will identify applicable environmental obligations or commitments in respect of climate change that will require consideration in the Application.

The Application must evaluate the need for mitigation and follow-up measures related to Canada's environmental obligations and its commitment in respect of climate change. Measures proposed to mitigate the adverse effects of a project may reduce the project's hindrance of an environmental obligation or climate change commitment.

The implementation of mitigation or complementary measures may also result in the project contributing to the Government of Canada's ability to meet its environmental obligations or its commitments in respect of climate change. The Application will describe the proponent's views on the extent to which project effects would contribute to the Government of Canada's ability to meet its environmental obligations and its commitments in respect of climate change, taking into consideration proposed mitigation measures.

9. Malfunctions and Accidents

The Application must provide a risk-based approach for the assessment of malfunctions and accidents that could impact VCs and Indigenous interests identified for the project.

The assessment approach will evaluate the risk of malfunctions and accidents (including scenarios) by examining the likelihood of an incident (for example, malfunction or accident) and the consequences of the incident to each relevant VC and Indigenous interests. The results of the risk-based assessment will be used to develop plans to reduce or eliminate the likelihood of an incident or reduce the consequence of incidents. All phases of the project will be considered. The Application must:

- Describe the potential incidents that may occur in all phases of the project, including:
 - An explanation of how those potential incidents were identified;
 - The circumstances under which the incidents could occur; and
 - A summary of mitigation measures that are assumed to apply to potential incidents and would be considered in their risk ratings.
- Describe the methods for assessing the potential risk of each incident, including magnitude and duration, definitions for classifications of likelihood, consequence and risk, and identification of threshold for incidents that will be carried forward for detailed analysis (for example, incidents determined to be moderate or high-risk);
- Provide an assessment of the likelihood of each incident occurring, based on, for example, historical trends and predictive models;
- Provide a high-level assessment of the consequence of each incident (consider potential environmental, economic, social, culture, and health effects including effects to urban areas and businesses and effects to Indigenous interests);
- Provide a classification of the risk of each incident based on its likelihood and consequence;
- Identify all the incidents that will be carried forward for further assessment based on the criteria identified in the methods;
- Provide detailed information on the potential effects of each incident carried forward including:
 - Most likely and worst-case scenarios of the effects of incidents on VCs and Indigenous interests within spatial and temporal boundaries described for the assessment area;
 - Information from historical incidents from similar operations and conditions, where applicable; and
 - If applicable, the quantity and characteristics of the contaminants and other materials likely to be released into the environment from an incident.
- Describe the role of the proponent in the case of spill, collision, grounding or other accidents or malfunctions associated with the project;
- Describe mutual aid agreements in place in the event that the incident exceeds company resources and how these resources would be accessed;
- Describe or provide for a waste management plan as it pertains to waste generated during an emergency response;
- Where appropriate, provide details regarding financial liability and compensation in place as required by regulation or company commitment;

- Provide detailed information on proposed mitigation measures to reduce the likelihood and consequence to VCs and Indigenous interests for incidents carried forward including:
 - Safety protocols, and mitigation measures to reduce the likelihood of incidents;
 - Contingency and emergency response procedures if such events do occur, including exercise and training plans for emergency response;
 - Communication and public notification plans, and public notification protocols;
 - Monitoring, evaluation, and adaptive management system to identify, proactively avoid, and rectify any malfunction and/or accident; and
 - Likelihood of mitigation being successful and the time lag for mitigation to become effective.
- Provide conclusions on the potential risks of the incidents carried forward; and
- Consider the interaction between the project and other projects in the vicinity (such as, the proximity to the Vancouver Airport Fuel Delivery Project; project located in a flight path).

The specific malfunctions or accidents to be considered in the Application include the following:

- Fire or explosion;
- Events involving hazardous material spills (such as, hydrocarbon fuels, lubricants, and concrete) in environmentally sensitive habitat;
- Terrestrial vehicle collision;
- Loss of containment of LNG;
- Flammable liquids, solvents, or pressurized gas from ruptured piping or equipment during commissioning or operation resulting in the risk of overpressure, fire, toxic gas release, and injury to personnel;
- Unplanned facility shutdown including emergency flaring, process upset, or power outage; and
- Construction-related river/marine vessel collision with ground, other vessels, marine/river facilities, marine mammals, aquatic organisms, with potential loss of cargo.

FortisBC actively manages the security and integrity of its utility assets through a defense in depth strategy, aligned with Canadian Standards Association Z246.1-17 (security management for petroleum and natural gas industry systems). This includes, but is not limited to, incorporating physical security elements in design and monitoring the security environment. FortisBC's preliminary risk assessment, in combination with an assessment of the security environment in the lower mainland has assessed the risk of terrorism as negligible. Therefore, accidents and malfunctions from intentional acts of terrorism or force majeure are beyond the scope of this assessment.

10. Effects of The Environment on The Project

The Application must:

- Describe the environmental factors deemed to have possible consequences on the project, including, but not necessarily limited to, natural hazards and influences of nature such as flooding (storm surge and freshet), earthquakes, tsunamis, windstorms, drought, wildfires, and pandemics;
- Identify any geological hazards that exist in the areas planned for the project facilities and infrastructure, including:
 - History of seismic activity in the area, including induced earthquakes, and secondary effects such as the risk of seismic generated tsunamis, landslides and liquefaction;
 - Evidence of active faults;
 - Isostatic rise or subsidence;
 - History of landslides, slope erosion, and the potential for ground and rock instability/landslides, and subsidence during and following project activities;
 - History of landslide-generated tsunamis if near a shoreline;
 - History or and potential of submarine landslides; and
 - History and potential of volcanic related hazards.
- Describe how climate change might increase the likelihood and severity of the above-mentioned environmental factors;
- Describe any changes or effects on the project that may be caused by the above-mentioned environmental factors;
- Provide the likelihood (based on future climate change projections) and consequence of the changes or effects to relevant VCs;
- Provide practical mitigation measures, including design strategies, environmental contingency plans, and climate risk plans to avoid or minimize the likelihood and consequence of the negative effects of the environment on the project;
- Provide a conclusion about the potential risk of an effect of the environment on the project and to relevant VCs; and
- Describe how climate change has been incorporated into the project design and planning over the lifetime of the project and a description of the climate data and projections used.

The Application must describe how environmental conditions, including natural hazards such as severe and/or extreme weather conditions and external events (such as, earthquakes, flooding, drought, ice jams, iceberg impacts, permafrost conditions, landslides/submarine landslides, tsunamis, volcanoes, avalanches, erosion, subsidence, fire, outflow conditions), could adversely affect the project and how this in turn could result in effects to the environmental, economic, social, culture and health conditions. These events are to be considered in different probability patterns (for example, 5-year flood vs. 100-year flood). The focus should be on credible external events that have a reasonable probability of occurrence and for which the resulting environmental effects could be major without careful management. The Application must describe how effects of the environment on the project could have positive effects to the environmental, economic, social, culture, and health conditions.

The Application must:

- Provide details of planning, design and construction strategies intended to minimize the potential adverse effects of the environment on the project;
- Identify any areas of potential wind or water erosion;
- Describe any mitigation measures that can be implemented in anticipation or in preparation for effects of the environment on the project;
- Describe possible mitigation measures to deal with adverse environmental, economic, social, cultural, and health effects resulting from effects of the environment on the project;
- Describe climate resilience of the project and how climate change impacts have been incorporated into the project design and planning over the lifetime of the project and describe the climate data and projections used; and
- Describe measures to enhance positive environmental, economic, social, cultural, and health effects resulting from effects of the environment on the project.

11. Indigenous Nations Effects Assessment

This section of the Application must describe the information and analysis used to identify Indigenous nations that may be affected by the proposed project, as identified in the Process Order. Assessment for Indigenous nations will be completed in subsections 11.2 to 11.18 and will describe where there are any deviations from the methodology described in subsection 11.1 based on engagement with Indigenous nations.

11.1 Methodology Overview

This section will describe the methods used to identify and assess Indigenous interests. The proponent uses the term Indigenous interests in accordance with Section 2(2)(b) of the *Environmental Assessment Act*, 2018, which is defined as “those interests related to an Indigenous nation and their rights recognized and affirmed by Section 35 of the *Constitution Act, 1982*, including Treaty rights and Aboriginal Rights and Title, that may be impacted by a proposed project.” (B.C. EAO 2020b, p. 48)

The proponent’s use of the term Indigenous interests also accords with Section 22 (1)(c) of the *IAA*, 2019, which requires an assessment of the impact that the proposed Project may have “on any Indigenous group and any adverse impact that the project may have on the rights of the Indigenous peoples of Canada recognized and affirmed by Section 35 of the *Constitution Act, 1982*.” (Government of Canada 2019). Additional details for each Indigenous nation will be described in subsections 11.2 to 11.18 as required.

The detail in each Indigenous nation’s Effects Assessment in subsections 11.2 to 11.18 will meet the requirements of the B.C. EAO and IAAC, will be responsive to input received from Indigenous nations, and will reflect the level of available information for each Indigenous nation or that has been approved for use by each Indigenous nation. The proponent understands that some Indigenous nations may experience more project effects than others and the Effects Assessment for each Indigenous nation will reflect these differences.

Subsections 11.2 to 11.18 will be informed by engagement with Indigenous nations, as required in the Assessment Plan.

11.1.1 Indigenous Nations Potentially Impacted by the Proposed Project

This section will provide an overview of how Indigenous nations were identified as being potentially impacted by the proposed Project and how they will be grouped in the subsequent Effects Assessment sections.

11.1.2 Context

11.1.2.1 Understanding of Indigenous Interests and Current Context

The Application must include background information on Indigenous nations including health, social, and economic conditions, ethnography, language, governance, population (including contextual information about the members such as women, men, Elders, and youth), communities, Reserves, and Indigenous land use plans (as required under subsection 2.3). The Indigenous nation-specific sections will include contextual information the Indigenous nation views as important to understanding the effects of the proposed Project.

The assessment of the effect to Indigenous nations will include an overview of the understanding of Indigenous interests in the area that could be affected by the proposed Project. Information in this section will be developed through engagement with Indigenous nations. The Application must:

- Provide an overview of the Indigenous nation's context of the area affected by the proposed Project including information regarding, where that is available:
 - How any Indigenous laws, governance, philosophies, or customs have historically applied and currently apply to this area, including how those may have evolved over time, how those processes should be used to review the potential effects of the proposed Project on Indigenous interests and what information the Indigenous nation may need or processes that are required to support its decision-making in the area;
 - Any laws, customs, or requirements for the area including any existing Indigenous land use plans; and
 - Any agreements with other Nations regarding governance of areas of territory overlap, as relevant to the proposed Project.
- Provide a list of the Indigenous interests that may be impacted by the proposed Project. Interests identified by Indigenous nations during Early Engagement that will be described in the Application are identified in Table 11-2 and will be further addressed in each Indigenous nation subsection.
- Summarize how the identified Indigenous interests have been affected by cumulative effects to-date.
- Summarize past, present, and anticipated future use of the proposed Project Area by Indigenous nations over time and practices in the proposed Project Site regarding the Indigenous interests identified. This summary will include proposed Project Site-specific use values present in the proposed Project's LAA and RAA, which are areas identified and/or mapped by Indigenous nations as having environmental, cultural, spiritual, transportation, subsistence, and habitation value.

11.1.3 Summary of Engagement

The Application must:

- Provide a summary of past and planned engagement activities that describe the efforts taken to seek the views of the Indigenous nations with respect to the proposed Project including:
 - The engagement activities undertaken with Indigenous nations, including the timeframe, means, and results of engagement;
 - Efforts to engage diverse populations in culturally appropriate ways, including groups identified by gender, age, or other community relevant factors to support the collection of information needed to complete the GBA+;
 - How engagement activities by the proponent support Indigenous nations' understanding of the proposed Project and its effects on the Indigenous nations and their Indigenous interests;
 - The engagement with Indigenous nations regarding potential effects of the proposed Project on Indigenous interests. Where an Indigenous nation has not provided this information to the proponent, or both parties agree that it is better to provide information related to the effects on Indigenous interests directly to the Governments of B.C. or Canada, the Application must describe a rationale for the approach taken; and
 - Indigenous nations' views on the proponent's engagement approach and resolution of issues raised.

- Provide an analysis of the input received from Indigenous nations with respect to the proposed Project including:
 - Description of how the proponent responded to questions, comments, and issues raised by Indigenous nations, Indigenous nations' perspectives on the resolution of issues, how unresolved input has been addressed in the Application, and/or how unresolved input will be addressed through the EA or another regulatory process or government initiative; and
 - Where and how Indigenous nations' perspectives were integrated into or contributed to decisions regarding the proposed Project, including:
 - Development and collection of baseline information;
 - Plans for construction, operation, or decommissioning; and
 - Identification of VCs.
- Describe any arrangement or agreement between the proponent and Indigenous nations for collaboration on the development of the Application or delivery of the proposed Project. This includes agreements related to the delivery of studies and capacity funding agreements.

11.1.4 Information Sources

The Application must clearly identify sources of all information used in preparing the assessment of effects on Indigenous nations, noting where information represents the views of Indigenous nations, the proponent or otherwise. Information sources that include Indigenous Knowledge will be clearly labeled as such.

The proponent will be providing the Indigenous nations a list of secondary sources that will be used to inform the context and existing conditions. The Indigenous nations will be provided an opportunity to discuss, give feedback, and suggest additional secondary sources that they would like the proponent to consider.

11.1.4.1 Indigenous Knowledge

Regarding the collection and use of Indigenous Knowledge, the Application must:

- Provide an outline of the steps taken by the proponent to work with Indigenous nations to incorporate Indigenous Knowledge including a summary of any arrangements with the Indigenous nation regarding the use and application of Indigenous Knowledge;
- Provide a statement indicating that each Indigenous nation supports the characterization and application of any Indigenous Knowledge contained within the Application and gives permission for its public disclosure;
- Describe how Indigenous Knowledge informed proposed Project design, the assessment, and proposed mitigation measures, including the assessment of environmental, economic, social, culture, and health effects to Indigenous Peoples, Nations, and communities (Section 7 Valued Components Effects Assessment); and
- If applicable, provide a plan for future cooperation between the proponent and Indigenous nations to further incorporate Indigenous Knowledge into proposed Project implementation (for example, monitoring and management plans).

11.1.5 Assessing Effects on Indigenous Interests

This section will provide a comprehensive description of the effects of the proposed Project on Indigenous nations' Indigenous interests. A subsection will be drafted for each Indigenous interest. Appropriate information from the analysis of any VCs, assessed in Section 7, in the context relevant for the Indigenous

nations will be summarized and presented in this section. Subsections 11.1.5.1 to 11.1.5.11 will be completed for each Indigenous interest that is not directly assessed through a VC, but the assessment of one or more VCs provides relevant input.

11.1.5.1 Introduction

The Application must:

- Describe how Indigenous nations' Indigenous interests were identified, through engagement with Indigenous nations or otherwise;
- Summarize the VCs used in the assessment of effects on Indigenous interests and whether they were carried forward from the assessment of Section 25(2) assessment matters presented in Section 7, or developed specifically for the assessment of Indigenous interests;
- Describe any other assessment methods and analysis used to undertake the assessment of effects on Indigenous nations; and
- Describe linkages with other Indigenous interests.

11.1.5.2 Assessment Boundaries

The Application must define the assessment boundaries for the effects on each Indigenous interest including spatial and temporal boundaries. Where relevant, administrative, and technical boundaries will also be identified.

11.1.5.3 Spatial Boundaries

For each Indigenous nation, the assessment will consider the following areas: the proposed Project footprint, the LAA, and the RAA in Table 11-1.

Table 11-1. Indigenous Nation's Interests Study Area Boundaries

Study Area	Definition
Project footprint	The proposed Project footprint is the area directly disturbed by construction activities, including associated physical works and activities
LAA	The LAA will combine the LAAs of VCs which are linked to the assessment of each Indigenous nation's Indigenous interests
RAA	Each Indigenous nation's RAA will combine RAAs established for VCs which are linked to the assessment of Indigenous interests

It is anticipated that some Indigenous nations will have reserves or community locations which are not located within the LAA or RAA. Members of the Indigenous nations engaged on the proposed Project, whose communities are not within the Indigenous interest LAA or RAA may choose to live and work within the LAA and RAA or travel to areas within the LAA or RAA to access services, temporary employment, or to exercise Indigenous interests. The assessment of Indigenous interests will apply to all Indigenous Peoples living, working, or exercising Indigenous interests within the LAA and RAA.

11.1.5.4 Temporal Boundaries

The potential effects specific to the proposed Project are based on the three main phases of the proposed Project as described in the DPD.

11.1.5.5 Existing Conditions

As applicable, the Application must:

- Provide a summary of the baseline conditions associated with Indigenous cultures. This description will give consideration to understanding historical baseline conditions associated with ability to transmit culture (such as, through language, ceremonies, harvesting, teaching of Sacred Laws, Traditional Laws, Stewardship Laws, Traditional Knowledge);
- Describe the nature and extent of known Indigenous interests, including but not limited to:
 - The historic and current use of the proposed Project Site by Indigenous nations over time, including the current use of lands and resources for traditional purposes, and practices in the proposed Project Site regarding Indigenous interests (including reference to specific sites and species of interests, where applicable);
 - The health conditions of each Indigenous nation, including physical, mental, and social health and well-being;
 - The physical and cultural heritage of each Indigenous nation, including any site, structure, or thing of archaeological, paleontological, historical, or architectural significance; and
 - Nature and extent of the exercise of the rights of the Indigenous nation.
- Describe the relative importance of the proposed Project Site and its surroundings, including any special characteristics or unique features, to the Indigenous interests; and
- Describe how the Indigenous interest has been affected by cumulative effects to-date.

11.1.5.6 Potential Effects on Indigenous Interests

The Application must provide information on how the proposed Project may affect Indigenous nations, as informed by the Indigenous nations involved, and assess the effects to Indigenous interests. The Application must:

- Describe potential pathways by which proposed Project components and activities could affect Indigenous interests;
- Identify effects to be carried forward from pathways determined to be consequential or requiring mitigation; and
- Describe the VCs and indicators used to assess effects carried forward.

Drawing on B.C. EAO guidelines and engagement with Indigenous nations, the Application must examine the proposed Project's potential effects on Indigenous interests, including the current use of land and resources for traditional purposes, physical and cultural heritage, and environmental, economic, social, culture, and health conditions of Indigenous nations (Section 7, Valued Components Effects Assessment). As identified in subsection 11.1, Methodology Overview the Application's assessment of Indigenous interests will include the assessment of the impact that the proposed Project may have on Indigenous nations' Indigenous interests. Table 11-3 includes six Indigenous interests which the proposed Project may affect. The Application must include the following four Indigenous interests in all cases: Harvesting and Subsistence Activities; Cultural Use Sites and Areas; Social and Economic Conditions; and Indigenous Health and Well-being.

Two of the Indigenous interests, Cultural Continuation and Indigenous Governance Systems will only be assessed when Indigenous Knowledge relating to cultural continuation and Indigenous governance has been provided, or when feedback has been received from an Indigenous nation regarding the proposed

information sources (subsection 11.1.4) and preliminary potential effects identified in the Table 11-2 of this draft AIR. Where the Indigenous nation has provided minimal knowledge and feedback relating to Cultural Continuation and Indigenous Governance Systems, the proponent will note the limitations of information. Cultural continuation and the opportunities for intergenerational knowledge transmission, and spiritual connections represent intangible values, which reflect the beliefs, perceptions, values, and qualitative experience of Indigenous Peoples and can not be assessed by the proponent without input from an Indigenous nation. Similarly, information is needed from Indigenous nations regarding conditions relating to their ability to meaningfully exercise Indigenous Governance Systems in order for the proponent to assess these effects. When Cultural Continuation and Indigenous Governance Systems are not being assessed, a rationale will be provided as to why they have not been included.

The proponent acknowledges that Indigenous interests are not always mutually exclusive, and that the Indigenous interests outlined in Table 11-3 may not reflect the intersections of interests and issues identified by the Indigenous nations. The proponent will engage with the Indigenous nations to determine the alignment of their Indigenous interests with the preliminary Indigenous interests and potential effects outlined in this draft AIR.

Table 11-2. Proposed Preliminary List of Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects	Potential Linkages to other Valued Components or Indigenous Interests
Harvesting and Subsistence Activities	<ul style="list-style-type: none"> ▪ Effects on Indigenous Rights to fish, harvest and hunt for food, ceremonial, and social purposes: <ul style="list-style-type: none"> – Changes to harvesting methods and practices (such as, timing, seasonality) – Changes to the current use of lands and resources for traditional purposes – Alteration of harvesting-based livelihoods ▪ Changes to the experience of practicing harvesting rights and effects on the quality, quantity, and availability of resources <ul style="list-style-type: none"> – Loss or alteration of habitat supporting harvested wildlife, fish, bird, or plant species including species of cultural and medicinal importance – Change in surface water quality or quantity (turbidity, hydraulic changes) – Sensory disturbances (such as, noise, odour, dust, visual landscape) ▪ Effects to the accessibility and availability of traditional lands and resources: <ul style="list-style-type: none"> – Changes in the ability to travel to or through current use areas 	<ul style="list-style-type: none"> ▪ Air Quality ▪ Acoustics ▪ Surface Water ▪ Ground Water ▪ Soil ▪ Vegetation ▪ Wildlife and Wildlife Habitat ▪ Fish and Fish Habitat ▪ Land and Resource Use

Table 11-2. Proposed Preliminary List of Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects	Potential Linkages to other Valued Components or Indigenous Interests
Cultural Use Sites and Areas	<ul style="list-style-type: none"> ▪ Effects on cultural heritage, and structures, sites or things of historical, archaeological, paleontological, or architectural significance: <ul style="list-style-type: none"> – Effects to cultural sites including Storied Places, habitation sites, Place Names, and archaeological sites along the South Arm of the Fraser River, Tilbury Island, Lulu Island, and Tl'uqtinus Village site – Effects of proposed Project activities on cultural/archaeological resources – Changes to the experience using cultural sites and areas ▪ Loss of access to and disenfranchisement from cultural sites including: <ul style="list-style-type: none"> – Changes to physical and cultural or spiritual sites or areas – Disruption or alteration of trails, travelways, navigable waterways and waterbodies – Sensory disturbance (such as, noise, odour, dust, visual landscape) ▪ Effects to cultural and spiritual practices caused by damage or loss of access to cultural sites and areas 	<ul style="list-style-type: none"> ▪ Land and Resource Use ▪ Archaeological and Heritage Resources ▪ Culture
Social and Economic Conditions	<ul style="list-style-type: none"> ▪ Effects on Indigenous nations' ability to improve social and economic conditions ▪ Effects on Indigenous nations' future aspirations for sites or area surrounding the proposed Project ▪ Changes to employment opportunities, Indigenous businesses, Indigenous Government's revenue ▪ Effect on intercommunity relations and trade ▪ Effects on commercial and non-commercial fishing, hunting, trapping, and gathering and cultural or ceremonial activities and practices ▪ Effects on infrastructure and services 	<ul style="list-style-type: none"> ▪ Culture ▪ Employment and Economy ▪ Infrastructure and Services
Indigenous Health and Well-being	<ul style="list-style-type: none"> ▪ Effects on the quality, quantity, and availability of harvested country foods ▪ Effects on the value and perceived quality of country foods ▪ Effects on air quality, noise, water quality ▪ Effects on health and well-being from the effects to traditional ways of life and to cultural sites 	<ul style="list-style-type: none"> ▪ Harvesting and Subsistence Activities ▪ Cultural Use Sites and Areas ▪ Human Health

Table 11-2. Proposed Preliminary List of Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects	Potential Linkages to other Valued Components or Indigenous Interests
Cultural Continuation*	<ul style="list-style-type: none"> ▪ Effects on ability to revitalize, develop, and participate in intergenerational cultural transmission <ul style="list-style-type: none"> – Experiences of being on the land (such as, changes in air quality, noise exposure, effects of vibrations from blasting or other activities) – Current and future availability and quality of country foods (traditional foods) ▪ Disconnection from cultural heritage due to: <ul style="list-style-type: none"> – Changes to sense of place and identity due to changes in accessibility and real and perceived disturbance of the environment – Interruption of the use of travel ways, navigable waterways, and waterbodies 	<ul style="list-style-type: none"> ▪ Harvesting and Subsistence Activities ▪ Cultural Use Sites and Areas ▪ Indigenous Health and Well-being ▪ Economic Activities
Indigenous Governance Systems*	<ul style="list-style-type: none"> ▪ Change to an Indigenous nation's cultural traditions, laws, and governance systems that inform how they exercise their Aboriginal Rights <ul style="list-style-type: none"> – Effects on the ability to use, develop, and control traditional land, territories, and resources – Effects on the ability to implement Indigenous laws, customs and protocols – Participation in decision-making in matters which affect Aboriginal Rights in the proposed Project Site – Changes to ongoing conservation efforts to restore important fish species and habitat – Ability to engage in stewardship of lands and resources 	<ul style="list-style-type: none"> ▪ Harvesting and Subsistence Activities ▪ Cultural Use Sites and Areas ▪ Indigenous Health and Well-being ▪ Economic Activities ▪ Cultural Continuation

Notes:

* As identified above, Cultural Continuation and Indigenous Governance Systems will only be assessed when feedback has been received from an Indigenous nation on the proposed information sources (subsection 11.1.4) and potential effects listed in the draft AIR.

11.1.5.7 Effects Management

The Application must describe measures identified in an attempt to avoid, minimize, offset, or otherwise address potential adverse effects of the proposed Project on the Interests of Indigenous nations, and describe how the proponent worked towards the goal of identifying mutually agreeable mitigation and effects management approaches with Indigenous nations, especially for those concerns raised relating to the exercise of their Indigenous interests.

The Application must provide:

- Proposed Project design and mitigations identified for the relevant VCs that are proposed to mitigate effects on Indigenous interests;
- Perspectives of Indigenous nations on the effectiveness of mitigation measures, as well as the relative level of certainty associated with the mitigation option;

- Additional mitigations that are specific to the Indigenous nation or Indigenous interests;
- A response to measures proposed by Indigenous nations, including the proponent's intent to implement them, as appropriate; and
- Proposed initiatives or processes related to monitoring effects on Indigenous interests.

11.1.5.8 Assessing Negative Effects

The Application must provide a detailed description of the methods used to assess the negative effects to Indigenous interests that are anticipated as a result of the proposed Project, and present the results of this assessment, after taking mitigation into account.

If an Indigenous nation identifies that there are residual effects to the nation or its rights, those effects will be carried through for residual effects analysis.

11.1.5.9 Characterization of Residual Effects

The Application must provide a characterization of negative residual effects of the proposed Project to Indigenous interests, including magnitude, extent, duration, reversibility, frequency, risk, and uncertainty.

11.1.5.10 Cumulative Effects

The Application must include an assessment of cumulative effects on Indigenous interests as they relate to the proposed Project and identify any additional mitigation measures. The Application must describe the likelihood of any adverse residual cumulative effects on Indigenous interests and provide a summary of the results of the CEA.

11.1.5.11 Views of Indigenous Nation

The Application must describe how the proponent engaged with Indigenous nations, including any collaboration with Indigenous nations, or integrated Indigenous nations' perspectives into the assessment of effects on Indigenous interests. The Application must clearly state any views of Indigenous nations on the potential effects identified, approach to effects management, residual effects, and conclusions.

11.1.6 Positive Effects

The Application must describe any positive effects to Indigenous interests or to Indigenous nations overall that are anticipated as a result of the proposed Project and its associated effects management approaches. The Application must describe how the proponent engaged with Indigenous nations, including any collaboration with participating Indigenous nations and engagement activities with other potentially affected Indigenous nations, or integrated Indigenous nations' perspectives into the assessment of positive effects on Indigenous interests. The Application must clearly state any views of Indigenous nations on the potential positive effects identified.

11.1.7 Summary

The Application must include a summary of the assessment for Indigenous nations outlining:

- The residual effects on Indigenous interests for B.C. EAO/IAAC to consider when determining the overall seriousness of the effects to the Indigenous interests;
- Any major points of agreement or disagreement with Indigenous nations; and
- Efforts taken to address any points of disagreement.

11.2 Chawathil First Nation

11.2.1 Methodology Overview

The Application must include a stand-alone assessment for Chawathil First Nation that will follow the methodology described in subsection 11.1. Although Chawathil First Nation is a member of the S'ólh Téméxw Stewardship Alliance, Chawathil First Nation independently submitted a notice to engage as a participating Indigenous nation to the B.C. EAO. Through engagement, Chawathil First Nation has directed the proponent to conduct a separate, stand-alone Indigenous Nations Effects Assessment for Chawathil First Nation.

11.2.2 Context

11.2.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context.

11.2.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.2.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.2.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

11.2.5 Assessing Effects on Indigenous Interests

11.2.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.2.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

11.2.5.3 Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

11.2.5.4 Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.2.5.5 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.2.5.6 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous Interests.

The Application must address the potential effects to Indigenous interests identified by Chawathil First Nation during Early Engagement. These concerns are summarized in Table 11-3. The proponent is continuing to engage with Chawathil First Nation to understand their Indigenous interests in the proposed Project and the areas influenced by the proposed Project.

Table 11-3. Proposed Preliminary List of Chawathil First Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to interests relating to Harvesting and Subsistence Activities identified by Chawathil First Nation: <ul style="list-style-type: none"> – Effects to Chawathil First Nation’s right to harvest fish in the Fraser River for food, trade, social, health, and ceremonial purposes – Effects to Chawathil First Nation’s rights to conservation of medicinal plants, animals, and minerals – Effects to Chawathil First Nation’s Gathering rights and rights to food security
Cultural Use Sites and Areas	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Interests relating to Cultural Use Sites and Areas identified by Chawathil First Nation: <ul style="list-style-type: none"> – Effects on cultural and spiritual rights, including protection and access areas of cultural and spiritual importance
Social and Economic Conditions	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to interests relating to Social Economic Conditions identified by Chawathil First Nation: <ul style="list-style-type: none"> – Effects on economic development and socio- economic rights and the ability to improve current conditions
Indigenous Health and Well-being	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to interests relating to Indigenous Health and Well-being identified by Chawathil First Nation: <ul style="list-style-type: none"> – Effects to Chawathil First Nation’s right to have clean air, water, and lands and resources

Table 11-3. Proposed Preliminary List of Chawathil First Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Cultural Continuation	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to interests relating to Cultural Continuation identified by Chawathil First Nation: <ul style="list-style-type: none"> – Rights to the transmission of Traditional Knowledge, histories, place names and oral traditions to future generations
Indigenous Governance Systems	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to interests relating to Indigenous Governance Systems identified by Chawathil First Nation identified: <ul style="list-style-type: none"> – Effects to Chawathil First Nation's rights to self-governance and self-determination – Effects to Chawathil First Nation's rights to implement Indigenous Laws, customs, and protocols – Effects to Chawathil First Nation's stewardship rights and responsibilities – Effects to Chawathil First Nation's rights to determine and develop strategies for the development or use of Chawathil First Nation territory

11.2.5.7 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.2.5.8 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.2.5.9 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.2.5.10 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.2.5.11 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.2.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.2.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.3 Cheam First Nation

11.3.1 Methodology Overview

The Application must include a stand-alone assessment for Cheam First Nation that will follow the methodology described in subsection 11.1. Although Cheam First Nation is a member of the S'ólh Téméxw Stewardship Alliance, Cheam First Nation independently submitted a notice to engage as a participating Indigenous nation to the B.C. EAO. The proponent proposes to conduct a separate Indigenous Nations Effects Assessment for Cheam First Nation. The proponent will engage with Cheam First Nation to determine the appropriateness of this approach.

11.3.2 Context

11.3.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context.

11.3.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.3.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.3.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

11.3.5 Assessing Effects on Indigenous Interests

11.3.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.3.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.3.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.3.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous Interests.

The Application must address the potential effects to Indigenous interests identified by Cheam First Nation during Early Engagement. These concerns are summarized in Table 11-4. The proponent is continuing to engage with Cheam First Nation to understand their Indigenous interests in the proposed Project and the areas influenced by the proposed Project.

Table 11-4. Proposed Preliminary List of Cheam First Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	<ul style="list-style-type: none">For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6.The Application must address the following potential effects to Indigenous interests relating to Harvesting and Subsistence Activities identified by Cheam First Nation:<ul style="list-style-type: none">Effects on rights to harvest fish in the Fraser River for food, social, and ceremonial purposesEffects to salmon and salmon habitat and Cheam First Nation's way of life
Cultural Use Sites and Areas	<ul style="list-style-type: none">For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6.The Application must address the following potential effects to Indigenous interests relating to Cultural Use Sites and Areas identified by Cheam First Nation:<ul style="list-style-type: none">Effects to rights in the Fraser River
Social and Economic Conditions	<ul style="list-style-type: none">For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6.
Indigenous Health and Well-being	<ul style="list-style-type: none">For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-2 in subsection 11.1.5.6.
Cultural Continuation	<ul style="list-style-type: none">For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6.
Indigenous Governance Systems	<ul style="list-style-type: none">For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6.

11.3.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.3.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.3.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.3.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.3.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.3.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.3.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.4 Cowichan Nation Alliance

11.4.1 Methodology Overview

The Application must include a partially aggregated assessment for Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation titled Cowichan Nation Alliance. The Indigenous Nations Effects Assessment for the members of the Cowichan Nation Alliance will include individual residual effects assessments for each Indigenous nation. Through engagement, the proponent has discussed this approach with Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation and the Indigenous nations have agreed to this partially aggregated assessment.

Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation are all members of the Cowichan Nation Alliance. In their separate notices to participate in the proposed Project, each stated that their interests are shared as "descendant communities of the historic Cowichan Nation".

Similarly, each notice of participating Indigenous nations stated that their governance roles in the proposed Project Site were the same. Further to this, the Cowichan Nation Alliance has facilitated

engagement on behalf of its members, with comments on regulatory documents provided as a group. The Cowichan Nation Alliance has also provided FortisBC with information sources including a Traditional Use Study (TUS) which encompasses Cowichan Tribes, Halalt First Nation, Penelakut Tribe, and Stz'uminus First Nation.

Subsection 11.4 provides further information on how methodology proposed within subsection 11.1 would be adapted to support this partially aggregated approach.

11.4.2 Context

11.4.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context. The Application must include one section which aggregates the proponent's understanding of Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation's Indigenous interests and current context. Where Indigenous interests and current context of Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation are unique, those distinctions will be identified.

11.4.3 Summary of Engagement

11.4.3.1 Cowichan Tribes

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.4.3.2 Halalt First Nation

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.4.3.3 Lyackson First Nation

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.4.3.4 Penelakut Tribe

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.4.3.5 Stz'uminus First Nation

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.4.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources. The Application must include one section which aggregates information sources for Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation. Where information sources relevant to the assessment of Cowichan Tribes, Halalt First Nation, Lyackson First

Nation, Penelakut Tribe, and Stz'uminus First Nation's Indigenous interests are unique those distinctions will be identified.

11.4.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge. The Application must include one section which aggregates information regarding the collection and use of Indigenous Knowledge for Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation. The Application must identify where the collection and use of Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation's Indigenous Knowledge is unique.

The Application must be informed by Indigenous Knowledge and western science and ongoing engagement with the Cowichan Nation Alliance members. The Application must describe how the proponent addressed the Cowichan Nation Alliance's request that the proponent engage Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation directly for the production of Indigenous Knowledge studies as the Cowichan Nation Alliance is currently producing Indigenous Knowledge studies for three different projects.

The Application must describe how the proponent engaged with the Cowichan Nation Alliance on integrating Indigenous nations' perspectives into the assessment of effects on Indigenous interests to address concerns raised by the Cowichan Nation Alliance regarding how the proponent will incorporate Indigenous Knowledge information in the Application, and to verify there are no outstanding concerns related to the data collection or the information provided.

The proponent is looking forward to working with the Cowichan Nation Alliance and the individual member Indigenous nations to determine how to appropriately consider and integrate Cowichan Indigenous Knowledge.

The Application must incorporate Indigenous Knowledge information from two Cowichan Nation Alliance Indigenous Knowledge studies for the Tilbury Marine Jetty Project: Culturally Significant Vegetation of Tilbury Island by Dr. Nancy Turner (2020) and Stlulnup: A Cowichan Nation Use and Occupancy Study for Tilbury Island by Candace Charlie (2019).

11.4.5 Assessing Effects on Indigenous Interests

11.4.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction. The Application must include one aggregate introduction for Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nations.

11.4.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries. The Application must include one set of assessment boundaries for the effects on Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nations' Indigenous interests.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries. The Application must include one set of spatial boundaries for the effects on Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nations' Indigenous interests.

As per the request of the Cowichan Nation Alliance to ensure that the assessment of Indigenous interests includes Indigenous nation use areas, the proponent will use approved Indigenous Knowledge sources to determine Cowichan Nation Alliance areas of use to include in the LAA.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries. The Application must include one set of assessment boundaries for the effects on Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nations' Indigenous interests.

11.4.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions. The Application must include one section which aggregates existing conditions for Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nations. Where the existing condition of Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation are unique, those distinctions will be identified.

11.4.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous Interests. The Application must include one section which aggregates potential effects on Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation's Indigenous interests. If there are unique pathways through which Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, or Stz'uminus First Nation's Indigenous interests could be affected by proposed Project components and activities, the Application will identify those distinctions. The Application must describe the VCs and indicators used to assess potential effects that are unique to Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, or Stz'uminus First Nation.

The Application must address the potential effects to Indigenous interests identified by Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation during Early Engagement. These concerns are summarized in Table 11-5. The proponent is continuing to engage with Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation to understand their Indigenous interests in the proposed Project and the areas influenced by the proposed Project.

Table 11-5. Proposed Preliminary List of Cowichan Nation Alliance Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Harvesting and Subsistence Activities identified by Cowichan Nation Alliance members: <ul style="list-style-type: none"> – Effects to Indigenous and Aboriginal rights as recognized by the United Nations Declaration on the Rights of Indigenous Peoples and Section 35 of the <i>Constitution Act</i>, including in relation to: <ul style="list-style-type: none"> ▪ Subsistence ▪ The harvest of medicinal plants, animals, and minerals for traditional medicines and health practices ▪ The harvest of wildlife, waterfowl, vegetation, and other resources ▪ The right to fish for food, social, and ceremonial purposes
Cultural Use Sites and Areas	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Cultural Use Sites and Areas identified by Cowichan Nation Alliance members: <ul style="list-style-type: none"> – Effects to Indigenous and Aboriginal rights as recognized by the United Nations Declaration on the Rights of Indigenous Peoples and Section 35 of the <i>Constitution Act</i>, including in relation to: <ul style="list-style-type: none"> ▪ The protection, maintenance, and access to archaeological, historical and cultural sites, including the Cowichan Nation Alliance's historic village site of Tl'uqtnus ▪ Cowichan Nation Alliance members spiritual relationship with traditional lands, territories, water, and other resources
Social and Economic Conditions	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Social and Economic Conditions identified by Cowichan Nation Alliance members: <ul style="list-style-type: none"> – Effects to Indigenous and Aboriginal rights as recognized by the United Nations Declaration on the Rights of Indigenous Peoples and Section 35 of the <i>Constitution Act</i>, including in relation to: <ul style="list-style-type: none"> ▪ Engagement in traditional and other economic activities ▪ Improvement of economic conditions
Indigenous Health and Well-being	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Health and Well-being, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Health and Well-being identified by Cowichan Nation Alliance members: <ul style="list-style-type: none"> – Improvement of social conditions – Effects to Indigenous and Aboriginal rights as recognized by the United Nations Declaration on the Rights of Indigenous Peoples and Section 35 of the <i>Constitution Act</i>, including in relation to the enjoyment of the highest attainable standard of physical and mental health

Table 11-5. Proposed Preliminary List of Cowichan Nation Alliance Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Cultural Continuation	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Cultural Continuation identified by Cowichan Nation Alliance members: <ul style="list-style-type: none"> – Effects to Indigenous and Aboriginal rights as recognized by the United Nations Declaration on the Rights of Indigenous Peoples and Section 35 of the <i>Constitution Act</i>, including in relation to: <ul style="list-style-type: none"> ▪ The revitalization, development and transmission of histories, oral traditions, and Place Names ▪ The maintenance and strengthening of spiritual relationships with the land, water, and resources
Indigenous Governance Systems	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Indigenous Governance Systems identified by Cowichan Nation Alliance members: <ul style="list-style-type: none"> – Effects to Indigenous and Aboriginal rights as recognized by the United Nations Declaration on the Rights of Indigenous Peoples and Section 35 of the <i>Constitution Act</i>, including in relation to: <ul style="list-style-type: none"> ▪ Decision-making affecting rights ▪ Ownership, access, use, develop, and control of traditionally-owned, occupied, used, or acquired lands, territories, and other resources ▪ The Aboriginal right to the land itself ▪ The protection of the environment

11.4.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management. The Application must include one section which aggregates the discussion of measures identified in an attempt to avoid, minimize, offset or otherwise address potential adverse effects of the proposed Project on the rights of Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation's Indigenous interests.

The Application must describe how the proponent worked towards the goal of identifying mutually agreeable mitigation and effects management approaches with Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation, especially for those concerns raised relating to the exercise of their Indigenous interests.

11.4.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.4.5.7 Characterization of Residual Effects

Cowichan Tribes

The Application must provide a characterization of negative residual effects of the proposed Project to Cowichan Tribes' Indigenous interests and will meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

Halalt First Nation

The Application must provide a characterization of negative residual effects of the proposed Project to Halalt First Nation's Indigenous interests and will meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

Lyackson First Nation

The Application must provide a characterization of negative residual effects of the proposed Project to Lyackson First Nation's Indigenous interests and will meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

Penelakut Tribe

The Application must provide a characterization of negative residual effects of the proposed Project to Penelakut Tribe's Indigenous interests and will meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

Stz'uminus First Nation

The Application must provide a characterization of negative residual effects of the proposed Project to Stz'uminus First Nation's Indigenous interests and will meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.4.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects. The Application must include one section which aggregates the assessment of cumulative effects on Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation's Indigenous interests.

If there are unique pathways through which Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, or Stz'uminus First Nation's Indigenous interests could be cumulatively affected, the Application will identify those distinctions.

11.4.5.9 Views of Cowichan Tribes

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.4.5.10 Views of Halalt First Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.4.5.11 Views of Lyackson First Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.4.5.12 Views of Penelakut Tribe

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.4.5.13 Views of Stz'uminus First Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.4.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects. The Application must include one section which aggregates the description of positive effects to Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation's Indigenous interests. If there are unique pathways through which Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, or Stz'uminus First Nation's Indigenous interests could be positive effected, the Application will identify those distinctions.

11.4.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary. The Application must include one summary of Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nations' Indigenous interests.

11.5 Katzie First Nation

11.5.1 Methodology Overview

The Application must include a stand-alone assessment for Katzie First Nation that will follow the methodology described in subsection 11.1.

11.5.2 Context

11.5.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context.

11.5.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.5.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.5.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

11.5.5 Assessing Effects on Indigenous Interests

11.5.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.5.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.5.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.5.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous interests.

The Application must address the potential effects to Indigenous interests identified by Katzie First Nation during Early Engagement. These concerns are summarized in Table 11-6. The proponent is continuing to engage with Katzie First Nation to understand their Indigenous interests in the proposed Project and the areas influenced by the proposed Project.

Table 11-6. Proposed Preliminary List of Katzie First Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Harvesting and Subsistence Activities identified by Katzie First Nation: <ul style="list-style-type: none"> – Changes in water quality in the Fraser River and Tilbury Slough, and associated effects on fisheries, particularly as a result of discharge from hydrostatic testing into the Fraser River – Effects on Pacific salmon species in the Fraser River as they are important cultural and environmental resources to the Katzie First Nation – Effects to Katzie First Nation's rights to use the Fraser River for travel and fishing activities – Effects on White sturgeon rearing areas along Tilbury Island shoreline and Tilbury Slough – Effects on active eulachon spawning grounds in the lower Fraser River – Effects on amphibians that may be present in Tilbury Slough – Effects on marine mammals due to noise – Changes to fisheries resources where some species are classified as species at risk of extinction
Cultural Use Sites and Areas	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Cultural Use Sites and Areas identified by Katzie First Nation: <ul style="list-style-type: none"> – Disturbance of, damage to, or loss of cultural and archaeologically significant sites important to Katzie First Nation that are within the proposed Project vicinity. Significant sites include St. Mungo Cannery Site, Glenrose, and Nottingham Farm, as well as Burns Bog with its proximity to the proposed Project given that Indigenous Peoples, including Katzie people, have used Burns Bog for thousands of years – Disturbance of cultural and archaeological resources present on the existing industrial site due to no stringent previous requirements to document, implement guidelines and best management practices when the existing site was developed. The existing bund wall/berm at the site likely the location of where originally excavated materials were placed, thus there is potential for resources to be present here and damaged during proposed Project-related activities – Wave effects on cultural and archaeological resources that are or may be present along the Fraser River
Social and Economic Conditions	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6.
Indigenous Health and Well-being	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Health and Well-being identified by Katzie First Nation: <ul style="list-style-type: none"> – Effects to water quality and water quantity

Table 11-6. Proposed Preliminary List of Katzie First Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Cultural Continuation	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6.
Indigenous Governance Systems	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Indigenous Governance Systems identified by Katzie First Nation: <ul style="list-style-type: none"> – Effects on stewardship rights and responsibilities

11.5.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.5.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.5.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.5.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.5.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.5.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.5.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.6 Kwantlen First Nation**11.6.1 Methodology Overview**

The Application must include a stand-alone assessment for Kwantlen First Nation that will follow the methodology described in subsection 11.1.

11.6.2 Context

11.6.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context.

11.6.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.6.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.6.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

11.6.5 Assessing Effects on Indigenous Interests

11.6.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.6.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.6.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.6.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous Interests.

The Application must address the potential effects to Indigenous interests identified by Kwantlen First Nation during Early Engagement. These concerns are summarized in Table 11-7. The proponent is continuing to engage with Kwantlen First Nation to understand their Indigenous interests in the proposed Project and the areas influenced by the proposed Project.

Table 11-7. Proposed Preliminary List of Kwantlen First Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	<ul style="list-style-type: none"> For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6. The Application must address the following potential effects to Indigenous interests relating to Harvesting and Subsistence Activities identified by Kwantlen First Nation: <ul style="list-style-type: none"> Changes to ecosystem health particularly for medicinal plants, migratory bird habitats
Cultural Use Sites and Areas	<ul style="list-style-type: none"> For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6.
Social and Economic Conditions	<ul style="list-style-type: none"> For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6.
Indigenous Health and Well-being	<ul style="list-style-type: none"> For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-2 in subsection 11.1.5.6. The Application must address the following potential effects to Indigenous interests relating to Health and Well-being identified by Kwantlen First Nation: <ul style="list-style-type: none"> Water discharge quality GHG emissions and cumulative effects due to infrastructure development
Cultural Continuation	<ul style="list-style-type: none"> For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6. The Application must address the following potential effects to Indigenous interests relating to Cultural Continuation identified by Kwantlen First Nation: <ul style="list-style-type: none"> Effects to Kwantlen First Nation's right to knowledge transmission Changes to Kwantlen culture, food and knowledge translation due to adverse effects to fish populations in the Fraser River Concern for further disenfranchisement from the site (Tilbury and Lulu Island)
Indigenous Governance Systems	<ul style="list-style-type: none"> For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6.

11.6.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.6.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.6.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.6.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.6.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.6.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.6.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.7 Musqueam Indian Band

11.7.1 Methodology Overview

The Application must include a stand-alone assessment for Musqueam Indian Band that will follow the methodology described in subsection 11.1

11.7.2 Context

11.7.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context.

11.7.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.7.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.7.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

11.7.5 Assessing Effects on Indigenous Interests

11.7.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.7.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.7.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.7.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous interests.

The Application must address the potential effects to Indigenous interests identified by Musqueam Indian Band during Early Engagement. These concerns are summarized in Table 11-8. The proponent is continuing to engage with Musqueam Indian Band to understand their Indigenous interests in the proposed Project and the areas influenced by the proposed Project.

Table 11-8. Proposed Preliminary List of Musqueam Indian Band Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Harvesting and Subsistence Activities identified by Musqueam Indian Band: <ul style="list-style-type: none"> – Effects to Musqueam Indian Band's right to fish for food, social, ceremonial, and communal purposes – Effects to Musqueam Indian Band's Right to freely access preferred resources and waters – Effects to members of Musqueam Indian Band's ability and desire to engage in traditional fishing practices due to safety-related concerns associated with increased marine traffic

Table 11-8. Proposed Preliminary List of Musqueam Indian Band Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Cultural Use Sites and Areas	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Cultural Use Sites and Areas identified by Musqueam Indian Band: <ul style="list-style-type: none"> – Permanent loss of cultural heritage sites due to proposed Project construction operation – Effects to Tilbury Island - a historical and contemporary preferred fishing area which cannot be substituted with a location elsewhere on the Fraser River – Changes to Musqueam Indian Band's sense of place and identity including in relation to: <ul style="list-style-type: none"> ▪ cultural heritage sites and access restrictions ▪ sacred, spiritually relevant and culturally significant sites – Changes to culturally importance places, which impact sensory experiences and cultural understanding and negatively affect Musqueam place-based knowledge – Effects to Musqueam Indian Band's Exercise of rights, including associated use and occupancy
Social and Economic Conditions	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Social and Economic Conditions identified by Musqueam Indian Band: <ul style="list-style-type: none"> – Effects to Musqueam Indian Band's right to economic development due to impact on accessibility and/or fish
Indigenous Health and Well-being	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Health and Well-being identified by Musqueam Indian Band: <ul style="list-style-type: none"> – Effects to Musqueam Indian Band's rights to clean air, water, land and safety – Changes to culturally important foods which can have an effect on Musqueam Indian Band's health – Changes to Musqueam Indian Band's sense of place and identity, including in relation to: <ul style="list-style-type: none"> ▪ psychological and emotional stress ▪ air emissions, sensory disturbances and safety risks

Table 11-8. Proposed Preliminary List of Musqueam Indian Band Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Cultural Continuation	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Cultural Continuation identified by Musqueam Indian Band: <ul style="list-style-type: none"> – Effects to Musqueam Indian Band’s knowledge continuation due to effects on right ability to fish which may persist over generations – Disruption to the protection, persistence, and living of Musqueam <i>šxwtəhim’</i> (that is, ways, manners, and customs) and <i>snəwəyət</i> (that is, teachings received since childhood, including identity and responsibilities) – Changes to Musqueam Indian Band’s tangible and intangible values and activities – Effects to Musqueam Indian Band’s Exercise of rights, including associated knowledge – Changes to knowledge transmission – Changes to Musqueam Indian Band’s sense of place and identity, including in relation to: <ul style="list-style-type: none"> ▪ identities and connection to cultural heritage
Indigenous Governance Systems	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6.

11.7.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.7.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.7.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.7.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.7.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.7.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.7.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.8 S'ólh Téméxw Stewardship Alliance

11.8.1 Methodology Overview

The S'ólh Téméxw Stewardship Alliance submitted a notice to engage as a participating Indigenous nation to the B.C. EAO. The proponent proposes that the Indigenous nations' Effects Assessment for Aitchelitz First Nation, Shxwhá:y Village, Skowkale First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation, Yakweakwioose First Nation, Kwaw-kwaw-Apilt First Nation, Scowlitz First Nation, Skawahlook (Sq'ewá:lxw) First Nation, Skwah First Nation, Sumas First Nation, and Yale First Nation be conducted in one partially aggregated assessment subsection titled S'ólh Téméxw Stewardship Alliance. The assessment will include individual residual effects assessments for each Indigenous nation. The proposed approach for the S'ólh Téméxw Stewardship Alliance assessment aligns with the shared interests identified by these 13 Indigenous nations.

Aitchelitz First Nation, Shxwhá:y Village, Skowkale First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation, Yakweakwioose First Nation, Kwaw-kwaw-Apilt First Nation, Scowlitz First Nation, Skawahlook (Sq'ewá:lxw) First Nation, Skwah First Nation, Sumas First Nation, and Yale First Nation are all members of the S'ólh Téméxw Stewardship Alliance. Chawathil First Nation and Cheam First Nation are also members of the S'ólh Téméxw Stewardship Alliance, however, those two Indigenous nations independently submitted notices to engage as a participating Indigenous nation to the B.C. EAO. The proponent will conduct stand-alone Indigenous Nations Effects Assessments for Chawathil First Nation (subsection 11.2) and Cheam First Nation (subsection 11.3) to reflect the separate participation of these two Indigenous nations.

The S'ólh Téméxw Stewardship Alliance is an umbrella organization representing 15 of the 30 Stó:lō Nation bands. The proponent has communicated with the S'ólh Téméxw Stewardship Alliance directly and via the People of the River Referrals Office, an operational arm of the S'ólh Téméxw Stewardship Alliance, which facilitates and supports the S'ólh Téméxw Stewardship Alliance with engagement by providing technical support, administrative support, and managing the review of referrals.

Subsection 11.8 provides further information on how methodology proposed within Section 11 would be adapted to support this partially aggregated approach. This section will be linked to Section 26 (Follow-up Programs) of the TISG, which addresses the other potentially effected Stó:lō Nations.

11.8.2 Context

11.8.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context. The Application must include one section which aggregates the proponent's understanding of the Aitchelitz First Nation, Shxwhá:y Village, Skowkale First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation, Yakweakwioose First Nation, Kwaw-kwaw-Apilt First Nation, Scowlitz First Nation, Skawahlook (Sq'ewá:lxw) First Nation, Skwah First Nation, Sumas First Nation, and Yale First Nation's Indigenous interests and current context.

11.8.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.8.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.8.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

The Application must incorporate findings from the Indigenous Knowledge report provided to the proponent: Integrated Cultural Assessment for Roberts Bank Terminal 2 by the Stó:lō Research and Resource Management Centre.

11.8.5 Assessing Effects on Indigenous Interests

11.8.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction. The Application must include one section which aggregates the assessment of effects on Indigenous interests as per the S'ólh Téméxw Stewardship Alliance's participating Indigenous nation notice.

11.8.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries. The Application must include one set of spatial boundaries encompassing the combined areas of use of Aitchelitz First Nation, Shxwhá:y Village, Skowkale First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation, Yakweakwioose First Nation, Kwaw-kwaw-Apilt First Nation, Scowlitz First Nation, Skawahlook (Sq'ewá:lxw) First Nation, Skwah First Nation, Sumas First Nation, and Yale First Nation for the effects on S'ólh Téméxw Stewardship Alliance's Indigenous interest.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.8.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.8.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous Interests.

The Application must address the potential effects to Indigenous interests identified by the S'ólh Téméxw Stewardship Alliance during Early Engagement. These concerns are summarized in Table 11-9. The proponent is continuing to engage with the S'ólh Téméxw Stewardship Alliance to understand their Indigenous interests in the proposed Project and the areas influenced by the proposed Project.

Table 11-9. Proposed Preliminary List of S'ólh Téméxw Stewardship Alliance Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	<ul style="list-style-type: none"> For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6. The Application must address the following potential effects to Indigenous interests relating to Harvesting and Subsistence Activities identified by the S'ólh Téméxw Stewardship Alliance: <ul style="list-style-type: none"> Additional effects on Fraser River salmon and the S'ólh Téméxw Stewardship Alliance's right to fish for salmon in the Fraser River Effects on the cultural practice of wind-drying salmon caused by the potential adverse effects on air quality and the concentration of pollution in the Fraser Valley
Cultural Use Sites and Areas	<ul style="list-style-type: none"> For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6.
Social and Economic Conditions	<ul style="list-style-type: none"> For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6.
Indigenous Health and Well-being	<ul style="list-style-type: none"> For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-2 in subsection 11.1.5.6. The Application must address the following potential effects to Indigenous interests relating to Indigenous Health and Well-being identified by the S'ólh Téméxw Stewardship Alliance: <ul style="list-style-type: none"> Effects to cultural and spiritual practices and related effects on health and well-being
Cultural Continuation	<ul style="list-style-type: none"> For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6. The Application must address the following potential effects to Indigenous interests relating to Cultural Continuation identified by the S'ólh Téméxw Stewardship Alliance: <ul style="list-style-type: none"> Changes in air and water quality, and the maintenance of places relied on by non-human people. The integrity of these components is essential to the continuation of cultural and spiritual practices
Indigenous Governance Systems	<ul style="list-style-type: none"> For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6. The Application must address the following potential effects to Indigenous interests relating to Indigenous Governance Systems identified by the S'ólh Téméxw Stewardship Alliance: <ul style="list-style-type: none"> Changes to the S'ólh Téméxw ecosystem resulting in effects on the protection of the ecosystem as an integrated system

11.8.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.8.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.8.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.8.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.8.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation. The Application must include one section which will aggregate the views of the S'ólh Téméxw Stewardship Alliance and its Indigenous nation members.

11.8.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects. The Application must include one section which aggregates the description of positive effects to the S'ólh Téméxw Stewardship Alliance and its member's Indigenous interests.

11.8.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary. The Application must include one summary of the S'ólh Téméxw Stewardship Alliance and its member's Indigenous interests.

11.9 Tsawwassen First Nation

11.9.1 Methodology Overview

The Application must include a stand-alone assessment for Tsawwassen First Nation that will follow the methodology described in subsection 11.1. The assessment will also consider Tsawwassen First Nation's Rights Assessment Approach. The proponent will engage with Tsawwassen First Nation to understand their methodology for assessing effects of the proposed Project on their Indigenous interests, which includes Tsawwassen Treaty and Harvesting rights.

11.9.2 Context

11.9.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context.

11.9.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.9.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.9.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

The Application must be informed by Indigenous Knowledge and western science and ongoing engagement with Tsawwassen First Nation. The Application must describe how the proponent addressed Tsawwassen First Nation's concern regarding the incorporation of Indigenous Knowledge and the assessment and integration of Tsawwassen First Nation views within the Application.

11.9.5 Assessing Effects on Indigenous Interests

11.9.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.9.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.9.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.9.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous Interests.

The Application must address the potential effects to Indigenous interests identified by Tsawwassen First Nation during Early Engagement. These concerns are summarized in Table 11-10. The proponent is continuing to engage with Tsawwassen First Nation to understand their Indigenous interests in the proposed Project and the areas influenced by the proposed Project.

Table 11-10. Proposed Preliminary List of Tsawwassen First Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Harvesting and Subsistence Activities identified by Tsawwassen First Nation: <ul style="list-style-type: none"> – Effects to Tsawwassen First Nation's rights to harvest in and around the proposed Project Site, including the right to harvest plants and wildlife in the area and the right to fish around and up the Fraser River
Cultural Use Sites and Areas	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6.
Social and Economic Conditions	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6.
Indigenous Health and Well-being	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Health and Well-being, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Health and Well-being identified by Tsawwassen First Nation: <ul style="list-style-type: none"> – Direct health effects as a result of pollution generated by the proposed Project
Cultural Continuation	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Cultural Continuation identified by Tsawwassen First Nation: <ul style="list-style-type: none"> – Changes to the critical habitat of the Southern Resident Killer Whales and to the whale's access to prey through the alteration and destruction of fish habitat and fish mortality, resulting in irreparable cultural and spiritual harm to Tsawwassen First Nation members – Potential interference with access to traditional territory and resources, along with the ability to share knowledge and culture with young and future generations – Effects on Tsawwassen First Nation's identity as a result of effects to fish and fish habitat including alteration and loss of fish habitat

Table 11-10. Proposed Preliminary List of Tsawwassen First Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Indigenous Governance Systems	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Indigenous Governance Systems identified by Tsawwassen First Nation: <ul style="list-style-type: none"> – Effects on Tsawwassen First Nation’s identity as a result of changes in their ability to engage in stewardship over their lands – Increased fish mortality resulting in changes to Tsawwassen First Nation’s ability to engage in stewardship over their lands

11.9.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.9.5.6 Assessing Negative Effects

This section of the Application will meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects and will be in keeping with Chapter 15, Section 4 Assessment of the Tsawwassen First Nation Final Agreement.

11.9.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.9.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.9.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.9.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.9.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.10 Tsleil-Waututh Nation

11.10.1 Methodology Overview

The Application must include a stand-alone assessment for Tsleil-Waututh Nation that will follow the methodology described in subsection 11.1.

11.10.2 Context

11.10.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context.

11.10.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.10.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.10.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

11.10.5 Assessing Effects on Indigenous Interests

11.10.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.10.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.10.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.10.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous Interests.

The Application must address the potential effects to Indigenous interests identified by Tsleil-Waututh Nation during Early Engagement. These concerns are summarized in Table 11-11. The proponent is continuing to engage with Tsleil-Waututh Nation to understand their Indigenous interests in the proposed Project and the areas influenced by the proposed Project.

Table 11-11. Proposed Preliminary List of Tsleil-Waututh Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Harvesting and Subsistence Activities identified by Tsleil-Waututh Nation: <ul style="list-style-type: none"> – Effects on fishing rights, traditional use of the Fraser River, which would be affected by potential effects on fish (mortality) and fish habitat (alteration and loss), particularly migratory and shoreline habitats in the Fraser River – Effects to salmonids and other aquatic species – Effects to local vegetation and harvesting sites – Effects on the sustainability of food sovereignty, including the protection of the salmon fishery of the Fraser River
Cultural Use Sites and Areas	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Cultural Use Sites and Areas identified by Tsleil-Waututh Nation: <ul style="list-style-type: none"> – Effect of the proposed Project on cultural sites and heritage resources – Effect of the proposed Project on the preservation of archaeological materials
Social and Economic Conditions	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Economic Activities identified by Tsleil-Waututh Nation: <ul style="list-style-type: none"> – Effects on Tsleil-Waututh Nation's right to gain economic benefit from the lands and resources of their territory including from the proposed Project location

Table 11-11. Proposed Preliminary List of Tsleil-Waututh Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Indigenous Health and Well-being	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Health and Well-being identified by Tsleil-Waututh Nation: <ul style="list-style-type: none"> – Effects on river water quality and water management – Human health risks, cultural risks, and contamination of traditional foods – Effects of climate change on human and cultural health – Effects of acoustics including the health effects of environmental noise, as they fear the noise can lead to disease burden
Cultural Continuation	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Cultural Continuation identified by Tsleil-Waututh Nation: <ul style="list-style-type: none"> – Effects on Tsleil-Waututh Nation's cultural relationships with Southern Resident Killer Whales – Effects on the Tsleil-Waututh Nation's right to practice and preserve their traditional culture
Indigenous Governance Systems	<ul style="list-style-type: none"> ▪ For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6. ▪ The Application must address the following potential effects to Indigenous interests relating to Indigenous Governance Systems identified by Tsleil-Waututh Nation: <ul style="list-style-type: none"> – Effects on the Tsleil-Waututh Nation's right to practice and preserve their right to self-governance

11.10.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.10.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.10.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.10.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.10.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.10.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.10.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.11 Ts'uubaa-asatx Nation (Lake Cowichan First Nation)

11.11.1 Methodology Overview

The Application must include a stand-alone assessment for Ts'uubaa-asatx Nation that will follow the methodology described in subsection 11.1.

11.11.2 Context

11.11.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context.

11.11.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.11.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.11.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

11.11.5 Assessing Effects on Indigenous Interests

11.11.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.11.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.11.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.11.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous Interests.

The Application must address the potential effects to Indigenous interests identified by Ts'uubaa-asatx Nation during Early Engagement. These concerns are summarized in Table 11-12. The proponent is continuing to engage with Ts'uubaa-asatx Nation to understand their Indigenous interests in the proposed Project and the areas influenced by the proposed Project.

Table 11-12. Proposed Preliminary List of Ts'uubaa-asatx Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	<ul style="list-style-type: none"> For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6. The Application must address the following potential effects to Indigenous interests relating to Harvesting and Subsistence Activities identified by Ts'uubaa-asatx Nation: <ul style="list-style-type: none"> Effect on Ts'uubaa-asatx First Nation's harvest of wildlife including fish and seals
Cultural Use Sites and Areas	<ul style="list-style-type: none"> For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6. The Application must address the following potential effects to Indigenous interests relating to Cultural Use Sites and Areas identified by Ts'uubaa-asatx Nation: <ul style="list-style-type: none"> Effects on the south arm of the Fraser River, which was a major pre-contact trade centre and community gathering place
Social and Economic Conditions	<ul style="list-style-type: none"> For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6.
Indigenous Health and Well-being	<ul style="list-style-type: none"> For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-2 in subsection 11.1.5.6.

Table 11-12. Proposed Preliminary List of Ts'uubaa-asatx Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Cultural Continuation	<ul style="list-style-type: none">▪ For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6.▪ The Application must address the following potential effects to Indigenous interests relating to Cultural Continuation identified by Ts'uubaa-asatx Nation:<ul style="list-style-type: none">– Effects on Ts'uubaa-asatx First Nation Cultural Continuity as a result of potential adverse effects on harvesting and subsistence practices
Indigenous Governance Systems	<ul style="list-style-type: none">▪ For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6.

11.11.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.11.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.11.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.11.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.11.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.11.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.11.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.12 Métis Nation British Columbia

11.12.1 Methodology Overview

The Application must include a stand-alone assessment for Métis Nation British Columbia that will follow the methodology described in subsection 11.1.

11.12.2 Context

11.12.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context.

11.12.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.12.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.12.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

11.12.5 Assessing Effects on Indigenous Interests

11.12.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.12.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.12.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.12.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous interests. A proposed preliminary list of Métis Nation British Columbia Indigenous interests is provided in Table 11-13.

Table 11-13. Proposed Preliminary List of Métis Nation British Columbia Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	<ul style="list-style-type: none"> For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6.
Cultural Use Sites and Areas	<ul style="list-style-type: none"> For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6.
Social and Economic Conditions	<ul style="list-style-type: none"> For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6.
Indigenous Health and Well-being	<ul style="list-style-type: none"> For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-2 in subsection 11.1.5.6.
Cultural Continuation	<ul style="list-style-type: none"> For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6.
Indigenous Governance Systems	<ul style="list-style-type: none"> For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6.

11.12.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.12.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.12.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.12.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.12.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.12.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.12.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.13 Semiahmoo First Nation

11.13.1 Methodology Overview

The Application must include a stand-alone assessment for Semiahmoo First Nation that will follow the methodology described in subsection 11.1.

11.13.2 Context

11.13.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context.

11.13.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.13.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.13.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

11.13.5 Assessing Effects on Indigenous Interests

11.13.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.13.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.13.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.13.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous Interests. A proposed preliminary list of Semiahmoo First Nation Indigenous interests is in Table 11-14.

Table 11-14. Proposed Preliminary List of Semiahmoo First Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	▪ For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6.
Cultural Use Sites and Areas	▪ For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-3 in subsection 11.1.5.6.
Social and Economic Conditions	▪ For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6.
Indigenous Health and Well-being	▪ For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-2 in subsection 11.1.5.6.
Cultural Continuation	▪ For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6.
Indigenous Governance Systems	▪ For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6.

11.13.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.13.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.13.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.13.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.13.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.13.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.13.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.14 Snuneymuxw First Nation

Section pending as the level of interest of Snuneymuxw First Nation in the proposed Project has yet to be determined.

11.15 Squamish Nation

11.15.1 Methodology Overview

The Application must include a stand-alone assessment for Squamish Nation that will follow the methodology described in subsection 11.1.

11.15.2 Context

11.15.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context.

11.15.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.15.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.15.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.3.4 Indigenous Knowledge.

11.15.5 Assessing Effects on Indigenous Interests

11.15.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.15.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.15.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.15.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous Interests. A proposed preliminary list of Squamish Nation Indigenous interests is in Table 11-15.

Table 11-15. Proposed Preliminary List of Squamish Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	▪ For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6.
Cultural Use Sites and Areas	▪ For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6.
Social and Economic Conditions	▪ For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6.
Indigenous Health and Well-being	▪ For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-2 in subsection 11.1.5.6.
Cultural Continuation	▪ For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6.
Indigenous Governance Systems	▪ For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6.

11.15.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.15.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.15.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.15.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.15.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.4.11 Views of Indigenous Nation.

11.15.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.15.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.16 Kwikwetlem First Nation

11.16.1 Methodology Overview

The Application must include a stand-alone assessment for Kwikwetlem First Nation that will follow the methodology described in subsection 11.1.

11.16.2 Context

11.16.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Context Understanding of Indigenous Interests and Current Context.

11.16.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.16.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.16.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

11.16.5 Assessing Effects on Indigenous Interests

11.16.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.16.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.16.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.16.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous Interests. A proposed preliminary list of Kwikwetlem First Nation Indigenous interests is in Table 11-16.

Table 11-16. Proposed Preliminary List of Kwikwetlem First Nation Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	▪ For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6.
Cultural Use Sites and Areas	▪ For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6.
Social and Economic Conditions	▪ For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6.
Indigenous Health and Well-being	▪ For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-2 in subsection 11.1.5.6.
Cultural Continuation	▪ For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6.
Indigenous Governance Systems	▪ For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6.

11.16.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.16.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.16.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.16.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.16.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.16.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.16.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.17 Stó:lō Nations

11.17.1 Methodology Overview

The proponent proposes that the Indigenous Nations Effects Assessment for Leq'á:mel First Nation, Popkum First Nation, Matsqui First Nation, Shxw'ōwhámél First Nation, and Seabird Island Band be conducted in one partially aggregated assessment subsection titled Stó:lō Nations. The assessment will include individual residual effects assessments for each Indigenous nation. This proposed approach for a Stó:lō Nations assessment aligns with the shared interests identified by these five Indigenous nations.

Leq'á:mel First Nation, Matsqui First Nation, and Popkum First Nation were identified in B.C. EAO and IAAC's Joint Summary of Issues and Engagement as Indigenous nations whose Indigenous interests could reasonably be expected to be affected by the proposed Project. Each are members of the Stó:lō Nation. The Stó:lō Nation Chiefs Council is the political partnership of 11 Stó:lō Nation bands. Eight of these Indigenous nations are members of the Sol'h Téméxw Stewardship Alliance, which is discussed in subsection 11.8.

As Leq'á:mel First Nation, Popkum First Nation, Matsqui First Nation, Shxw'ōwhámél First Nation, and Seabird Island Band did not submit notices to be participating Indigenous nations to the B.C. EAO and as these Indigenous nations are Stó:lō, the proponent is proposing an aggregated assessment be conducted for this subsection that will be informed and linked to the Sol'h Téméxw Stewardship Alliance assessment.

11.17.2 Context

11.17.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context. The Application must include one section which aggregates the proponent's understanding of the Leq'á:mel First Nation, Popkum First Nation, Matsqui First Nation, Shxw'ōwhámél First Nation, and Seabird Island Band's Indigenous interests and current context. Where Indigenous interests and current context of Leq'á:mel First Nation, Popkum First Nation, Matsqui First Nation, Shxw'ōwhámél First Nation, and Seabird Island Band are unique, those distinctions will be identified.

11.17.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.17.3.1 Leq'á:mel First Nation

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.17.3.2 Popkum First Nation

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.17.3.3 Matsqui First Nation

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.17.3.4 Shxw'ōwhámél First Nation

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.17.3.5 Seabird Island Band

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.17.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources. The Application must include one section which aggregates information sources for the Leq'á:mel First Nation, Popkum First Nation, Matsqui First Nation, Shxw'ōwhámél First Nation, and Seabird Island Band. Where Indigenous interests and current context of Leq'á:mel First Nation, Popkum First Nation, Matsqui First Nation, Shxw'ōwhámél First Nation, and Seabird Island Band are unique, those distinctions will be identified. Where information sources relevant to the assessment of these Indigenous nations Indigenous interests are unique, those distinctions will be identified.

11.17.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

11.17.5 Assessing Effects on Indigenous Interests

11.17.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.17.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.17.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.17.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.5.6 Potential Effects on Indigenous Interests. A proposed preliminary list of Stó:lō Nations Indigenous interests is in Table 11-17.

Table 11-17. Proposed Preliminary List of Stó:lō Nations Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	<ul style="list-style-type: none"> For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6.
Cultural Use Sites and Areas	<ul style="list-style-type: none"> For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6.
Social and Economic Conditions	<ul style="list-style-type: none"> For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6.
Indigenous Health and Well-being	<ul style="list-style-type: none"> For the list of preliminary potential effects on Indigenous Health and Well-being, see Table 11-3 in subsection 11.1.5.6.
Cultural Continuation	<ul style="list-style-type: none"> For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6.
Indigenous Governance Systems	<ul style="list-style-type: none"> For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6.

11.17.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.17.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.17.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.17.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.4.10 Cumulative Effects.

11.17.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.17.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.17.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

11.18 W̱SÁNEĆ Nations

11.18.1 Methodology Overview

The proponent proposes that the Indigenous Nations Effects Assessment be conducted for Malahat First Nation, Pauquachin First Nation, Tsartlip First Nation, Tsawout First Nation, and Tseycum First Nation in one partially aggregated assessment subsection titled W̱SÁNEĆ Nations.

Malahat First Nation, Pauquachin First Nation, Tsartlip First Nation, Tsawout First Nation, and Tseycum First Nation are the five Indigenous nations of the W̱SÁNEĆ Peoples, whose traditional territory encompasses the Saanich Peninsula, the Gulf Islands, and the San Juan Islands. Each were identified in B.C. EAO and IAAC's Joint Summary of Issues and Engagement as Indigenous nations whose Indigenous interests could reasonably be expected to be affected by the proposed Project.

The proponent has communicated with Malahat First Nation, Pauquachin First Nation, Tsartlip First Nation, Tsawout First Nation, and Tseycum First Nation individually. As Malahat First Nation, Pauquachin First Nation, Tsartlip First Nation, Tsawout First Nation, and Tseycum First Nation did not submit notices to be participating Indigenous nations to the B.C. EAO and as these Indigenous nations are W̱SÁNEĆ, the proponent is proposing an aggregated assessment be conducted for this subsection.

11.18.2 Context

11.18.2.1 Understanding of Indigenous Interests and Current Context

The Application must meet the information requirements outlined in subsection 11.1.2.1 Understanding of Indigenous Interests and Current Context. The Application must include one section which aggregates the proponent's understanding of Malahat First Nation, Pauquachin First Nation, Tsartlip First Nation, Tsawout First Nation, and Tseycum First Nation's Indigenous interests and current context. Where

Indigenous interests and current context of Malahat First Nation, Pauquachin First Nation, Tsartlip First Nation, Tsawout First Nation, and Tseycum First Nation are unique, those distinctions will be identified.

11.18.3 Summary of Engagement

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.18.3.1 Malahat First Nation

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.18.3.2 Pauquachin First Nation

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.18.3.3 Tsartlip First Nation

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.18.3.4 Tsawout First Nation

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.18.3.5 Tseycum First Nation

The Application must meet the information requirements outlined in subsection 11.1.3 Summary of Engagement.

11.18.4 Information Sources

The Application must meet the information requirements outlined in subsection 11.1.4 Information Sources.

11.18.4.1 Indigenous Knowledge

The Application must meet the information requirements outlined in subsection 11.1.4.1 Indigenous Knowledge.

11.18.5 Assessing Effects on Indigenous Interests

11.18.5.1 Introduction

The Application must meet the information requirements outlined in subsection 11.1.5.1 Introduction.

11.18.5.2 Assessment Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.2 Assessment Boundaries.

Spatial Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.3 Spatial Boundaries.

Temporal Boundaries

The Application must meet the information requirements outlined in subsection 11.1.5.4 Temporal Boundaries.

11.18.5.3 Existing Conditions

The Application must meet the information requirements outlined in subsection 11.1.5.5 Existing Conditions.

11.18.5.4 Potential Effects on Indigenous Interests

The Application must meet the information requirements outlined in subsection 11.1.4.6 Potential Effects. A proposed preliminary list of W̱SÁNEĆ Nations Indigenous interests is in Table 11-18.

Table 11-18. Proposed Preliminary List of W̱SÁNEĆ Nations Indigenous Interests

Preliminary Indigenous Interests	Preliminary Potential Effects
Harvesting and Subsistence Activities	▪ For the list of preliminary potential effects on Harvesting and Subsistence Activities, see Table 11-2 in subsection 11.1.5.6.
Cultural Use Sites and Areas	▪ For the list of preliminary potential effects on Cultural Use Sites and Areas, see Table 11-2 in subsection 11.1.5.6.
Social and Economic Conditions	▪ For the list of preliminary potential effects on Social and Economic Conditions, see Table 11-2 in subsection 11.1.5.6.
Indigenous Health and Well-being	▪ For the list of preliminary potential effects on Indigenous Health and Well-being see Table 11-2 in subsection 11.1.5.6.
Cultural Continuation	▪ For the list of preliminary potential effects on Cultural Continuation, see Table 11-2 in subsection 11.1.5.6.
Indigenous Governance Systems	▪ For the list of preliminary potential effects on Indigenous Governance Systems, see Table 11-2 in subsection 11.1.5.6.

11.18.5.5 Effects Management

The Application must meet the information requirements outlined in subsection 11.1.5.7 Effects Management.

11.18.5.6 Assessing Negative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.8 Assessing Negative Effects.

11.18.5.7 Characterization of Residual Effects

The Application must meet the information requirements outlined in subsection 11.1.5.9 Characterization of Residual Effects.

11.18.5.8 Cumulative Effects

The Application must meet the information requirements outlined in subsection 11.1.5.10 Cumulative Effects.

11.18.5.9 Views of Indigenous Nation

The Application must meet the information requirements outlined in subsection 11.1.5.11 Views of Indigenous Nation.

11.18.6 Positive Effects

The Application must meet the information requirements outlined in subsection 11.1.6 Positive Effects.

11.18.7 Summary

The Application must meet the information requirements outlined in subsection 11.1.7 Summary.

12. Summary of Biophysical Factors that Support Ecosystem Function

The Application must consider project effects on biophysical factors that support ecosystem function based on the results of the VC assessments, including the CEAs. The assessment must follow the process outlined as follows:

- 1) Provide an overview of the current ecosystem function in the vicinity of the project at a landscape- and watershed-level;
- 2) Identify the key biophysical factors that support ecosystem function that the project effects may interact with;
- 3) Discuss how the VC assessments and CEAs considered effects on these biophysical factors;
- 4) Summarize the positive and negative effects, including adverse cumulative effects, on biophysical factors that support ecosystem function based on appropriate information from the VC assessments;
- 5) Identify proposed measures required to manage potential effects on biophysical factors that support ecosystem function; and
- 6) Describe any predicted changes to ecosystem function as a result of the project.

13. Summary of Human and Community Well-Being

The assessment must follow the process outlined as follows:

- Provide an overview of the current state of human and community well-being in the project area from both a local and Indigenous nation perspective;
- Describe influences on community well-being (such as, disposable income, cost of living, lifestyle; language; rates of alcohol and substance abuse, and of illegal activities and violence; rates of sexually transmitted infections and gender-based violence; etc.), including indicators proposed by each Indigenous nation;
- Describe community cohesion, including factors such as community or neighbourhood engagement, support, and social networks and other social activities;
- Describe the psychosocial environment and its influence on community well-being;
- Describe the socio-cultural environment, identifying Indigenous nations and predominant cultural communities; demographic characteristics and major socio-cultural concerns of the population;
- Describe access, ownership and use of resources (such as, land tenure, minerals, food, water, social infrastructure);
- Describe the capacity (currently available or planned) of institutions to deliver public services and infrastructure;
- Describe relevant historical community background;
- Summarize potential positive and negative effects including residual adverse cumulative effects of the project on human and community well-being based on the results of the VC assessments under economic, social, culture, and health and the assessment of effects to Indigenous interests;
- Identify how the project interacts differently with distinct human populations;
- Identify if the project interacts with other factors that support human and community well-being that were not specifically assessed as part of a VC;
- Identify any key measures proposed to manage potential effects on human and community well-being;
- Describe any anticipated changes to human and community well-being more generally as a result of the project;
- Assess potential adverse and positive effects of changes to social conditions including, but not limited to:
 - food security;
 - income inequity;
 - changes at the community-level that affect social conditions as result of increased population, workers camps, economic activity, cost of living, among other factors; and
 - non-commercial/trade economy.
- Describe in- and out-migration effects, including changes in social and cultural make-up of affected communities and changes in populations;
- Identify whether social divisions might be intensified as a result of the project;
- Evaluate potential social effects associated with increased disposable income, including potential cost of living effects, adverse and positive lifestyle changes, distribution of benefits among affected people;

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- Describe any anticipated effects to language;
- Describe changes to viewsapes as a result of the project and potential effects to community well-being;
- Consider the potential for stresses on community, family and household cohesion, alcohol and substance abuse, or illegal or other potentially disruptive activities; and
- Apply GBA+ within the information related to community well-being and document how potential effects of changes to community well-being could be different for distinct populations, including Indigenous Peoples or groups identified by gender, age, or other community relevant factors.

14. Summary of Effects on Current and Future Generations

The Application must summarize the analysis and conclusions for Environmental, Economic, Social, Culture, and Health VCs and Indigenous interests that contribute to the project's positive or negative effects on current and future generations.

The assessment must follow the process outlined as follows:

- Describe how input from engagement related to effects on current and future generations was incorporated and how the project has changed as a result;
- Demonstrate how any strategic direction from the Province of B.C. regarding sustainable development was considered;
- Provide any mitigation measures proposed to distribute positive and negative effects more equitably over time (such as, across generations);
- Discuss the potential outcome that residual effects to VCs and Indigenous interests will have on both current and future generations;
- Discuss the type(s) of economic growth that would be generated by the project and how this growth would be distributed, both within the population and over time; and
- Identify any relevant Regional or Provincial growth strategies and describe how the project is or is not aligned with them.

15. Description of the Project's Contribution to Sustainability

The Application must characterize a project's contribution to sustainability. The Application will describe the context of a particular project, including the issues of importance to participants, the diversity of views expressed and the selection of VCs. Once the analysis on potential effects of a project is conducted, the sustainability principles will be applied in an analysis for how the project:

- Considers the interconnectedness and interdependence of human-ecological systems;
- Considers the well-being of present and future generations;
- Maximizes overall positive benefits and minimize adverse effects of the project; and
- Applies the precautionary principle by considering uncertainty and risk of irreversible harm.

The Application must describe how sustainability principles were applied and identify conclusions drawn from this analysis. This summary must be qualitative in nature but may draw on quantitative data, as necessary. In addition, the Application must:

- Indicate how the planning and design of the project, in all phases, considers the sustainability principles;
- Describe the process in selecting the preferred alternative means and alternatives to the project and how the sustainability principles were considered;
- Indicate how monitoring, management and reporting systems consider the sustainability principles and attempt to ensure continuous progress towards sustainability;
- Describe the ecological, health, social and economic benefits of the project to local communities within the study area, potentially affected Indigenous nations, Regional, Provincial, and/or Federal governments; and
- Describe engagement with potentially affected Indigenous nations and describe measures and commitments to ensuring the sustainability of Indigenous livelihood, traditional use, culture, and well-being.

16. Summary of Statutory Requirements Under the Federal *Impact Assessment Act* (Substituted Projects Only)

If substitution is approved for the proposed Project, the Application must contain information that addresses the statutory requirements under the Federal *IAA*. This section will contain the location within the Application of where Federal requirements have been addressed, namely the effects within Federal jurisdiction as defined in Section 2 (example layout in Table 16-1) and each of the factors set out in Section 22 of the *IAA* (example layout in Table 16-2). The Application must also contain the additional factors set out in the potential Notice of Substitution Approval under the *IAA* issued by the IAAC. This section is not intended to reiterate the assessment or restate findings for each aspect of the Federal *IAA*. Where specific requirements of the *IAA* have not been considered within the Application, they are marked as not applicable.

Table 16-1. Effects within Federal Jurisdiction – Section 2 of the *Impact Assessment Act*

Effects within Federal Jurisdiction (as defined in Section 2 of the <i>IAA</i>)	Section of draft AIR where the Requirements have been included	Section of Application Where the Effect is Assessed	Assessment Findings
Effects within Federal jurisdiction means, with respect to a physical activity or a designated project, (a) a change to the following components of the environment that are within the legislative authority of Parliament: (i) fish and fish habitat, as defined in subsection 2(1) of the <i>Fisheries Act</i> , (ii) aquatic species, as defined in subsection 2(1) of the <i>Species at Risk Act</i> , (iii) migratory birds, as defined in subsection 2(1) of the <i>Migratory Birds Convention Act</i> , 1994, and (iv) any other component of the environment that is set out in Schedule 3;	Subsection 7.9 describes the requirements to address effects within Federal Jurisdiction in relation to fish and fish habitat, as defined in subsection 2(1) of the <i>Fisheries Act</i> and aquatic species as defined in subsection 2(1) of the <i>Species at Risk Act</i> . See subsection 7.9 for further details. Subsection 7.8 describes the requirements to address effects within Federal jurisdiction for migratory birds as defined in subsection 2(1) of the <i>Migratory Birds Convention Act</i> , 1994. See subsection 7.8 for further details.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(b) a change to the environment that would occur (i) on Federal lands, (ii) in a Province other than the one where the physical activity or the designated project is being carried out, or (iii) outside Canada;	Any requirements to address changes to the environment within Federal jurisdiction are provided in Section 7 (Valued Components Effects Assessment). There are no changes to the environment anticipated on Federal lands, in a Province other than the one where the physical activity or the designated project is being carried out, or outside Canada.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.

Table 16-1. Effects within Federal Jurisdiction – Section 2 of the *Impact Assessment Act*

Effects within Federal Jurisdiction (as defined in Section 2 of the <i>IAA</i>)	Section of draft AIR where the Requirements have been included	Section of Application Where the Effect is Assessed	Assessment Findings
<p>(c) with respect to the Indigenous peoples of Canada, an impact — occurring in Canada and resulting from any change to the environment — on</p> <p>(i) physical and cultural heritage,</p> <p>(ii) the current use of lands and resources for traditional purposes, or</p> <p>(iii) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance;</p>	<p>Section 11 describes the community-specific assessment for each of the 18 Indigenous nations.</p> <p>Subsections 7.13 and 7.14, Section 13 and Section 14 describe the requirements to address effects on physical and cultural heritage, the current use of lands and resources for traditional purposes, and any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.</p>	<p>This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.</p>	<p>This column will provide the assessment findings for effects within Federal jurisdiction.</p>
<p>(d) any change occurring in Canada to the health, social or economic conditions of the Indigenous peoples of Canada; and</p>	<p>Subsections 7.10, 7.11, 7.12, 7.15 and Section 11 describe requirements to address any change occurring in Canada to the health, social or economic conditions of the Indigenous Peoples in Canada.</p> <p>Note that Section 11 describes the community-specific assessment for each of the 18 Indigenous nations.</p>	<p>This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.</p>	<p>This column will provide the assessment findings for effects within Federal jurisdiction.</p>
<p>(e) any change to a health, social or economic matter that is within the legislative authority of Parliament that is set out in Schedule 3.</p>	<p>The legislative authority of Parliament that is set out in Schedule 3 is currently not available. This requirement is not applicable.</p>	<p>This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.</p>	<p>This column will provide the assessment findings for effects within Federal jurisdiction.</p>

Table 16-2. Factors to be Considered – Section 22 of the *Impact Assessment Act*

Factor to be considered (as defined in Section 22 of the IAA)	Section of AIR where the Requirements have been Included	Section of Application Where the Factor is Assessed	Assessment Findings
(a) The changes to the environment or to health, social or economic conditions and the positive and negative consequences of these changes that are likely to be caused by the carrying out of the designated project, including:	Subsections 7.1 to 7.9 provides the changes to the environment and the positive and negative consequences of these changes that are likely to be caused by the Project. Subsections 7.10 to 7.15 provides the changes to the social, health or economic conditions and the positive and negative consequences of these changes that are likely to be caused by the Project.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(i) the effects of malfunctions or accidents that may occur in connection with the designated project;	Section 9 will describe the effects of malfunctions or accidents that may occur in connection with the designated project.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(ii) any cumulative effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out;	Section 7 and Section 11 of the draft AIR describes the requirements to address any cumulative effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out. The collection and use of Indigenous Knowledge on cumulative effects will follow the outline described in subsection 11.1. Note that Section 11 describes the community-specific assessment for each of the 18 Indigenous nations.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(iii) the result of any interaction between those effects	Section 7 and Section 11 of the draft AIR describes the requirements to address the interaction between the effects from malfunctions or accidents and any cumulative effects from the Project. The collection and use of Indigenous Knowledge on these interactions will follow the outline described in subsection 11.1. Note that Section 11 describes the community-specific assessment for each of the 18 Indigenous nations.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.

Table 16-2. Factors to be Considered – Section 22 of the *Impact Assessment Act*

Factor to be considered (as defined in Section 22 of the IAA)	Section of AIR where the Requirements have been Included	Section of Application Where the Factor is Assessed	Assessment Findings
(b) mitigation measures that are technically and economically feasible and that would mitigate any adverse effects of the designated project;	Subsections 7.2.5 to 7.3.15 and 11.2.5.7 to Section 11.18.5.7 of the draft AIR describes the requirements to address mitigation measures that are technically and economically feasible and that would mitigate any adverse effects of the designated project. The collection and use of Indigenous Knowledge on mitigation measures will follow the outline described in subsection 11.1. Note that Section 11 describes the community-specific assessment for each of the 18 Indigenous nations.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(c) the impact that the designated project may have on any Indigenous nation and any adverse impact that the designated project may have on the rights of the Indigenous peoples of Canada recognized and affirmed by section 35 of the <i>Constitution Act</i> , 1982;	Section 11 of the draft AIR describes the requirements to address the impact that the designated project may have on any Indigenous nation and any adverse impact that the designated project may have on the rights of the Indigenous Peoples in Canada recognized and affirmed by Section 35 of the <i>Constitution Act</i> , 1982. The collection and use of Indigenous Knowledge on impacts to their nation or their rights will follow the outline described in subsection 11.1. Note that Section 11 describes the community-specific assessment for each of the 18 Indigenous nations.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(d) the purpose of and need for the designated project;	Subsection 1.7.1 and 1.7.2 of the draft AIR describes the requirements to address the purpose of and need for the designated project, respectively.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(e) alternative means of carrying out the designated project that are technically and economically feasible, including through the use of best available technologies, and the effects of those means;	Subsection 1.7.4 of the draft AIR describes the requirements to address the alternative means of carrying out the designated project that are technically and economically feasible, including through the use of best available technologies, and the effects, risks, and uncertainties of those alternatives.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.

Table 16-2. Factors to be Considered – Section 22 of the *Impact Assessment Act*

Factor to be considered (as defined in Section 22 of the IAA)	Section of AIR where the Requirements have been Included	Section of Application Where the Factor is Assessed	Assessment Findings
(f) any alternatives to the designated project that are technically and economically feasible and are directly related to the designated project;	Subsection 1.7.3 of the draft AIR describes the requirements to address any alternatives to the designated project that are technically and economically feasible and are directly related to the designated project. The analysis of alternatives to the project will validate that the preferred alternative is a reasonable approach.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(g) Indigenous Knowledge provided with respect to the designated project;	The collection and use of Indigenous Knowledge will follow the outline described in subsection 11.1 and would be described in the community-specific assessment for each of the 18 Indigenous nations, as outlined in subsection 11.2.4.1 to 11.18.4.1 of the draft AIR. The existing conditions and potential effects in subsection 7.2.3 to 7.15.3 and 7.2.4 to 7.15.4 contain the requirements to describe available Indigenous or local knowledge related to the applicable valued components.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(h) the extent to which the designated project contributes to sustainability;	Section 15 of the draft AIR describes the requirements to characterize the Project's contribution to sustainability and describes how sustainability principles were applied.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(i) the extent to which the effects of the designated project hinder or contribute to the Government of Canada's ability to meet its environmental obligations and its commitments in respect of climate change;	Section 8 of the draft AIR describes the requirements to describe the proponent's views on the extent to which the effects of the designated project hinder or contribute to the Government of Canada's ability to meet its environmental obligations and its commitments in respect of climate change, taking into consideration proposed mitigation and follow-up measures.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.

Table 16-2. Factors to be Considered – Section 22 of the *Impact Assessment Act*

Factor to be considered (as defined in Section 22 of the IAA)	Section of AIR where the Requirements have been Included	Section of Application Where the Factor is Assessed	Assessment Findings
(j) any change to the designated project that may be caused by the environment;	Section 10 of the draft AIR describes the requirements to address any change to the designated project that may be caused by the environment, and how this in turn could result in negative and/or effects to the environmental, economic, social, culture and health conditions.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(k) the requirements of the follow-up program in respect of the designated project	Subsection 6.8 outlines the Valued Component Assessment Methods for the project regarding follow-up program strategies. Subsection 6.8 of the draft AIR describes the requirements to address the follow-up program in respect to effects on each valued component of the designated project.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(l) considerations related to Indigenous cultures raised with respect to the designated project;	Subsection 11.1.5.5 of the draft AIR describe the requirements to summarize considerations related to Indigenous cultures raised with respect to the designated project, including providing a summary of the baseline conditions associated with Indigenous cultures. The collection and use of Indigenous Knowledge will follow the outline described in subsection 11.1. Note that Section 11 describes the community-specific assessment for each of the 18 Indigenous nations. Information collected will be integrated into Section 7 of the application as required.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.

Table 16-2. Factors to be Considered – Section 22 of the *Impact Assessment Act*

Factor to be considered (as defined in Section 22 of the IAA)	Section of AIR where the Requirements have been Included	Section of Application Where the Factor is Assessed	Assessment Findings
(m) community knowledge provided with respect to the designated project;	Section 3, Section 4 and Section 7 of the draft AIR describe the requirements to summarize community knowledge provided with respect to the designated project. Section 3 and 4 summarize feedback received from the public and local government on the project and proposed activities during the development of the Application. Information collected will be integrated into Section 7 of the application as required.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(n) comments received from the public;	Section 3 of the draft AIR describe the requirements to summarize comments received from the public. Section 3 summarize feedback received from the public on the project and proposed activities during the development of the Application. Information collected will be integrated into Section 7 of the application as required.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(o) comments from a jurisdiction that are received in the course of consultations conducted under section 21;	Section 4 and Section 7 of the draft AIR describe the requirements to consider comments from a jurisdiction (as defined in Section 2 of the IAA) that are received in the course of consultations conducted under section 21. Section 4 summarize feedback received from the jurisdictions of Local governments on the project and proposed activities during the development of the Application. Information collected will be integrated into Section 7 of the application as required.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(p) any relevant assessment referred to in Section 92, 93 or 95;	Section 2 of the draft AIR describes the requirements to describe any relevant regional or strategic assessment referred to in Section 92, 93, or 95.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.

Table 16-2. Factors to be Considered – Section 22 of the *Impact Assessment Act*

Factor to be considered (as defined in Section 22 of the IAA)	Section of AIR where the Requirements have been Included	Section of Application Where the Factor is Assessed	Assessment Findings
(q) any assessment of the effects of the designated project that is conducted by or on behalf of an Indigenous governing body and that is provided with respect to the designated project;	The draft AIR describes the requirements to address any assessment of the effects of the designated project, including for alternatives to the Project, alternative means, and authorizations and permits, that is conducted by or on behalf of an Indigenous governing body and that is provided with respect to the designated project.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(r) any study or plan that is conducted or prepared by a jurisdiction — or an Indigenous governing body not referred to in paragraph (f) or (g) of the definition jurisdiction in Section 2 — that is in respect of a region related to the designated project and that has been provided with respect to the project;	Section 2 and Section 11 of the draft AIR describes the requirements to describe address any study or plan that is conducted or prepared by a jurisdiction — or an Indigenous governing body not referred to in paragraph (f) or (g) of the definition jurisdiction in Section 2 — that is in respect of a region related to the designated project and that has been provided with respect to the project. Section 2 describes the regulatory framework set out for the project.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(s) the intersection of sex and gender with other identity factors;	Subsections 7.10, 7.11, 7.12, 7.15, Section 11, Section 13 and Section 14 of the draft AIR describe the requirements to assess the intersection of sex and gender with other identity factors.	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.
(t) any other matter relevant to the impact assessment that the Agency requires to be taken into account	To be determined	This column will provide a cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed.	This column will provide the assessment findings for effects within Federal jurisdiction.

The information is to be provided in machine-readable, accessible format.

17. References

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18. Resources and Guidance

Human and Community Well-Being and Gender-based Analysis Plus

Human and Community Well-Being Guidelines for Assessing Social, Economic, Cultural and Health Effects in Environmental Assessments in B.C. available at https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/environmental-assessments/guidance-documents/2018-act/hcwb_guidelines_v1_-_april_2020.pdf

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Human Health

Evaluating Human Health Impacts in Environmental Assessments: Air Quality available at <http://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-air-quality.html>. Health Canada. 2017.

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Guidelines for the Assessment of Alternatives for Mine Waste Disposal available at <https://www.canada.ca/en/environment-climate-change/services/managing-pollution/publications/guidelines-alternatives-mine-waste-disposal.html>. Compiled by Environment and Climate Change Canada

Mine Environment Neutral Drainage (MEND) Report 1.20.1 Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials. Prepared by William A. Price. Natural Resources Canada. 2009.

Birds, Migratory Birds and their Habitat

A Framework for the Scientific Assessment of Potential Project Impact on Birds. Prepared by Alan Hanson et al. Available at http://www.publications.gc.ca/collections/collection_2010/ec/CW69-5-508-eng.pdf. Environment and Climate Change Canada. Technical Report Series Number 508

Bird Survey Inventories in Canada. Available at <http://www.ec.gc.ca/reom-mbs/default.asp?lang=En&n=B944A67D-1>. Compiled by Environment and Climate Change Canada
Breeding Bird Atlases. Available at <https://www.birdscanada.org/volunteer/atlas>. Compiled by Bird Studies Canada.

Wetlands

Canadian Wetland Classification System. Developed by the National Wetlands Working Group. Available at <http://www.wetlandpolicy.ca>

Wetland Ecological Functions Assessment: An Overview of Approaches. Prepared by Alan Hanson et al. Available at <http://publications.gc.ca/site/eng/343283/publication.html>. Environment and Climate Change Canada. 2008.

Species at Risk

COSEWIC Status Reports. Developed by the Committee on the Status of Endangered Wildlife in Canada. Available at: <https://www.canada.ca/en/environment-climate-change/services/committee-status-endangered-wildlife.html>

19. Appendices

19.1 Assessment Summary

The proponent will prepare a stand-alone plain language summary of the Application in both of Canada's official languages (French and English). The summary will contain sufficient details for the reader to understand the project, any potential environmental, economic, social, culture, and health effects, potential adverse effects on Indigenous nations, proposed mitigation measures, residual effects, and required follow-up programs.

The Assessment Summary provides an opportunity for the proponent to demonstrate correspondence between issues raised during the Early Planning phase and issues addressed in the assessment. This Assessment Summary will be presented by VC, which allows the proponent to demonstrate the completeness of the assessment and provide the results of the analysis. The summary will include key maps or figures illustrating the project location and key project components.

19.2 Summary of Mitigation Measures

The Application must include a summary table of mitigations for potential project effects by project phase and indicate where the mitigation would be housed including the proponent's proposed EA level commitments and requirements associated with permitting authorizations. The B.C. EAO will use this table during issues resolution, in updating the Regulatory Coordination Plan to describe how issues are being addressed in the assessment or could be further addressed in permitting, and in the development of the draft Environmental Assessment Certificate (EAC) including proposed conditions or Federal Decision Statement.

The Application must also describe the project's environmental protection plan and its environmental management system through which the proponent will deliver this plan. The plan must provide an overall perspective on how potentially adverse effects would be minimized and managed over time.

19.3 Requested Project for Certification

The Application must provide the proponent's requested project description for the EAC including maps and the requested duration of the EAC.

19.4 Authorship

The Application must identify key personnel responsible for preparing the Application including, their employers, qualifications, and the sections for which they were contributors.

The Application must identify key information, reports and data used to support the development of the Application and the associated contributing organization and relevant qualifications. The Application must demonstrate that a qualified individual has prepared the information or studies provided. A qualified individual would include someone who, through education, experience or knowledge relevant to a matter, may be relied on by the proponent to provide advice within their area of expertise. Knowledge relevant to a matter may include Indigenous Knowledge and local knowledge.

19.5 Reviews of Information

The Application must provide a summary of the reviews of information from the TAC that have supported the development of the Application, in a tracking table showing:

- The reviewer;
- The date information was provided to the reviewer;
- The information that was provided to the reviewer;
- The date comments were received from the reviewer;
- The comments received from the reviewer; and
- How comments were addressed.

Table 19-1 outlines the plan for the review of information supporting the development of the Application. The plan meets the following specifications as required as part of the AIR:

- Information will be provided to reviewers for a review period that is a minimum of 4 weeks in duration;
- Reviewers and the B.C. EAO will be provided with 2 weeks of advance notice before the proponent sends information for review;
- Information for different VCs may be provided at different times; however, proponents should consider sending information in packages that make efficient use of reviewer's time and support their understanding of materials and the effects of the project;
- The proponent will track comments received from reviewers and its responses in a tracking table and provide this table to the B.C. EAO;
- The reviewers, by an organization, for information will be identified (see the example Table 19-1), considering the following factors:
 - Reviewers will vary based on the composition of the TAC for the project;
 - The B.C. EAO can provide guidance based on the organizations and specific participants to represent organizations for individual projects;
 - Information to be reviewed will depend on the VCs identified for the project; and
 - Indigenous nation reviewers should be identified based on their identified Indigenous interests and based on their interest in reviewing information.
- The expected timelines for providing information to reviewers will be identified.

Table 19-1 will be updated through further consultation with Indigenous nations, Technical Advisors, and stakeholders and finalized during the Process Planning Phase for the project.

Table 19-1. Review of Information Supporting the Development of the Application

Supporting Technical Data Report (TDR) or Supporting Study [Preliminary list at this time]	Reviewers* [TBD through engagement initiatives]	2 Week Review Notice	4 Week Review Period (Start Date / End Date)**	Date Comments Received	Summary of Comments Received	FortisBC Response to Comments Received
Aquatic Biophysical TDR (Surface Water, Groundwater and Fish and Fish Habitat)	B.C. Ministry of Forests, Lands, Natural Resource Operations and Rural Development (B.C. MFLNRORD)					
	ECCC					
	B.C. OGC					
	Applicable Indigenous nations					
Terrestrial Biophysical TDR (Vegetation and Wildlife and Wildlife Habitat)	B.C. MFLNRORD					
	ECCC					
	B.C. OGC					
	Applicable Indigenous nations					
	Applicable Indigenous nations					
Human Health Risk Assessment TDR	Relevant Health Authority					
	Health Canada					
	Ministry of Health					
	Applicable Indigenous nations					

Draft Application Information Requirements

Table 19-1. Review of Information Supporting the Development of the Application

Supporting Technical Data Report (TDR) or Supporting Study [Preliminary list at this time]	Reviewers* [TBD through engagement initiatives]	2 Week Review Notice	4 Week Review Period (Start Date / End Date)**	Date Comments Received	Summary of Comments Received	FortisBC Response to Comments Received
Acoustic TDR	B.C. Ministry of Environment and Climate Change Strategy (B.C. ENV)					
	B.C. OGC					
	Relevant Health Authority					
	Health Canada					
	Applicable Indigenous nation					
	Metro Vancouver					
Air Quality TDR (including Air Quality Assessment)	B.C. ENV					
	B.C. OGC					
	Relevant Health Authority					
	Health Canada					
	Applicable Indigenous nation					
	Metro Vancouver					
GHG Emissions and Climate Change TDR	ECCC					
	Climate Action Secretariat					
	Metro Vancouver					
	Applicable Indigenous nation					

Table 19-1. Review of Information Supporting the Development of the Application

Supporting Technical Data Report (TDR) or Supporting Study [Preliminary list at this time]	Reviewers* [TBD through engagement initiatives]	2 Week Review Notice	4 Week Review Period (Start Date / End Date)**	Date Comments Received	Summary of Comments Received	FortisBC Response to Comments Received
Quantitative Risk Assessment for Accidents and Malfunctions	Richmond					
	Delta					
	B.C. OGC					
	Applicable Indigenous nation					
Socio-economic TDR (including Visual Impact Study results)	Richmond					
	Delta					
	B.C. OGC					
	Applicable Indigenous nation					
Economic Data Report	Richmond					
	Delta					
	B.C. EAO					
	Applicable Indigenous nations					
TUS report from each of the participating Indigenous nations, if provided	Applicable Indigenous nation					

Draft Application Information Requirements

Table 19-1. Review of Information Supporting the Development of the Application

Supporting Technical Data Report (TDR) or Supporting Study [Preliminary list at this time]	Reviewers* [TBD through engagement initiatives]	2 Week Review Notice	4 Week Review Period (Start Date / End Date)**	Date Comments Received	Summary of Comments Received	FortisBC Response to Comments Received
Climate Resilience Assessment	B.C. Ministry of Energy, Mines and Low Carbon Innovation					
	B.C. ENV					
	B.C. OGC					
	B.C. EAO+					
	Applicable Indigenous nations					

Notes:

* Indigenous nations may be reviewers for any type of information, based on their identified interest.

+ Other ministries may also be identified.

** Start date represents received date/end date represents end of comment period

Appendix G
Summary of Comments Received for the Draft DPD, Draft
AIR, and Draft VC Selection Documents

Appendix G. Summary of Comments Received for the Draft DPD, Draft AIR and Valued Component Selection Documents

During the Early Engagement Phase FortisBC Holdings Inc. with its natural gas subsidiary FortisBC Energy Inc. (collectively defined as FortisBC) engaged with Indigenous nations, local governments, and Provincial and Federal agencies on the Detailed Project Description (DPD), draft Application Information Requirements (AIRs), and Valued Component Selection (VC Selection) documents for the Tilbury Phase 2 LNG Expansion Project (the proposed Project).

Following the 45-day public comment period that was held from June 1, 2020 to July 16, 2020, the British Columbia (B.C.) Environmental Assessment Office (EAO) and Impact Assessment Agency of Canada (IAAC) submitted the Joint Summary of Issues and Engagement for the Tilbury Phase 2 LNG Expansion Project (the proposed Project) (Joint Summary of Issues and Engagement) summarizing issues raised during the public comment period.

FortisBC's responses to the key issues raised are provided in Appendix D of the DPD.

Since receiving the Joint Summary of Issues and Engagement, FortisBC has continued engagement on the draft DPD, draft AIR, and VC Selection documents. Table G-1 provides a list of Technical Advisors and Indigenous nations that have reviewed and provided comments on these documents.

Table G-1. Technical Advisors and Indigenous Nations

Local Government	Provincial	Federal	Indigenous Nations
<ul style="list-style-type: none"> ▪ City of Delta ▪ City of Richmond ▪ Metro Vancouver ▪ Fraser Health Authority 	<ul style="list-style-type: none"> ▪ B.C. EAO ▪ B.C. OGC ▪ B.C. MFLNRORD ▪ B.C. MFLNRORD – Archaeology Branch ▪ B.C. Ministry of Agriculture, Food, and Fisheries ▪ B.C. Ministry of Health ▪ Washington State Department of Ecology, Spill Prevention, Preparedness, and Response Program ^b 	<ul style="list-style-type: none"> ▪ Crown Indigenous Relations and Northern Affairs Canada ▪ IAAC ▪ DFO ▪ Transport Canada ▪ Vancouver Fraser Port Authority ▪ Department of Women and Gender Equality ▪ Indigenous Services Canada ▪ Natural Resources Canada ▪ Health Canada 	<ul style="list-style-type: none"> ▪ Chawathil First Nation ▪ Cowichan Tribes ^a ▪ Kwantlen First Nation ▪ Lyackson First Nation ▪ S'ólh Téméxw Stewardship Alliance ▪ Tsawwassen First Nation ▪ Tsleil-Waututh Nation

Notes:

^a Including Cowichan Nation Alliance members who have adopted the comments

^b As requested by the B.C. EAO

B.C. OGC = British Columbia Oil and Gas Commission

B.C. MFLNRORD = British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development

DFO = Fisheries and Oceans Canada

Table G-2 provides a summary of comments received, FortisBC's response, and the updates made to the draft DPD, draft AIR, and or VC Selection documents as a result.

Table G-2. Summary of Comments Received for the Draft DPD, Draft AIR, and VC Selection Documents

Topic	Summary of Comments	FortisBC Response
Project Overview and Purpose	<ul style="list-style-type: none">▪ Clarification on LNG production and storage capacity of proposed Project.▪ Portion of Project that is proposed for resilience in the natural gas system compared with export.▪ Use of LNG in the marine transportation industry to reduce global emissions.▪ More information on alternatives to the Project and alternative means of carrying out the proposed Project.▪ Inclusion of a list of proposed Project benefits.	<ul style="list-style-type: none">▪ Subsection 2.3 of the DPD has been updated to include additional details about the proposed Project’s production and storage capacity.▪ Subsection 2.2 of the DPD has been updated to include additional details about the purpose and need for the proposed Project.▪ Subsection 1.1.2.2 has been added to the DPD to provide a description of FortisBC’s commitment to sustainability, including the Clean Growth Pathway to 2050 and 30BY30 Target.▪ Subsections 2.7 and 2.8 of the DPD have been updated to provide additional details about alternatives to the proposed Project and alternative means of carrying out the proposed Project.▪ Table 2-2 has been added to the DPD to provide a summary of proposed Project benefits.
Project Components and Construction Activities	<ul style="list-style-type: none">▪ Clarification on the MOF upgrades and which activities will be included in the scope of the proposed Project▪ Clarification of scope of supporting infrastructure and marine shipping▪ Clarification on Phase 1 and 2 components▪ Clarification on the proposed Project’s relationship to the Tilbury Marine Jetty project▪ Inclusion of a list of existing permits for the Phase 1 components▪ Water use and disposal▪ Identification of temporary workspace, construction laydown, and staging areas	<ul style="list-style-type: none">▪ Subsection 1.1.2 of the DPD has been updated to include a description of the existing and Phase 1 facilities, a list of existing permits, a description of potential upgrades to the MOF, and the proposed Project’s relationship to the Tilbury Marine Jetty project.▪ Subsection 2.5 of the DPD has been updated to include a description of the infrastructure requirements of the proposed Project including the estimated cargo vessels required for construction. No shipping is proposed or incidental to the operation phase of the proposed Project.▪ Table 2-3 of the DPD provides information about water management and hydrotesting. Subsection 6.2 provides further details on water use and discharges during construction. Details on water sourcing and disposal have not yet been determined and will be established through further proposed Project planning. FortisBC will consult with local authorities and obtain relevant permits, as necessary.▪ FortisBC has not identified potential areas for temporary workspace, construction laydown, or staging. FortisBC will seek previously disturbed industrial areas for these purposes and will obtain relevant local, provincial, and federal permits for these land uses, as appropriate.
Noise, Air Quality, and GHG Emissions	<ul style="list-style-type: none">▪ Potential effects on air quality during all phases of the proposed Project▪ Inclusion of the Metro Vancouver AAQOs, B.C. Provincial AAQOs and Canadian Ambient Air Quality Standards in the Project Application▪ Potential effects due to underwater noise▪ Potential noise effects to the Cowichan Nation village site at Tl'uq̓tinus▪ Potential contribution of Project GHG emissions to climate change and the ability of local, Provincial, and Federal government to meet emissions targets▪ Scope and methodologies used in GHG emissions estimates▪ Project impacts on future generations due to GHG emissions and climate change	<ul style="list-style-type: none">▪ Subsection 10.2, Atmospheric Environment, has been added to the DPD to provide baseline information on air quality, GHG emissions, and noise.▪ FortisBC has proposed in the draft AIR to use the Canadian Ambient Air Quality Standards and Metro Vancouver’s regional air quality objectives in the assessment of effects to the atmospheric environment.▪ Subsection 10.2.3 of the DPD identifies potential sources of noise associated with the proposed Project. The draft AIR proposes that a noise assessment be conducted for the Project Application and considers potential effects of underwater noise.▪ Locations of sound level meters will be determined in consultation with Indigenous nations and Technical Advisory Committee members as part of the environmental assessment process. Health Canada guidelines for noise will be applied in the acoustic assessment. If it is found that noise levels exceed acceptable thresholds, mitigation will be applied as needed.▪ Subsection 10.2.2 of the DPD provides a preliminary estimate of direct, indirect, and net annual GHG emissions by Project phase. Emissions estimates will be further refined for the Project Application when further engineering has taken place.▪ Subsection 10.2.2 of the DPD includes a description of the methods, data, and applicable legislation for the assessment of GHG emissions.▪ The Project Application will include an evaluation of the proposed Project’s contribution to climate change and potential effects on current and future generations. Specific scoping of the assessment will be determined through Process Planning.
Wildlife	<ul style="list-style-type: none">▪ Inclusion of a detailed wildlife analysis, not using proxy species as an indicator for overall wildlife health▪ Inclusion of Transient Killer Whales as well as Southern Resident Killer Whales in the DPD and Project Assessment▪ Recommendation from DFO to include marine mammals within the Fish and Fish Habitat VC or as a standalone VC▪ Potential effects on wildlife species with cultural importance, such as ducks▪ Potential for barn owls to roost in structures of industrial sites, including the proposed Project Site▪ Consideration of invasive wildlife species in the final AIRs	<ul style="list-style-type: none">▪ The draft AIR has been updated to include a detailed wildlife analysis under the Wildlife and Wildlife Habitat VC. Subcomponents include birds, mammals, and amphibians. Proposed methods for assessing potential effects to Wildlife and Wildlife Habitat are provided in subsection 7.8 of the draft AIR.▪ The proposed Project is expected to have limited interactions with Transient Killer Whales and Southern Resident Killer Whales due to the small number of marine vessels during construction and no marine vessels during operations. Marine mammals are included in the draft AIR in the Fish and Fish Habitat VC.▪ Marine mammals have been moved from the Wildlife and Wildlife Habitat VC and included as a subcomponent of the Fish and Fish Habitat VC.▪ FortisBC will engage with Indigenous nations to confirm which culturally important wildlife species should be considered.▪ Subsection 10.4.2 of the DPD has been updated to include a description of barn owl nesting and foraging habitat, as well as the potential for barn owls to use habitat within the Project Footprint.▪ The assessment will focus on the wildlife community that has potential to be present in the study area. FortisBC will conduct engagement to better understand which invasive wildlife species should be considered.

Table G-2. Summary of Comments Received for the Draft DPD, Draft AIR, and VC Selection Documents

Topic	Summary of Comments	FortisBC Response
Fish	<ul style="list-style-type: none">▪ Potential impacts to Indigenous rights to fish for food, ceremonial, social, and trade purposes; stewardship; and intergenerational transfer of knowledge▪ Consideration of potential effects on fish species with cultural, ecological, or economic importance, including salmonids, eulachon, sturgeon, and forage fish▪ Identification of the shoreline of Tilbury Island as a key sturgeon fishing spot for Cowichan Nation▪ Inclusion of marine related effects to all species of fish per the updated <i>Fisheries Act</i>▪ Consideration of sensitive life stages of fish species (such as, eulachon and sturgeon) to determine a Project-specific least risk to fish work window▪ Potential effects to fish and fish habitat as a result of upgrades to the MOF▪ Potential vibration effects to fish impacting fish behaviour▪ Consideration of air quality effects on fish and fish habitat, specifically nitrogen dioxide emissions	<ul style="list-style-type: none">▪ An assessment of Project effects on Indigenous rights has been proposed in Section 11, Indigenous Nations Effects Assessment of the draft AIR. FortisBC will continue to engage Indigenous nations to better understand their Aboriginal Rights, Title, and Indigenous interests and to identify means to avoid, mitigate, and offset the effects of the proposed Project on those rights.▪ Potential effects on fish species with cultural, ecological, or economic importance have been proposed under the Fish and Fish Habitat VC in the draft AIR and include salmonids, eulachon, and white sturgeon. The draft AIR proposes to include salmonids (and eulachon and white sturgeon) at the species level. Forage fish are proposed to be assessed based on broader temporal and spatial uses of habitat.▪ The DPD has been updated to identify the shoreline of Tilbury Island as a key sturgeon fishing spot for Cowichan Nation.▪ The draft AIR includes an assessment of potential effects on all species of fish known to occur in the Project Area, including species at risk, Traditional Use species, and other aquatic species of management concern, as per DFO regulatory requirements.▪ A Project Site- and species-specific fish work window will be developed following further assessment of fish and fish habitat use in the Project Area.▪ Subsection 2.3 of the DPD has been updated to provide additional details on the MOF. An assessment of potential effects to and fish habitat as a result of upgrades to the MOF are proposed in the draft AIR under the Fish and Fish Habitat VC.▪ The draft AIR includes an effects assessment on vibration and fish behaviour under the Fish and Fish Habitat VC.▪ The effects of air quality, including nitrogen dioxide emissions, on fish and fish habitat is included in the draft AIR.
Biophysical Factors that Support Ecosystem Function	<ul style="list-style-type: none">▪ Consideration of the interconnectedness of the Fraser River with other VCs (such as, Fish and Fish Habitat, Human Health, Social Security, Equal Opportunity, Equity, and Traditional Harvesting)▪ Inclusion of a section on the environmental recovery of the south arm of the Fraser River▪ Consideration of impacts to current restoration work being conducted in the Fraser Estuary	<ul style="list-style-type: none">▪ Section 12 of the draft AIR has been updated to include requirements for the assessment of Biophysical Factors that Support Ecosystem Function. This includes consideration of ecosystem function at a landscape and watershed level. Section 13 of the draft AIR has been updated to include requirements for the assessment of Human and Community Well-Being. This includes consideration of human factors based on the assessment of effects to Economic, Social, Cultural, Health VCs, and Indigenous interests.▪ The draft AIR considers potential effects to fish habitat within the study areas, including on any reclamation or enhancement projects. These potential interactions are proposed to be assessed within the Fish and Fish Habitat VC and in the Factors Affecting Ecosystem Function section of the assessment.▪ The draft AIR indicates that baseline studies for each VC will use available applicable information and this includes known or proposed restoration activities. Applicable restoration information will be carried forward to the Summary of Biophysical Factors that Support Ecosystem Function to evaluate effects to the ecosystems.
Distinct Human Populations	<ul style="list-style-type: none">▪ Use of disaggregated data to assess differential distribution of proposed Project costs, benefits, and potential effects on diverse subgroups▪ Inclusion of health disparities unique to Indigenous Peoples▪ Inclusion of community-specific indicators in the assessment of human and community well-being▪ Inclusion of plans to encourage recruitment, development, and retention of underrepresented groups and subgroups. For example, promoting access of diverse women in sectors where they are underrepresented▪ The use of Indigenous-owned contracting companies through procurement, in addition to the employment of Indigenous individuals	<ul style="list-style-type: none">▪ The assessment of Disproportionate Effects on Distinct Human Populations will follow federal and provincial guidelines. The draft AIR contains a proposal for the use of disaggregated analysis. In some cases, publicly available data may not be disaggregated. FortisBC proposes to conduct engagement to understand whether existing data presents limitations to understanding differential effects, where possible.▪ FortisBC will conduct engagement to better understand Indigenous-specific health disparities and explore how they can be incorporated in the proposed Project Application.▪ FortisBC will conduct engagement to better understand potential indicators from a community perspective and explore how they can be incorporated in the proposed Project Application.▪ FortisBC is in the planning stage of the proposed Project's Workforce Development Strategy, a key goal of which is to increase participation by groups traditionally underrepresented in skilled labour and the trades. As a component of the Workforce Development Strategy, FortisBC will focus on creating an inclusive and diverse Project culture.▪ The proposed Project will provide bidding opportunities for local, regional, and Indigenous businesses. As the proposed Project develops, FortisBC will work with Indigenous communities on securing opportunities for procurement, training, and employment.

Table G-2. Summary of Comments Received for the Draft DPD, Draft AIR, and VC Selection Documents

Topic	Summary of Comments	FortisBC Response
Other Potential Effects of the Project	<ul style="list-style-type: none">▪ Potential accidents or malfunctions▪ Consideration of events involving hazardous materials such as mercury or liquid hydrocarbons▪ Potential effects of the environment on the proposed Project including climate change▪ Effects of increased traffic on local infrastructure▪ Consideration of visual impacts▪ Inclusion of a chance find protocol▪ Potential effects of increased fracking	<ul style="list-style-type: none">▪ Subsection 10.7 of the DPD has been updated to include a preliminary risk rating of potential accidents and malfunctions associated with the proposed Project.▪ Events involving hazardous material spills has been included in the draft AIR for consideration in the Project Application.▪ Subsection 10.8 of the DPD has been updated to include additional details of potential effects of the environment on the proposed Project, including changing climate trends.▪ An assessment of the effects of increased traffic is included in the draft AIR under the Infrastructure and Services VC. Potential interaction and management with other planned infrastructure upgrades will be coordinated with the B.C. Ministry of Transportation and Infrastructure and local authorities and applicable permits will be obtained as necessary.▪ An assessment of visual impacts is included under the Land and Resource Use VC in the draft AIR.▪ FortisBC is developing a Project Site-specific chance find procedure. In addition, FortisBC has a corporate chance find procedure.▪ Potential effects of upstream oil and gas development are considered under separate regulatory processes and would not be considered as part of the Project Application. Upstream exploration and production are regulated by the B.C. OGC which has the authority to ensure that all regulations are met. Federal agencies will determine if an assessment of upstream GHG emissions will be required in the Project Application.
VC Selection	<ul style="list-style-type: none">▪ Consideration of Indigenous interest VCs▪ Consideration of Indigenous Knowledge and other Indigenous nation-specific contextual information▪ The following linkages were recommended for the Air Quality VC:<ul style="list-style-type: none">– Human Health, Vegetation, Water Quality, Fish and Fish Habitat, Wildlife and Wildlife Habitat, Soil, and the Summary of Biophysical Factors that Support Ecosystem Function▪ The following linkages were recommended for the Human Health VC:<ul style="list-style-type: none">– Marine Use, Land and Resource Use, Marine Water and Sediment Quality, Wildlife, Freshwater Fish, and Vegetation▪ The Summary of Human Health and Community Well-Being was recommended as a linkage for the following VCs:<ul style="list-style-type: none">– Employment and Economy, Land and Resource Use, Infrastructure and Services, Archaeological and Heritage Resources, Culture, and Human Health	<ul style="list-style-type: none">▪ Indigenous interests will be identified through the issues scoping process. The VC Selection document has been updated to include a placeholder for any Indigenous interest VCs that are identified through this process.▪ FortisBC is continuing engagement efforts to collect Indigenous Knowledge to inform the Project Application. Figure E-1 has been added to the VC Selection document to demonstrate the issues scoping process.▪ The VC Selection document has been updated to include the following linkages to the Air Quality VC:<ul style="list-style-type: none">– Human Health, Vegetation, Water Quality, Fish and Fish Habitat, Wildlife and Wildlife Habitat, Soil, and the Summary of Biophysical Factors that Support Ecosystem Function▪ The VC Selection document has been updated to include the following linkages to the Human Health VC:<ul style="list-style-type: none">– Air Quality, Acoustic, Surface Water, Groundwater, Soil, Vegetation, Employment and Economy, Infrastructure and Services, Land and Resource Use, Culture, and the Summary of Human and Community Well-being.▪ Note: Marine Use is now being captured in the Land and Resource Use VC. Marine Water and Sediment Quality VC has been integrated into the Surface Water and Groundwater VCs. Wildlife, Freshwater Fish and Marine Resources have been updated to be Wildlife and Wildlife Habitat and Fish and Fish Habitat.▪ The Summary of Human Health and Community Well-Being has been included as a linkage for the following VCs:<ul style="list-style-type: none">– Employment and Economy, Land and Resource Use, Infrastructure and Services, Archaeological and Heritage Resources, Culture, and Human Health.

Table G-2. Summary of Comments Received for the Draft DPD, Draft AIR, and VC Selection Documents

Topic	Summary of Comments	FortisBC Response
AIRs and Assessment Methods	<ul style="list-style-type: none">Historical conditions as a baseline for the assessmentPotential Impacts to Indigenous rights, title and interestsUse of Indigenous Knowledge to inform the assessment of effects to current use of land for traditional purposesInclusion of relevant statutes, policies and frameworks in the draft AIRInclusion of local bylaws and management strategies in the draft AIRInclusion of the City of Richmond in the Local Assessment Area /Regional Assessment Area Inclusion of City of Richmond Flood Protection Infrastructure in the assessmentInclusion of the effects of marine shipping in the assessmentInclusion of a visual impact assessment from significant viewpoints north of the proposed Project Site on the opposite side of the Fraser RiverAssessment of air quality, noise, vibration, odour, or night-time light nuisance, including impacts on adjacent communities and wildlifeInclusion of a Net Zero planCumulative effects assessment scope and methods	<ul style="list-style-type: none">The draft AIR has been updated to include a description for each VC of past and present projects and activities (existing and historical context) in the study area and their effect on linked VCs, the Indigenous effects assessments, and Section 25 requirements of the 2018 B.C. <i>Environmental Assessment Act</i> (or Section 22 requirements of the 2019 <i>Impact Assessment Act</i>), to support the consideration of potential Project effects and cumulative effects.FortisBC’s preliminary understanding of potential effects to Indigenous interests has been provided in subsection 11.3.8 of the DPD. This has been updated based on regulatory guidelines and engagement with Indigenous nations. Section 11 of the draft AIR includes an Indigenous Nations Effects Assessment. FortisBC will continue to engage Indigenous nations to better understand their Aboriginal Rights, Title, and Indigenous interests and to identify means to avoid, mitigate, and offset the effects of the proposed Project on those rights.The draft AIR includes requirements for the Project Application to be informed by both Indigenous Knowledge and western science. FortisBC is looking forward to working with Indigenous nations to determine how to appropriately use Indigenous Knowledge when identifying potential Project effects.Relevant statutes, policies and frameworks have been included in the draft AIR for each VC. These include local bylaws and management strategies, provincial and federal regulations, and guidance documents for best practices.The City of Richmond has been included in the spatial boundaries (Local Assessment Area and/or Regional Assessment Area) for the following VCs: Infrastructure and Services, Employment and Economy, Land and Resource Use, and Culture.It is proposed that potential effects to the Flood Protection Infrastructure in the vicinity of the Project will be considered in the Project Application.Most Project activities will be in the upland areas. A small number of cargo vessel/barge trips (approximately six to eight) are anticipated during construction to deliver materials to the Project Site. There are no Project cargo vessels/barges anticipated for operations. As a result, FortisBC is not proposing to expand the scope of the proposed Project to include an assessment of marine shipping.The draft AIR includes a visual impact assessment under the Land and Resource Use VC. Key viewpoints will be determined through consultation with various stakeholders such as Indigenous nations, Technical Advisors, regulatory agencies, Local governments.The Human Health assessment requirements in the draft AIR include potential effects to air quality and noise. Air quality and acoustic linkages have been added to the Wildlife VC in the VC Selection document.As part of the Project Application process, the Strategic Assessment of Climate Change requires FortisBC to provide a credible plan to achieve net zero 2050 emissions. This requirement has been added to the draft AIR.The scope of the cumulative effects assessment will be developed through the Process Planning Phase and will follow the methods outlined in subsection 6.7 of the draft AIR. Projects to be considered in the cumulative effects assessment will be developed with input from regulatory agencies, Indigenous nations, and Technical Advisors.

Notes:
AAQO = Ambient Air Quality Objective
GHG = greenhouse gas
LNG = liquified natural gas
MOF = Material Offloading Facility

Appendix H

Summary of Issues Raised by Indigenous Nations

Appendix H. Summary of Issues Raised by Indigenous Nations

Appendix H provides a detailed list of issues raised by Indigenous nations from July 2019 until July 19, 2021 of the Early Engagement Phase of the Tilbury LNG Phase 2 Expansion Project (the proposed Project), along with FortisBC Holdings Inc. with its natural gas subsidiary FortisBC Energy Inc. (FortisBC) responses. FortisBC will continue to engage with Indigenous nations on issues raised past this timeframe to understand issues and concerns with the proposed Project and will respond to all issues raised throughout the engagement process.

Table H-1 lists the proposed Project-related issues raised by Indigenous nations during early engagement. Procedural and engagement-related issues raised by Indigenous nations during early engagement are presented separately in Table H-2.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
Chawathil First Nation			
1	Concern about the lack of consultation for the IR No.4, gas infrastructure which is near a Chawathil First Nation home and poses a safety concern. Suggest that the pump house should be part of the regulatory process.	Early Engagement (IPD)	FortisBC clarified that the gas infrastructure is operated by another operations group and is not associated with the proposed Project. FortisBC will provide the operations group Chawathil First Nation's feedback.
2	Concern about the potential impacts to wetland habitat and associated species, in particular salmon species. Fish species are already dealing with multiple rights-of-way (Enbridge) less than ½ km away that are affecting habitat and salmon return.	Early Engagement (IPD)	FortisBC noted that although the Enbridge line feeds FortisBC line, it is not a FortisBC line. The line terminates near the Sumas border where FortisBC takes some of the gas. FortisBC will reach out to its operations people for the FortisBC line and can facilitate communications with Enbridge. FortisBC will consider impacts from the existing Enbridge Project and the proposed Project on salmon, salmon habitat, and wetlands in the EA.
Cowichan Nation Alliance (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut First Nation, Stz'uminus First Nation)			
3	Concern over the assessment of Indigenous health. Concern that FortisBC does not include Indigenous Health within VCs (Table 5-1) in draft AIR Concern that in Human Health, Existing Conditions do not address the disproportionate health disparities between Indigenous and non-Indigenous groups Requested to have the opportunity to discuss under which VC Indigenous Health fits as it applies to multiple VCs Requested that FortisBC explain how unique Indigenous health components are being considered within Human Health VCs.	Early Engagement (Draft AIR)	Indigenous health will be considered separately in the Project Application under the Health VC. The information is aggregated in the VC assessment and is applicable to all Indigenous nations that are potentially affected by the proposed Project. Each Indigenous nation will also have a subsection within Section 11, Indigenous Interests that will speak to that Indigenous nation's specific issues and unique information. FortisBC will continue to engage with Cowichan Nation Alliance on this issue.
4	Concern about the potential acoustic effects on the Tl'uqtinus village and member residences during the operation phase from repetitive noises. Cowichan Nation Alliance would like FortisBC to include acoustic effects on the Tl'uqtinus within the Acoustic Effects Assessment.	Early Engagement (Draft AIR)	The Acoustic VC will follow Health Canada guidelines for assessment of noise. FortisBC will determine location of the sound level meters in consultation with Indigenous nations and as part of the EA process. FortisBC will work with Cowichan Nation Alliance communities to specifically identify the appropriate monitoring location for noise level meters at the Tl'uqtinus village site.
5	Requested FortisBC to clarify the differences are between 'Indigenous communities' and reserve land locations	Early Engagement (Draft AIR and VCs)	FortisBC has taken the text directly from the B.C. EAO AIR template (Section 1.3 Project Location). FortisBC understands that Indigenous communities refers to reserves where Indigenous Peoples have residences whereas reserve lands encompass all of an Indigenous nations' reserves, regardless of the presence of residences.
6	Concern over the use of "cultural" to denote associations with lifeways of Indigenous people. FortisBC needs to distinguish between Indigenous and non-indigenous cultural features.	Early Engagement (Draft AIR and VCs)	FortisBC understands that the reference to "culturally and locally important features of the landscape" would denote an association with the lifeways of Indigenous Peoples and non-Indigenous peoples.
7	Concern on the clarity of how "workforce development opportunities" is defined. Requested that FortisBC provide definition.	Early Engagement (Draft AIR and VCs)	FortisBC provided Cowichan Nation Alliance with the EOA definition. FortisBC will address how to respond to workforce needs. FortisBC referenced subsection 10.5 of the DPD for their preliminary approach to proposed Project employment.
8	Concern on the lack of inclusion and/or removal of several components within the AIR and VCs including: Removal of the "Ecological Communities of Conservation Concern for Vegetation" The inclusion of "movement" and "mortality" of bird and mammal species in the Wildlife and Wildlife Habitat Assessment The inclusion of habitat restoration sites The consideration of the interactions between vibration and fish behavior under the Fish and Fish Habitat VC	Early Engagement (Draft AIR and VCs)	FortisBC does not anticipate effects to "Ecological Communities of Conservation Concern" due to the highly disturbed nature of the proposed Project Site as described in subsection 10.4.1 of the DPD. Subsection 10.4.1 was informed by a desktop review of plant and ecosystem communities at risk at the proposed Project Site. FortisBC recognizes that movement and mortality were mistakenly omitted from the draft VC Selection List and draft AIR. Movement and mortality will be included in the Wildlife and Wildlife Habitat assessment. FortisBC will update the draft AIR to include the reference to the habitat restoration sites near the mouth of the Fraser River.
9	Concern over the potential timing of plant surveys. Suggest that plant surveys be done in the spring to ensure accurate detection and identification of plants.	Early Engagement (Draft AIR and VCs)	FortisBC agrees that spring vegetation surveys are preferred. FortisBC has planned vegetation surveys to be conducted for the spring/summer 2021.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
10	Expressed interest in ensuring that all fish habitats be considered as “important” fish habitat.	Early Engagement (Draft AIR and VCs)	While FortisBC defers to the B.C. EAO on the use of language in the AIR template, FortisBC acknowledges the importance of fish habitat, particularly in developed areas such as the proposed Project Site. Potential impacts to fish and fish habitat are discussed in subsection 10.4.3 Fish and Fish Habitat of the DPD.
11	Concerns about the CEA on: Air Quality: “Where does upstream GHG emission’s and the LNG supply chain's cumulative effects get assessed? Who makes this determination? Climate Change as a future condition: Concern over the lack of consideration of climate change in the past, present, and future.	Early Engagement (Draft AIR and VCs)	FortisBC will determine if an upstream GHG emission assessment will be required during the planning phases. If required, the assessment of upstream GHG emissions and cumulative effects will be included in the proposed Project Application. FortisBC will be considering existing conditions which inherently include today's climate. FortisBC interprets the B.C. EAO guidance as asking proponents to consider future climate scenarios in the assessment of cumulative effects.
12	Concerns over the Groundwater LAA Rationale and how Groundwater will be assessed. Requested clarification on what conditions LAA Groundwater is being assessed (such as, under ideal, flood, or storm conditions)	Early Engagement (Draft AIR and VCs)	FortisBC will consider flood and storm conditions in the assessment. Further information is available in the B.C. EAO AIR template.
13	Concern about Indigenous Interests within existing Conditions (11.6.3, Draft AIR) and the use of ‘contact’ versus ‘pre-contact.’ Suggest that FortisBC use ‘pre-contact’ and ‘time of contact use and occupation’ for the proposed Project area in subsection 11.6.3.	Early Engagement (Draft AIR and VCs)	The draft AIR has been updated to include a description for each VC of past and present projects and activities (existing and historical context) in the study area and their effect on linked VCs, the Indigenous effects assessments, and Section 25 requirements of the 2018 B.C. EAA (or Section 22 requirements of the 2019 IAA), to support the consideration of potential Project effects and cumulative effects
14	Requested that Lyackson First Nation be added to the description of the five bands of Cowichan Nation Alliance (11.1) Subsection 11.1: Provided description of the five bands of the Cowichan Nation Alliance: FortisBC should update Subsection 11.1 update to “commenced” legal action, with the trial expected begin September 9 update for Penelakut Tribe, Halalt First Nation, Stz’uminus First Nation, and Lyackson First Nation	Early Engagement (Draft AIR and VCs)	FortisBC has updated subsection 11.1 to include the five Indigenous nations of Cowichan Nation Alliance and the description of the legal action.
15	Concern about the assessment of cultural continuity when assessing Culture (Table 5-1). Suggest that FortisBC include both cultural cohesion and cultural continuity to be captured within the assessment.	Early Engagement (Draft AIR and VCs)	FortisBC has included ‘cultural continuity’ in the Culture VC (Table 5-1, draft AIR). FortisBC will continue to engage Cowichan Nation Alliance to determine what should be addressed in the section.
16	Concern about the inclusion of Indigenous nations on methodologies for assessing VCs. Suggest that Indigenous nations be included within these discussions	Early Engagement (Draft AIR and VCs)	FortisBC is in the process of discussing proposed methodology with Indigenous nations. FortisBC will continue to engage with Cowichan Nation Alliance on this issue FortisBC would be pleased to meet with B.C. EAO and with Indigenous nations to have joint discussions on draft AIR methodology.
17	Concern about the inclusion of the Tilbury Slough in the Fish and Fish Habitat LAA. Requested clarification on what is included within the Fish and Fish Habitat LAA. Suggested that FortisBC include the Tilbury Slough in the Fish and Fish Habitat LAA.	Early Engagement (Draft AIR and VCs)	FortisBC confirmed that the Tilbury Slough will be included in the LAA. Jacobs will further clarify in the LAA definition.
18	Concern about the clarity at what project phase are Marine VCs being assessed. Requested FortisBC confirm at what project phase will Marine VCs be assessed.	Early Engagement (Draft AIR and VCs)	FortisBC confirmed that the assessment of Marine VCs will be assessed during the construction phase and assess the potential effects of the interaction between the Marine VCs and operations in the Application. FortisBC does not anticipate potential effects during operations.
19	Concern about IKS and their use in other projects in same area (such as, Tilbury Marine Jetty project, Leigh Hanson Delta Grinding Facility) Suggest FortisBC to engage with Indigenous groups to ensure that there are not outstanding issues or concerns regarding the data and data collection.	Early Engagement (Draft AIR and VCs)	FortisBC acknowledges the importance of confirming the use and applicability of data collected for other projects. FortisBC will consult with the Cowichan Nation Alliance prior to using or applying reports, information, or data collected from other projects to the proposed Project.
20	Concern about Public Safety concerns from Accidents and Malfunctions. Suggest that the trigger be moderate uncertainty, not high, particularly with public safety concerns due to the proximity of an LNG storage facilitate and an urban area. Would like to include trauma and place-based stigma within the assessment.	Early Engagement (Draft AIR and VCs)	FortisBC will assess public safety concerns in the Accidents and Malfunctions section of the proposed Project Application. FortisBC will take a risk-based approach to assess accidents and malfunctions. The public safety risks associated with the LNG storage facility in an urban area will be considered in the assessment. FortisBC requested to have further discussion on ‘place-based stigma’ and ‘trauma’ in relation to the assessment of accidents and malfunctions. The consequences of accidents and malfunctions will include environmental, social, cultural and health effects, which could include trauma and place-based stigma.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
21	Concern about the Assessment of Negative Effects and the uncertainty about thresholds for mitigation effectiveness.	Early Engagement (Draft AIR and VCs)	FortisBC will continue to engage with Cowichan Nation Alliance about the assessment of potential negative effects from the proposed Project and monitoring of the effectiveness of proposed mitigation measures.
22	Concern about the inclusion of Indigenous Knowledge to inform the condition of B.C. trends within Characterization of Residual Effects (subsection 6.8, draft AIR) Suggests that the Proponent should be required to have Indigenous Knowledge inform Residual Effects	Early Engagement (Draft AIR and VCs)	FortisBC will incorporate Indigenous Knowledge in B.C. trends in the Condition of a VC where available.
23	Concern about the lack of inclusion of visual/experiential impacts within the assessment of Visual Impacts in Human Health Existing Conditions (subsection 7.17.3 in draft AIR)	Early Engagement (Draft AIR and VCs)	FortisBC will assess the visual impacts under the Land and Resource Use VC. New B.C. EAO guidance also requires a Summary of Human and Community Well-Being, which would address potential visual impacts and the link with well-being. Indigenous sections may also address this potential effect if raised by Indigenous nations.
24	Requested information about the process for decommissioning and demolition of the old plant.	Pre-Early Engagement	FortisBC indicated that decommissioning activities will be subject to approvals and will follow the appropriate regulations. At this time, it is anticipated that the old plant site will continue to be used for industrial purposes. Repurposing the old plant site for continued FortisBC use or use by another industrial operator would require contaminated site investigations and possible remediation in accordance with the regulatory requirements. Some areas within the old plant site may be replanted as part of decommissioning. If that is the case, a restoration plan and an appropriate monitoring program would be developed prior to restoration.
25	Noted that they are actively pursuing undertaking an Indigenous-led assessment for this project.	Early Engagement (Draft DPD)	FortisBC has updated Cowichan Nation Alliance member subsections in 11.3 to state that Cowichan Nation Alliance is actively pursuing undertaking an Indigenous-led assessment for the proposed Project.
26	Stated that there is Indigenous Knowledge from the Cowichan Nation with respect to white sturgeon use of the project area – this can be found in both the WesPac TUOS and the WesPac EA Application. The shoreline of Tilbury Island was a key sturgeon fishing spot for the Cowichan Nation.	Early Engagement (Draft DPD)	FortisBC will continue to engage with Cowichan Nation Alliance around the appropriate inclusion of Cowichan Nation Indigenous Knowledge in the Application, including as it relates to sturgeon. Cowichan Nation Alliance will have the opportunity to review and comment on the Section 11 Indigenous Interests portion of the draft Application prior to submission.
27	Section 11.2.3 in DPD: sixth line down, delete the word “Alliance” – the title area belongs to the Cowichan Nation. This error is repeated in each of the Cowichan Nation member bands’ summaries.	Early Engagement (Draft DPD)	FortisBC has updated Cowichan Nation Alliance member subsections in 11.2 to remove Cowichan Nation Alliance from the title area.
28	Section 11.2.3 in DPD: eighth line down – Lyackson is not a plaintiff but has passed a Band Council Resolution in support of the litigation.	Early Engagement (Draft DPD)	FortisBC has updated subsection 11.2.9 to reflect that Lyackson First Nation is not a plaintiff but has passed a Band Council Resolution in support of the litigation.
29	Section 5 in DPD: tenth line down – this is worded in a way that is misleading – Indigenous nations had fishing camps all along the south arm much more recently than “thousands of years ago”. This line is repeated on pg. 10-33.	Early Engagement (Draft DPD)	FortisBC has updated the statement throughout the DPD.
30	Edit subsection 11.2.3 in DPD: The Cowichan Nation bands have signed a stewardship agreement with the province for the south arm of the Fraser River.	Early Engagement (Draft DPD)	FortisBC has updated Cowichan Nation Alliance member subsections in 11.2 of the DPD to state that the Cowichan Nation bands have signed a stewardship agreement with the province for the south arm of the Fraser River.
31	Edit subsection 11.3.1.3 in DPD: The declaration is misnamed – It is called the “Declaration for Reconciliation”. This error is repeated in each of the other Cowichan Nation bands’ summaries.	Early Engagement (Draft DPD)	FortisBC has updated Cowichan Nation Alliance member subsections in 11.3 and Appendix I of the DPD to correct the name of the declaration to read “Declaration for Reconciliation” and have corrected this throughout the DPD under each of the Cowichan Nation bands’ summaries.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
Katzie First Nation			
32	<p>Concerns related to the cultural stewardship within Katzie First Nation's Traditional Territory, including the protection of archaeological and cultural resources, and the potential for archaeological and cultural resources to be present in the vicinity of the proposed Project and to be impacted by Project-related activities.</p> <p>Concern about the potential effects and disturbance to potential and existing cultural/archaeological sites in the proposed Project vicinity, including St. Mungo Cannery Site, Glenrose, Nottingham Farm, and Burns Bog.</p> <p>Concern about the potential dredging and wave impacts to present cultural/archaeological resources in the Fraser River.</p> <p>Concern about the false assumption that there is a low potential for cultural/archaeological resources to be present at the Tilbury site because the proposed Project is being constructed on an existing industrial site.</p> <p>Concern about the adequacy of the archaeological testing.</p> <p>Suggest FortisBC to conduct further archaeological investigation.</p>	Early Engagement (IPD)	<p>FortisBC has completed an AOA for the whole Tilbury site. The AOA included a review of the riparian and foreshore areas adjacent to the proposed Project. Following the AOA, FortisBC will conduct an AIA for the proposed Project. The AIA that was completed for the Tilbury Marine Jetty project will be used to inform the AIA for the proposed Project. FortisBC acknowledges that a new archaeological assessment is required for the locations that will be disturbed during construction and operations of the proposed Project. The AIA for the proposed Project will included a review of the archaeological potential in riparian and riverbed environments near the proposed Project. FortisBC does not anticipate that proposed Project-related activities will affect the specific sites listed in Katzie First Nation's comment; however, FortisBC will share the results of the archaeological investigations with Katzie First Nation.</p> <p>FortisBC acknowledges that archaeological materials can be present in highly developed areas where excavated materials have been used, and that although there were no significant archaeological artifacts and or features within the AIA for Phase 1, that proposed Project activities have the potential to disturb potential or unknown archaeological or historical sites, features, or objects.</p> <p>FortisBC welcomes Katzie First Nation's input into the archaeological assessment methods.</p>
33	<p>Concerns about environmental stewardship (including the protection of environmental resources) within Katzie's Traditional Territory, and potential impacts of the proposed Project on aquatic habitat and resources, including;</p> <ul style="list-style-type: none">▪ Fisheries, in particular white sturgeon, Pacific Salmon (all five species), Eulachon▪ Marine Mammals (acoustic impacts)▪ Amphibians (Tilbury Slough)▪ Water quality (such as, noise pollution, turbidity, downstream hydraulic changes) <p>Concern about the associated impacts to impacts on Aboriginal Rights and Title and fisheries, in particular impacts to culturally important species (such as, salmon).</p> <p>Stated expectation that acoustic monitoring to be conducted.</p> <p>Identified a need for hydrostatic testing</p> <p>Asked FortisBC to confirm that there are no active Eulachon spawning grounds in the vicinity of the proposed Project.</p>	Early Engagement (IPD)	<p>Potential effects to white sturgeon, all five species of salmon, eulachon, marine mammals, and amphibians will be discussed in subsections 10.4.2 Wildlife and Wildlife Habitat and 10.4.3 Fish and Fish Habitat of the DPD. FortisBC does not anticipate activities taking place in or around Tilbury Slough. FortisBC will minimize the duration of any in-water works during the construction phase to an extent practicable and consider applicable timing windows. Potential effects on water quality will be assessed in subsection 10.3.3 Water and Aquatic Systems.</p> <p>Hydrostatic testing will be conducted prior to commissioning as indicated in subsection 10.3 of DPD. The discharge area has not been confirmed but will be provided in the proposed Project Application. Water discharges will also be subject to permitting process and regulatory requirements to evaluate and manage potential impacts to water quality and fisheries.</p> <p>Potential underwater noise effects will be assessed in the proposed Project Application under the Acoustic VC.</p> <p>As noted in subsection 10.2.3 of the DPD, "A comprehensive environmental noise monitoring program will be conducted using a series of sound level meters in order to define the existing noise environment. The existing noise environment will provide the framework for allowable contributions from the proposed expansion."</p>
34	<p>Concerns about the potential impacts to Aboriginal Rights and Title (such as, fisheries access) from potentially limiting community access (such as, ability to travel on River) and altering habitat (such as, changes in water quality)</p> <p>Concern about increased shipping traffic along the Fraser River and the potential to limit access and to exacerbate existing stresses on fisheries and species at risk which additionally pose the potential impacts to Katzie First Nation interests and concerns.</p>	Early Engagement (IPD)	<p>Katzie First Nation's ability to use the Fraser River for travel and fishing activities will be assessed in Section 11 Indigenous Nations Effects Assessment of the Application.</p> <p>FortisBC will assess potential effects from increased shipping in cumulative IA, if there are residual effects that carry forward into the CEA.</p>
35	<p>Concern with the lack of detail within 11.2.3 Katzie First Nation description of Aboriginal Rights, Title and interest.</p> <p>Suggest that FortisBC update Section 11.2.3 [Summary of Aboriginal Rights and Title] of the IPD to include that Katzie First Nation asserts Aboriginal Rights, Title and other interests, including TLU and the interests highlighted within their IPD letter of response.</p>	Early Engagement (IPD)	<p>FortisBC acknowledges Katzie First Nation's assertion of Aboriginal Rights, Title, and Indigenous interests and has included our current understanding of these assertions and interests as identified during Early Engagement in Appendix I of the DPD, Katzie First Nation. FortisBC will continue to engage with Katzie First Nation to better understand their Aboriginal Rights, Title, and Indigenous interests in the proposed Project.</p>
36	<p>Concerns about the cumulative environmental and cultural effects being adequately assessed within the CEA. This includes examining Katzie First Nation culture, lifeways, and community.</p>	Early Engagement (IPD)	<p>A CEA will be considered when adverse residual effects to VCs are identified following the proposed Project-level residual effects evaluation. When a CEA is conducted for adverse residual effects, the assessment will consider proposed Project residual adverse effects in combination with the likely residual effects arising from other existing disturbances and reasonably foreseeable activities that have been or will be carried out in the proposed Project study areas. These assessments will be considered for the CEA of Indigenous Interests sections of the Project Application. See the draft AIR (Appendix F of the DPD) for the proposed approaches for CEAs.</p>

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
37	Concern that Katzie's asserted Aboriginal Rights, Title and other interests, including TLU, are not included in the IPD.	Early Engagement (IPD)	FortisBC acknowledges Katzie First Nation's assertion of Aboriginal Rights, Title, and Indigenous interests and has included our current understanding of these assertions and interests as identified during Early Engagement in Appendix I of the DPD, Katzie First Nation. FortisBC will work with Katzie First Nation to ensure their issues have been appropriately captured in the Application.
Kwantlen First Nation			
38	Concern about water discharge during piping testing. Requested clarity on the water volume that is being sent through the pressurized pipe during testing, where the water is being discharged, and if the water quality was being tested before discharging. Suggested that FortisBC consider the flow rates and turbidity before discharge.	Early Engagement (IPD)	FortisBC will work with Delta on this issue. FortisBC has rigorous water testing procedures in place and takes water quality seriously. FortisBC agrees that the flow rates will have to be managed to reduce the potential for turbidity. Discharged water will be tested prior to release and noted that the water has to be cleaned before use.
39	Concern about the GHG emissions from developing infrastructure. Concern about the Cumulative Effects of multiple projects in the region. In particular, Kwantlen First Nation is concerned about effects from increased shipping (on river) and effects from development on Tilbury Island.	Early Engagement (IPD)	FortisBC will address GHG emission and cumulative effects in the Application.
40	Concerns about the plans for increased shipping for [LNG] market is not being assessed within the EA.	Early Engagement (IPD)	FortisBC is including the potential increased shipping in the Tilbury Marine Jetty project application. FortisBC wants to ensure that there are no gaps in the assessment and know that all impacts need to be considered despite the separate projects.
41	Concerns about the temporal boundaries of the proposed Project. Kwantlen First Nation looks at the proposed Project impacts across multiple generations (such as, 100 years from now).	Early Engagement (IPD)	In accordance with new requirements under the B.C. EAA, the Application will include an assessment of Effects on Current and Future Generations.
42	Concerns about community disenfranchisement and community access to Traditional Use areas in particular Tilbury Island and Lulu Island and potential impact s to migratory bird habitat. Highlighted the importance of the offsetting of small green spaces to use for medicinal and other purposes. Stated that community members and Chief and Council have expressed interest in developing a legacy project with interpretive signs and other Kwantlen knowledge being transmitted.	Early Engagement (IPD)	Through past conversations with Kwantlen First Nation, FortisBC acknowledged that the overall health of the ecosystem is a community concern. Community health impacts will be further assessed in the EA.
43	Concerns about impacts to fishing and subsequent impacts to Kwantlen First Nation culture including the transfer of knowledge, Kwantlen First Nation has noted that there have already been significant impacts to fishing and Kwantlen culture and is interested in minimizing impacts.	Early Engagement (IPD)	FortisBC have considered the use of the Fraser River and impacts to fish and fish habitat. FortisBC expanded the Alternatives Assessment in the DPD to respond to concerns regarding the health of the Fraser River. FortisBC acknowledges that limited in-river work is preferable and will limit in-river work where feasible. FortisBC will continue to work with Kwantlen First Nation minimize Fraser River impacts.
44	Concerns about the Cumulative Effects of multiple projects in the region. In particular, Kwantlen First Nation is concerned about effects from increased shipping (on river) and effects from development on Tilbury Island.	Early Engagement (IPD)	FortisBC will address the issue in the assessment. FortisBC noted that the framework and process has evolved. FortisBC is looking at the upstream analysis and obtaining further guidance on how to conduct upstream EAs.
45	Concern about the use of Indigenous Knowledge from the Tilbury Marine Jetty project TLU in the proposed Project. Kwantlen First Nation asserts their need to review utilized Kwantlen First Nation knowledge prior to any documents go public.	Early Engagement (Draft DPD)	FortisBC will continue to have discussions with Kwantlen First Nation around the inclusion of Kwantlen First Nation Indigenous Knowledge in the Application. Kwantlen First Nation will have the opportunity to review and comment on Section 11 Indigenous Interests portion of the draft Application prior to public filing.
46	Concerns about decommissioning and abandonment of project.	Early Engagement (Draft DPD)	Decommissioning/abandonment is part of EA review to assess impacts of this phase of the proposed Project. FortisBC confirmed that the Tilbury plant would be decommissioned and removed and not abandoned in-place. FortisBC will be following the applicable decommissioning regulations. At this time, it is anticipated that the site will continue to be used for industrial purposes. Repurposing the site for continued FortisBC use or use by another industrial operator would require contaminated site investigations and possible remediation in accordance with the regulatory requirements. Some areas within the site may be replanted as part of decommissioning. If that is the case, a restoration plan and an appropriate monitoring program would be developed prior to restoration.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
Lyackson First Nation			
47	Concerns that the DPD does not recognize the historical exclusion of certain Indigenous nations from the Project Area.	Early Engagement (Draft DPD)	FortisBC is using the proposed Project as an opportunity to continue existing relationships and develop new relationships with Indigenous nations that express an interest.
48	"All three reserves are located on Valdes Island, the Lyackson Homeland, between Gabriola Island to the north and Galiano Island to the south, directly opposite of the mouth of the Fraser River in the Strait of Georgia. Shingle Point 4 is the main community and Lyackson 3 is the closest to the Project Site, 44.8 km away." It is unclear what "main community" means in this context.	Early Engagement (Draft DPD)	FortisBC has deleted "main community" from this sentence.
49	Stated that Lyackson First Nation is also a member of the Cowichan Nation Alliance.	Early Engagement (Draft DPD)	FortisBC has updated subsection 11.2.9 of the DPD under Cowichan Nation Information to include Lyackson First Nation as a member of the Cowichan Nation Alliance.
Malahat First Nation			
50	Concerns regarding the marine shipping activity and the effects it could have on Malahat First Nation Territory.	Early Engagement (Draft VCs)	Marine vessel traffic will be limited to a small number of vessels during the construction (six to eight Project cargo vessel deliveries). Upgrades may be required to an existing earth jetty to use during construction for this purpose. The rest of the proposed Project activities will be land based for both construction and operations, which are expected to have limited interaction with the marine environment. Marine shipping during operations was evaluated separately in the Tilbury Marine Jetty project application, which is currently under review.
51	Concerns regarding the assessment of biophysical effects, the Malahat First Nation would like the impacts on ecosystems to be within a specific carrying capacity limit.	Early Engagement (Draft VCs)	FortisBC will use the B.C. EAO Effects Assessment Policy Version 1.0 and Application Information Requirements Guidelines Version 1.0 as guidance to develop this Section for the Project Application. FortisBC anticipates this section will discuss the interconnectedness of VCs to ecological ecosystem function in this Section. The B.C. EAO Application Information Requirements Guidelines Version 1.0 outlines the following requirements for the ecosystem function chapter: <ol style="list-style-type: none">1. Provide an overview of the current ecosystem function in the vicinity of the project at a landscape-and watershed level;2. Identify the key biophysical factors that support ecosystem function that the project effects may interact with;3. Discuss how the VC assessments and cumulative effects assessments considered effects on these biophysical factors;4. Summarize the positive and negative effects, including adverse cumulative effects, on biophysical factors that support ecosystem function based on appropriate information from the VC assessments;5. Identify proposed measures required to manage potential effects on biophysical factors that support ecosystem function; and6. Describe any predicted changes to ecosystem function as a result of the project.
52	Stated that they view the Tilbury Expansion Project and the Tilbury Marine Jetty project as one and has issue with the assessments being conducted separately.	Early Engagement (IPD)	The DPD has been updated to provide additional clarification about the link between the Tilbury Marine Jetty project and the proposed Project. This information is in Section 2 of the DPD.
Musqueam Indian Band			
53	Concerns around Land and Resource use for Traditional purposes. Concern that the cultural continuity, heritage, and place-based connections are not fully reflected in the VCs.	Early Engagement (Draft VCs)	FortisBC will continue to engage with Musqueam Indian Band and other Indigenous nations, who have expressed similar concerns and feedback, on this issue.
54	Concerns about the inclusion of Indigenous determinants of the Human Health VCs. Musqueam Indian Band indicates that Indigenous health determinants need to be considered and highlighted the connection of cultural foods and health.	Early Engagement (Draft VCs)	FortisBC welcomes incorporation of Traditional Knowledge and Traditional Use Studies in the Application process and documents. FortisBC looks forward to engaging with the Musqueam Indian Band to identify appropriate data and information.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
55	Concerns that access and use of the area will be further inhibited. There is a fear that not only this Project but subsequent projects will severely impact Musqueam Indian Band's ability to exercise their rights on their Traditional Territory.	Early Engagement (Draft VCs)	FortisBC will continue to engage with Musqueam Indian Band to discuss methods for the assessment of Indigenous interests. Issues related to the use and access of Traditional Territory will also be addressed in the CEA. The scope of the CEA will be developed through the Process Planning Phase. Projects to be considered in the CEA will be developed with input from regulatory agencies, Indigenous nations, and Technical Advisors. We will consider the projects listed in the comment when developing the existing and reasonably foreseeable developments and activities to include in the CEA.
56	Concern that cumulative effects do not currently encompass impacts to culture.	Early Engagement (Draft VCs)	FortisBC appreciates this feedback and will work with Indigenous nations when developing methods and VCs, including interlinkages among VCs. FortisBC is currently reviewing methods to incorporate past impacts into the assessment. These methods will be developed with Indigenous nations, Technical Advisory members, B.C. EAO, and IAAC through Early Engagement and Process Planning.
57	Concern that the GBA+ scope is too narrow and does not consider the community as a whole.	Early Engagement (Draft VCs)	FortisBC will engage with Musqueam Indian Band to further refine the GBA+ scope during Process Planning.
58	Stated that Musqueam Indian Band have spent the last 20 years developing plans with other communities along the Fraser River and would like a holistic and cumulative approach to offsetting rather than having offsetting initiatives separated.	Early Engagement (Draft VCs)	FortisBC will engage with Musqueam Indian Band to identify their preferences for habitat offsetting initiatives Process Planning.
S'ólh Téméxw Stewardship Alliance			
59	Concerns about the potential downstream and upstream impacts on air quality.	Early Engagement (Draft VCs)	FortisBC acknowledges the importance of air quality. The Application will consider a project case and cumulative case for air quality emissions. These assessments will use the latest available air quality monitoring data from the vicinity of the proposed Project for the background and existing conditions. FortisBC will determine if upstream assessments will be required during the planning phases. If required, upstream effects will be included in the Application. The methodology used in the Air Quality assessment of the Assessment will satisfy the requirements of Metro Vancouver, B.C. EAO, IAAC, and the SACC.
60	Concerns about the surface water quality and potential upstream effects on fish and fish health.	Early Engagement (Draft VCs)	FortisBC acknowledges the potential for proposed Project interactions with water quality and migratory fish species. The Surface Water and Fish and Fish Habitat spatial boundaries include areas upstream of the proposed Project Site that act as local background reference sites to identify potential impacts to water quality that may affect fish and fish habitat as a result of the proposed Project. FortisBC will assess the potential cumulative effects to water quality, fish and fish habitat in the CEA section of the Application.
61	Concerns about the downstream effects on resources and Stó:lō culture as a result of contaminated water from spills at the Project Site. S'ólh Téméxw Stewardship Alliance would like a worst-case scenario assessment be conduction for shipping during the construction phase.	Early Engagement (Draft DPD)	The DPD has been updated to include a preliminary list of potential accidents and malfunctions that will be assessed in the proposed Project Application, including the prevention, mitigation, and response to potential spills on-site. Potential spills or other incidents associated with construction vessels will also be included in the Accidents and Malfunctions section of the proposed Project Application.
62	Concern that the RAA for the Archaeological and Heritage Resource does not consider ocean travel.	Early Engagement (Draft DPD)	FortisBC will consider travel within the ocean in the Archaeological and Heritage Resources assessment of the Application.
63	Concern about the level of emphasis on Stó:lō Nation members and their cultural connection to each other and to their Traditional Territory. Concern about the potential project effects to this cultural connection and subsequent effects on the mental and cultural health of the Stó:lō people.	Early Engagement (Draft VCs and DPD)	FortisBC recognizes the importance of these relationships. FortisBC has included the addition of the Current and Future Generations component to the EA process.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
Tsawwassen First Nation			
64	Concerns about the baseline used for assessing potential impacts. The current baseline conditions (2020) are already disturbed and does not provide conditions that the community needs to support the full ability to exercise their rights. Tsawwassen First Nation are looking for baseline that reflects the biophysical and non-biophysical conditions that support full exercise of Tsawwassen First Nation's rights.	Early Engagement (Draft VCs)	The draft AIR has been updated to include a description for each VC of past and present projects and activities (existing and historical context) in the study area and their effect on linked VCs, the Indigenous effects assessments, and Section 25 requirements of the 2018 B.C. <i>EAA</i> (or Section 22 requirements of the 2019 <i>IAA</i>), to support the consideration of potential Project effects and cumulative effects.
65	Concern about decommissioning and reclamation. Requested that the site to be restored to a "usable condition."	Early Engagement (Draft VCs)	FortisBC will be following the applicable decommissioning regulations. At this time, it is anticipated that the site will continue to be used for industrial purposes. Repurposing the site for continued FortisBC use or use by another industrial operator would require contaminated site investigations and possible remediation in accordance with the regulatory requirements. Some areas within the site may be replanted as part of decommissioning. If that is the case, a restoration plan and an appropriate monitoring program would be developed prior to restoration.
66	Concerns about the breadth of cumulative assessments and the inclusion of nearby major projects (such as, Delta Grinding Facility project, Tilbury Phase 2 and Jetty Project). Requested more clarity on how Tilbury Marine Jetty and Delta Grinding will be included in the proposed Project assessment.	Early Engagement (Draft VCs)	The scope of the CEA will be developed through the Process Planning Phase. Projects to be considered in the CEA will be developed with input from regulatory agencies, Indigenous nations, and Technical Advisors. We will consider the projects listed in the comment when developing the existing and reasonably foreseeable developments and activities to include in the CEA.
67	Concerns regarding the incorporation of Indigenous Knowledge Requested clarification on how FortisBC will assess and integrate Tsawwassen First Nation views and Indigenous Knowledge within the assessment. Suggested that Indigenous Knowledge discussions be discussed early and prior to draft AIR comments are finalized.	Early Engagement (Draft VCs)	FortisBC noted that Indigenous Knowledge is ideally received early to ensure that Indigenous Knowledge can be incorporated properly and be available to inform early decisions. FortisBC will continue to have discussions with Tsawwassen First Nation around the appropriate inclusion of Tsawwassen First Nation Indigenous Knowledge in the Application. Tsawwassen First Nation will have the opportunity to review and comment on the Section 11 Indigenous Interests portion of the draft Application prior to public filing.
68	Concern about the lack of clarity if the listed contaminants being measured for surface water, groundwater, and marine water are the same. If not, Tsawwassen First Nation requested a rationale for different contaminants being assessed. Stated expectation that a full spectrum of pollutants that will be measured for water quality and for all indicators for hydrology and water quantity.	Early Engagement (Draft VCs)	FortisBC will provide a specific list of contaminants during the development of the proposed Project Application. FortisBC anticipates that the surface water and groundwater contaminant list will have similar parameters except the contaminant list for surface water will include total suspended solids and for groundwater will include dissolved parameters. Ambient water quality will be summarized using Metro Vancouver Fraser River Ambient Monitoring Program. The source of studies used to support the water quality and quantity assessment will be detailed in the existing conditions section of the proposed Project Application.
69	Concern about the spatial and temporal scope described in the draft AIR (Appendix F – 6.2) and determined for each VC. Tsawwassen First Nation would like more clarity on what VC components will be considered.	Early Engagement (Draft VCs)	FortisBC will provide a more detailed description of the temporal and spatial scope in Appendix F – 6.2 of the revised draft AIRs.
70	Concern about the lack of topics within the Surface Water Quantity (Hydrology) (Appendix E – Surface Water, Table E-1).	Early Engagement (Draft VCs)	Surface Water Quantity (Hydrology) is listed as a sub-component for the Surface Water VC. Topics to be captured by the proposed Project Application under this sub-component include surface water quantity, interactions with groundwater, and tidal patterns.
71	Concern about the waste generated by the conversion of natural gas to a liquid state. Tsawwassen First Nation indicated that if water cooling technology is being used in the liquefaction process that Tsawwassen First Nation will be required to revisit their review of the draft AIR.	Early Engagement (Draft AIR)	FortisBC confirms that air cooling will be used for liquefaction and other process units.
72	Concern about the potential harmful effects to native species from the potential introduction of invasive, exotic, non-native, or feral species during the Project construction and operational phases. Tsawwassen First Nation is concerned about the lack of specification in the draft AIR on how FortisBC will examine the potential interactions between the proposed Project, invasive species introduction and potential harmful effects to native species. Requested that FortisBC develop environmental management plans that aim to avoid or mitigate any potential harmful effects to native species from invasive species introduction during the construction and operations.	Early Engagement (Draft AIR)	FortisBC would like to discuss with Tsawwassen First Nation which invasive species are of concern. FortisBC will implement construction best management practices which will include strategies to avoid and minimize wildlife attraction to the work site.
73	Concern about underwater noise.	Early Engagement (Draft AIR)	The design of the MOF is still being finalized. If in-water works are associated with MOF, FortisBC acknowledges the potential for acoustic effects and would propose assessing underwater noise in the Fish and Fish Habitat VC.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
74	Concerns about potential Project effects on terrestrial habitat capability and the subsequent potential effects to wildlife including barn owls.	Early Engagement (Draft DPD)	In the draft AIR, FortisBC will propose that it be required to identify the potential interactions, including the potential for interaction with habitat for wildlife species at risk. The reference in the comment has been deleted from the DPD. Additionally, the text of the DPD has been updated to include the May 2021 wildlife field assessment, which included a habitat assessment for potentially suitable habitat for wildlife species at risk, including migratory birds and barn owls.
75	Concerns about the level of baseline information in the Fish and Fish Habitat section, especially as it relates to sturgeon and eulachon.	Early Engagement (Draft DPD)	In the draft AIR, FortisBC will propose that it be required to describe sturgeon and eulachon habitats in the LAA, taking into account available publications.
Tsleil-Waututh Nation			
76	Concerns about the scoping of CEA for Tsleil-Waututh Nation: <ul style="list-style-type: none">▪ CEA▪ Global offsets▪ Upstream impacts from gas extraction	Early Engagement (IPD)	FortisBC will address the issue during the preparation of the draft AIR.
77	Expressed interest in further information regarding the relationship between the Tilbury Phase 2 Expansion and the Tilbury Marine Jetty project	Early Engagement (IPD)	FortisBC clarified that the proposed Project is not dependent on the Tilbury Marine Jetty project approval; FortisBC is not proposing expanding the jetty that would be constructed for the Tilbury Marine Jetty project but is referring to the MOF.
78	Concerns about the purpose of the proposed Project for LNG export and link with Tilbury Marine Jetty project: <ul style="list-style-type: none">▪ Requested FortisBC to provide further clarification and/or information on:▪ The new design and technology proposed to upgrade current infrastructure.▪ If the proposed Project will meet emission reduction targets in the CleanBC Plan.▪ LNG suppliers. LNG supplies who can commit to jointly developing and implementing a GHG quantification and reporting methodology, covering emissions from the well to the discharge terminal.	Early Engagement (IPD)	The TJLP (jointly owned by FortisBC and Seaspan) is proposing to construct a marine jetty (Tilbury Marine Jetty) next to the proposed Project Site to supply LNG to the marine transportation sector and for export. The Tilbury Marine Jetty project is separate and distinct from the existing facility and the proposed Project.
79	Requested that FortisBC clarify what proportion of the increased production for liquefaction will be go through the TJLP marine jetty and accompanying infrastructure.	Early Engagement (IPD)	Tilbury is already producing LNG for marine customers such as BC Ferries and Seaspan Ferries are storing LNG to meet the energy needs of their customers.
80	Concern river water quality and water management Requests that more studies on river water quality and water management used for hydro-testing during construction.	Early Engagement (IPD)	The DPD provides additional details on potential activities that could impact water quality during construction and operations, including hydrostatic testing (see subsection 6.2.1.3 and 10.3.3 of the DPD). Further details will be provided in the Application on potential effects on water quality under Surface Water, Infrastructure and Services, and Human Health VCs. FortisBC will propose mitigation measures to reduce or avoid water quality effects.
81	Concerns about the lack of Project Alternatives. Stated that they do not agree with the rationale that by not proceeding with the liquefaction component would result in missing export economic opportunities and global emission reduction opportunities.	Early Engagement (IPD)	FortisBC will provide further details about the selection of alternatives in subsection 2.8 of the DPD for Tsleil-Waututh Nation review.
82	Concern about decommissioning and about temporal scoping for assessing the effects of project decommissioning. Requested that FortisBC provide their rationale as to why a 2-year timeline was selected for project decommissioning. Suggest that FortisBC include restoration within their temporal boundary and requests that monitoring be conducted 5 and 10 years after restoration of area. Highlighted that abandonment of site is unacceptable.	Early Engagement (IPD)	At this time, FortisBC anticipates that the decommissioning activities (such as, equipment removal) are expected to be completed over a 2-year period. It is anticipated that the site will continue to be used for industrial purposes. Repurposing the site would require contaminated site investigations and possible remediation in accordance with the regulatory requirements by FortisBC or by another operator. Some areas within the site may be replanted as part of decommissioning. If that is the case, a restoration plan and an appropriate monitoring program would be developed prior to restoration.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
83	Concerns about the methodology for assessing GHG emissions. Concerns about the thoroughness of the SACC. Tsleil-Waututh Nation identifies that all upstream, downstream, and indirect emissions are not incorporated in the assessment. Suggested that an analysis of the relative contribution of the proposed Project to provincial, national, and sector GHG emissions, and Provincial and Federal climate targets. Suggested a Climate Impact Assessment for fugitive methane emissions be conducted. Tsleil-Waututh Nation requires that indirect emission be include and requests that the scope of assessment be expanded.	Early Engagement (IPD)	The DPD will provide a preliminary GHG estimate for the proposed Project. The scope on methodology applicable to the detailed GHG analysis will be developed during Process Planning and will be applied in the proposed Project Application. FortisBC will be following the Federal and Provincial guidance for the GHG assessments that can be modified to consider proposed Project-specific needs. FortisBC would like to discuss this request further with Tsleil-Waututh Nation.
84	Concern about the valuation of wildlife as presented in the proposed Project Description. Requested that the area “has limited value” not be used as an argument in Project Description and in the assessment. Asked what the projected indirect (scope 3) GHG emissions are, and how are these calculated if there is no downstream assessment.	Early Engagement (IPD and Draft DPD)	FortisBC acknowledges Tsleil-Waututh Nation concerns. Conclusions related to wildlife habitat value will be reserved for the proposed Project Application. The Process Planning Phase will provide opportunities to further discuss assessment approaches, including determination of an appropriate baseline. FortisBC intends to use existing conditions for the assessment baseline as per B.C. EAO and IAAC guidance but understands from discussions with regulators that there is flexibility in the process that allows for modifications to address such concerns particularly in the assessment on Indigenous interests. In the DPD, FortisBC estimated indirect Scope 3 GHG emissions for the construction phase. They include on-road and marine delivery of construction material and liquefaction modules to site.
85	Concerns about potential impacts on fish (mortality) and fish habitat (alternation and loss), particularly migratory and shoreline habitats . Stated expectation that a CEA that includes other variables such as climate change, adjacent developments, and record-breaking low returns for Fraser River sockeye. Fish and fish habitat, particularly migratory and shoreline habitats; CEA related to fish and fish habitat Requested the Proponent to go above and beyond ‘reducing effects of construction and operation of the MOF on fish and fish habitat’ and requires net gain from the Project’s mitigation measures during the Project’s detailed design stage.	Early Engagement (IPD and Draft DPD)	FortisBC has provided preliminary details of the baseline conditions and potential effects of the proposed Project on Fish and Fish Habitat in subsection 10.4.3 of the DPD. Potential effects to fish, migratory routes, and fish habitat, including cumulative effects, for all proposed Project phases will be assessed in the Application under the Fish and Fish Habitat VC. Mitigation measures will also be described in those sections. Details of the effects assessment requirements are provided in the draft AIR that is appended to the DPD. Tsleil-Waututh Nation’s expectation is noted. The scope and extent of mitigation required will be determined in the assessment.
86	Concerns about the long-term Economic viability of LNG industry Stated expectation that aspects of the business case evaluation and project planning take these unexpected conditions into consideration, especially for a readiness decision on whether to proceed to an EA.	Early Engagement (IPD)	FortisBC has provided more detail in subsection 2.2 Project Purpose in the draft DPD for Tsleil-Waututh Nation review.
87	Concerns about societal risks associated with safety, and accidents and malfunctions Suggested that a clear emergency response plan should be developed with shippers, first responders, Municipalities, Indigenous groups and relevant authorities to address potential risks (that is, catastrophic release or a flammable gas cloud).	Early Engagement (IPD)	FortisBC has multiple safeguards in place to prevent potential malfunctions and accidents at the Tilbury facility to protect employees the public and the environment. Subsection 10.7 draft DPD provides a description of these safeguards. These safety systems will be evaluated and upgraded as part of the proposed Project to verify continued safe facility operations.
88	Concerns about the potential human health risks, cultural risks, and contamination of traditional foods. Requested that the Proponent work with Tsleil-Waututh Nation and others to conduct community-specific health assessment from an Indigenous perspective (Indigenous Health Risk Assessment)	Early Engagement (IPD)	FortisBC will work with Tsleil-Waututh Nation to identify Tsleil-Waututh Nation-specific needs to incorporate in the Human Health VC assessment. FortisBC is open to discussing a community-specific health assessment. A community-specific health assessment from an Indigenous perspective will require a community survey.
89	Concerns about the effects of climate change on human and cultural health. Argued that climate change effects on human and cultural health must be considered. Suggested that FortisBC review Tsleil-Waututh Nations’ Climate Change Vulnerability Study.	Early Engagement (IPD)	FortisBC will address climate change in several sections in the proposed Project Application including cumulative effects (related to future conditions for VCs, including human health), GHG emissions, and effects of the environment on the proposed Project.
90	Concern about the abundance of fish stocks, fishing rights, traditional use of the Fraser River, right to practice and preserve traditional culture, right to self-governance, effects to fish and fish habitat, effects to marine mammals, effects to air quality, climate change effects, effects to vegetation and harvesting sites, effects to heritage resources, effects to cultural health, cumulative effects.	Early Engagement (IPD)	FortisBC is aware of Tsleil-Waututh Nations interests regarding fishing and harvesting in the Fraser River through engagement activities on the proposed Project and has described our current understanding of these interests in subsections 11.2.24 and Appendix I of the DPD. FortisBC will assess the potential impacts to fish and fish habitat, traditional foods, and harvesting practices (such as, salmon and other resources) within the proposed Project Application. This includes mitigation measures to reduce or avoid adverse effects to traditional foods. Further details of the effects assessment requirements are provided in the draft AIR that is appended to the DPD. FortisBC will continue to engage with Tsleil-Waututh Nations on this issue.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
91	Concern about the division between the connection between Tilbury Marine Jetty project and Tilbury Phase 2 Expansion considering that a large proportion of the increased production goes through the TJLP marine jetty. Requests that FortisBC clarify.	Early Engagement (IPD)	The draft DPD has been updated to provide additional clarification about the link between the Tilbury Marine Jetty project and the proposed Project. This information in Section 2 of the draft DPD for Tsleil-Waututh Nation to review.
92	Concerns about the impacts to fish and fish habitat and methodology for establishing baseline conditions for assessing fish and fish habitat. Requested that FortisBC provide more information on habitat pre-contact and pre-industrialization.	Early Engagement (IPD)	The draft AIR has been updated to include a description for each VC of past and present activities (existing and historical context) in the study area and their effect on linked VCs, the Indigenous effects assessments, and Section 25 requirements of the 2018 B.C. <i>EAA</i> (or Section 22 requirements of the 2019 <i>IAA</i>), to support the consideration of potential Project effects and cumulative effects
93	Concern about the AIA Tsleil-Waututh Nation is interested in being involved in AIA for the proposed Project.	Early Engagement (IPD)	FortisBC has completed an AOA for the Tilbury site and will conduct an AIA for Phase 2 Expansion Activities.
94	Concerns about GHG emissions	Early Engagement (Draft AIR and VCs)	GHG emissions are described in this DPD and will be assessed in detail in the proposed Project Application.
95	Concerns about multiple VCs including Air Quality, Surface Water Quantity, Vegetation, Assessment Boundaries: 1. Air Quality: Requests a 'Climate Change' VC be added and be evaluated separately from the 'Air Quality' VC. 2. Surface water assessment should include Tilbury Slough, and other creeks and rivers in surrounding area that the facility can draining into. 3. Surface Water Quality: suggest that the VC include changes in hydraulic regime due to climate change. 4. Vegetation: Suggest that FortisBC should ensure that invasive species are removed as much as possible. 5. Assessment Boundaries: The Air Quality boundaries in RAA of 30 km by 30 km does not align with the geographic features described in the section. Tsleil-Waututh Nation suggest that FortisBC correct to accurately align with their description. 6. The Surface Water boundary should expand to include the Tilbury Slough and other creeks and rivers that could be impacted by facility runoff and outfall. 7. Tsleil-Waututh Nation would like for FortisBC to expand the "500 m upstream and 1,000 m downstream of the proposed Project Site" as this scope is inadequate to accurately assess the proposed Project impacts to marine resources (such as, Southern Resident Killer Whales).	Early Engagement (Draft AIR and VCs)	1. FortisBC understands that climate change is a separate chapter due to Section 25 of the new B.C. <i>EAA</i> . Tilbury Phase 2 has to match both Provincial and Federal requirements. Atmospheric Environment is still treated as a VC, which includes Air Quality. FortisBC will take this back to the B.C. EAO and will provide more information to Tsleil-Waututh Nation. 2. Table 6-1 of the draft AIR has been updated to clarify that Tilbury Slough stormwater discharge location is included in the Surface Water LAA. 3. Section 10 of the draft AIR has been updated to include consideration of how climate change may increase effects of environmental factors on the Proposed Project such as through flooding and increased freshet flows. 4. FortisBC has included invasive species as a topic to be captured by the assessment under the vegetation VC and potential effects of the proposed Project on the spread of invasive species will be considered in the proposed Project Application. Mitigation measures will be developed for the proposed Project Application in accordance with local government guidance and/or Provincial and regional invasive species council's best practices to avoid or reduce proposed Project-related introductions or spread of invasive plant species including proper disposal where necessary. 5. The RAA in the draft AIR has been updated as follows: The RAA covers a 30 km by 30 km area centered on the proposed Project, and extends to the coast on the west, the US border to the south, Vancouver and Burnaby to the north, and Surrey to the east. This means that the RAA extends 15 km in each direction from the proposed Project. The description in the draft AIR reflects those boundaries. 6. The LAA includes Tilbury Slough which is the only stormwater discharge location from the site. FortisBC has added clarification in the LAA definition in the latest version of the draft AIR. 7. Most of the proposed Project activities during construction and operations will be in the upland areas. A small number of Project cargo vessel/barge trips (approximately six to eight) are anticipated during construction to deliver materials to the site. There are no Project cargo vessels/barges anticipated for operations. During operations, the marine shipping of LNG is associated with the Tilbury Marine Jetty project. The cumulative effects assessment in the Tilbury Phase 2 Expansion Project Application will consider the potential cumulative effects of the Tilbury Marine Jetty project where residual effects of the proposed Project are likely to interact cumulatively. As a result, FortisBC is not proposing to expand the scope of the proposed Project to include an assessment of marine shipping.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
96	Concerns about air quality changes from potential project consequences including climate change, an LNG spill, household gas accumulation and its relation to the health of humans and wildlife. Tsleil-Waututh Nation would like these components to be included in the air quality effects assessment. Requested expansion the scope to 30 km LAA and 50 km RAA to better address the effects of the proposed Projects' emissions on the region's air quality.	Early Engagement (Draft AIR and VCs)	FortisBC has engaged Air Quality Specialists from RWDI to conduct the Air Quality assessment for the proposed Project and determine the appropriate the study area boundaries. Based on RWDI's experience, it is expected that the Air Quality impacts from the LNG facility during construction and operation will be captured within a 20 km by 20 km LAA. Any residual effects of the facility emissions within the 30 km by 30 km RAA will also be modeled as part of the CEA. Air modeling to be completed for the proposed Project Application will confirm the determination of spatial boundaries for the assessment. Shipping emissions during construction of the proposed Project will be limited to emissions from barges and tugboats in the vicinity of the proposed Project; their effects on air quality will also be localized and adequately captured by the proposed LAA (20 km by 20 km). LNG transportation during operations and associated shipping emissions are not part of the proposed Project itself; their effects on local air quality will be taken into account in the cumulative impact assessment within the 30 km by 30 km RAA.
97	Concerns about the effects assessment of acoustics including the health effects of environmental noise, as they fear the noise can lead to disease burden.	Early Engagement (Draft AIR and VCs)	Environmental noise is included in the draft AIR. Human health effects from environmental noise will be assessed using Health Canada's 2017 'Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise'. This guidance is intended to be utilized for predicting health risks related to levels and/or types of sound predicted in Federal EAs of proposed major resource and infrastructure projects (such as, mines, dams, pipelines and other projects).
98	Concerns about the effects assessment of surface water. Given that the site is located on a floodplain, this section should include possible impacts of contaminants to surface water. This section should include Tilbury Slough and other creeks and rivers in the surrounding area that the facility could discharge to.	Early Engagement (Draft AIR and VCs)	The Project location is behind Delta's flood defense infrastructure and the likelihood of flooding is very low. FortisBC raised and reinforced the existing dike in 2018 to increase flood protection of the site. That said, flooding will be considered in the Effects of the Environment on the Project Section of the proposed Project Application.
99	Concerns about the effects assessment of groundwater. This section should include the effects of increased fracking on groundwater that is linked to this Project's storage facility. This would allow for a full analysis of the LNG lifecycle and its impacts on the provinces water resources.	Early Engagement (Draft AIR and VCs)	Potential effects of upstream oil and gas development are considered under separate regulatory processes and would not be considered as part of the proposed Project Application. FortisBC buys both conventional and unconventional gas, mainly from B.C.'s Montney region. This includes gas obtained through hydraulic fracturing. Upstream exploration and production are regulated by the B.C. OGC which has the authority to determine if natural gas processing is done in an environmentally safe manner and ensure all regulations are met.
100	Concerns about the effects assessment of marine water and sediment quality. Requests that the sub-component 'Marine Water Quality' include the following indicators: dissolved oxygen, pH, and conductivity.	Early Engagement (Draft AIR and VCs)	As suggested by the reviewer, the indicators have been added to the Surface Water sub-component Water Quality. Note that Marine Water Quality and Surface Water Quality have now been merged.
101	Concerns about the effects assessment of wildlife. This section include discussion on cumulative effects on wildlife specifies since contact, specifically culturally important species, such as ducks.	Early Engagement (Draft AIR and VCs)	The draft AIR has been updated to include a description for each VC of past and present activities (existing and historical context) in the study area and their effect on linked VCs, the Indigenous effects assessments, and Section 25 requirements of the 2018 B.C. EAA (or Section 22 requirements of the 2019 IAA), to support the consideration of potential Project effects and cumulative effects.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
102	Requested a detailed wildlife analysis and avoid using proxy species as an indicator for overall wildlife health.	Early Engagement (Draft AIR and VCs)	<p>FortisBC will use the B.C. EAO Effects Assessment Policy Version 1.0 as guidance to develop this Section for the proposed Project Application. Sub-components will be used to measure the potential effects of the proposed Project on the Wildlife VC. Sub-components will be selected based on regulatory guidelines, experience gained during previous projects with similar conditions or potential issues; feedback from regulatory agencies, Indigenous nations and public stakeholders; public issues; and professional judgement. Narrowing the issues assessed and selecting indicators that reflect proposed Project issues, public and regulator interests is an accepted approach used to focus potential adverse effects assessments on issues that are non-trivial. Ecological scoping by way of studying indicators to allow useful predications to be made for other valued ecosystem components is a useful tool in environmental effects assessments that considers practical constraints posed by time limitations, natural variability, the state of ecological knowledge, and the scientific tools available.</p> <p>It is common and accepted practice in conservation biology to use focal or indicator species to illustrate a response to environmental changes that may apply to other species with similar ecological requirements. Focal wildlife species, species groups, and habitat-based wildlife communities will be selected as sub-components to focus and facilitate the analysis of interactions between the proposed Project and the Wildlife and Wildlife Habitat VC. Sub-components will be selected based on their potential interaction with and presumed adverse response to the proposed Project, conservation or management status of concern, capacity to represent habitat requirements and use patterns of other species, and availability of meaningful measurable parameters that can be used to estimate potential adverse effects from the proposed Project.</p>
103	Highlighted the effects of the acidification of water bodies and the local extirpation of species.	Early Engagement (Draft AIR and VCs)	<p>The effects assessment on the Wildlife and Fish VCs will be linked to the Surface Water VC effects assessment, which includes potential acidification and eutrophication of surface water (Fraser River opposite the site and Tilbury Slough). These linkages will be updated in the VC Selection table. These linkages will be updated in the VC Selection table.</p>
104	Concerns about the effects assessment on freshwater fish, specifically fish species with cultural, ecological and economic importance including salmonids, eulachon, sturgeon and forage fish.	Early Engagement (Draft AIR and VCs)	<p>FortisBC acknowledges the potential for proposed Project interactions with fish species of cultural, ecological, or economic importance. The VC will include salmonids (and eulachon and white sturgeon) at the species level. Forage fish will be included under the VC and assessed based on broader temporal and spatial uses of habitat.</p>
105	Requested underwater noise be included in this section as well as in 'Marine resources' VC.	Early Engagement (Draft AIR and VCs)	<p>The proposed upgrades are expected to focus on the topside of the MOF and upland areas. If in-water works are associated with MOF, FortisBC acknowledges the potential for acoustic effects on freshwater fish and will include underwater noise under potential adverse effects for this VC.</p>
106	Requested that anadromous fish (salmon) be assessed throughout both freshwater and marine environments and that both be included as a sub-component under 'fish'.	Early Engagement (Draft AIR and VCs)	<p>Most of the proposed Project activities during construction and operations will be in the upland areas. An existing earth jetty on the Fraser River connected to the FortisBC proposed Project Site will be upgraded as part of the proposed Tilbury Marine Jetty project for construction purposes. A small number of vessels trips (approximately six to eight) are anticipated during construction to deliver materials to the proposed Project Site. There are no vessels anticipated for operations FortisBC acknowledges the potential for proposed Project interactions with migrating fish, including anadromous species. Freshwater Fish has been changed to Fish and Fish Habitat. The VC will include resident and anadromous forms of fish.</p>
107	Concerns about the effects assessment on marine resources including Marine mammal species with cultural importance (that is, Southern Resident Killer Whales).	Early Engagement (Draft AIR and VCs)	<p>No direct effects to the Southern Resident Killer Whale are anticipated. Marine vessel traffic will be limited to a small number of vessels during the construction (six to eight proposed Project cargo vessel deliveries). Upgrades may be required to an existing earth jetty to use during construction for this purpose. The rest of the proposed Project activities will be land based for both construction and operations, which are expected to have limited interaction with the marine environment. Marine shipping during operations was evaluated separately in the Tilbury Marine Jetty project application, which is currently under review. See details in response to ID#TWN-68.</p> <p>As a result, FortisBC is not proposing to expand the VC boundaries to include shipping.</p>

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
108	Requested that the draft AIR include a section on the environmental recovery of the South Arm of the Fraser River and the potential Project impacts on the ongoing recovery process.	Early Engagement (Draft AIR and VCs)	The proposed Project Application will consider potential effects to fish habitat within the proposed Project study areas, including on any reclamation or enhancement projects. These potential interactions will be assessed within the Fish and Fish Habitat VC and in the Factors Affecting Ecosystem Function section of the assessment, and do not need to be included as a separate section in the draft AIR. A cost analysis is not proposed due to the expectation of a limited instream footprint, but the need for restoration or offsetting of fish habitat, if required, will be incorporated into the assessment and subsequent permitting process through Fisheries and Oceans Canada.
109	Concerns about the effects assessment of employment and the economy. Specific concern that the amount of tax revenues and job creation would be insufficient compared to the potential adverse effects of the proposed Project.	Early Engagement (Draft AIR and VCs)	<p>Thank you for directing us to “A Critical Look at BC’s New Tax Breaks and Subsidies for LNG”, which we have reviewed. FortisBC, like other industries, participates in Provincial/Federal programs that are intended to stimulate economic development. While the proposed Project Application will not describe Federal and Provincial economic stimulation policies, it will provide projected proposed Project information on tax revenues and employment.</p> <p>The DPD includes information outlining FortisBC’s analysis of potential economic benefits from the proposed Project together with the understanding of effects. Mitigation measures to maximize benefits and limit potentially adverse effects will also be identified in line with best practices, informed by engagement, and described in the proposed Project Application.</p> <p>FortisBC looks forward to continuing to engage with Tsleil-Waututh Nation regarding potential proposed Project effects and proposed mitigation measures.</p>
110	Expressed interest in how economic costs and benefits are assessed to reflect the differential distribution of impacts. Any assessment of economic conditions should provide disaggregated evaluation with specific baseline conditions for diverse subgroups by sex, age, and other factors to support identification of disproportionate social and economic effects (employment, education, social programs, housing, skilled and unskilled workers, existing working conditions, wages etc.).	Early Engagement (Draft AIR and VCs)	<p>As per Federal and Provincial guidance, FortisBC will provide a disaggregated analysis where practicable. In some cases, publicly available data does not allow for understanding of differential effects (for example, if official data sources have not been disaggregated). Where such existing data presents a limitation to understanding of differential effects, the proposed Project Application will articulate these limitations and FortisBC will engage with Tsleil-Waututh Nation on the topic. In accordance with Section 25 of the new B.C. EAA, the proposed Project Application will include an assessment of Disproportionate Effects on Distinct Human Populations that will consider how proposed Project effects, including economic and employment effects, may affect distinct populations differently. In order to meet the expectation of Section 25, FortisBC welcomes feedback from Tsleil-Waututh Nation on the diverse subgroups it considers most important for inclusion in the analysis reflected in the proposed Project Application. In the meantime, the following links provide the guidance that FortisBC is using to guide its work:</p> <p><u>B.C. EAO</u> British Columbia Environmental Assessment Office (B.C. EAO). 2020. Human and Community Well-Being Guidelines for Assessing Social, Economic, Cultural and Health Effects in Environmental Assessments in B.C. Accessed March 2021. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/environmental-assessments/guidance-documents/2018-act/hcwb_guidelines_v1_-_april_2020.pdf</p> <p><u>Federal</u> Government of Canada. 2020. Analyzing Health, Social and Economic Effects under the <i>Impact Assessment Act</i>. Accessed March 2021. https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/analyzing-health-social-economic-effects-impact-assessment-act.html</p>
111	Concerns about the effects assessment of land and resource use. Specifically, how the TUS will be used to address potential project impacts on land use for recreational and traditional purposes. Requested that FortisBC engage with Tsleil-Waututh Nation on identifying appropriate sub-components and measurable parameters for TLU.	Early Engagement (Draft AIR and VCs)	<p>FortisBC will develop a proposed Project Application which is informed by both Indigenous Knowledge and western science. FortisBC is looking forward to working with Tsleil-Waututh Nation to determine how to appropriately use Tsleil-Waututh Nation’s TUS when identifying potential Project effects.</p> <p>FortisBC welcomes feedback from Tsleil-Waututh Nation on sub-components and measurable indicators, which will be developed further through the draft AIR process during engagement. FortisBC’s proposed preliminary list of Indigenous interests, including preliminary potential effects for all Indigenous nations is presented in Table 11-2 in the draft AIR. FortisBC’s current understanding of Indigenous interests and potential effects specific to Tsleil-Waututh Nation are presented in Table 11-11 of the draft AIR.</p>

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
112	Concerns about effects assessment of infrastructure and services. Requested that data is collected and presented in a way that disaggregates communities to determine if there are disproportional effects on Coast Salish populations.	Early Engagement (Draft AIR and VCs)	The proposed Project Application will include disaggregated data on a variety of topics, where it is available for presentation in a disaggregated form. In some cases, publicly available data have not been collected or presented in a community-disaggregated fashion, which has the potential to limit some analysis. Where such data limitations exist and affect certain types of analysis on a community-by-community basis, the proposed Project Application will articulate them clearly. Section 11 of the Application will also show Indigenous nation-specific effects to Indigenous interests (as opposed to effects to VCs). In accordance with Section 25 of the new B.C. <i>EAA</i> , the proposed Project Application will include an assessment of Disproportionate Effects on Distinct Human Populations that will consider how proposed Project effects may affect distinct populations differently. FortisBC welcomes ongoing engagement with Tsleil-Waututh Nation to understand individual topics of interest related to this request such that data collection efforts can be tailored to the extent possible. FortisBC also welcomes discussion regarding how the information could be displayed in the VC chapters and in Section 11.
113	Concerns about effects assessment of human health. This section should include the effects of noise on human health. Requested that specific consideration is given to direct and indirect health effects rooted in the historic, social, and cultural context of Indigenous communities. For example, how Indigenous groups may be disproportionately affected by project effects and how these groups are especially vulnerable to socio-economic and health impacts from the proposed Project. Requested that health metrics extend beyond biophysical exposure such as air and water contamination, to include metrics such as noise, light, access, annoyance, sense of place, sense of community, knowledge transmission, well-being, capacity to act as stewards, and both intra- and inter-nation relationships/trade.	Early Engagement (Draft AIR and VCs)	Indigenous nation priorities are welcome inclusions in the health assessment. FortisBC appreciates this feedback for consideration in the draft AIR and the Project Application. FortisBC looks forward to continuing to engage with Tsleil-Waututh Nation on the topic of health and seafood harvest to better understand it from a community perspective.
114	Concerns about the effects assessment of culture. Since traditional land and marine use practices and Indigenous health are tightly linked, VCs for noise, light, water quality, and air quality should be assessed from an Indigenous perspective to specifically address impacts on current use and cultural health. Requests that cumulative effects are measured against a pre-industrial baseline contact rather than the current or accumulated state, which represents impacted conditions. Use historical trends to clearly show the sensitivity and resilience of the VC.	Early Engagement (Draft AIR and VCs)	FortisBC appreciates this feedback and will work with Tsleil-Waututh Nation when developing methods and VCs, including interlinkages among VCs. FortisBC is currently reviewing methods to incorporate these past impacts into the assessment. These methods will be developed with Tsleil-Waututh Nation, other Indigenous nations, Technical Advisory members, B.C. EAO, and IAAC through Early Engagement and Process Planning.
115	Concerns about GHG and requests that a CEA be completed for GHG and for the scope of the GHG emission assessment include the entire lifecycle of LNG (including the energy required to liquefy the gas, carbon emissions involved to ship the LNG and leakage from fracking wells and pipelines). Asked how FortisBC is accounting for fugitive emissions along the whole route (from tanks, compressor stations, gas processing plants and storage points along the pipelines) and requests that this be included in the assessment.	Early Engagement (Draft AIR and VCs)	The draft AIR (Section 8 Greenhouse Gas Emissions) follows new Provincial and Federal legislation and guidance. FortisBC is required to estimate the “Net GHG” emissions associated with construction, operations and decommissioning (inclusive of the acquired energy required to liquefy the gas). Please refer to Section 3 of the SACC for more information on the “Net GHG” equation. FortisBC may be required to provide an estimate of upstream GHG emissions in the Application. The IAAC will determine if an upstream GHG assessment is required in the draft AIR/proposed Project Application based on the preliminary GHG estimate in the DPD. If an upstream GHG assessment is required, this assessment will be completed in accordance with methodology outlined by ECCC in the SACC. An assessment of downstream GHG emissions is not a requirement under any of the Provincial or Federal guidance and will not be included in the draft AIR or proposed Project Application. FortisBC proposes to conduct the GHG assessment in accordance with the SACC. The scope of emissions to be accounted for would be determined accordingly.
116	Suggested that the temporal scope should include all stages of the proposed Project including construction, maintenance, operations, and decommissioning.	Early Engagement (Draft AIR and VCs)	FortisBC notes this is already a requirement listed in the draft AIR subsection 8.2 “Update the estimate of the annual GHG emissions by project phase” In addition, the preliminary estimation of GHG emissions will be provided in the DPD and is broken down by phases of the proposed Project (see Table 10-3 of the DPD).
117	Suggested that the GHG assessment should include emissions from power requirements for the facility.	Early Engagement (Draft AIR and VCs)	The proposed Project will use electricity from the BC Hydro grid for the liquefaction process train. GHG emissions associated with electricity generation and transmission and distribution to the facility were estimated as “acquired energy emissions” in the DPD and will be refined during the proposed Project Application process as more detailed technical information becomes available.

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Summary of Issues Raised		Engagement Phase	FortisBC Response
118	Suggested that the GHG Assessment, and associated identification of carbon sinks and sources should include information on nearby peat deposits.	Early Engagement (Draft AIR and VCs)	The air quality assessment will assess potential effects of air contaminant emissions on Burns Bog and other nearby peatlands and vegetation as appropriate.
119	Concerns about the effects of natural disasters on the proposed Project including liquefaction (given that this area is likely to experience an earthquake) flooding, severe storms, and fire. Requested a statement in section 10.2.1 on extreme heat and wildfire smoke events that have begun to affect the region, and how these events are becoming more common due to climate change. Criteria air contaminants such as PM _{2.5} and PM ₁₀ from smoke in particular, but also ground level ozone exacerbated by high temperatures. Requests that the Proponent take precautions during dry spells to prevent wildfires, including stop-work thresholds.	Early Engagement (Draft AIR and VCs, draft DPD)	FortisBC appreciates Tsleil-Waututh Nation's input. Flooding and storms have been added to the draft AIR. FortisBC notes that liquefaction is not considered a natural hazard. Rather, liquefaction is accessed in the Accidents and Malfunctions section under "Loss of containment of LNG". Wildfires are not considered a natural hazard to the Project facilities given the adjacent industrial development and proposed Project distance from Burns Bog Delta Nature Reserve. Additionally, FortisBC does not anticipate smoke would cause physical damages that would result in risks causing environmental impacts to the assets or their components under consideration. The DPD has been updated to include a statement on climate change causing increased heat and wildfire smoke. FortisBC currently has Emergency and Fire response plans for Tilbury, and will adjust those plans as necessary for the proposed Project.
120	Concerns about effects on Indigenous Interests. Specifically, about how Project-related activities are anticipated to negatively impact Tsleil-Waututh Nation's right to fish, right to practice and preserve their traditional culture and right to self-governance. These include: Impacts on salmonids and other aquatic species and cumulative effects on marine mammals specifically Southern Resident Killer Whales, given their cultural and spiritual importance. Pathways of effects should include impacts from potential reductions in prey fish, marine shipping encouraged by the Project and climate change. Impacts to air quality, the compounding impacts of climate change, Local vegetation and harvesting sites, heritage resources and cultural health. Upstream impacts from fuelling FortisBC's expansion requiring new hydraulically fracture gas wells and the climate impacts fugitive emissions from the wells. Why will these not be included in the EA or SACC? Cumulative impacts from more than a century of developed in the area, which has put sensitive habitats at risk that cannot and is not being mitigated. Potential changes to harvesting related Indigenous interests (hunting, fishing, trapping, and plant gathering). Potential changes to use of sacred or culturally important sites and landscape features and/or spiritual places. Potential changes to cultural identity and traditional governance systems.	Early Engagement (Draft AIR and VCs and draft DPD)	FortisBC acknowledges Tsleil-Waututh Nation's concerns regarding proposed Project-related activities that could affect Tsleil-Waututh Nation's rights to fish, practice, and preserve traditional culture, and right to self-governance and has included our current understanding of these interests as identified during Early Engagement in Appendix I of the DPD, Tsleil-Waututh Nation. FortisBC looks forward to Tsleil-Waututh Nation's comments on the DPD to ensure the Tsleil-Waututh Nation's comments have been appropriately captured. These interests are also identified in the Tsleil-Waututh Nation's subsection of the draft AIR subsection 11.10. Tsleil-Waututh Nation's Aboriginal Rights related to the proposed Project will be assessed in Section 11 of the proposed Project Application. Section 11 of the draft AIR provides the requirements for FortisBC's consideration of these rights in the proposed Project Application. Effects to local vegetation and harvesting sites will be assessed in the Vegetation section of the proposed Project Application. Cumulative effects to salmon will be included in the Fish and Fish Habitat section of the proposed Project Application and cumulative effects on wildlife habitat will be included in the Wildlife and Wildlife Habitat section. FortisBC will propose that the potential cumulative effects of the Project to each VC be assessed. Climate change would be accounted for in the characterization of the future conditions of each VC, where appropriate. FortisBC proposes conduct the GHG assessment in accordance with the SACC. The scope of emissions to be accounted for would be determined accordingly. In addition, responses have been developed in the formal response to the following: <ul style="list-style-type: none">▪ The potential negative effects to salmonids and other aquatic species;▪ Effects to marine mammals including Southern Resident Killer Whale;▪ Supply tankers and barges;▪ Effects to air quality and ID#s 4, 13, and 55 for impacts of Climate Change (note that FortisBC will review Tsleil-Waututh Nation's Climate Change Vulnerability Report when developing the proposed Project Application);▪ Upstream effects;▪ Impacts to heritage resources (note that FortisBC will include effects to Tsleil-Waututh Nation's ability to practice their culture and impacts to cultural health in Section 11 of the proposed Project Application); and▪ Cumulative effects.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
121	Concerns about the biophysical factors that support ecosystem function. Since the Lower Fraser River has been used throughout history by Coast Salish peoples, this section should include a look at the interconnectedness of the ecosystem. Such as how the Fraser connects with other VCs in the system including fish and fish habitat, human health, social security, equal opportunity, equity, and traditional harvesting.	Early Engagement (Draft AIR and VCs)	FortisBC will use the B.C. EAO Effects Assessment Policy Version 1.0 and Application Information Requirements Guidelines Version 1.0 as guidance to develop this Section for the proposed Project Application. FortisBC anticipates this section will discuss the interconnectedness of VCs to ecological ecosystem function in this Section. The B.C. EAO Application Information Requirements Guidelines Version 1.0 outlines the following requirements for the ecosystem function chapter: <ol style="list-style-type: none">1. Provide an overview of the current ecosystem function in the vicinity of the project at a landscape-and watershed level;2. Identify the key biophysical factors that support ecosystem function that the project effects may interact with;3. Discuss how the VC assessments and cumulative effects assessments considered effects on these biophysical factors;4. Summarize the positive and negative effects, including adverse cumulative effects, on biophysical factors that support ecosystem function based on appropriate information from the VC assessments;5. Identify proposed measures required to manage potential effects on biophysical factors that support ecosystem function; and6. Describe any predicted changes to ecosystem function as a result of the project. FortisBC would like to work with Tsleil-Waututh Nation to understand these social and ecological interconnections in the proposed Project Site area in order to accurately scope them into the Project Application, including the Effects Assessment of Tsleil-Waututh Nation’s Indigenous interests in Section 11 of the Project Application.
122	Concern about the impacts of the proposed Project on the health of the Fraser River and asks how this Project will impact the restorative work being done on the Fraser River, as these impacts intersect with the entire ecosystem functioning.	Early Engagement (Draft AIR and VCs)	The proposed Project is mainly constructed and operated in upland areas. A small number of vessels (six to eight) are expected to deliver construction material to the proposed Project Site and no marine/river traffic is expected during operations. As a result, the proposed Project is not expecting to adversely affect ongoing restoration efforts such as those for the Tilbury Marine Jetty project. The baseline studies for each VC will use all available applicable information and this includes known or proposed restoration activities. Applicable restoration information will be carried forward to the Summary of Biophysical Factors that Support Ecosystem Function to evaluate effects to the ecosystems.
123	Concerns about impacts to current and future generations. This section should align with sustainability principles outlined in the /AA guidance document ‘Guidance: Considering the Extent to which a Project Contributes to Sustainability’ (2020) Asked how FortisBC considers strategic direction from the Province of B.C. regarding sustainable development, particularly with how the proposed Project aligns with Federal and Provincial climate change targets.	Early Engagement (Draft AIR and VCs)	FortisBC is a critical implementation partner for the Federal and Provincial governments’ GHG reduction objectives. To demonstrate the commitment to B.C.’s climate goals, FortisBC developed the Clean Growth Pathway to 2050 – the public response to the Provincial government’s consultation period as they developed CleanBC. The Pathway highlights four action areas that FortisBC can take to help the government achieve its GHG reduction objectives and reduce GHG emissions globally: 1) Energy Efficiency 2) Renewable Gas 3) Low-Carbon Transport and 4) LNG to displace higher-carbon fuels for marine transportation and global markets. Building on the Clean Growth Pathway, FortisBC announced the 30BY30 target in 2019. FortisBC has committed to reduce its customers’ GHG emissions by 30 percent by 2030 and is developing implementation pathways to achieve the target. Areas of focus will include the four action areas described in the Clean Growth Pathway. Each of the actions areas has large potential to both reduce GHG emissions and to increase investment and growth in the Province. Beyond 2030, the vision is to continue realizing low-carbon solutions in the four action areas and transition to a decarbonized utility delivering low-carbon energy to domestic and global customers. Subsection 1.1.2.1 of the DPD provides further detail on FortisBC’s commitment to sustainability and the Clean Growth Pathway. The proposed Project Application will also detail FortisBC’s commitment to sustainability. FortisBC has added a specific section into the draft AIR called “Description of the Project’s Contribution to Sustainability” that includes topics related to the interconnectedness and interdependence of human-ecological systems, which Tsleil-Waututh Nation has listed.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
124	Concerns about the distinction between assessment and VC and suggests looking at each VC in relations to things that are important to Indigenous nations as sub-components (that is, sense of place, experience on the land, ability to transfer knowledge, etc.) and then look at a general Cultural Health VC and fit in tangible and intangible health components within it.	Early Engagement (Draft AIR and VCs)	FortisBC responded that this is an example of where components can be brought from the Cultural VC into the Tsleil-Waututh Nation-specific assessment in Section 11. Even if cultural health is not discussed in each VC, perhaps sense of place can be, and then see how they fit into the cultural health of the Tsleil-Waututh Nation. FortisBC noted that Indigenous Knowledge will be included in all sections, as will GBA+ which looks at intersectional effects.
125	Concern about the scoping of the TUS for Tilbury P2. Requests that the TUS area aligns with the RAA for Tilbury P2.	Early Engagement (TUS)	FortisBC will develop Project Application which is informed by both Indigenous Knowledge and western science. FortisBC is looking forward to working with Tsleil-Waututh Nation to determine how to appropriately use Tsleil-Waututh Nation's TUS when identifying potential proposed Project effects. FortisBC will engage with Tsleil-Waututh Nation, IAAC, and B.C. EAO as it determines proposed Project assessment boundaries.
126	Concerns about upgrades to the MOF, and that it should be assessed as part of the EA. Requested a rationale for this approach and clarification on the design of the MOF. Requested certainty that this (Phase 1) work will be assessed through the Fortis Expansion EA process as it was not considered for Tilbury Marine Jetty. Requested information on what variables at the time of construction will determine whether the upgrade to the MOF is required.	Early Engagement (DPD)	FortisBC has included the potential for upgrades to the MOF in the DPD (Table 2-3). FortisBC proposes to engage with Tsleil-Waututh during Project planning on the MOF.
127	Concerns about higher power supply requirements for Phase 2. Believes the planned 230 kV power line from Arnott Substation to the facility, currently described as part of Phase 1B, but designed to service both Phases, should be included as a Phase 2 Project Component (Supporting Infrastructure) and included as part of the assessment, since the majority of the proposed capacity is for Phase 2's power needs, and will be designed with the Phase 2 expansion in mind.	Early Engagement (DPD)	Current engineering studies indicate that once the 230 kV transmission line is constructed and in operation as part of Phase 1B, no additional upgrades are required to support Phase 2 operations. On-site electrical power distribution upgrades may be required to support Phase 2 operations and FortisBC has included this in Table 2-3 of the DPD under Supporting Infrastructure.
128	Requests clarification on the primary objective of the Project (that is, domestic resiliency versus international markets). Requested information on what proportion of increased production from the liquefaction and storage will be used for domestic resiliency versus for the international export market.	Early Engagement (DPD)	There is a need for more LNG supply as a lower-carbon fuel in the transportation, industrial and residential sectors to displace coal, diesel and other higher-carbon fuels. FortisBC has proposed to increase its liquefaction capacity at Tilbury in order to meet this need, however, this capacity would be built as market demand is realized. FortisBC proposes to provide more detail on its plans for the liquefaction component in the application, should these plans become firm. If the Tilbury Marine Jetty proposed by the TJLP is approved and constructed, the jetty would enable FortisBC to more efficiently provide LNG from Tilbury to regional and international customers by ship.
129	Concern about the need for resilience in the energy system. Subsection 2.2.1 should outline a scenario where the use of renewable energy sources increases in the service area of the utility. Requests that FortisBC quantify what amount of reduction in local demand for natural gas would render the existing tank's capacity adequate for resiliency of the gas system.	Early Engagement (DPD)	The comment includes a request for a description of a scenario where the need for the project is different. That scenario is neither an alternative to, nor an alternative means of carrying out, the Project. Moreover, under Section 38 of the <i>Utilities Commission Act</i> , FortisBC Energy Inc. must provide natural gas service to customers that is, "... in all respects adequate, safe, efficient, just and reasonable." Resiliency is needed to ensure service that meets this requirement for its existing customer load in the Lower Mainland. It is neither feasible, either technically or economically, nor lawful for FortisBC to avoid that obligation. As such, the request falls outside the scope of assessment under both the B.C. <i>EAA</i> and under the <i>IAA</i> .
130	Expressed interest to include Indigenous Knowledge regarding non-biophysical aspects. Requests a revision to the selection and integration of indicator measures for effects to Indigenous Peoples to include non-biophysical changes to land and resource uses.	Early Engagement (DPD)	The text in Section 10 has been updated to clarify that Indigenous Knowledge may become available and will be accounted for in the assessment of the potential effects of the Project on changes to land and resource uses.
131	Asked how the project will increase water demand (other services and municipal facilities), and what the effects could be on local and regional traffic as part of construction and operation.	Early Engagement (DPD)	FortisBC proposes to assess the Project's water utilization, and that water sources and discharges be described in that assessment.
132	Asked how the Project is coordinating with municipalities regarding potential effects from proposed Project construction, operation or associated marine shipping traffic on Richmond's flood protection infrastructure.	Early Engagement (DPD)	FortisBC proposes to assess potential interactions with flood protection infrastructure.
133	Referenced B.C. Assembly of First Nations 2020 'Cultural Rights of First Nations and Climate Change', which elaborates on how Indigenous groups may disproportionately experience the proposed Project's possible adverse effects as well as Tsleil-Waututh Nation's Climate Change Resiliency Planning – Phase 1 summary (linked here) for community-specific risks from climate change.	Early Engagement (DPD)	Thank you for bringing this data source to our attention. FortisBC proposes to refer to the B.C. Assembly of First Nations' 'Cultural Rights of First Nations and Climate Change' report in the assessment of the potential effects of the Project on VC's.
134	Requests clarification on the difference between dredging activities for Tilbury Marine Jetty and MOF upgrades.	Early Engagement (DPD)	FortisBC has learned that the MOF can be constructed without dredging

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
Ts'uubaa-asatx Nation			
135	Concern about the aquatic impacts to the Fraser River, especially the potential effects to fish and fish habitat and subsequent effects to cultural practices. Concern about the lack of assessment of downland and downstream effects to the Fraser River, including potential impacts from shipping lanes.	Early Engagement (IPD)	FortisBC will assess the potential effects to water quality, fish and fish habitat and culture and cultural practices in the proposed Project Application. Current and future shipping activity levels within the Lower Fraser River will be incorporated into the assessment where appropriate. FortisBC will utilize the best available information, such as the Marine Shipping Supplemental Assessment completed for the Tilbury Marine Jetty project (TJLP 2019).
136	Stated that low frequency noise is an issue for the Ts'uubaa-asatx Nation.	Early Engagement (Draft VCs)	FortisBC will assess potential noise effects in the proposed Project Application under the Acoustic VC. As noted in subsection 10.2.3 of the DPD, "A comprehensive environmental noise monitoring program will be conducted using a series of sound level meters in order to define the existing noise environment. The existing noise environment will provide the framework for allowable contributions from the proposed expansion."
137	Concern about the contamination risks from the stormwater pipes. Stormwater pipes could introduce other contaminants such as cadmium. There is also potential for cross-contamination with sewage. Ts'uubaa-asatx Nation would like a stormwater management plan and would like stormwater sampling to be conducted.	Early Engagement (Draft VCs and AIR)	FortisBC will continue to engage with Ts'uubaa-asatx Nation to identify specific concerns to incorporate in the Human Health VC assessment.
138	Concern about contaminants from the pilings will loosened and contaminate the surrounding environment when they are replaced.	Early Engagement (Draft VCs and AIR)	FortisBC will continue to engage with Ts'uubaa-asatx Nation to identify specific concerns to incorporate in the Human Health VC assessment.
139	Concerns around the employment opportunities from the Project. The cost of living is higher on the mainland, where the Project work will occur, and this needs to be accounted for to make the opportunities meaningful and realistic.	Early Engagement (Draft VCs and AIR)	FortisBC is committed to Indigenous businesses and communities benefitting from economic and employment opportunities that FortisBC provides. As the proposed Project develops, FortisBC will work with Indigenous nations on securing opportunities for procurement, training, and employment as well as oversight of construction and operation, if the proposed Project is approved. FortisBC welcomes Ts'uubaa-asatx Nation's input on economic and capacity building opportunities of the proposed Project.
140	Requested to see an increase in the opportunities to trade in the Lower Mainland.	Early Engagement (Draft VCs and AIR)	FortisBC will continue to work with Ts'uubaa-asatx Nation to identify Ts'uubaa-asatx Nation-specific needs and interests throughout the proposed Project. FortisBC is committed to Indigenous businesses and communities benefitting from economic and employment opportunities that FortisBC provides. As the proposed Project develops, FortisBC will work with Indigenous nations on securing opportunities for procurement, training, and employment as well as oversight of construction and operation, if the proposed Project is approved. FortisBC welcomes Ts'uubaa-asatx Nation's input on economic and capacity building opportunities of the proposed Project.
141	Concerns regarding the ability to exercise their rights to fish on their Traditional Territory of the Fraser River. The risk of interference that shipping activity poses could be detrimental to Ts'uubaa-asatx Nation. Ts'uubaa-asatx Nation proposed a shipping schedule to help mitigate the impacts.	Early Engagement (Draft VCs and AIR)	Preliminary assessment of potential impacts to Indigenous Peoples, including Rights and Title, is provided in Table 11-4 of subsection 11.5. In subsection 11.1, FortisBC will continue to engage with Ts'uubaa-asatx Nation regarding the exercise of Rights within their Traditional Territory and to discuss the shipping schedule.
142	Concerns surrounding community health and well-being. Ts'uubaa-asatx Nation would like the Human Health assessment to include a community well-being index and would like community well-being to be accounted for in the VC's.	Early Engagement (Draft VCs and AIR)	FortisBC will continue to engage with Ts'uubaa-asatx Nation to identify Ts'uubaa-asatx Nation-specific VCs and Indigenous interests, including in regard to community well-being index.
143	Concerns about the impacts of liquefaction accidents and malfunctions on fish, wildlife, and wetlands, particularly from earthquakes. Ts'uubaa-asatx Nation would like biophysical factors that support ecosystem function to consider these potential effects	Early Engagement (Draft VCs and AIR)	FortisBC will assess public safety concerns in the Accidents and Malfunctions section of the proposed Project Application, FortisBC will take a risk-based approach to assess accidents and malfunctions. The public safety risks associated with the LNG storage facility in an urban area will be considered in the assessment. FortisBC requested to have further discussion on 'place-based stigma' and 'trauma' in relation to the assessment of accidents and malfunctions. The consequences of accidents and malfunctions will include environmental, social, cultural and health effects, which could include trauma and place-based stigma.

Table H-1. Issues Raised by Indigenous Nations

Summary of Issues Raised		Engagement Phase	FortisBC Response
144	Concerns that the vulnerability of Indigenous Peoples is not accurately represented in the Summary of Human and Community Well-Being and would like the unique health risks they face to be included.	Early Engagement (Draft VCs and AIR)	Indigenous nation priorities are welcome inclusions in the health assessment. FortisBC appreciates this feedback for consideration in the draft AIR and the proposed Project Application.
145	Requested that the Project Application, DPD, draft AIR, and draft VC Selection to demonstrate how they align with the Lake Cowichan First Nation Policy: South Arm of the Fraser River and Approaches June 1, 2018.	Early Engagement (Draft AIR, DPD, and VC)	FortisBC and Ts'uubaa-asatx Nation will continue to develop the table of Ts'uubaa-asatx Nation interests which identifies areas where the Lake Cowichan First Nation Policy: South Arm of the Fraser River and Approaches overlap with the DPD, draft AIR, and draft VC Selection, and Project Application.

Notes:

AIA = Archaeological Impact Assessment
AIR = Application Information Requirements
AOA = Archaeological Overview Assessment
B.C. = British Columbia
B.C. EAA = British Columbia *Environmental Assessment Act*
B.C. EAO = British Columbia Environmental Assessment Office
B.C. OGC = British Columbia Oil and Gas Commission
CEA = Cumulative Effects Assessment
Delta = City of Delta
DPD = Detailed Project Description
EA = environmental assessment
ECCC = Environment and Climate Change Canada
Enbridge = Enbridge Pipelines Inc.
EOA = Environmental Overview Assessment
GBA+ = Gender-Based Analysis Plus
GHG = greenhouse gas
IA = impact assessment
IAA = *Impact Assessment Act*
IAAC = Impact Assessment Agency of Canada

IKS = Indigenous Knowledge Study
IPD = Initial Project Description
IR = Information Request
km = kilometre(s)
kV = kiloVolt(s)
LAA = Local Assessment Area
LNG = liquified natural gas
MOF = Material Offload Facility
PM_{2.5} = fine particulate matter
PM₁₀ = coarse particulate matter
proposed Project Site =7651 Hopcott Road, on Tilbury Island in the City of Delta, B.C.
RAA = Regional Assessment Area
SACC = Strategic Assessment of Climate Change
TAC = Technical Advisory Committee
TJLP = Tilbury Jetty Limited Partnership
TLU = Traditional Land Use
TUOS = Traditional Land Use and Occupancy Study
TUS = Traditional Use Study
US = United States
VC = Valued Component

Table H-2. Procedural and Engagement Issues Raised by the Indigenous Nations

Issues Raised		Engagement Phase	FortisBC Response
Cowichan Nation Alliance (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut First Nation, Stz'uminus First Nation)			
1	Concerns that the development of the proposed Project framework and content, and mitigation plans are developed too late in the process. Suggested that mitigation plans should be developed early as possible.	Early Engagement (IPD)	FortisBC recognizes this concern and would like to initiate discussions with Cowichan Nation Alliance about these plans early to understand Cowichan Tribes' concerns and expectations. FortisBC will update the draft AIR section to say "where key mitigation measures proposed involve development of a specific management plan, the Project Application will include an outline (such as, plan headers) of the management plan.'
2	Concerns over the consideration of 'importance' and the use of 'likelihood' in the Characterization of Residual Effects. Requested clarification on "importance to whom?" Suggests that "Likelihood" be "Predicted Likelihood"	Early Engagement (Draft AIR and VCs)	FortisBC indicated that the definitions were taken from the B.C. EAO AIR template. In subsection 3.6.3 of the B.C. EAO effects assessment policy discusses 'importance' as a consideration for residual effects assessment. In subsection 3.6.3 of the B.C. EAO effects assessment policy' discusses how 'likelihood' should be described.
3	Stated that when the Cowichan Nation Alliance provides suggestions and input to FortisBC, the Cowichan Nation Alliance expects FortisBC to provide rationale for instances where feedback is not incorporated, as indicated in the preliminary Indigenous Engagement Plan.	Early Engagement (IPD)	FortisBC agrees and will follow as indicated in the Indigenous Engagement Plan.
4	Requested that the review period of materials should be at least 3 weeks.	Early Engagement (IPD)	FortisBC will provide 3 weeks for Cowichan Tribes to complete this review. FortisBC will work to achieve this standard, although circumstances may be such that shorter or longer review periods are reasonable.
5	Stated that lack of assessment on Aboriginal title. EA's need to assess impacts to Aboriginal Title. The historic Cowichan Nation's exclusive Aboriginal Title area as delineated in Brealey (2010) includes the entirety of Tilbury Island.	Early Engagement (IPD)	Preliminary assessment of potential impacts to Indigenous Peoples, including Rights and Title, is provided in Table 11-4 of subsection 11.5. In subsection 11.1, FortisBC has added a statement indicating Cowichan Nation Alliance's position on exclusive Aboriginal Title including Tilbury Island.
6	Stated that the deadline of September 2021 for an Indigenous-led assessment is too short and it is the understanding of Cowichan Nation that, according to the B.C. EAA Section 19(4), assessment would not even be triggered until B.C. issued process orders, which would not happen until FortisBC submits its assessment.	Early Engagement (Indigenous-led assessments).	Cowichan Nation Alliance is correct in that an Indigenous-led assessment will not be triggered until after the process planning order is issued and that FortisBC will not know what deliverables are required or the time frame for them until then. FortisBC will work with Cowichan Nation Alliance and the B.C. EAO to determine the process and timelines for the Indigenous-led assessment.
7	Identified interest in remote participation in the field program and indicated that livestreaming field work is a viable option. Cowichan Nation Alliance did not have any recommendations as they had limited experience with remote monitoring processes	Early Engagement (Field participation)	FortisBC conducted remote monitoring sessions with participating Indigenous nations for some field programs, including the Cowichan Nation Alliance.
Katzie First Nation			
8	Requested sufficient capacity funding to enable Katzie First Nation to meaningful participate within the EA .process.	Early Engagement (IPD)	FortisBC will engage with Katzie First Nation via the Katzie First Nation's preferred engagement methods regarding capacity funding.
9	Stated interest in being informed and participating in potential economic opportunities that support economic development and capacity within the Katzie First Nation community.	Early Engagement (IPD)	FortisBC is committed to Indigenous businesses and communities benefitting from economic and employment opportunities that FortisBC provides. As the proposed Project develops, FortisBC will work with Indigenous nations on securing opportunities for procurement, training, and employment as well as oversight of construction and operation, if the proposed Project is approved. FortisBC welcomes Katzie First Nation's input on economic and capacity building opportunities of the proposed Project.
10	Stated the need for the EA to consider the potential adverse effects on a sixth pillar, "Aboriginal Rights, Title and interests." The focus of this pillar would be on Indigenous Peoples and the proposed Project effects on Aboriginal Rights (such as, fishing, and associated impacts related to aquatic habitat, water quality, etc.), Title and other interests.	Early Engagement (IPD)	FortisBC defers inclusion of a sixth pillar to the B.C. EAO and IAAC, as the five pillars are prescribed by those agencies.
11	Suggest that proponents should have a Project-specific Indigenous Knowledge program that includes data collection on past and present Indigenous land uses within the vicinity of the proposed Project. The information collected through an Indigenous Knowledge program should be included throughout the EA process.	Early Engagement (IPD)	FortisBC will engage with Katzie First Nation via the Katzie First Nation's preferred engagement methods regarding the inclusion of Indigenous Knowledge in the Application. Katzie First Nation will have the opportunity to review and comment on Section 11 Indigenous Interests portion of draft Application prior to public filing.

Table H-2. Procedural and Engagement Issues Raised by the Indigenous Nations

Issues Raised		Engagement Phase	FortisBC Response
12	Suggest that under the list of proposed activities that can be undertaken with Indigenous groups within the Engagement Plan, proponents should include a specific activity related to Indigenous Knowledge incorporation throughout the EA process.	Early Engagement (IPD)	FortisBC will engage with Katzie First Nation via the Katzie First Nation's preferred engagement methods regarding the inclusion of Indigenous Knowledge in the Application. Katzie First Nation will have the opportunity to review and comment on Section 11 Indigenous Interests portion of draft Application prior to public filing.
13	Concern about the lack of stringent requirements for documenting archaeological sites and implementing guidelines and best management practices to avoid or minimize impacts to cultural/archaeological sites	Early Engagement (IPD)	FortisBC welcomes Katzie First Nation's input into the archaeological assessment methods.
14	Expect to be afforded the procedural rights of participating Indigenous nations under the new Provincial EA (such as, capacity funding, consensus seeking process, procedures to communicate consent or withhold consent, and access to facilitate dispute resolution)	Early Engagement (IPD)	FortisBC acknowledges Katzie's First Nation position and expectations and looks forward to future engagement with Katzie First Nation to learn more about their interests and capacity requirements.
Kwantlen First Nation			
15	Concern about the EA approach. Kwantlen First Nation wants to ensure that the EA is holistic and encompasses potential impacts from all phases of the proposed Project. To date Kwantlen First Nation identifies that there is a disconnect between intent and application of taking a holistic EA approach.	Early Engagement (Draft DPD)	FortisBC is still in very early stages of the EA process, which is designed to build a better proposed Project description; FortisBC will continue to engage with Kwantlen First Nation on this issue.
16	Concerns about "project splitting," where projects are looked at separately as opposed to in one EA, which puts additional strain on Kwantlen First Nation resources and ability to review material.	Early Engagement (Draft DPD)	FortisBC has an immediate need to build an additional storage facility to continue to supply natural gas even during short-term disruptions. FortisBC wants to avoid concerns about project splitting and are planning to cover the maximum scope of the EA, which includes tank and liquification as included in the DPD.
17	Stated that they have limited capacity to participate and review in EA projects. Requested more information on when and how to request for capacity funding. Expressed interest in participating in regular, active consultation.	Early Engagement (Draft DPD)	To request funding, FortisBC will request for Kwantlen First Nation to send cost estimate. FortisBC will provide capacity funding and will continue to engage with Kwantlen First Nation on the issue.
18	Requested the opportunity to participate in Archaeological Assessments.	Early Engagement (Draft DPD)	FortisBC noted that AIA for proposed Project Site may be done as part of the application WesPac will be submitting.
Lyackson First Nation			
19	Concerns about sufficient capacity funding to meaningfully engagement with FortisBC.	Capacity Funding Agreement	FortisBC will continue to engage with Lyackson First Nation on capacity funding needs and opportunities and the wording within the agreement.
Malahat First Nation			
20	Concern that the capacity funding provided may be insufficient given the lack of capacity within Indigenous nations to be involved in the assessment processes of EAs.	Capacity Funding Agreement	FortisBC will engage with the Malahat First Nation via the Nations preferred engagement methods regarding capacity funding.
21	Concern that secondary sources are being used in place of Indigenous engagement. Malahat Nation wants to reiterate that secondary sources are to be used only as contextual reference.	Early Engagement (Draft DPD)	FortisBC will continue to engage with Malahat First Nation throughout the proposed Project assessment and is committed to using information provided by Malahat First Nation to inform the DPD, Indigenous interests and VCs of the proposed Project assessment.
S'ólh Téméxw Stewardship Alliance via the People of the Rivers Office			
22	Concern about the lack of Early Engagement.	Early Engagement (VCs)	People of the Rivers Office had not received information about the proposed Project; however, FortisBC provided previous correspondence to People of the Rivers Referrals Office. FortisBC requested feedback on how FortisBC can improve engagement moving forward. FortisBC will continue to engage with the S'ólh Téméxw Stewardship and People of the Rivers Office as directed by the S'ólh Téméxw Stewardship Alliance.

Table H-2. Procedural and Engagement Issues Raised by the Indigenous Nations

Issues Raised		Engagement Phase	FortisBC Response
Tsawwassen First Nation			
23	Tsawwassen First Nation interested in understanding where they can play a leadership role within the EA.	Early Engagement (Draft DPD)	FortisBC will engagement with Tsawwassen First Nation on the effects assessment process.
24	Tsawwassen First Nation do not feel that Indigenous Knowledge is equally valued to western science. Request that B.C. EAO equally value IK and western science. This includes having Indigenous Knowledge inform the EA throughout the process, extending beyond baseline conditions.	Early Engagement (Draft DPD)	FortisBC does value Indigenous Knowledge and western science equally and is committed to providing a balanced assessment in collaboration with Tsawwassen First Nation. FortisBC will defer to B.C. EAO regarding the statement about them equally valuing Indigenous Knowledge and western science.
25	Highlight the importance of Culture VC and Indigenous Interests within the assessment; Tsawwassen First Nation requests to have discussions with FortisBC and the Crown regarding assessing impacts on their rights	Early Engagement (Draft DPD)	FortisBC agrees and would be pleased to have these discussions.
26	Concerns about the thoroughness of the Strategic Assessment of Climate Change; suggest that an analysis of the relative contribution of the proposed Project to provincial, national, and sector GHG emissions, and Provincial and Federal climate targets.; suggest a Climate Impact Assessment for fugitive methane emissions be conducted.	Early Engagement (Draft DPD)	FortisBC will be following the Federal and Provincial guidance for the GHG assessments that can be modified to consider proposed Project-specific needs. FortisBC will discuss this concern further with Tsawwassen First Nation.
27	Emphasize the need for a holistic framework for assessing community impacts.	Early Engagement (Draft DPD)	FortisBC will engagement with Tsawwassen First Nation on the effects assessment process.
28	Concern about the level of commitment to describe and provide baselines studies in the EAC Application. Tsawwassen First Nation request that FortisBC provide an annotated list of baseline work for all VC's that involve baseline information that is planned for the Project.	Early Engagement (Draft DPD)	FortisBC would like to understand how Tsawwassen First Nation would like to be involved in the review process. FortisBC further inquired about particular baseline studies that might be of interest to Tsawwassen First Nation.
Tsleil-Waututh Nation			
29	Concern that the engagement approach will be inadequate due to the proposed Project schedule (including Tsleil-Waututh Nation capacity constraints due to the COVID-19 pandemic) Requested that Tsleil-Waututh Nation be kept informed about discussion with other regulators (such as, ECCC)	Early Engagement (Draft DPD)	FortisBC will continue to engage Tsleil-Waututh Nation on the issue.
30	Requested a further extension to the Early Engagement Phase Tsleil-Waututh Nation requires a 30- to 45-day review period.	Early Engagement (Draft DPD)	FortisBC has extended the Early Engagement Phase to respond to the COVID-19 pandemic and concerns raised by Indigenous nations and has been extended to August 2021.
31	Concern about sufficient review time for documents and questions about how their comments have been incorporated into the DPD.	Early Engagement (Draft DPD)	FortisBC has extended the Early Engagement Phase to August 2021 in response concerns raised by Indigenous nations. FortisBC will share how they have incorporated Tsleil-Waututh Nation's concerns within the DPD and draft AIR documents.
32	Concern about the terms of the capacity funding agreement, and confidentiality of information.	Capacity Funding Agreement	FortisBC will continue to engage with Tsleil-Waututh Nation on capacity funding needs and opportunities and the wording within the agreement.
33	Stated that the document summary of the field program does not contain enough detail about the field methodology and that study area boundaries should not be based on the LAA and RAA which have not been finalized. Requested that the studies be deferred to next year to allow for Tsleil-Waututh Nation's full and detailed review of the scope and methods for the field program.	Field Program Delivery	FortisBC continues to engage with Tsleil-Waututh Nation on the scope and methods for the field program.

Table H-2. Procedural and Engagement Issues Raised by the Indigenous Nations

Issues Raised		Engagement Phase	FortisBC Response
34	Concern that the proposed noise monitoring site is both a village site and an archaeological site, and that they would need to schedule a monitor to ensure no impacts to their cultural heritage if the methods are ground disturbing or invasive.	Noise monitoring processes	FortisBC engage with Tsleil-Waututh Nation regarding noise monitoring locations and will continue to engage regarding the protection of cultural and archaeological sites, and Indigenous Monitoring within the area of the monitoring sites.
35	Concerns with how the Strategic Assessment on Climate Change will be conducted. Tsleil-Waututh Nation asks what the requirements are for the Proponent in relation to GHG emissions (estimates) and associated climate change information, and if FortisBC will only report the estimated additional capacity of the project compared to its original design. Requested further details regarding the inclusion of offsets and avoided emissions in the calculations, as the total could be reduced by a series of GHG mitigation factors (that is, captured and stored carbon dioxide and avoided domestic GHG emissions).	Early Engagement (Draft DPD)	FortisBC proposes to conduct the GHG assessment in accordance with the requirements of the SACC for the various stages of the Project Application.
Ts'uubaa-asatx First Nation			
36	Stated that they have limited capacity to review documents. Requested assistance from FortisBC to identify key areas for their review.	Early Engagement	FortisBC will continue to engage with Ts'uubaa-asatx First Nation on capacity funding opportunities and wording within the capacity funding agreement.

Appendix I

Summary of Engagement with Indigenous Nations

Appendix I. Summary of Information on FortisBC's Engagement with Indigenous Nations

Appendix I provides a summary of engagement activities and interests and concerns raised by Indigenous nations. The tables in this appendix provide an overview of matters raised during engagement from July 2019 to July 19, 2021 of the Early Engagement Phase.

I.1 Chawathil First Nation

FortisBC Holdings Inc. with its natural gas subsidiary FortisBC Energy Inc. (collectively defined as FortisBC) initiated contact with Chawathil First Nation once the Joint Summary of Issues and Engagement was released and FortisBC became aware of the Chawathil First Nation's interests regarding the Tilbury LNG Phase 2 Expansion Project (the proposed Project). FortisBC has inquired as to Chawathil First Nation engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

Chawathil First Nation submitted their notice to engage as a participating Indigenous nation to the British Columbia (B.C.) Environmental Assessment Office (EAO) on July 23, 2020. In their notice, Chawathil First Nation stated, "the Project is proposed within our S'ólh Téméxw, over which Chawathil First Nation holds constitutionally protected Aboriginal Title, Rights, and Indigenous interests. In addition, components of the existing infrastructure related to the proposed Project cross directly through Chawathil First Nation's reserve lands" (Chawathil First Nation 2020).

In their notice, Chawathil First Nation emphasized the proposed Project would impact governance and self-determination rights in the proposed Project Area, and impact rights to implement Indigenous laws, customs, and protocols, and stewardship rights and responsibilities, including ongoing conservation efforts targeted at restoring important fish species and habitat as well as medicinal plants, animals, and minerals.

Chawathil First Nation further stated the proposed Project Area will impact lands and resources, Chawathil First Nation's rights to clean air, waters, and lands, and rights to determine and develop strategies for the development or use of their Traditional Territory. Chawathil First Nation indicated the proposed Project will impact fishing rights for food, ceremonial, social, and trade purposes, gathering rights including traditional medicine, and food security. Chawathil First Nation cited effects to cultural and spiritual sites, including protection and access areas of cultural and spiritual importance, effects of the rights to revitalize, develop, and transmit Traditional Knowledge to future generations, including Chawathil First Nation histories, Oral Traditions, and place names relating to the proposed Project Area. Chawathil First Nation also cited effects to economic development, socio-economic rights, and the ability to improve current conditions (IAAC and B.C. EAO 2020).

FortisBC acknowledged Chawathil First Nation's notice to engage as a participating Indigenous nation on September 18, 2020 and met with Chawathil First Nation on October 29, 2020. FortisBC and Chawathil First Nation agreed on the terms of the Capacity Funding Agreement on March 8, 2021. A detailed summary of engagement activities with Chawathil First Nation is provided in Table I-1.

Table I-1. Summary of Engagement with Chawathil First Nation

Dates	Subject of Engagement	Method of Contact	Summary of Engagement
August 25, 2020	Project Introduction; Draft VC Selection; Draft AIR	Email	<ul style="list-style-type: none"> Introduction to the proposed Project and FortisBC and request for a follow-up phone call. <ul style="list-style-type: none"> Email attachments included Project update letter with information on the draft AIR and draft VC Selection Appendix.
September 18 to October 1, 2020	Status as participating Indigenous nation Next steps	Email	<ul style="list-style-type: none"> FortisBC acknowledged Chawathil First Nation's notice to engage as a participating Indigenous nation and requested an in-person meeting to discuss next steps in the EA process.
October 21, 2020	FortisBC Introductory Meeting scheduling and document review	Email	<ul style="list-style-type: none"> FortisBC sent an invitation and agenda for an introductory meeting. The agenda for the meeting included introductions, Tilbury Phase 2 Project background, and the next steps in the proposed Project. Email attachments included: <ul style="list-style-type: none"> Draft AIR Draft VC Selection
October 29, 2020	Introduce the proposed Project and discuss Project updates	Teleconference meeting and email	<ul style="list-style-type: none"> Meeting with Chawathil First Nation to discuss proposed Project overview, Chawathil First Nation points of interest regarding the existing gas system/infrastructure operating on Chawathil First Nation IR No.4, the DPD, the draft AIR, and draft VCs, opportunities for Chawathil First Nation comments on the documents, and capacity funding. Email attachments included: <ul style="list-style-type: none"> FortisBC Project Background Slides
November 10, 2020	Capacity Funding	Email	<ul style="list-style-type: none"> Chawathil First Nation requested FortisBC assist the Chawathil First Nation by providing capacity funding enabling them to participate in the pre-engagement process. Email attachments included: <ul style="list-style-type: none"> Capacity Funding Budget
December 2, 2020	Meeting Minutes and Capacity Funding Agreement	Email	<ul style="list-style-type: none"> FortisBC sent a Capacity Funding Agreement and requested Chawathil First Nation to review it and have a phone call to walk through the document. Email attachments included: <ul style="list-style-type: none"> Chawathil First Nation October 29, 2020 Meeting Minutes Capacity Funding Agreement
December 3, 2020	Capacity Funding Comments	Email	<ul style="list-style-type: none"> Chawathil First Nation provided comments on the Capacity Funding Agreement and raised concern that they had not received funding from the IAAC for this regulatory process. Email attachments included: <ul style="list-style-type: none"> Chawathil First Nation Comments on Capacity Funding Agreement

Table I-1. Summary of Engagement with Chawathil First Nation

Dates	Subject of Engagement	Method of Contact	Summary of Engagement
December 11, 2020	Meeting to Finalize the Capacity Funding Agreement	Meeting	<ul style="list-style-type: none"> Meeting with Chawathil First Nation to finalize the Capacity Funding Agreement. Edits were applied to the agreement that FortisBC's legal team will review. The agreement will be finalized by December 11, 2020. FortisBC provided contact information for IAAC to support Chawathil First Nation's funding inquiry.
January 29, 2021	Capacity Funding Agreement	Email	<ul style="list-style-type: none"> FortisBC incorporated Chawathil First Nation's requested changes to the Capacity Funding Agreement and sent the updated version of the Agreement. Email attachments included: <ul style="list-style-type: none"> Updated Capacity Funding Agreement
February 4, 2021	Annotated Bibliography and Updated Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC explained the schedule changes and asked Chawathil First Nation to review and provide feedback on FortisBC's proposed secondary source list. Email attachments included: <ul style="list-style-type: none"> Chawathil First Nation Annotated Bibliography Updated Look Ahead Schedule
April 13, 2021	Meeting Minutes and DPD Review Meeting Scheduling	Email	<ul style="list-style-type: none"> Topics of discussion included previous action items, proposed Project overview presentation, Indigenous employment and benefits, draft DPD comments and timeline, preliminary comments from Chawathil First Nation on secondary sources and TUS. FortisBC requested a follow-up meeting to cover topics including Chawathil First Nation's comments on the VC Selection, draft AIR, and draft DPD Part 1. Email attachments included: <ul style="list-style-type: none"> Meeting Minutes for March 19, 2021, meeting Link to B.C. EAO Marine Jetty EA website
April 22, 2021	Field Program Participation	Email	<ul style="list-style-type: none"> FortisBC invited Chawathil First Nation to participate in field work studies and requested they notify FortisBC by April 30, 2021. Proposed field studies included Surface Water and Groundwater, Vegetation and Wetlands, Wildlife and Wildlife Habitat, and Fish and Fish Habitat studies. Email attachments included: <ul style="list-style-type: none"> Spring VC Selection Field Study Schedule
May 3, 2021	Capacity Funding Invoice	Email	<ul style="list-style-type: none"> FortisBC requested an invoice from Chawathil First Nation to process the Capacity Funding Agreement.

Table I-1. Summary of Engagement with Chawathil First Nation

Dates	Subject of Engagement	Method of Contact	Summary of Engagement
May 31, 2021	Look Ahead Schedule and Noise Monitoring	Email	<ul style="list-style-type: none"> FortisBC included the proposed noise monitoring sites for Chawathil First Nation's review. FortisBC informed Chawathil First Nation that a second DPD workshop was planned for the third week of June 2021. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead May 2021 2021 Acoustic Field Program
June 16, 2021	DPD Workshop Feedback	Email	<ul style="list-style-type: none"> FortisBC requested a meeting with Chawathil First Nation to discuss the most recent draft DPD from B.C. EAO. FortisBC requested Chawathil First Nation's final review and signatures of the Capacity Funding Agreement and Consultation Protocol. Chawathil First Nation indicated that the draft DPD was very technical and overwhelming.
July 5, 2021	Phase 2 Field Studies, DPD Follow-Up and LNG Distribution Figure	Email	<ul style="list-style-type: none"> FortisBC sent an outline of the upcoming Vegetation and Wetlands field program and requested the participation of Chawathil First Nation. FortisBC noted the upcoming installation of acoustic receptors. FortisBC proposed a 2-hour meeting to review the most recent draft of the DPD. FortisBC provided an LNG Distribution graphic as per the March 19, 2021 meeting action items. Email attachments included: <ul style="list-style-type: none"> Vegetation Field Program Overview LNG Distribution System Graphic

Notes:

AIR = Application Information Requirement
DPD = Detailed Project Description
EA = environmental assessment
IAAC = Impact Assessment Agency of Canada
IR = Indian Reserve
LNG = liquified natural gas
TUS = Traditional Use Study
VC = Valued Component

I.2 Cheam First Nation

FortisBC initiated contact with Cheam First Nation once the Joint Summary of Issues and Engagement was released and FortisBC became aware of the Cheam First Nation's interests regarding the proposed Project. FortisBC has inquired as to Cheam First Nation engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.,

Cheam First Nation submitted their notice to engage as a participating Indigenous nation to the B.C. EAO on July 8, 2020. In their notice, Cheam First Nation stated their Aboriginal Rights are vulnerable to effects to the Fraser River as Cheam First Nation's way of life is strongly tied to the river. Cheam First Nation harvest salmon in the Fraser River for food, social, and ceremonial purposes, and any change to the salmon population or salmon habitat could affect Cheam First Nation's existence (Cheam First Nation 2020).

FortisBC acknowledged Cheam First Nations' notice to engage on September 18, 2020 and met with Cheam First Nation on October 26, 2020. Cheam First Nation stated that they want a mutually respectful engagement process. FortisBC is working with the Cheam First Nation to finalize a Consultation Protocol Agreement and Capacity Funding Agreement. A detailed summary of engagement activities with Cheam First Nation is provided in Table I-2.

Table I-2. Summary of Engagement with Cheam First Nation

Dates	Subject of Engagement	Method of Contact	Summary of Engagement
August 25, 2020	Project Introduction; Draft VC Selection; Draft AIR	Email	<ul style="list-style-type: none"> Introduction to the proposed Project and FortisBC and request for a follow-up phone call. <ul style="list-style-type: none"> Email attachments included Project update letter with information on the Draft VCs and Draft AIRs, and Draft VC Selection Appendix
September 18 to September 24, 2020	Status as participating Indigenous nation Next steps	Email	<ul style="list-style-type: none"> FortisBC acknowledged Cheam First Nation's notice to engage as a participating Indigenous nation and requested an in-person meeting to discuss next steps in the EA process.
October 26, 2020	Tilbury Team Introduction Meeting and Update	Meeting/ follow-up email	<ul style="list-style-type: none"> Meeting with Cheam First Nation and Legal Counsel to discuss the proposed Project overview, site tour, Cheam First Nation's questions about proposed Project, proposed Project schedule, Engagement Agreement/Protocol, DPD.
November 27, 2020	Consultation Protocol Agreement	Email	<ul style="list-style-type: none"> FortisBC sent Cheam First Nation a draft Consultation Protocol Agreement and meeting minutes from October 26, 2020 meeting
December 11, 2020	Meeting to Discuss the Consultation Protocol	Meeting	<ul style="list-style-type: none"> Meeting with Cheam First Nation to discuss the Consultation Protocol. Cheam First Nation provided a map of the Traditional Territory to be included in the Consultation Protocol and requested to review any reports related to salmon fishing and water quality. FortisBC will finalize the revisions on the Consultation Protocol.
December 14, 2020	Meeting to Discuss Capacity Funding Agreement and Consultation Protocol	Meeting	<ul style="list-style-type: none"> Meeting with Cheam First Nation to discuss the draft Capacity Funding Agreement and revised draft Consultation Protocol Dates were suggested for the next meeting

Table I-2. Summary of Engagement with Cheam First Nation

Dates	Subject of Engagement	Method of Contact	Summary of Engagement
January 4, 2021	Updated Capacity Funding Agreement	Email	<ul style="list-style-type: none"> FortisBC incorporated Cheam First Nation's requested changes to the Capacity Funding Agreement and sent the updated version of the Agreement. FortisBC requested that Cheam First Nation send Cheam First Nation's Traditional Territory map to be incorporated in the Consultation Protocol. Email attachments included: <ul style="list-style-type: none"> Updated draft Capacity Funding Agreement
February 4, 2021	Annotated Bibliography and Updated Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC explained the schedule changes and asked Cheam First Nation to review and provide feedback on FortisBC's proposed secondary source list. Email attachments included: <ul style="list-style-type: none"> Cheam First Nation Annotated Bibliography Updated Look Ahead Schedule Draft Capacity Funding Agreement
March 24, 2021	Legal Counsel Discussion	Phone Call	<ul style="list-style-type: none"> FortisBC requested a map to be used for the consultation protocol and capacity funding. FortisBC to provide an updated DPD schedule to Cheam First Nation.
April 22, 2021	Field Program Participation	Email	<ul style="list-style-type: none"> FortisBC invited Cheam First Nation to participate in field work studies and requested they notify FortisBC by April 30, 2021. Email attachments included: <ul style="list-style-type: none"> Proposed Spring VC Selection Field Study Schedule
May 4, 2021	DPD Meeting Scheduling	Email	<ul style="list-style-type: none"> FortisBC proposed a meeting to discuss the DPD, draft AIR, and VCs in mid to late May 2021.
May 31, 2021	Look Ahead Schedule and Noise Monitoring	Email	<ul style="list-style-type: none"> FortisBC sent the updated Look Ahead Schedule and the proposed noise monitoring sites for Cheam First Nation's review. FortisBC proposed a second DPD workshop in the third week of June. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead Schedule May 2021 2021 Acoustic Monitoring Program
June 16, 2021	DPD Feedback	Email	<ul style="list-style-type: none"> FortisBC requested a meeting with Cheam First Nation to discuss the most recent draft of the DPD. FortisBC requested a final review of and signatures for the Capacity Funding Agreement and the Consultation Protocol from Cheam First Nation.

Table I-2. Summary of Engagement with Cheam First Nation

Dates	Subject of Engagement	Method of Contact	Summary of Engagement
July 5, 2021	Phase 2 Field Studies	Email	<ul style="list-style-type: none"> ▪ FortisBC sent an outline of the upcoming Vegetation and Wetlands field program and invited the participation of Cheam First Nation. ▪ FortisBC noted the upcoming installation of acoustic receptors. ▪ Email attachments included: <ul style="list-style-type: none"> – Vegetation Field Program Overview

I.3 Cowichan Tribes

FortisBC communicates with Cowichan Tribes directly, and via the Cowichan Nation Alliance using email, an in-person meetings, telephone calls, and virtual meetings. FortisBC has inquired as to Cowichan Tribes engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

Cowichan Tribes submitted their notice to engage as a participating Indigenous nation to the B.C. EAO on May 25, 2020. In their notice, Cowichan Tribes cited their Indigenous Rights under United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), Aboriginal Rights in the proposed Project Area, including harvesting rights for wildlife, waterfowl, vegetation and other resources, the right to fish for food, social and ceremonial use, and Aboriginal Title interests (Cowichan Tribes 2020). Cowichan Tribes further stated that the descendant communities of the historic Cowichan Nation "...hold inherent jurisdiction over the proposed Project Area as the controlling Indigenous group over that area at all relevant times (pre-contact, at the time of contact, and through well beyond 1846)," and therefore, under Cowichan Tribes Indigenous laws, are stewards of the lands, waters, and resources. This includes the exercise of their "...inherent land use planning jurisdiction for the lands of Tl'uqtnus [historic village in present day Richmond, BC] and surrounding environs" (Cowichan Tribes 2020).

FortisBC initiated engagement with Cowichan Tribes on July 2, 2019 with an introductory email. FortisBC sent Cowichan Tribes a proposed Project update on June 2, 2020 and requested Cowichan Tribes comments. Cowichan Tribes provided FortisBC with comments on the August 2020 draft AIR on October 23, 2020 and specified that although these comments were from the perspective of the Cowichan Tribes, the other members of the Cowichan Nation Alliance may adopt these comments if they choose.

FortisBC has engaged with Cowichan Tribes via the Cowichan Nation Alliance beginning with a meeting on September 22, 2020. Considering the persistent challenges the COVID-19 pandemic posed to engaging with Elders and Knowledge Keepers for a new Indigenous Knowledge Study (IKS), the Cowichan Nation Alliance granted FortisBC approval to use the Tilbury Marine Jetty project TUS and IKS. Cowichan Tribes shared the TUS Culturally Significant Vegetation of Tilbury Island by Dr. Nancy Turner (Turner 2020) on October 30, 2020. Cowichan Tribes also shared Stl'ulnup: A Cowichan Nation Use and Occupancy Study for Tilbury Island developed by Candace Charlie for the Tilbury Marine Jetty Project and the Cowichan Nation Alliance's Declaration for Reconciliation.

Cowichan Tribes has notified FortisBC that together with the other members of the Cowichan Nation Alliance, they are actively pursuing undertaking an Indigenous-led assessment for the proposed Project.

A detailed summary of engagement activities with Cowichan Tribes is provided in Table I-3.

Table I-3. Summary of Engagement with Cowichan Tribes

Dates	Subject of Engagement	Method of Contact	Summary of Engagement
July 2019 to February 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none"> ▪ Introductory email notifying of the proposed Project and requesting a meeting to review the Draft IPD. ▪ FortisBC confirmed meeting with Cowichan Nation Alliance to discuss the proposed Project. ▪ Cowichan Tribes provided initial comments on the IPD. ▪ FortisBC provided revised IPD by email. ▪ Email providing additional clarification of comments included in the revised IPD. ▪ Notification of intent to submit the IPD to B.C. EAO.
July 12, 2019	Capacity Funding	Email	<ul style="list-style-type: none"> ▪ Pre-application capacity funding was discussed
July 17, 2019	Early Engagement; IPD	In-person Meeting	<ul style="list-style-type: none"> ▪ Meeting with Cowichan Nation Alliance at Cowichan Tribes office in Duncan, B.C. to discuss the IPD and address initial questions or concerns.
August 15, 2019	IPD	Call	<ul style="list-style-type: none"> ▪ Clarification of Cowichan Tribes comments. Cowichan Tribes to seek availability for another meeting with FortisBC end of August.
February 14, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none"> ▪ FortisBC emailed Cowichan Tribes to notify them of FortisBC's intent to formally submit the Initial Project Description to the B.C. EAO and IAAC.
June 1 to 2, 2020	Project Update and Extension	Email	<ul style="list-style-type: none"> ▪ Project update and extensions to Early Engagement Phase.
August 25, 2020	Project Update; Draft VC Selection; Draft AIR	Email	<ul style="list-style-type: none"> ▪ Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> – Review of the Draft VCs – Review of the Draft AIR – Review of the Draft DPD – The proposed process for identifying and including Indigenous Knowledge – Capacity funding information ▪ Communications included an update letter, draft VCs, draft AIR, and estimated timelines. FortisBC offered to meet with Cowichan Tribes to discuss further.
August 26, 2020	Draft AIR and draft VC Selection; TUS	Email	<ul style="list-style-type: none"> ▪ FortisBC proposed a meeting in late September or early October between Cowichan Nation Alliance and FortisBC. Cowichan Nation Alliance will begin to review the draft AIR and draft VC Selection. ▪ Engaging with Elders and Knowledge Keepers is challenging due to the COVID-19 pandemic. Cowichan Nation Alliance does not know when they will be able to begin those discussions.

Table I-3. Summary of Engagement with Cowichan Tribes

Dates	Subject of Engagement	Method of Contact	Summary of Engagement
August 27, 2020	Meeting; TUS	Email	<ul style="list-style-type: none"> FortisBC confirmed availability to meet with Cowichan Nation Alliance. FortisBC inquired about existing TUS information that could serve as a preliminary starting point.
September 22, 2020	Project Update	Telephone Meeting	<ul style="list-style-type: none"> Meeting with Cowichan Nation Alliance members to provide a proposed Project update and discuss scheduling.
October 27, 2020	FortisBC Tilbury draft AIR Comments from Cowichan Tribes	Email	<ul style="list-style-type: none"> Cowichan Tribes provided FortisBC with comments on the draft AIR document and stated that the other members of the Cowichan Nation Alliance may adopt the comments as well. Email attachments included: <ul style="list-style-type: none"> Comments on FortisBC Tilbury Expansion Draft AIR
October 30, 2020	Cowichan Tribes Culturally Important Vegetation of Tilbury Island Report	Email	<ul style="list-style-type: none"> Cowichan Tribes completed the Culturally Important Vegetation of Tilbury Island report and shared it with FortisBC.
November 27, 2020	Meeting Minutes	Email	<ul style="list-style-type: none"> FortisBC provided Cowichan Tribes with minutes from the September 22, 2020 meeting.
December 11, 2020	FortisBC response to Cowichan Tribes' draft AIR comments	Email	<ul style="list-style-type: none"> FortisBC provided Cowichan Tribes with responses to Cowichan Tribes' comments on the draft AIR.
January 6, 2021	Cowichan Tribes' draft AIR comments	Email (via Cowichan Nation Alliance)	<ul style="list-style-type: none"> Cowichan Tribes provided FortisBC with follow-up comments on draft AIR.
January 8, 2021	Project Updates and Cowichan Tribes and Halalt First Nation's draft AIR Comments	Meeting	<ul style="list-style-type: none"> Meeting to provide proposed Project updates and address Cowichan Tribes and Halalt First Nation's comments on the draft AIR.
January 22, 2021	FortisBC's Responses to Cowichan Tribes and Halalt First Nation's draft AIR Comments and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC provided Cowichan Tribes with further responses to Cowichan Tribes and Halalt First Nation's comments that reflect the January 8, 2021 meeting discussion. FortisBC explained the proposed Project Schedule changes. Email attachments included: <ul style="list-style-type: none"> FortisBC responses to Cowichan Nation Alliance comments on the draft AIR January 8, 2021 meeting minutes Look Ahead Schedule
February 3, 2021	Barrier to Harvesting Report	Email	<ul style="list-style-type: none"> FortisBC provided Cowichan Tribes with the "Barriers to Harvesting" report that Cowichan Tribes mentioned at the January 8, 2021 meeting.

Table I-3. Summary of Engagement with Cowichan Tribes

Dates	Subject of Engagement	Method of Contact	Summary of Engagement
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Cowichan Tribes with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
February 12, 2021	Annotated Bibliography and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC explained the proposed Project Schedule changes and asked Cowichan Tribes to review and provide feedback on FortisBC's proposed secondary source list. Email attachments included: <ul style="list-style-type: none"> Cowichan Tribes, Penelakut First Nation, Stz'uminus First Nation, Lyackson First Nation, and Halalt First Nation's Annotated Bibliography Updated Look Ahead Schedule Updated January 8, 2021 meeting minutes
February 19, 2021	Indigenous-Led Assessment	Email	<ul style="list-style-type: none"> FortisBC provided Cowichan Tribes with B.C. EAO's responses regarding funding for an Indigenous-led assessment. Email attachments included: <ul style="list-style-type: none"> Response from B.C. EAO on the Indigenous-led Assessment
March 3, 2021	Declaration for Reconciliation	Email	<ul style="list-style-type: none"> Cowichan Tribes provided FortisBC with the Cowichan Nation Alliance's Declaration for Reconciliation. Email attachments included: <ul style="list-style-type: none"> Declaration for Reconciliation
March 3, 2021	Cowichan Tribes Annotated Bibliography Comments	Email	<ul style="list-style-type: none"> Cowichan Tribes provided FortisBC with Cowichan Tribes' comments on the secondary source list. Email attachments included: <ul style="list-style-type: none"> Cowichan Tribes Annotated Bibliography comments
March 3, 2021	Project Update Meeting	Meeting	<ul style="list-style-type: none"> Meeting between Cowichan Nation Alliance and FortisBC to discuss proposed Project updates, draft DPD comments, list of secondary sources, and EA methodology.
March 9, 2021	Cowichan Tribes draft DPD Comments	Email	<ul style="list-style-type: none"> Cowichan Tribes provided FortisBC with comments on Part 1 of the draft DPD. Email attachments included: <ul style="list-style-type: none"> Cowichan Tribes draft DPD comments
March 12, 2021	Copy of the DPD Part 1 Presentation	Email	<ul style="list-style-type: none"> FortisBC sent Cowichan Tribes a copy of the DPD Part 1 Presentation. Email attachments included: <ul style="list-style-type: none"> Copy of the DPD Part 1 Presentation

Table I-3. Summary of Engagement with Cowichan Tribes

Dates	Subject of Engagement	Method of Contact	Summary of Engagement
March 15, 2021	Meeting Minutes and DPD Part 1 Presentation	Email	<ul style="list-style-type: none"> FortisBC provided Cowichan Tribes with the March 3, 2021 meeting minutes and the DPD Part 1 presentation slides. Email attachments included: <ul style="list-style-type: none"> March 3, 2021 meeting minutes DPD Part 1 presentation slides
March 26, 2021	Archaeological Impact Assessment	Email	<ul style="list-style-type: none"> Notice that Golder would be conducting an archaeological impact assessment on behalf of FortisBC for the proposed Project.
April 8, 2021	DPD Feedback	Email	<ul style="list-style-type: none"> FortisBC sent responses to Cowichan Tribes' DPD comments. Email attachments included: <ul style="list-style-type: none"> FortisBC's Responses to Cowichan Tribes' Comments on draft DPD
April 12, 2021	Indigenous-Led Assessment	Email	<ul style="list-style-type: none"> FortisBC informed Cowichan Tribes via communication through Cowichan Nation Alliance that the due date for Indigenous-led assessments is mid-September.
April 12, 2021	DPD Feedback	Email	<ul style="list-style-type: none"> Cowichan Tribes confirm that FortisBC has adequately responded to their comment on the draft DPD.
April 14, 2021	Meeting Minutes	Email	<ul style="list-style-type: none"> FortisBC sent the April 12, 2021 Cowichan Nation Alliance meeting minutes. Email attachments included: <ul style="list-style-type: none"> April 12, 2021 Meeting Minutes
April 16-20, 2021	Indigenous-Led Assessment Timeline	Email	<ul style="list-style-type: none"> Cowichan Tribes on behalf of Cowichan Nation Alliance informing FortisBC that the proposed deadline is too soon. FortisBC requested that Cowichan Nation Alliance provide any information they wish to be included in the application by mid-September and when the process is triggered a better timeframe can be identified.
April 22-23, 2021	Field program Participation	Email	<ul style="list-style-type: none"> FortisBC invited Cowichan Tribes to participate in field work studies and requested they notify FortisBC by April 30, 2021. Cowichan Tribes confirmed on behalf of Cowichan Nation Alliance members that they would participate remotely. Email attachments included: <ul style="list-style-type: none"> Proposed Spring VC Selection Field Study Schedule
May 4-6, 2021	Remote Monitoring Methods	Email	<ul style="list-style-type: none"> FortisBC informed Cowichan Tribes via Cowichan Nation Alliance that remote monitoring options were being explored for participation and suggested a combination of photos and summary meetings may be most effective.
May 13-14, 2021	Field Program Participation	Meeting	<ul style="list-style-type: none"> Cowichan Tribes, on behalf of Cowichan Nation Alliance, participated in remote field studies calls.

Table I-3. Summary of Engagement with Cowichan Tribes

Dates	Subject of Engagement	Method of Contact	Summary of Engagement
May 13, 2021	Biophysical Field Studies Summary	Email	<ul style="list-style-type: none"> FortisBC sent Cowichan Tribes a summary of the biophysical field studies. Email attachments included: <ul style="list-style-type: none"> Field Work Summary for May 13, 2021
May 18, 2021	Wildlife Field Studies Summary	Email	<ul style="list-style-type: none"> FortisBC sent Cowichan Tribes a summary of the wildlife field studies. Email attachments included: <ul style="list-style-type: none"> Tilbury Facilities Expansion Wildlife Summary
May 31, 2021	Look Ahead and Noise Monitoring	Email	<ul style="list-style-type: none"> FortisBC sent the updated Look Ahead Schedule and the proposed noise monitoring sites for Cowichan Tribes' review. FortisBC proposed a second DPD workshop in the third week of June. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead Schedule May 2021 2021 Acoustic Monitoring Program
May 31 – June 2, 2021	Cowichan Nation Alliance Indigenous-Led Assessment Timeline	Email	<ul style="list-style-type: none"> Cowichan Tribes provided scope and budget for Indigenous-led assessment on behalf of all five Indigenous nations.
June 3, 2021	Draft DPD Comments	Email	<ul style="list-style-type: none"> Cowichan Tribes provided comments on draft DPD. Email attachments included: <ul style="list-style-type: none"> Cowichan Nation Alliance draft DPD Comments
June 10-16, 2021	Indigenous-Led Assessment Timeline	Email	<ul style="list-style-type: none"> FortisBC inquired if the proposed assessment included existing Indigenous Knowledge/Traditional Ecological Knowledge. Cowichan Tribes confirmed the assessment would include Indigenous Knowledge/Traditional Ecological Knowledge and suggested the assessment would be follow the same timeline as the EA. Cowichan Tribes suggested the assessment serve as the main document informing leadership decisions on the proposed Project moving forward.
June 16, 2021	DPD	Email	<ul style="list-style-type: none"> FortisBC requested a meeting with Cowichan Nation Alliance to review the most recent draft DPD. FortisBC requested feedback on the Acoustic Monitoring study. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead Schedule June 2021 Tilbury Phase 2 Project – Acoustic Monitoring

Table I-3. Summary of Engagement with Cowichan Tribes

Dates	Subject of Engagement	Method of Contact	Summary of Engagement
June 29-30, 2021	DPD Comments	Email	<ul style="list-style-type: none"> FortisBC addressing Cowichan Tribes' most recent comments on the DPD. FortisBC noted draft VC Selection and draft AIR will be updated based on Cowichan Tribes' feedback. Email attachments included: <ul style="list-style-type: none"> Cowichan Tribes DPD Full Comment Response
July 5, 2021	Phase 2 Field Studies	Email	<ul style="list-style-type: none"> FortisBC invited Cowichan Tribes participation in the upcoming Vegetation and Wetlands Field Program. Email attachments included: <ul style="list-style-type: none"> Vegetation Field Program Overview
July 15, 2021	Phase 2 Biophysical Field Study Follow-Up	Email	<ul style="list-style-type: none"> FortisBC informed Cowichan Tribes that the offsetting plan for the Tilbury Marine Jetty project was not included in the May 13, 2021 filed program.
July 16, 2021	FortisBC Feedback on Cowichan Nation Alliance Indigenous-Led Assessment	Email	<ul style="list-style-type: none"> FortisBC proposed two interim measures for the Cowichan Nation Alliance Indigenous-led assessment: <ul style="list-style-type: none"> Meeting between FortisBC, Cowichan Nation Alliance, and B.C. EAO Funding estimate for Indigenous Knowledge/Traditional Ecological Knowledge portion of the assessment

Notes:

BCUC = British Columbia Utilities Commission

CPCN = Certificate of Public Convenience and Necessity

IPD = Initial Project Description

I.4 Halalt First Nation

FortisBC communicates with Halalt First Nation directly, and via the Cowichan Nation Alliance using email, in-person meetings, telephone calls, and virtual meetings. FortisBC has inquired as to the Halalt First Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

Halalt First Nation submitted their notice to engage as a participating Indigenous nation to the B.C. EAO on June 1, 2020. In their notice, Halalt First Nation cited their Indigenous Rights under UNDRIP, Aboriginal Rights in the proposed Project Area, including harvesting rights for wildlife, waterfowl, vegetation and other resources, the right to fish for food, social and ceremonial use, and Aboriginal Title interests. Halalt First Nation further stated that the descendant communities of the historic Cowichan Nation "...hold inherent jurisdiction over the proposed Project Area as the controlling Indigenous group over that area at all relevant times (pre-contact, at the time of contact, and through well beyond 1846)" and therefore, under Halalt First Nation Indigenous laws, are stewards of the lands, waters, and resources. This includes the exercise of their "...inherent land use planning jurisdiction for the lands of TL'uqtinus [historic village in present day Richmond, BC] and surrounding environs" (Halalt First Nation 2020).

Appendix I. Summary of Engagement with Indigenous Nations

FortisBC initiated engagement with Halalt First Nation on July 2, 2019 with an introductory email. FortisBC sent Halalt First Nation a proposed Project update on June 1, 2020 and requested Halalt First Nation's comments. Halalt First Nation adopted the Cowichan Tribes comments on the draft AIR on November 5, 2020 and added a comment about evaluating mitigation efficacy.

FortisBC has engaged with Halalt First Nation via the Cowichan Nation Alliance beginning with a meeting on September 22, 2020. Considering the persistent challenges the COVID-19 pandemic posed to engaging with Elders and Knowledge Keepers for a new IKS, the Cowichan Nation Alliance granted FortisBC approval to use the Tilbury Marine Jetty project TUS and IKS. Cowichan Tribes shared the TUS Culturally Significant Vegetation of Tilbury Island by Dr. Nancy Turner (Turner 2020) on October 30, 2020. Cowichan Tribes also shared Stl'u'nup: A Cowichan Nation Use and Occupancy Study for Tilbury Island developed by Candace Charlie for the Tilbury Marine Jetty Project and the Cowichan Nation Alliance's Declaration for Reconciliation.

Halalt First Nation has notified FortisBC that together with the other members of the Cowichan Nation Alliance, they are actively pursuing undertaking an Indigenous-led assessment for the proposed Project.

A detailed summary of engagement activities with Halalt First Nation is provided in Table I-4.

Table I-4. Summary of Engagement with Halalt First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to September 16, 2019	Early Engagement; IPD	Email	<ul style="list-style-type: none"> ▪ Introductory email notifying of the proposed Project and requesting a meeting to review the Draft IPD. ▪ FortisBC confirmed meeting with Cowichan Nation Alliance to discuss the proposed Project. ▪ Draft IPD was shared. ▪ Halalt First Nation provided initial comments on the IPD. ▪ FortisBC provided revised IPD by email.
July 17, 2019	Early Engagement; IPD	Meeting	<ul style="list-style-type: none"> ▪ Meeting of Cowichan Nation Alliance, including Halalt First Nation at Cowichan Tribes office in Duncan, B.C. to discuss the Draft IPD and address initial questions or concerns.
June 1 to 2, 2020	Project Update and Extension	Email	<ul style="list-style-type: none"> ▪ Project update and extension on Early Engagement Phase.
August 25, 2020	Project Update; Draft VC Selection; Draft AIR	Email	<ul style="list-style-type: none"> ▪ Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> – Review of the draft VCs – Review of the draft AIR – Review of the draft DPD – The proposed process for identifying and including Indigenous Knowledge – Capacity funding information ▪ FortisBC offered to meet with Cowichan Tribes to discuss further. ▪ Email attachments included: <ul style="list-style-type: none"> – Update letter – Draft VCs, draft AIR, and estimated timelines

Table I-4. Summary of Engagement with Halalt First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
September 22, 2020	Project Update	Telephone Meeting	<ul style="list-style-type: none"> Meeting with Cowichan Nation Alliance members to provide a proposed Project update and discuss scheduling
November 5, 2020 to November 6, 2020	Comments on FortisBC Tilbury Expansion Draft AIRs	Email	<ul style="list-style-type: none"> Halalt First Nation notified FortisBC that they adopt the comments provided by Cowichan Tribes on the draft AIR and added an additional comment about mitigation measures. Email attachments included: <ul style="list-style-type: none"> Halalt First Nation draft AIR comment
January 8, 2021	Project Updates and Cowichan Tribes and Halalt First Nation's draft AIR Comments	Meeting	<ul style="list-style-type: none"> Meeting to provide proposed Project updates and address Cowichan Tribes and Halalt First Nation's comments on the draft AIR
January 22, 2021 to January 27, 2021	FortisBC's Responses to Cowichan Tribes and Halalt First Nation's draft AIR Comments and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC provided Halalt First Nation with further responses to Cowichan Tribes and Halalt First Nation's draft AIR comments that reflect the January 8, 2021 meeting discussion with Cowichan Nation Alliance. FortisBC invited Halalt First Nation to meet since Halalt First Nation was unable to attend the January 8, 2021 meeting. FortisBC explained the proposed Project Schedule changes. Email attachments included: <ul style="list-style-type: none"> FortisBC responses to Cowichan Tribes and Halalt First Nation's comments on the draft AIR January 8, 2021 meeting minutes Look Ahead Schedule
February 3, 2021	Barrier to Harvesting Report	Email	<ul style="list-style-type: none"> FortisBC provided Halalt First Nation with the "Barriers to Harvesting" report that Cowichan Tribes mentioned at the January 8, 2021 meeting.
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Halalt First Nation with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
February 12, 2021	Annotated Bibliography and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC explained the proposed Project Schedule changes and asked Halalt First Nation to review and provide feedback on FortisBC's proposed secondary source list. Email attachments included: <ul style="list-style-type: none"> Cowichan Tribes, Penelakut First Nation, Stz'uminus First Nation, Lyackson First Nation, and Halalt First Nation's Annotated Bibliographies Updated Look Ahead Schedule Updated January 8, 2021 meeting minutes

Table I-4. Summary of Engagement with Halalt First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
February 19, 2021	Indigenous-Led Assessment	Email	<ul style="list-style-type: none"> FortisBC provided Halalt First Nation with B.C. EAO's responses regarding funding for an Indigenous-led assessment. Email attachments included: <ul style="list-style-type: none"> Response from B.C. EAO on the Indigenous-led Assessment
March 3, 2021	Declaration for Reconciliation	Email	<ul style="list-style-type: none"> Cowichan Nation Alliance provided FortisBC with the Cowichan Nation Alliance's Declaration for Reconciliation, on behalf of Halalt First Nation. Email attachments included: <ul style="list-style-type: none"> Declaration for Reconciliation
March 3, 2021	Project Update Meeting	Meeting	<ul style="list-style-type: none"> Meeting to discuss proposed Project updates, draft DPD comments, list of secondary sources and EA methodology.
March 12, 2021	Copy of DPD Part 1 Presentation	Email	<ul style="list-style-type: none"> FortisBC sent Halalt First Nation a copy of the DPD Part 1 Presentation. Email attachments included: <ul style="list-style-type: none"> Copy of the DPD Part 1 Presentation
March 15, 2021	Meeting Minutes and DPD Part 1 Presentation	Email	<ul style="list-style-type: none"> FortisBC provided Halalt First Nation with the March 3, 2021 meeting minutes and the DPD Part 1 presentation slides. Email attachments included: <ul style="list-style-type: none"> March 3, 2021 meeting minutes DPD Part 1 presentation slides
March 26, 2021	Archaeological Impact Assessment	Email	<ul style="list-style-type: none"> Notice that Golder would be conducting an archaeological impact assessment on behalf of FortisBC for the proposed Project.
April 8, 2021	DPD Feedback	Email	<ul style="list-style-type: none"> FortisBC sent responses to Cowichan Tribes (on behalf of Cowichan Nation Alliance) DPD comments. Email attachments included: <ul style="list-style-type: none"> FortisBC's Responses to Cowichan Tribes Comments on draft DPD
April 12, 2021	Indigenous-Led Assessment	Email	<ul style="list-style-type: none"> FortisBC informing Halalt First Nation via communication through Cowichan Nation Alliance that the due date for Indigenous-led assessments is mid-September.
April 12, 2021	DPD Feedback	Email	<ul style="list-style-type: none"> Cowichan Nation Alliance, on behalf of Halalt First Nation, confirm that FortisBC has adequately responded to their comment on the draft DPD.
April 14, 2021	Meeting Minutes	Email	<ul style="list-style-type: none"> FortisBC sent the April 12, 2021 Cowichan Nation Alliance meeting minutes. Email attachments included: <ul style="list-style-type: none"> April 12, 2021 Meeting Minutes

Table I-4. Summary of Engagement with Halalt First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
April 16-20, 2021	Indigenous-Led Assessment Timeline	Email	<ul style="list-style-type: none"> ▪ Cowichan Tribes on behalf of Cowichan Nation Alliance informing FortisBC that the proposed deadline is too soon. ▪ FortisBC requested that Cowichan Nation Alliance provide any information they wish to be included in the application by mid-September and when the process is triggered a better timeframe can be identified.
April 22-23, 2021	Field program Participation	Email	<ul style="list-style-type: none"> ▪ FortisBC invited Halalt First Nation to participate in field work studies and requested they notify FortisBC by April 30, 2021. ▪ Cowichan Tribes confirmed on behalf of Cowichan Nation Alliance members that they would participate remotely. ▪ Email attachments included: <ul style="list-style-type: none"> – Proposed Spring VC Selection Field Study Schedule
May 4-6, 2021	Remote Monitoring Methods	Email	<ul style="list-style-type: none"> ▪ FortisBC informed Halalt First Nation via Cowichan Nation Alliance that remote monitoring options were being explored for participation and suggested a combination of photos and summary meetings may be most effective.
May 13-14, 2021	Field Program Participation	Meeting	<ul style="list-style-type: none"> ▪ Cowichan Tribes, on behalf of Cowichan Nation Alliance, participated in remote field studies calls.
May 31, 2021	Look Ahead and Noise Monitoring	Email	<ul style="list-style-type: none"> ▪ FortisBC sent the updated Look Ahead Schedule and the proposed noise monitoring sites for Halalt First Nation's review via Cowichan Nation Alliance. ▪ FortisBC proposed a second DPD workshop in the third week of June. ▪ Email attachments included: <ul style="list-style-type: none"> – Tilbury Look Ahead Schedule May 2021 – 2021 Acoustic Monitoring Program
May 31 – June 2, 2021	Cowichan Nation Alliance Indigenous-Led Assessment Timeline	Email	<ul style="list-style-type: none"> ▪ Cowichan Nation Alliance provided scope and budget for Indigenous-led assessment on behalf of all five member nations.
June 3, 2021	Draft DPD Comments	Email	<ul style="list-style-type: none"> ▪ Cowichan Tribes provided comments on draft DPD and noted that other Cowichan Nation Alliance Nations may wish to adopt them. ▪ Email attachments included: <ul style="list-style-type: none"> – Cowichan Nation Alliance draft DPD Comments

Table I-4. Summary of Engagement with Halalt First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
June 10-16, 2021	Indigenous-Led Assessment Timeline	Email	<ul style="list-style-type: none"> FortisBC inquired if the proposed assessment included existing Indigenous Knowledge/Traditional Ecological Knowledge. Cowichan Nation Alliance confirmed the assessment would include Indigenous Knowledge/Traditional Ecological Knowledge and suggested the assessment would be follow the same timeline as the EA. Cowichan Nation Alliance suggested the assessment serve as the main document informing leadership decisions on the proposed Project moving forward.
June 16, 2021	DPD	Email	<ul style="list-style-type: none"> FortisBC requested a meeting with Cowichan Nation Alliance to review the most recent draft DPD. FortisBC requested feedback on the Acoustic Monitoring study. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead Schedule June 2021 Tilbury Phase 2 Project – Acoustic Monitoring
June 29-30, 2021	DPD Comments	Email	<ul style="list-style-type: none"> FortisBC addressing Cowichan Tribes' (on behalf of Cowichan Nation Alliance) most recent comments on the DPD. FortisBC noted draft VC Selection and draft AIR will be updated based on Cowichan Nation Alliance's feedback. Email attachments included: <ul style="list-style-type: none"> Cowichan Tribes DPD Full Comment Response
July 5, 2021	Phase 2 Field Studies	Email	<ul style="list-style-type: none"> FortisBC invited Halalt First Nation's participation in the upcoming Vegetation and Wetlands Field Program. Email attachments included: <ul style="list-style-type: none"> Vegetation Field Program Overview

I.5 Katzie First Nation

Katzie First Nation has communicated with FortisBC via email. FortisBC has inquired as to the Katzie First Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

Katzie First Nation have indicated to the B.C. EAO that they would like to be engaged, however, they would not be a participating Indigenous nation under the B.C. *Environmental Assessment Act* (B.C. EAA). As listed in the Joint Summary of Issues and Engagement, Katzie First Nation has expressed the following interests in the proposed Project:

- Cultural stewardship including the protection of archaeological and cultural resources and the potential effects on archaeological and cultural resources
- Environmental stewardship including the protection of environmental resources, and potential effects on aquatic habitat and resources, including fisheries, amphibians, and water
- Access to and use of the Fraser River as a transportation corridor and as a source of fisheries resources, and potential effects of the proposed Project on navigation and fishing activities
- Respect for Aboriginal Rights, Title, and Indigenous Knowledge
- Economic development and capacity building
- Meaningful assessment of the cumulative effects to environmental and cultural resources

FortisBC sent Katzie First Nation an email about engagement opportunities for the proposed Project on August 28, 2020 and invited Katzie First Nation to meet to discuss the preparation of the DPD. A detailed summary of engagement activities with Katzie First Nation is provided in Table I-5.

Table I-5. Summary of Engagement with Katzie First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to February 14, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none"> ▪ Introductory email notifying of the proposed Project and requesting a meeting to review the Draft IPD. ▪ Draft IPD was shared. ▪ FortisBC provided revised IPD by email. ▪ Notification of intent to submit the IPD to B.C. EAO.
July 15, 2019	Capacity Funding	Email	<ul style="list-style-type: none"> ▪ Capacity funding for review of IPD.
February 19, 2020 to June 1, 2020	Follow-up and Project Updates	Email	<ul style="list-style-type: none"> ▪ FortisBC provided summary of engagement, consultation, and next steps with Katzie First Nation, as requested on February 18, 2020. ▪ FortisBC provided KMZ file for the proposed Project to Katzie First Nation, as requested on March 5, 2020. ▪ Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase. ▪ Project update and extensions on Early Engagement Phase.
August 28, 2020	Project Update and Engagement Opportunities	Email	<ul style="list-style-type: none"> ▪ Project update email to notify Katzie First Nation about the proposed Project and next steps in preparing the DPD.
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> ▪ FortisBC provided Katzie First Nation with a letter providing proposed Project updates specifically related to the regulated utility review process. ▪ Email attachments included: <ul style="list-style-type: none"> – BCUC CPCN Letter

Table I-5. Summary of Engagement with Katzie First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
April 20, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none"> FortisBC requested Katzie First Nation review the secondary sources and provide feedback. Email attachment included: <ul style="list-style-type: none"> Katzie First Nation's Annotated Bibliography BCUC Process link
April 22, 2021	Field Program Participation	Email	<ul style="list-style-type: none"> FortisBC invited Katzie First Nation to participate in field work studies and requested they notify FortisBC by April 30, 2021. Email attachments included: <ul style="list-style-type: none"> Proposed Spring VC Selection Field Study Schedule
May 31, 2021	Look Ahead Schedule and Noise Monitoring	Email	<ul style="list-style-type: none"> FortisBC sent the updated Look Ahead Schedule and the proposed noise monitoring sites for Katzie First Nation's review. FortisBC proposed a second DPD workshop in the third week of June. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead Schedule May 2021 2021 Acoustic Monitoring Program
July 5, 2021	Phase 2 Field Studies	Email	<ul style="list-style-type: none"> FortisBC invited Katzie First Nation's participation in the upcoming Vegetation and Wetlands Field Program. Email attachments included: <ul style="list-style-type: none"> Vegetation Field Program Overview

I.6 Kwantlen First Nation

Kwantlen First Nation has communicated with FortisBC via email, letter, in-person and virtual meetings, and participated in a site visit. FortisBC has also conducted a site visit with Kwantlen First Nation. FortisBC inquired as to Kwantlen First Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC has also met in-person and facilitated a site visit at the request of Kwantlen First Nation. FortisBC will continue to provide milestone updates via email and participate in meetings.

Kwantlen First Nation has submitted their notice to engage as a participating Indigenous nation to the B.C. EAO. The Joint Summary of Issues and Engagement notes that Kwantlen First Nation's interests in the proposed Project are Aboriginal Rights to Tilbury Island and surrounding area and general effects to the area.

FortisBC initiated engagement with Kwantlen First Nation on July 2, 2019 with an introductory email. During an October 29, 2020 meeting, Kwantlen First Nation raised issues related to cumulative effects, disenfranchisement from the proposed Project Area, and issues with the holistic approach of the EA process. For a summary of key issues raised by Kwantlen First Nation, see Appendix G of the DPD. Kwantlen First Nation informed FortisBC that they completed a Traditional Land Use study for the Tilbury Island area for the Tilbury Marine Jetty project in 2016. Kwantlen First Nation said that they needed to confirm what information they would be able to share with

FortisBC from the Tilbury Marine Jetty project Traditional Land Use study. Kwantlen First Nation asked FortisBC to provide a draft Data Sharing Agreement before Kwantlen First Nation would share TUS information. FortisBC informed Kwantlen First Nation that it would support updating the 2016 study. A detailed summary of engagement activities with Kwantlen First Nation is provided in Table I-6.

Table I-6. Summary of Engagement with Kwantlen First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to February 14, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none"> ▪ Introductory email sent notifying of the proposed Project and requesting a meeting to review the Draft IPD. ▪ Draft IPD was shared. ▪ FortisBC provided revised IPD by email. ▪ Notification to submit the IPD to B.C. EAO.
July 25, 2019	IPD	Letter	<ul style="list-style-type: none"> ▪ Kwantlen provided a letter in response to invitation for review of Draft IPD and requested to schedule a meeting.
August 8, 2019	IPD; Project Update	In-person Meeting	<ul style="list-style-type: none"> ▪ Initial meeting with Kwantlen First Nation to discuss Draft IPD and address any questions or concerns.
September 24, 2019	Project Site Visit	Site visit	<ul style="list-style-type: none"> ▪ Project team conducted proposed Project Site visit with the Kwantlen First Nation to discuss the proposed Project.
October 8, 2019 to June 1, 2020	Follow-up and Project Updates	Email	<ul style="list-style-type: none"> ▪ FortisBC provided meeting notes from proposed Project Site visit September 24, 2019. ▪ Notification of AOA and permit application. ▪ Project update and extension on Early Engagement Phase.
August 25, 2020	Project Update; Draft VC Selection; Draft AIR	Email	<ul style="list-style-type: none"> ▪ Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> – Review of the draft VCs – Review of the draft AIR – Review of the draft DPD – The proposed process for identifying and including Indigenous Knowledge – Capacity Funding Agreement information ▪ Email attachments included: <ul style="list-style-type: none"> – Project update letter – Draft VCs – Draft AIRs – Estimated timelines ▪ FortisBC offered to meet with Kwantlen First Nation to discuss further.

Table I-6. Summary of Engagement with Kwantlen First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
October 29, 2020	Kwantlen First Nation Introduction Meeting	Meeting/ follow-up email	<ul style="list-style-type: none"> Meeting with Kwantlen First Nation to provide a team introduction and Project background. Kwantlen First Nation raised key issues during the meeting and noted they have a Traditional Land Use Study 2016 for Tilbury Island from the Tilbury Marine Jetty Project and requested a Data Sharing Agreement before considering sharing further. Follow-up email attachments include Kwantlen First Nation October 29, 2020 Meeting Minutes.
January 28, 2021	Annotated Bibliography, draft Capacity Funding Agreement and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC explained the proposed Project Schedule changes and asked Kwantlen First Nation to review and provide feedback on FortisBC's proposed secondary source list. FortisBC provided Kwantlen First Nation with the draft Capacity Funding Agreement. Email attachments included: <ul style="list-style-type: none"> Kwantlen First Nation Annotated Bibliography Draft Capacity Funding Agreement Look Ahead Schedule
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Kwantlen First Nation with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
April 14, 2021	Project Update	Email	<ul style="list-style-type: none"> FortisBC informed Kwantlen First Nation that they plan to submit Parts 1 and 2 of the DPD together for Indigenous nations to review in Quarter 2 of 2021. FortisBC requested feedback on the most recent draft DPD. FortisBC requested the Kwantlen First Nation review the list of secondary sources and Capacity Funding Agreement.
April 22, 2021	Field Program Participation	Email	<ul style="list-style-type: none"> FortisBC invited Kwantlen First Nation to participate in field work studies and requested they notify FortisBC by April 30, 2021. Email attachments included: <ul style="list-style-type: none"> Proposed Spring VC Selection Field Study Schedule
May 4, 2021	Meeting Request and DPD/draft AIR Release Update	Email	<ul style="list-style-type: none"> FortisBC proposed meeting times between May 10 to 12 and May 28 to 30, 2021 to discuss the DPD, draft AIR, and draft VC Selection FortisBC stated the draft DPD and updated draft AIR/draft VC Selection will be released in the near future.

Table I-6. Summary of Engagement with Kwantlen First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
May 31, 2021	Look Ahead Schedule and Noise Monitoring	Email	<ul style="list-style-type: none"> FortisBC sent the updated Look Ahead Schedule and the proposed noise monitoring sites for Kwantlen First Nation's review. FortisBC proposed a second DPD workshop in the third week of June. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead Schedule May 2021 2021 Acoustic Monitoring Program
June 16, 2021	Project Update	Email	<ul style="list-style-type: none"> FortisBC provided the June Look Ahead Schedule and the draft Capacity Funding Agreement and requested a meeting to discuss the draft DPD. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead Schedule 2021 Kwantlen First Nation Draft Capacity Funding Agreement
July 5, 2021	Phase 2 Field Studies	Email	<ul style="list-style-type: none"> FortisBC invited Kwantlen First Nation's participation in the upcoming Vegetation and Wetlands Field Program. Email attachments included: <ul style="list-style-type: none"> Vegetation Field Program Overview

Notes:

AOA = Archaeological Overview Assessment

I.7 Leq'á:mel First Nation

FortisBC has communicated with Leq'á:mel First Nation via email and at phone meetings. FortisBC has inquired as to the Leq'á:mel First Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

FortisBC contacted Leq'á:mel First Nation on October 14, 2020 to provide a Project notification letter and identify the opportunity to engage with FortisBC regarding the proposed Project. FortisBC met with Leq'á:mel First Nation on December 10, 2020 to discuss the proposed Project. FortisBC attached the Joint Summary of Issues and Engagement and a background presentation for the proposed Project. A detailed summary of engagement activities with Leq'á:mel First Nation is provided in Table I-7.

Table I-7. Summary of Engagement with Leq'á:mel First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
October 14, 2020	FortisBC proposed Project Notification Letter	Email	<ul style="list-style-type: none"> FortisBC provided the Notification Letter to Leq'á:mel First Nation which describes the proposed Project and next steps.
December 10, 2020	Tilbury Introduction Meeting	Meeting/ Email	<ul style="list-style-type: none"> Meeting with Leq'á:mel First Nation to provide an overview of the proposed Project and context for engagements to-date. Follow-up meeting attachments included the Joint Summary of Issues and Engagement, meeting slides, and Tilbury Introduction Materials.
April 21, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none"> FortisBC provided the Annotated Bibliography for Leq'á:mel First Nation and requested that Leq'á:mel First Nation review the list of secondary sources used. Email attachments included: <ul style="list-style-type: none"> Leq'á:mel First Nation Annotated Bibliography

I.8 Lyackson First Nation

FortisBC communicates with Lyackson First Nation directly, and via the Cowichan Nation Alliance using email, telephone calls, and virtual meetings, and at in-person meetings. FortisBC has inquired as to the Lyackson First Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

Lyackson First Nation submitted their notice to engage as a participating Indigenous nation to the B.C. EAO on July 22, 2020. In their notice, Lyackson First Nation cited their Indigenous Rights under UNDRIP, Aboriginal Rights in the proposed Project Area, including harvesting rights for wildlife, waterfowl, vegetation and other resources, the right to fish for food, social, and ceremonial use, and Aboriginal Title interests. Lyackson First Nation further stated that the descendant communities of the historic Cowichan Nation "...hold inherent jurisdiction over the proposed Project Area as the controlling Indigenous group over that area at all relevant times (pre-contact, at the time of contact, and through well beyond 1846)" and therefore, under Lyackson First Nation Indigenous laws, are stewards of the lands, waters, and resources (Lyackson First Nation 2020).

FortisBC initiated engagement with Lyackson First Nation on July 2, 2019 with an introductory email. FortisBC sent Lyackson First Nation a proposed Project update on June 1, 2020 and requested Lyackson First Nation's comments. Lyackson First Nation sent FortisBC comments on the DPD on March 16, 2021.

FortisBC has engaged with Lyackson First Nation via the Cowichan Nation Alliance beginning with a meeting on September 22, 2020. Considering the persistent challenges the COVID-19 pandemic posed to engaging with Elders and Knowledge Keepers for a new IKS the Cowichan Nation Alliance granted FortisBC approval to use the Tilbury Marine Jetty project TUS and IKS. Cowichan Tribes shared the TUS Culturally Significant Vegetation of Tilbury Island by Dr. Nancy Turner (Turner 2020) on October 30, 2020. Cowichan Tribes also shared Stl'ulnup: A Cowichan Nation Use and Occupancy Study for Tilbury Island developed by Candace Charlie for the Tilbury Marine Jetty Project and the Cowichan Nation Alliance's Declaration for Reconciliation.

Lyackson First Nation has notified FortisBC that together with the other members of the Cowichan Nation Alliance, they are actively pursuing undertaking an Indigenous-led assessment for the proposed Project.

A detailed summary of engagement activities with Lyackson First Nation is provided in Table I-8.

Table I-8. Summary of Engagement with Lyackson First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to September 16, 2019	Early Engagement and IPD	Email	<ul style="list-style-type: none"> ▪ Introductory email sent notifying of the proposed Project and requesting a meeting to review the Draft IPD. ▪ Draft IPD was shared. ▪ FortisBC provided revised IPD by email.
June 1, 2020	Project Update and Extension	Email	<ul style="list-style-type: none"> ▪ Project update and extension on Early Engagement Phase.
August 25, 2020	Project Update; Draft Selection; Draft AIR	Email	<ul style="list-style-type: none"> ▪ Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> – Review of the draft VCs – Review of the draft AIR – Review of the draft DPD – The proposed process for identifying and including Indigenous Knowledge – Capacity Funding Agreement information ▪ Email attachments included an update letter, draft VCs, draft AIR, and estimated timelines. FortisBC offered to meet with Lyackson First Nation to discuss further.
September 22, 2020	Project Update	Telephone Meeting	<ul style="list-style-type: none"> ▪ Meeting with Cowichan Nation Alliance members to provide a proposed Project update and discuss scheduling.
January 8, 2021	Project Updates and Cowichan Tribes and Halalt First Nation's draft AIR Comments	Meeting	<ul style="list-style-type: none"> ▪ Meeting to provide Project updates and address Cowichan Tribes and Halalt First Nation's comments on the draft AIR.
January 22, 2021	FortisBC's Responses to Cowichan Tribes and Halalt First Nation's draft AIR Comments and Look Ahead Schedule	Email	<ul style="list-style-type: none"> ▪ FortisBC provided Lyackson First Nation with further responses to Cowichan Tribes and Halalt First Nation's draft AIR comments that reflect the January 8, 2021 meeting discussion with Cowichan Nation Alliance members. ▪ FortisBC explained the proposed Project Schedule changes. ▪ Email attachments included: <ul style="list-style-type: none"> – FortisBC responses to Cowichan Tribes and Halalt First Nation's comments on the draft AIR – January 8, 2021 meeting minutes – Look Ahead Schedule

Table I-8. Summary of Engagement with Lyackson First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
February 3, 2021	Barrier to Harvesting Report	Email	<ul style="list-style-type: none"> FortisBC provided Lyackson First Nation with the Barriers to Harvesting report that Cowichan Tribes mentioned at the January 8, 2021 meeting. Email attachments included: <ul style="list-style-type: none"> Barriers to Harvesting Report
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Lyackson First Nation with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
February 12, 2021	Annotated Bibliography and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC explained the proposed Project Schedule changes and asked Lyackson First Nation to review and provide feedback on FortisBC's proposed secondary source list. Email attachments included: <ul style="list-style-type: none"> Cowichan Tribes, Penelakut First Nation, Stz'uminus First Nation, Lyackson First Nation, and Halalt First Nation's Annotated Bibliographies Updated Look Ahead Schedule Updated January 8, 2021 meeting minutes
February 19, 2021	Indigenous-Led Assessment	Email	<ul style="list-style-type: none"> FortisBC provided Lyackson First Nation with B.C. EAO's responses regarding funding for an Indigenous-led assessment. Email attachments included: <ul style="list-style-type: none"> Response from B.C. EAO on the Indigenous-led Assessment
March 3, 2021	Declaration for Reconciliation	Email	<ul style="list-style-type: none"> Cowichan Nation Alliance provided FortisBC with the Cowichan Nation Alliance's Declaration for Reconciliation on behalf of Lyackson First Nation. Email attachments included: <ul style="list-style-type: none"> Declaration for Reconciliation
March 3, 2021	Project Update Meeting	Meeting	<ul style="list-style-type: none"> Meeting to discuss Project updates, draft DPD comments, list of secondary sources and EA methodology.
March 12, 2021	Copy of the DPD Part 1 Presentation	Email	<ul style="list-style-type: none"> FortisBC provided Lyackson First Nation a copy of the DPD Part 1 Presentation. Email attachments included: <ul style="list-style-type: none"> Copy of the DPD Part 1 Presentation
March 15, 2021	Meeting Minutes and DPD Part 1 Presentation	Email	<ul style="list-style-type: none"> FortisBC provided Lyackson First Nation with the March 3, 2021 meeting minutes and the DPD Part 1 presentation slides. Email attachments included: <ul style="list-style-type: none"> March 3, 2021 meeting minutes DPD Part 1 presentation slides

Table I-8. Summary of Engagement with Lyackson First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
March 16, 2021	Lyackson First Nation Draft DPD Comments	Email	<ul style="list-style-type: none"> Lyackson First Nation provided FortisBC with Lyackson First Nation's comments on the draft DPD. Email attachments included: <ul style="list-style-type: none"> Lyackson First Nation draft DPD comments
March 26, 2021	Archaeological Impact Assessment	Email	<ul style="list-style-type: none"> Notice that Golder would be conducting an archaeological impact assessment on behalf of FortisBC for the proposed Project.
April 8-9, 2021	DPD Feedback	Email	<ul style="list-style-type: none"> FortisBC sent responses to Lyackson First Nation's DPD comments and requested a meeting to discuss further. Email attachments included: <ul style="list-style-type: none"> FortisBC's Responses to Lyackson First Nation's Comments on draft DPD
April 12, 2021	Indigenous-Led Assessment	Email	<ul style="list-style-type: none"> FortisBC communicated with Lyackson First Nation via communication through Cowichan Nation Alliance that the due date for Indigenous-led assessments is mid-September.
April 12, 2021	DPD Feedback	Email	<ul style="list-style-type: none"> Cowichan Nation Alliance, on behalf of Lyackson First Nation, confirm that FortisBC has adequately responded to their comment on the draft DPD.
April 14, 2021	Meeting Minutes	Email	<ul style="list-style-type: none"> FortisBC sent the April 12, 2021 Cowichan Nation Alliance meeting minutes. Email attachments included: <ul style="list-style-type: none"> April 12, 2021 Meeting Minutes
April 16-20, 2021	Indigenous-Led Assessment Timeline	Email	<ul style="list-style-type: none"> Cowichan Tribes on behalf of Cowichan Nation Alliance informing FortisBC that the proposed deadline is too soon. FortisBC requested that Cowichan Nation Alliance provide any information they wish to be included in the application by mid-September and when the process is triggered a better timeframe can be identified.
April 22-23, 2021	Field program Participation	Email	<ul style="list-style-type: none"> FortisBC invited Lyackson First Nation to participate in field work studies and requested they notify FortisBC by April 30, 2021. Cowichan Tribes confirmed on behalf of Cowichan Nation Alliance that they would participate remotely. Email attachments included: <ul style="list-style-type: none"> Proposed Spring VC Selection Field Study Schedule
May 4-6, 2021	Remote Monitoring Methods	Email	<ul style="list-style-type: none"> FortisBC informed Lyackson First Nation via Cowichan Nation Alliance that remote monitoring options were being explored for participation and suggested a combination of photos and summary meetings may be most effective.
May 13-14, 2021	Field Program Participation	Meeting	<ul style="list-style-type: none"> Cowichan Tribes, on behalf of Cowichan Nation Alliance, participated in remote field studies calls.

Table I-8. Summary of Engagement with Lyackson First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
May 20, 2021	Draft Capacity Funding Agreement	Email	<ul style="list-style-type: none"> FortisBC provided a draft Capacity Funding Agreement to Lyackson First Nation. Lyackson First Nation thought a Capacity Funding Agreement was already in place. Email attachments included: <ul style="list-style-type: none"> Draft Capacity Funding Agreement – Lyackson First Nation
May 31, 2021	Look Ahead and Noise Monitoring	Email	<ul style="list-style-type: none"> FortisBC sent the updated Look Ahead Schedule and the proposed noise monitoring sites for Lyackson First Nation's review via Cowichan Nation Alliance. FortisBC proposed a second DPD workshop in the third week of June. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead Schedule May 2021 2021 Acoustic Monitoring Program
May 31 – June 2, 2021	Cowichan Nation Alliance Indigenous-Led Assessment Timeline	Email	<ul style="list-style-type: none"> Cowichan Nation Alliance provided scope and budget for Indigenous-led assessment on behalf of all five Indigenous nations.
June 3, 2021	Draft DPD Comments	Email	<ul style="list-style-type: none"> Cowichan Tribes provided comments on draft DPD and noted that other Cowichan Nation Alliance Nations may wish to adopt them. Email attachments included: <ul style="list-style-type: none"> Cowichan Nation Alliance draft DPD Comments
June 10-16, 2021	Indigenous-Led Assessment Timeline	Email	<ul style="list-style-type: none"> FortisBC inquired if the proposed assessment included existing Indigenous Knowledge/Traditional Ecological Knowledge. Cowichan Nation Alliance confirmed the assessment would include Indigenous Knowledge/Traditional Ecological Knowledge and suggested the assessment would be follow the same timeline as the EA. Cowichan Nation Alliance suggested the assessment serve as the main document informing leadership decisions on the proposed Project moving forward.
June 16, 2021	DPD	Email	<ul style="list-style-type: none"> FortisBC requested a meeting with Cowichan Nation Alliance to review the most recent draft DPD. FortisBC requested feedback on the Acoustic Monitoring study. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead Schedule June 2021 Tilbury Phase 2 Project – Acoustic Monitoring

Table I-8. Summary of Engagement with Lyackson First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
June 16, 2021	Capacity Funding Agreement Review	Email	<ul style="list-style-type: none"> Lyackson First Nation requested that FortisBC adjust the proposed Capacity Funding Agreement to reflect the requirements of the Lyackson First Nation more accurately. FortisBC informed Lyackson First Nation that the capacity funding is intended to top up the funding provided by regulators and requested that Lyackson First Nation provide details to the funding they have received.
June 25, 2021	Capacity Funding Issues	Email	<ul style="list-style-type: none"> Lyackson First Nation expressed that they had historically been excluded from projects and felt the Tilbury Project was following trend. Lyackson First Nation explained that the nation had limited internal capacity and would require more funding to adequately review the documentation. Email attachments included: <ul style="list-style-type: none"> Draft Capacity Funding Agreement
June 29-30, 2021	DPD Comments	Email	<ul style="list-style-type: none"> FortisBC addressing Cowichan Tribes' (on behalf of Cowichan Nation Alliance) most recent comments on the DPD. FortisBC noted draft VC Selection and draft AIR will be updated based on Cowichan Nation Alliance's feedback. Email attachments included: <ul style="list-style-type: none"> Cowichan Tribes DPD Full Comment Response
July 5, 2021	Phase 2 Field Studies	Email	<ul style="list-style-type: none"> FortisBC invited Lyackson First Nation's participation in the upcoming Vegetation and Wetlands Field Program. Email attachments included: <ul style="list-style-type: none"> Vegetation Field Program Overview
July 14, 2021	Capacity Funding Follow-Up	Email	<ul style="list-style-type: none"> Lyackson First Nation noted FortisBC's response time regarding the Capacity Funding Agreement. Email attachments included: <ul style="list-style-type: none"> Draft Capacity Funding Agreement
July 15, 2021	Capacity Funding Follow-Up	Email	<ul style="list-style-type: none"> FortisBC updated the original Capacity Funding Agreement to reflect Lyackson First Nation's requirements. Email attachments included: <ul style="list-style-type: none"> Draft Capacity Funding Agreement – FortisBC Revisions

I.9 Malahat Nation

Malahat Nation has communicated with FortisBC via email and through meetings. FortisBC has inquired as to the Malahat Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

Appendix I. Summary of Engagement with Indigenous Nations

FortisBC met with Malahat Nation on June 8, 2021. At this meeting, Malahat Nation raised concerns regarding the effects of increased marine shipping activity on Malahat Nation Traditional Territory, and concerns regarding the assessment of biophysical effects, requesting that impacts on ecosystems address carrying capacity limits. A detailed summary of engagement activities with Malahat Nation is provided in Table I-9.

Table I-9. Summary of Engagement with Malahat Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
October 14, 2020	Project Introduction	Email	<ul style="list-style-type: none">FortisBC sent Malahat Nation an outline of the proposed Project and the associated EA process.Email attachments included:<ul style="list-style-type: none">Tilbury Phase 2 Expansion Notification Letter
May 13, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none">FortisBC sent the Malahat Nation an annotated bibliography for their review, and noted the sources listed would be used to partially inform background information on the Malahat Nation.Email attachments included:<ul style="list-style-type: none">Malahat Nation Annotated BibliographyLink to BCUC Process
June 8, 2021	Secondary Sources and Capacity Funding	Meeting	<ul style="list-style-type: none">FortisBC met with Malahat Nation to discuss secondary sources, capacity funding, and potential proposed Project effects.
June 29, 2021	Project Overview and Marine Jetty	Meeting	<ul style="list-style-type: none">FortisBC met with Malahat Nation to discuss the proposed Project overview, Project Phases 1 and 2, the Tilbury Marine Jetty, and B.C. EAO/IAAC engagement.

I.10 Matsqui First Nation

The Matsqui First Nation has communicated with FortisBC via email. FortisBC has inquired as to Matsqui First Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings. A detailed summary of engagement activities with Matsqui First Nation is provided in Table I-10.

Table I-10. Summary of Engagement with Matsqui First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
October 14, 2020	Engagement and Project Updates	Email	<ul style="list-style-type: none"> FortisBC provided Matsqui First Nation with upcoming engagement activities, proposed Project updates, and the Matsqui First Nation notification letter. Email attachments included: <ul style="list-style-type: none"> Matsqui First Nation Notification Letter
May 13, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none"> FortisBC sent the Matsqui First Nation an annotated bibliography for their review, and noted the sources listed would be used to partially inform background information on the Matsqui First Nation. Email attachments included: <ul style="list-style-type: none"> Matsqui First Nation Annotated Bibliography

I.11 Métis Nation British Columbia

The Métis Nation British Columbia has communicated with FortisBC via email. FortisBC has inquired as to the Métis Nation British Columbia's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings. A detailed summary of engagement activities with Métis Nation British Columbia is provided in Table I-11.

Table I-11. Summary of Engagement with Métis Nation British Columbia

Date	Subject of Engagement	Method of Contact	Summary of Engagement
February 14, 2020	IPD	Email	<ul style="list-style-type: none"> Notification to submit the IPD to B.C. EAO.
April 24, 2020 to June 1, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none"> Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase. Provided a letter providing a proposed Project update, extension request and public comment period commencement.
August 28, 2020	Project Update	Email	<ul style="list-style-type: none"> Project update email to notify on the proposed Project next steps in preparing the DPD.
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Métis Nation British Columbia with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter

Table I-11. Summary of Engagement with Métis Nation British Columbia

Date	Subject of Engagement	Method of Contact	Summary of Engagement
April 20, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none"> ▪ FortisBC sent the Métis Nation British Columbia an annotated bibliography for their review, and noted the sources listed would be used to partially inform background information on the Métis Nation British Columbia. ▪ Email attachments included: <ul style="list-style-type: none"> – Métis Nation British Columbia Annotated Bibliography – Link to BCUC Process

I.12 Musqueam Indian Band

Musqueam Indian Band has communicated with FortisBC via email, letter, an in-person meeting, telephone calls and virtual meetings. FortisBC has inquired as to Musqueam Indian Band's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

Musqueam Indian Band submitted their notice to engage as a participating Indigenous nation to the B.C. EAO on July 25, 2020. In their notice, Musqueam Indian Band cited potential impact to their rights and title, including fishing rights in the Fraser River for food, social, and ceremonial purposes, as well as effects on the Musqueam Indian Band's sense of place and identity, cultural continuity, human health, and Musqueam Indian Band's governance role (Musqueam Indian Band). Musqueam Indian Band further stated that "the proposed Project Site is in close proximity to some of Musqueam's most sacred, spiritually relevant and culturally significant sites and these sites are considered by many Musqueam, alongside over 125 other named sites to form a network in the Region, critical to Musqueam's cultural continuity" (Musqueam Indian Band 2020).

FortisBC initiated engagement with Musqueam Indian Band on July 2, 2019 with an introductory email. Musqueam Indian Band stated at a November 5, 2020 meeting that they would provide the WesPac IKS for the proposed Project, but that Tilbury Project-specific information would need to be acquired. As of the December 8, 2020 meeting, Musqueam Indian Band indicated that they were still developing different options for Indigenous Knowledge methodologies and would continue to discuss the process with FortisBC. FortisBC drafted a Capacity Funding Agreement, which was sent to Musqueam Indian Band on December 9, 2020. A detailed summary of engagement activities with Musqueam Indian Band is provided in Table I-12.

Table I-12. Summary of Engagement with Musqueam Indian Band

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to February 14, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none"> ▪ Introductory email sent to notifying of the proposed Project and requesting a meeting to review the Draft IPD. ▪ Draft IPD was shared. ▪ FortisBC provided revised IPD by email. ▪ Notification to submit the IPD to B.C. EAO.

Table I-12. Summary of Engagement with Musqueam Indian Band

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 30, 2019	Early Engagement Capacity	Letter	<ul style="list-style-type: none"> Musqueam Indian Band provided a form letter in response to invitation for review of IPD. Indicated reduced internal capacity at this time but still interested in participating in consultation.
August 27, 2019	IPD	Meeting	<ul style="list-style-type: none"> Met with Musqueam Indian Band, provided a copy of the IPD and detailed areas where feedback from Musqueam Indian Band was requested.
October 24, 2019 to December 5, 2019	Project update and IPD	Call	<ul style="list-style-type: none"> Call with Musqueam Indian Band to discuss proposed Project, upcoming milestones, and status of review of the IPD draft. Call with Musqueam Indian Band to discuss proposed Project, upcoming milestones. No meeting with FortisBC Project team requested at this time. Call to provide status update on the IPD.
March 26, 2020	Project update	Meeting	<ul style="list-style-type: none"> Project overview and update, next steps.
April 24, 2020 to June 1, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none"> Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase. Provided a letter providing a proposed Project update, extension request, and public comment period commencement.
August 5, 2020	Project Update and Scheduling	Email	<ul style="list-style-type: none"> FortisBC provided meeting notes from July 31 status update meeting. FortisBC to send Musqueam Indian Band a Look Ahead Schedule to assist with resourcing.
August 25, 2020	Project Update; Draft VC Selection; Draft AIR	Email	<ul style="list-style-type: none"> Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> Review of the draft VCs Review of the draft AIR Review of the draft DPD The proposed process for identifying and including Indigenous Knowledge Capacity funding information Email attachments included an update letter, draft VCs, draft AIR, and estimated timelines. FortisBC offered to meet with Musqueam Indian Band to discuss further.
September 17, 2020	Project Update; Draft VC Selection; Draft AIR	Email	<ul style="list-style-type: none"> Follow-up about reviewing the draft VCs and draft AIR. Setting up a meeting to further discuss the draft VCs, draft AIR and proposed Project (meeting scheduled for October 21, 2020).

Table I-12. Summary of Engagement with Musqueam Indian Band

Date	Subject of Engagement	Method of Contact	Summary of Engagement
October 21, 2020	Musqueam Indian Band Meeting Minutes October 21. Tilbury Team Introduction and Updates	Meeting/ follow-up email	<ul style="list-style-type: none"> Meeting with Musqueam Indian Band to introduce the FortisBC team, discuss proposed Project updates, the proposed Project timeline, and IKS. Email attachment included: <ul style="list-style-type: none"> Musqueam Indian Band October 21, 2020 Meeting Minutes Signed MOU
November 10, 2020	Musqueam Indian Band Meeting Minutes November 10th. Follow-Up Discussion (draft VCs and draft AIR)	Meeting/ follow-up email	<ul style="list-style-type: none"> Meeting with Musqueam Indian Band to discuss IKS, comments on the draft VCs, Musqueam Indian Band review on draft AIR, and the process for reviewing the documents. Musqueam Indian Band raised key issues at the meeting. Email attachment included: <ul style="list-style-type: none"> Musqueam Indian Band October 21, 2020 Meeting Minutes Signed MOU
December 8, 2020	Meeting with Musqueam Indian Band	Meeting/ email	<ul style="list-style-type: none"> Meeting with Musqueam Indian Band to discuss the updated Project Schedule, the budget and to follow-up on action items from the previous meetings.
December 9, 2020	Capacity Funding Agreement, Look Ahead document, and January meeting	Email	<ul style="list-style-type: none"> FortisBC notified the Musqueam Indian Band that the Capacity Funding Agreement does not currently include the TUS. The TUS will be revised in collaboration with the Musqueam Indian Band. Email attachments include: <ul style="list-style-type: none"> Look Ahead Draft Capacity Funding Agreement December 8, 2020 Meeting Minutes
January 28, 2021	Musqueam Indian Band Annotated Bibliography and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC explained the proposed Project Schedule changes and asked Musqueam Indian Band to review and provide feedback on FortisBC's proposed secondary source list. Email attachments included: <ul style="list-style-type: none"> Musqueam Indian Band's Annotated Bibliography Updated Look Ahead Schedule
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Musqueam Indian Band with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
March 25, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none"> FortisBC sent Musqueam Indian Band proposed Project updates and an annotated bibliography and noted the sources listed would be used to partially inform background information on Musqueam Indian Band, following their review and approval. Email attachments included: <ul style="list-style-type: none"> Musqueam Indian Band Annotated Bibliography Link to BCUC process

Table I-12. Summary of Engagement with Musqueam Indian Band

Date	Subject of Engagement	Method of Contact	Summary of Engagement
April 22, 2021	Field Program Invitation	Email	<ul style="list-style-type: none"> FortisBC invited Musqueam Indian Band to participate in field work studies and requested they notify FortisBC by April 30, 2021. Email attachments included: <ul style="list-style-type: none"> Proposed Spring VC Selection Field Schedule
May 4, 2021	Meeting Request and DPD/draft AIR Release Update	Email	<ul style="list-style-type: none"> FortisBC proposed meeting times between May 10 to 12 and May 28 to 30, 2021 to discuss the DPD, draft AIR, and draft VC Selection FortisBC stated the draft DPD and updated draft AIR/draft VC Selection will be released in the near future.
May 31, 2021	Look Ahead Schedule and Noise Monitoring	Email	<ul style="list-style-type: none"> FortisBC sent Musqueam Indian Band the updated Look Ahead Schedule and the proposed noise monitoring sites for their review. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead May 2021 2021 Acoustic Field Program
June 29, 2021	Vegetation and Wetlands Field Program Invitation	Email	<ul style="list-style-type: none"> FortisBC invited Musqueam Indian Band to participate in the vegetation and wetlands field program on August 4 to 5, 2021, and requested they notify FortisBC of their interest to participate by July 19, 2021. Email attachments included: <ul style="list-style-type: none"> Vegetation Field Program Overview
June 30, 2021	LNG and DPD Overview	Meeting	<ul style="list-style-type: none"> Meeting with Musqueam Indian Band to provide a more in depth overview of LNG so that Musqueam Indian Band can properly review the Project. Topics of discussion included the Tilbury Marine Jetty, a material offloading facility, Indigenous engagement, assessment approach, Aboriginal Rights and Indigenous interests, accidents, malfunctions, and public safety, human health and well-being, emissions, fish and fish habitat, infrastructure and services, and the look ahead schedule.

Note:

MOU = Memorandum of Understanding

I.13 Penelakut Tribe

FortisBC communicates with Penelakut Tribe directly, and via the Cowichan Nation Alliance using email, in-person meetings, telephone calls, and virtual meetings. FortisBC has inquired as to the Penelakut Tribe's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in .

Penelakut Tribe submitted their notice to engage as a participating Indigenous nation to the B.C. EAO on September 20, 2020. In their notice, Penelakut Tribe cited their Indigenous Rights under UNDRIP, Aboriginal

Appendix I. Summary of Engagement with Indigenous Nations

Rights in the proposed Project Area, including harvesting rights for wildlife, waterfowl, vegetation and other resources, the right to fish for food, social and ceremonial use, and Aboriginal Title interests. Penelakut First Nation further stated that the descendant communities of the historic Cowichan Nation "...hold inherent jurisdiction over the proposed Project Area as the controlling Indigenous group over that area at all relevant times (pre-contact, at the time of contact, and through well beyond 1846)" and therefore, under Penelakut Tribe Indigenous laws, are stewards of the lands, waters, and resources (Penelakut Tribe 2020).

FortisBC initiated engagement with Penelakut Tribe on July 2, 2019 with an introductory email. On August 25, 2020, FortisBC contacted Penelakut Tribe to connect about the proposed Project, discuss next steps, and attached a Project update letter with information about draft VCs and draft AIR.

FortisBC has engaged with Penelakut Tribe via the Cowichan Nation Alliance beginning with a meeting on September 22, 2020. Considering the persistent challenges the COVID-19 pandemic posed to engaging with Elders and Knowledge Keepers for a new IKS, the Cowichan Nation Alliance granted FortisBC approval to use the Tilbury Marine Jetty project TUS and IKS. Cowichan Tribes shared the TUS Culturally Significant Vegetation of Tilbury Island by Dr. Nancy Turner (Turner 2020) on October 30, 2020. Cowichan Tribes also shared Stl'ulnup: A Cowichan Nation Use and Occupancy Study for Tilbury Island developed by Candace Charlie for the Tilbury Marine Jetty Project and the Cowichan Nation Alliance's Declaration for Reconciliation.

Penelakut Tribe has notified FortisBC that together with the other members of the Cowichan Nation Alliance, they are actively pursuing undertaking an Indigenous-led assessment for the proposed Project.

A detailed summary of engagement activities with Penelakut Tribe is provided in Table I-13.

Table I-13. Summary of Engagement with Penelakut Tribe (via Cowichan Nation Alliance)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to February 14, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none">▪ Introductory email sent to notifying of the proposed Project and requesting a meeting to review the Draft IPD.▪ FortisBC confirmed meeting with Cowichan Nation Alliance to discuss the proposed Project.▪ Draft IPD was shared.▪ FortisBC provided revised proposed Project description by email.▪ Notification to submit the IPD to B.C. EAO.
July 17, 2019	IPD	Meeting	<ul style="list-style-type: none">▪ Meeting of Cowichan Nation Alliance at Cowichan Tribes office in Duncan, B.C. to discuss IPD and address initial questions or concerns.
June 1, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none">▪ Provided a letter providing a proposed Project update, extension request and public comment period commencement.
August 28, 2020	Project Update	Email	<ul style="list-style-type: none">▪ Project update email to notify on the proposed Project next steps in preparing the DPD.
September 22, 2020	Project Update	Telephone Meeting	<ul style="list-style-type: none">▪ Meeting with Cowichan Nation Alliance members to provide a proposed Project update and discuss scheduling.

Table I-13. Summary of Engagement with Penelakut Tribe (via Cowichan Nation Alliance)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
January 8, 2021	Project Updates and Cowichan Tribes and Halalt First Nation's draft AIR Comments	Meeting	<ul style="list-style-type: none"> Meeting to provide Project updates and address Cowichan Tribes and Halalt First Nation's comments on the draft AIR.
January 22, 2021	FortisBC's Responses to Cowichan Tribes and Halalt First Nation's draft AIR Comments and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC provided Penelakut Tribe with further responses to Cowichan Tribes and Halalt First Nation's draft AIR comments that reflect the January 8, 2021 meeting discussion with Cowichan Nation Alliance members. FortisBC explained the proposed Project Schedule changes. Email attachments included: <ul style="list-style-type: none"> FortisBC responses to Cowichan Tribes and Halalt First Nation's comments on the draft AIR January 8, 2021 meeting minutes Look Ahead Schedule
February 3, 2021	Barrier to Harvesting Report	Email	<ul style="list-style-type: none"> FortisBC provided Penelakut Tribe with the Barriers to Harvesting report that Cowichan Tribes mentioned at the January 8, 2021 meeting. Email attachments included: <ul style="list-style-type: none"> Barriers to Harvesting Report
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Penelakut Tribe with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
February 12, 2021	Annotated Bibliography and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC explained the proposed Project Schedule changes and asked Penelakut Tribe to review and provide feedback on FortisBC's proposed secondary source list. Email attachments included: <ul style="list-style-type: none"> Cowichan Tribes, Penelakut First Nation, Stz'uminus First Nation, Lyackson First Nation, and Halalt First Nation's Annotated Bibliographies Updated Look Ahead Schedule Updated January 8, 2021 meeting minutes
February 19, 2021	Indigenous-Led Assessment	Email	<ul style="list-style-type: none"> FortisBC provided Penelakut Tribe with B.C. EAO's responses regarding funding for an Indigenous-led assessment. Email attachments included: <ul style="list-style-type: none"> Response from B.C. EAO on the Indigenous-led Assessment

Table I-13. Summary of Engagement with Penelakut Tribe (via Cowichan Nation Alliance)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
March 3, 2021	Declaration for Reconciliation	Email	<ul style="list-style-type: none"> ▪ Cowichan Nation Alliance provided FortisBC with the Cowichan Nation Alliance's Declaration for Reconciliation, on behalf of Penelakut Tribe. ▪ Email attachments included: <ul style="list-style-type: none"> – Declaration for Reconciliation
March 3, 2021	Project Update Meeting	Meeting	<ul style="list-style-type: none"> ▪ Meeting to discuss Project updates, draft DPD comments, list of secondary sources and EA methodology.
March 12, 2021	Copy of the DPD Part 1 Presentation	Email	<ul style="list-style-type: none"> ▪ FortisBC provided Penelakut Tribe a copy of the DPD Part 1 Presentation. ▪ Email attachments included: <ul style="list-style-type: none"> – Copy of the DPD Part 1 Presentation
March 15, 2021	Meeting Minutes and DPD Part 1 Presentation	Email	<ul style="list-style-type: none"> ▪ FortisBC provided Penelakut Tribe with the March 3, 2021 meeting minutes and the DPD Part 1 presentation slides. ▪ Email attachments included: <ul style="list-style-type: none"> – March 3, 2021 meeting minutes – DPD Part 1 presentation slides
April 8, 2021	Responses to DPD Comments	Email	<ul style="list-style-type: none"> ▪ FortisBC provided responses to Cowichan Nation Alliance's DPD comments, and requested either further comments or confirmation their issues were adequately addressed. ▪ Email attachments included: <ul style="list-style-type: none"> – FortisBC's Responses to Cowichan Tribes' Comments on draft DPD
April 12, 2021	DPD Presentation	Meeting	<ul style="list-style-type: none"> ▪ Meeting to discuss proposed Project updates, a DPD presentation from FortisBC, and Cowichan Nation Alliance updates.
April 20, 2021	Indigenous-led Assessment	Email	<ul style="list-style-type: none"> ▪ FortisBC provided an overview of the timeline for an Indigenous-led assessment for Cowichan Nation Alliance, and stated that FortisBC would not know the required deliverables until after the process planning. ▪ FortisBC welcomed any Indigenous Knowledge Cowichan Nation Alliance wishes to provide in the meantime.
April 22, 2021	Field Program Invitation	Email	<ul style="list-style-type: none"> ▪ FortisBC invited Cowichan Nation Alliance to participate in field work studies and requested they notify FortisBC by April 30, 2021. ▪ Email attachments included: <ul style="list-style-type: none"> – Proposed Spring VC Selection Field Schedule
April 23, 2021	Field Program Confirmation	Email	<ul style="list-style-type: none"> ▪ Cowichan Nation Alliance, on behalf of Penelakut Tribe, confirmed interest for participating in the field program on May 13 to 14, 2021.
May 13-14, 2021	Field Program Participation	Meeting	<ul style="list-style-type: none"> ▪ Cowichan Tribes, on behalf of Cowichan Nation Alliance, participated in remote field studies calls.

Table I-13. Summary of Engagement with Penelakut Tribe (via Cowichan Nation Alliance)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
May 31, 2021	Look Ahead Schedule and Noise Monitoring	Email	<ul style="list-style-type: none"> FortisBC the updated Look Ahead Schedule and the proposed noise monitoring sites for Cowichan Nation Alliance's review. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead May 2021 2021 Acoustic Field Program
May 31, 2021	Indigenous-led Assessment	Email	<ul style="list-style-type: none"> Cowichan Nation Alliance, on behalf of Penelakut Tribe, outlined the scope and budget for the Indigenous-led assessment. Email attachments included: <ul style="list-style-type: none"> Castlemain Proposal and Budget for a Socio-Economic Impact Assessment Woodward Budget Fortis Tilbury Indigenous-led assessment
June 3, 2021	Draft DPD Comments	Email	<ul style="list-style-type: none"> Cowichan Nation Alliance, on behalf of Penelakut Tribe, provided draft DPD comments. Email attachments included: <ul style="list-style-type: none"> Cowichan Nation Alliance Draft DPD Comments
June 29, 2021	DPD Comments Response	Email	<ul style="list-style-type: none"> FortisBC sent Cowichan Nation Alliance responses to their draft DPD comments, and noted they will have additional opportunities to review VC selection and the draft AIR. Email attachments included: <ul style="list-style-type: none"> Cowichan Tribes DPD Full Comment Response
June 30, 2021	DPD Comments Response Confirmation	Email	<ul style="list-style-type: none"> Cowichan Nation Alliance, on behalf of Penelakut Tribe, confirmed their comments were adequately addressed by FortisBC.
July 5, 2021	Vegetation and Wetland Field Program Invitation	Email	<ul style="list-style-type: none"> FortisBC invited Cowichan Nation Alliance to participate in the vegetation and wetlands field program on August 4-5, 2021, and requested they notify FortisBC of their interest to participate by July 19, 2021. Email attachments included: <ul style="list-style-type: none"> Vegetation Field Program Overview
July 16, 2021	Indigenous-led Assessment	Email	<ul style="list-style-type: none"> FortisBC proposed two interim measures for the Indigenous-led assessment. The first measure was Cowichan Nation Alliance meeting with FortisBC and B.C. EAO, the second was Cowichan Nation Alliance providing an estimate for the Indigenous Knowledge/Traditional Ecological Knowledge portion of the assessment so FortisBC could arrange funding.

I.14 Popkum First Nation

The Popkum First Nation has communicated with FortisBC via email. FortisBC has inquired as to Popkum First Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings. A detailed summary of engagement activities with Popkum First Nation is provided in Table I-14.

Table I-14. Summary of Engagement with Popkum First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
October 14, 2020	Project Introduction	Email	<ul style="list-style-type: none"> FortisBC sent Popkum First Nation an outline of the Project and the associated EA process. Email attachments included: <ul style="list-style-type: none"> Tilbury Phase 2 Expansion Notification Letter
May 12, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none"> FortisBC sent Popkum First Nation proposed Project updates and an annotated bibliography and noted the sources listed would be used to partially inform background information on Popkum First Nation, following their review and approval. Email attachments included: <ul style="list-style-type: none"> Popkum Annotated Bibliography Project Look Ahead Schedule April 16, 2021 Meeting Minutes DPD Workshop Slide Deck
July 9, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none"> Popkum First Nation sent FortisBC a list of additional resources for the Popkum annotated bibliography.

I.15 Seabird Island Band

The Seabird Island Band has communicated with FortisBC via email. The Seabird Island Band's Strategy Advisor indicated that the Seabird Island Band had no comments. FortisBC will continue to provide milestone updates via email and participate in meetings. A detailed summary of engagement activities with Seabird Island Band is provided in Table I-15.

Table I 15. Summary of Engagement with Seabird Island Band

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to February 14, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none"> Introductory email sent notifying of the proposed Project and requesting a meeting to review the Draft IPD. Seabird Island Band responded to the initial email introducing the proposed Project and indicated that they currently have no input at this time. Draft IPD was shared. Notification to submit the IPD to B.C. EAO.

Table I 15. Summary of Engagement with Seabird Island Band

Date	Subject of Engagement	Method of Contact	Summary of Engagement
April 24, 2020 to June 1, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none"> ▪ Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase. ▪ Provided a letter providing a proposed Project update, extension request and public comment period commencement.
August 28, 2020	Project Update	Email	<ul style="list-style-type: none"> ▪ Project update email to notify on the proposed Project next steps in preparing the DPD.
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> ▪ FortisBC provided Seabird Island Band with a letter providing proposed Project updates specifically related to the regulated utility review process. ▪ Email attachments included: <ul style="list-style-type: none"> – BCUC CPCN Letter
April 20, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none"> ▪ FortisBC sent Seabird Island Band an annotated bibliography for their review, and noted the sources listed would be used to partially inform background information on Seabird Island Band. ▪ Email attachments included: <ul style="list-style-type: none"> – Seabird Island Band Annotated Bibliography – Link to BCUC Process

I.16 Semiahmoo First Nation

The Semiahmoo First Nation has communicated with FortisBC via email. FortisBC has inquired as to Semiahmoo First Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings. . A detailed summary of engagement activities with Semiahmoo First Nation is provided in Table I-16.

Table I-16. Summary of Engagement with Semiahmoo First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to February 14, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none"> ▪ Introductory email notifying of the proposed Project and requesting a meeting to review the Draft IPD. ▪ Draft IPD was shared. ▪ Notification to submit the IPD to B.C. EAO.
April 24, 2020 to June 1, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none"> ▪ Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase. ▪ Provided a letter providing a proposed Project update, extension request and public comment period commencement.

Table I-16. Summary of Engagement with Semiahmoo First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
August 28, 2020	Project Update	Email	<ul style="list-style-type: none"> Project update email to notify on the proposed Project next steps in preparing the DPD.
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Semiahmoo First Nation with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
April 20, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none"> FortisBC sent Semiahmoo First Nation an annotated bibliography for their review, and noted the sources listed would be used to partially inform background information on Semiahmoo First Nation. Email attachments included: <ul style="list-style-type: none"> Semiahmoo First Nation Annotated Bibliography Link to BCUC Process
May 4, 2021	Tilbury History Presentation	Meeting	<ul style="list-style-type: none"> Meeting for a Tilbury History Presentation by FortisBC.

I.17 Shxw'ōwhámél First Nation

The Shxw'ōwhámél First Nation has communicated with FortisBC via email. FortisBC has inquired as to Shxw'ōwhámél First Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings. A detailed summary of engagement activities with Shxw'ōwhámél First Nation is provided in Table I-17.

Table I-17. Summary of Engagement with Shxw'ōwhámél First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to February 14, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none"> Introductory email notifying of the proposed Project and requesting a meeting to review the Draft IPD. Draft IPD was shared. Notification to submit the IPD to B.C. EAO.
April 24, 2020 to June 1, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none"> Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase. Provided a letter providing a proposed Project update, extension request and public comment period commencement.
August 28, 2020	Project Update	Email	<ul style="list-style-type: none"> Project update email to notify on the proposed Project next steps in preparing the DPD.

Table I-17. Summary of Engagement with Shxw'ōwhámél First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Shxw'ōwhámél First Nation with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
April 20, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none"> FortisBC sent Shxw'ōwhámél First Nation an annotated bibliography for their review, and noted the sources listed would be used to partially inform background information on Shxw'ōwhámél First Nation. Email attachments included: <ul style="list-style-type: none"> Shxw'ōwhámél First Nation Annotated Bibliography Link to BCUC Process

I.18 Skawahlook First Nation

The People of the River Referrals Office has communicated with FortisBC on behalf of the Skawahlook First Nation via email. FortisBC has inquired as to the People of the River Referrals Office's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

FortisBC contacted Skawahlook First Nation on November 30, 2020, to provide an update on the proposed Project and to seek confirmation on how Skawahlook First Nation would prefer to engage with FortisBC. FortisBC indicated that it has been engaging with Skawahlook First Nation via the S'ólh Téméxw Stewardship Alliance per the "Joint Summary of Issues and Engagement for the Tilbury Phase 2 LNG Expansion Project" as outlined in the "Joint Summary of Issues and Engagement for the Tilbury Phase 2 LNG Expansion Project." FortisBC offered to change this approach if Skawahlook First Nation preferred a different approach. A detailed summary of engagement activities with Skawahlook First Nation is provided in Table I-18.

Table I-18. Summary of Engagement with Skawahlook First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
February 18, 2020	IPD	Email	<ul style="list-style-type: none"> Notification to submit the IPD to B.C. EAO.
April 24, 2020 to June 1, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none"> Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase. Provided a letter providing a proposed Project update, extension request and public comment period commencement.

Table I-18. Summary of Engagement with Skawahlook First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
August 25, 2020	Project Update; Draft VC Selection; Draft AIR	Email (via the Sol'h Téméxw Stewardship Alliance)	<ul style="list-style-type: none"> ▪ Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> – Review of the draft VCs – Review of the draft AIR – Review of the draft DPD – The proposed process for identifying and including Indigenous Knowledge – Capacity funding information ▪ Email attachments included an update letter, draft VCs, draft AIR, and estimated timelines. FortisBC offered to meet with Skawahlook First Nation to discuss further.
November 30, 2020	FortisBC Tilbury Phase 2 LNG Project Update	Email (via the Sol'h Téméxw Stewardship Alliance)	<ul style="list-style-type: none"> ▪ Email seeking input and engagement from Skawahlook First Nation. ▪ FortisBC provided information on the engagement process. ▪ Email attachments included: <ul style="list-style-type: none"> – Skawahlook First Nation Letter – Tilbury Joint Summary of Issues and Engagement
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> ▪ FortisBC provided Skawahlook First Nation with a letter providing proposed Project updates specifically related to the regulated utility review process. ▪ Email attachments included: <ul style="list-style-type: none"> – BCUC CPCN Letter

I.19 Skowkale First Nation

The People of the River Referrals Office has communicated with FortisBC on behalf of the Skowkale First Nation via email. FortisBC has inquired as to the People of the River Referrals Office's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

FortisBC contacted Skowkale First Nation on November 30, 2020, to provide an update on the proposed Project and to seek confirmation on how Skowkale First Nation would prefer to engage with FortisBC. FortisBC indicated that it has been engaging with Skowkale First Nation via the S'ólh Téméxw Stewardship Alliance per the "Joint Summary of Issues and Engagement for the Tilbury Phase 2 LNG Expansion Project" as outlined in the "Joint Summary of Issues and Engagement for the Tilbury Phase 2 LNG Expansion Project." FortisBC offered to change this approach if Skowkale First Nation preferred a different approach. A detailed summary of engagement activities with Skowkale First Nation is provided in Table I-19.

Table I-9. Summary of Engagement with Skowkale First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019	Early Engagement	Email*	<ul style="list-style-type: none"> ▪ Introductory email sent notifying of the proposed Project and requesting a meeting to review the Draft IPD*.
July 12, 2019	IPD	Email*	<ul style="list-style-type: none"> ▪ Draft IPD was shared.
February 14, 2020	IPD	Email	<ul style="list-style-type: none"> ▪ Notification to submit the IPD to B.C. EAO.
April 24, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none"> ▪ Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase.
August 25, 2020	Project Update; Draft VC Selection; Draft AIR	Email*	<ul style="list-style-type: none"> ▪ Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> – Review of the draft VCs – Review of the draft AIR – Review of the draft DPD – The proposed process for identifying and including Indigenous Knowledge – Capacity funding information ▪ Email attachments included an update letter, draft VCs, draft AIR, and estimated timelines. FortisBC offered to meet with Skowkale First Nation to discuss the Project and documents further.
November 30, 2020	Tilbury Phase 2 LNG Project Updates	Email/Letter (via the Sol'h Téméxw Stewardship Alliance)	<ul style="list-style-type: none"> ▪ Email seeking input and engagement from Skowkale First Nation. ▪ FortisBC provided information on the engagement process. ▪ Email attachments included: <ul style="list-style-type: none"> – Skowkale First Nation Letter – Tilbury Joint Summary of Issues and Engagement

Note:

* Via People of the River Referrals Office

I.20 S'ólh Téméxw Stewardship Alliance

FortisBC has communicated with the S'ólh Téméxw Stewardship Alliance directly and via the People of the River Referrals Office via email, telephone meeting, and telephone call. FortisBC has inquired as to the S'ólh Téméxw Stewardship Alliance and People of the River Referrals Office's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

The S'ólh Téméxw Stewardship Alliance submitted their notice to engage as a participating Indigenous nation to the B.C. EAO July 28, 2020. In their notice, the S'ólh Téméxw Stewardship Alliance submitted cited their members' Aboriginal Right to fish in the Fraser River for food, social, and ceremonial purposes, concerns about air quality due to the proposed Project and potential effects on S'ólh Téméxw cultural and spiritual practices and on the "maintenance and transmission of cultural practices from past developments and future projects", as well as protection of the S'ólh Téméxw Stewardship Alliance ecosystem (STSA 2020).

Appendix I. Summary of Engagement with Indigenous Nations

FortisBC acknowledged the S'ólh Téméxw Stewardship Alliance's notice to engage as a participating Indigenous nation on September 18, 2020. On November 30, 2020, FortisBC emailed the members of the S'ólh Téméxw Stewardship Alliance seeking confirmation FortisBC's approach to including and assessing their interests and issues throughout the EA process. The S'ólh Téméxw Stewardship Alliance provided FortisBC with an organizational chart of the Stó:lō organizations and their RBT2 Integrated Cultural Assessment Report on January 21, 2021. A detailed summary of engagement activities with S'ólh Téméxw Stewardship Alliance is provided in Table I-20.

Table I-20. Summary of Engagement with S'ólh Téméxw Stewardship Alliance

Date	Subject of Engagement	Method of Contact	Summary of Engagement
August 25, 2020	FortisBC Tilbury LNG Expansion Project	Email*	<ul style="list-style-type: none"> Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> Review of the draft VCs Review of the draft AIR Review of the draft DPD The proposed process for identifying and including Indigenous Knowledge Capacity funding information
August 27, 2020	FortisBC Tilbury LNG Expansion Project Communication Error	Email*	<ul style="list-style-type: none"> Clarification on past engagement between People of the River Referrals Office and FortisBC as it related to the proposed Project.
September 18, 2020	FortisBC Tilbury LNG Expansion Project Communication	Email	<ul style="list-style-type: none"> Email discussing S'ólh Téméxw Stewardship Alliance status as a participating Indigenous nation. FortisBC requested a meeting to discuss the next steps of the EA processes including the draft VC, draft AIR, and IKS.
October 15, 2020	FortisBC Tilbury Expansion Project	Email	<ul style="list-style-type: none"> Email scheduling a meeting to discuss the proposed Project details. FortisBC requested that S'ólh Téméxw Stewardship Alliance review the draft AIR and the draft VCs. Email attachments included: <ul style="list-style-type: none"> Draft VC Draft AIR Project Introduction and Engagement Opportunities Letter
November 12, 2020	Sol'h Téméxw Stewardship Alliance Comments on Draft DPD and Draft VCs	Email	<ul style="list-style-type: none"> Sol'h Téméxw Stewardship Alliance provided comments on the draft DPD and draft VCs. Email attachments included: <ul style="list-style-type: none"> Draft DPD People of the River Referrals Office Comments Draft VCs People of the River Referrals Office Comments

Table I-20. Summary of Engagement with S'ólh Téméxw Stewardship Alliance

Date	Subject of Engagement	Method of Contact	Summary of Engagement
November 30, 2020	FortisBC Tilbury Phase 2 LNG Project Update	Email	<ul style="list-style-type: none"> FortisBC emailed Aitchelitz First Nation, Kwaw-Kwaw-Apilt First Nation, Semá:th (Sumas) First Nation, Shxwhá:y Village, Skwah First Nation, Skowkale First Nation, Soowahlie First Nation, Sq'ewá:lxw (Skawahlook) First Nation, Sq'éwlets (Scowlitz) First Nation, Squiala First Nation, Tzeachten First Nation, Yakweakwioose First Nation seeking confirmation on how best to ensure the Indigenous nations' interests and issues are reflected in the proposed Project materials throughout the EA process.
January 11, 2021	Project Introduction and IKS	Meeting	<ul style="list-style-type: none"> Meeting to discuss the organization of the S'ólh Téméxw Stewardship Alliance, proposed Project introduction, timeline, S'ólh Téméxw Stewardship Alliance's comments on the draft DPD and Integrated Cultural Assessment and IKS.
January 21, 2021	RBT2 Integrated Cultural Assessment Report	Email	<ul style="list-style-type: none"> S'ólh Téméxw Stewardship Alliance provided FortisBC with Sol'h Téméxw Stewardship Alliance's Organizational Chart and the RBT2 Integrated Cultural Assessment Report.
February 12, 2021	S'ólh Téméxw Stewardship Alliance's Annotated Bibliography, Meeting Minutes and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC explained the proposed Project Schedule changes and asked the Sol'h Téméxw Stewardship Alliance to review and provide feedback on FortisBC's proposed secondary source list. Email attachments included: <ul style="list-style-type: none"> S'ólh Téméxw Stewardship Alliance's Annotated Bibliography Updated Look Ahead Schedule January 11, 2021 meeting minutes
March 5, 2021	S'ólh Téméxw Stewardship Alliance's Draft DPD Comments and FortisBC's Responses	Email	<ul style="list-style-type: none"> FortisBC provided S'ólh Téméxw Stewardship Alliance with responses to S'ólh Téméxw Stewardship Alliance's comments on the draft DPD. Email attachments included: <ul style="list-style-type: none"> S'ólh Téméxw Stewardship Alliance's DPD comment table
April 20, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none"> FortisBC sent S'ólh Téméxw Stewardship Alliance an annotated bibliography for their review, and noted the sources listed would be used to partially inform background information on S'ólh Téméxw Stewardship Alliance. Email attachments included: <ul style="list-style-type: none"> S'ólh Téméxw Stewardship Alliance First Nation Annotated Bibliography
April 22, 2021	Field Program Invitation	Email	<ul style="list-style-type: none"> FortisBC invited S'ólh Téméxw Stewardship Alliance to participate in field work studies and requested they notify FortisBC by April 30, 2021. Email attachments included: <ul style="list-style-type: none"> Proposed Spring VC Selection Field Schedule

Table I-20. Summary of Engagement with S'ólh Téméxw Stewardship Alliance

Date	Subject of Engagement	Method of Contact	Summary of Engagement
May 4, 2021	BCUC Guidelines	Email	<ul style="list-style-type: none"> FortisBC sent S'ólh Téméxw Stewardship Alliance the BCUC CPCN guidelines, stating FortisBC was unsure of how the guidelines will be revised to reflect the new <i>Declaration on the Rights of Indigenous Peoples Act</i> legislation. FortisBC requested a meeting in mid to late May 2021 to discuss the draft DPD, draft AIR, and draft VC selection.
July 26, 2021	Capacity for Phase 2 Participation	Email	<ul style="list-style-type: none"> S'ólh Téméxw Stewardship Alliance informed FortisBC their Research and Resource Management Centre did not have the capacity to engage on the Tilbury Phase 2 project.

Note:

* Via People of the River Referrals Office

I.21 Soowahlie First Nation

The People of the River Referrals Office has communicated with FortisBC on behalf of the Soowahlie First Nation via email. FortisBC has inquired as to the People of the River Referrals Office's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

FortisBC contacted Soowahlie First Nation on November 30, 2020, to provide an update on the proposed Project and to seek confirmation on how Soowahlie First Nation would prefer to engage with FortisBC. FortisBC indicated that it has been engaging with the S'ólh Téméxw Stewardship Alliance via the S'ólh Téméxw Stewardship Alliance per the "Joint Summary of Issues and Engagement for the Tilbury Phase 2 LNG Expansion Project" as outlined in the "Joint Summary of Issues and Engagement for the Tilbury Phase 2 LNG Expansion Project." FortisBC offered to change this approach if Soowahlie First Nation preferred a different approach.

A detailed summary of engagement activities with Soowahlie First Nation is provided in Table I-21.

Table 1-21. Summary of Engagement with Soowahlie First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to July 12, 2019	Early Engagement; IPD	Email*	<ul style="list-style-type: none"> Introductory email sent notifying of the proposed Project and requesting a meeting to review the Draft IPD. Draft IPD was shared.
February 14, 2020	IPD	Email	<ul style="list-style-type: none"> Notification to submit the IPD to B.C. EAO.
April 24, 2020 to June 1, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none"> Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase. Provided a letter providing a proposed Project update, extension request and public comment period commencement.

Table 1-21. Summary of Engagement with Soowahlie First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
August 25, 2020	Project Update; Draft VC Selection; Draft AIR	Email*	<ul style="list-style-type: none"> Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> Review of the draft VCs Review of the draft AIR Review of the draft DPD The proposed process for identifying and including Indigenous Knowledge Capacity funding information Email attachments included an update letter, draft VCs, draft AIR, and estimated timelines. FortisBC offered to meet with Soowahlie First Nation to discuss further.
November 30, 2020	FortisBC Tilbury Phase 2 LNG Project Update	Email (via Sol'h Téméxw Stewardship Alliance)	<ul style="list-style-type: none"> Email seeking input and engagement from Soowahlie First Nation. FortisBC provided information on the engagement process. Email attachments included: <ul style="list-style-type: none"> Soowahlie First Nation Letter Tilbury Joint Summary of Issues and Engagement
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Soowahlie First Nation with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter

Note:

* Via People of the River Referrals Office

I.22 Squamish Nation

The Squamish Nation has communicated with FortisBC via email. FortisBC has inquired as to Squamish Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings. A detailed summary of engagement activities with Squamish Nation is provided in Table I-22.

Table I-22. Summary of Engagement with Squamish First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 3, 2019 to February 14, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none"> Introductory email sent notifying of the proposed Project and requesting a meeting to review the Draft IPD. Draft IPD was shared. Notification to submit the IPD to B.C. EAO.
October 17, 2019	AOA	Email	<ul style="list-style-type: none"> Notification of AOA and permit application.

Table I-22. Summary of Engagement with Squamish First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
April 24, 2020 to June 1, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none"> Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase. Provided a letter providing a proposed Project update, extension request and public comment period commencement.
August 28, 2020	Project Update	Email	<ul style="list-style-type: none"> Project update email to notify on the proposed Project next steps in preparing the DPD.
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Squamish Nation with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
April 20, 2021	Annotated Bibliography	Email	<ul style="list-style-type: none"> FortisBC sent Squamish Nation an annotated bibliography for their review, and noted the sources listed would be used to partially inform background information on Squamish Nation. Email attachments included: <ul style="list-style-type: none"> Squamish Nation's Annotated Bibliography Link to BCUC Process
April 20, 2021	Squamish Connect	Email	<ul style="list-style-type: none"> Squamish First Nation requested FortisBC submit all requests to Squamish Connect. FortisBC requested more information on Squamish Connect and the registration process.

I.23 Stó:lō Nation

The People of the River Referrals Office, operational arm of the S'ólh Téméxw Stewardship Alliance, communicated with FortisBC on behalf of the Stó:lō Nation bands via email. FortisBC has inquired as to the People of the River Referrals Office and to the Stó:lō Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings. Engagement with the S'ólh Téméxw Stewardship Alliance via the People of the River Referrals Office is captured in the DPD.

A detailed summary of engagement activities with the Stó:lō Nation via the People of the River Referrals Office is provided in Table I-23.

Table I-23. Summary of Engagement with Stó:lō Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to February 14, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none"> ▪ Introductory email sent notifying of the proposed Project and requesting a meeting to review the Draft IPD. ▪ Draft IPD was shared. ▪ Notification to submit the IPD to B.C. EAO.
October 17, 2019	Archaeological Overview Assessment	Email	<ul style="list-style-type: none"> ▪ Notification of AOA and permit application.
April 24, 2020 to June 1, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none"> ▪ Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase. ▪ Provided a letter providing a proposed Project update, extension request and public comment period commencement.
August 25, 2020	Project Update; Draft VC Selection; Draft AIR	Email*	<ul style="list-style-type: none"> ▪ Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> – Review of the draft VCs – Review of the draft AIR – Review of the draft DPD – The proposed process for identifying and including Indigenous Knowledge – Capacity funding information ▪ Email attachments included an update letter, draft VCs, draft AIR, and estimated timelines. FortisBC offered to meet with Stó:lō Nation to discuss further.
December 2, 2020 to December 4, 2020	Stó:lō Nation Contact	Email*	<ul style="list-style-type: none"> ▪ Email sent stating that the introductory email sent to Stó:lō Nation was undeliverable. ▪ Stó:lō Nation responded stating that the introductory email has been uploaded.
May 31, 2021	Look Ahead Schedule and Noise Monitoring	Email	<ul style="list-style-type: none"> ▪ FortisBC sent Stó:lō Nation the updated Look Ahead Schedule and the proposed noise monitoring sites for their review. ▪ Email attachments included: <ul style="list-style-type: none"> – Tilbury Look Ahead May 2021 – 2021 Acoustic Field Program
May 31, 2021	Contact Information Update	Email	<ul style="list-style-type: none"> ▪ Stó:lō Nation informed FortisBC of a new contact to direct all questions and concerns.

Note:

* Via People of the River Referrals Office

I.24 Stz'uminus First Nation

FortisBC communicates with Stz'uminus First Nation directly, and via the Cowichan Nation Alliance using email, in-person meetings, telephone calls, and virtual meetings. FortisBC has inquired as to Stz'uminus First Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the

Appendix I. Summary of Engagement with Indigenous Nations

preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

Stz'uminus First Nation submitted their notice to engage as a participating Indigenous nation to the B.C. EAO on July 10, 2020. In their notice, Stz'uminus First Nation cited their Indigenous Rights under UNDRIP, Aboriginal Rights in the proposed Project Area, including harvesting rights for wildlife, waterfowl, vegetation and other resources, the right to fish for food, social and ceremonial use, and Aboriginal Title interests. Stz'uminus First Nation further stated that the descendant communities of the historic Cowichan Nation "...hold inherent jurisdiction over the proposed Project Area as the controlling Indigenous group over that area at all relevant times (pre-contact, at the time of contact, and through well beyond 1846)" and therefore, under Stz'uminus First Nation Indigenous laws, are stewards of the lands, waters, and resources. This includes the exercise of their "...inherent land use planning jurisdiction for the lands of Tl'uqtinus [historic village in present day Richmond, BC] and surrounding environs" (Stz'uminus First Nation 2020).

FortisBC initiated engagement with Stz'uminus First Nation on July 2, 2019 with an introductory email. On August 25, 2020, FortisBC contacted Stz'uminus First Nation to connect about the proposed Project, discuss next steps, and attached a Project update letter with information about draft VCs and draft AIR. Stz'uminus First Nation adopted the comments from both Cowichan Tribes and Halalt First Nation on the draft AIR on November 6, 2020.

FortisBC has engaged with Stz'uminus First Nation via the Cowichan Nation Alliance beginning with a meeting on September 22, 2020. Considering the persistent challenges the COVID-19 pandemic posed to engaging with Elders and Knowledge Keepers for a new IKS, the Cowichan Nation Alliance granted FortisBC approval to use the Tilbury Marine Jetty project TUS and IKS. Cowichan Tribes shared the TUS Culturally Significant Vegetation of Tilbury Island by Dr. Nancy Turner (Turner 2020) on October 30, 2020. Cowichan Tribes also shared Stl'ulnup: A Cowichan Nation Use and Occupancy Study for Tilbury Island developed by Candace Charlie for the Tilbury Marine Jetty Project and the Cowichan Nation Alliance's Declaration for Reconciliation.

Stz'uminus First Nation has notified FortisBC that together with the other members of the Cowichan Nation Alliance, they are actively pursuing undertaking an Indigenous-led assessment for the proposed Project.

A detailed summary of engagement activities with Stz'uminus First Nation is provided in Table I-24.

Table I-24. Summary of Engagement with Stz'uminus First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to February 14, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none">▪ Introductory email sent notifying of the proposed Project and requesting a meeting to review the Draft IPD.▪ Draft IPD was shared.▪ FortisBC provided revised IPD by email.▪ Notification to submit the IPD to B.C. EAO.
July 17, 2019	IPD	Meeting	<ul style="list-style-type: none">▪ Meeting of Cowichan Nation Alliance including Stz'uminus First Nation at Cowichan Tribes office in Duncan to discuss IPD and address initial questions or concerns.
June 1, 2020	Project update and extension	Email	<ul style="list-style-type: none">▪ Provided a letter providing a proposed Project update, extension request and public comment period commencement.

Table I-24. Summary of Engagement with Stz'uminus First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
August 25, 2020	Project Update; Draft VC Selection; Draft AIR	Email	<ul style="list-style-type: none"> Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> Review of the draft VCs Review of the draft AIR Review of the draft DPD The proposed process for identifying and including Indigenous Knowledge Capacity funding information Email attachments included an update letter, draft VCs, draft AIR, and estimated timelines. FortisBC offered to meet with Stz'uminus First Nation to discuss further.
September 22, 2020	Project Update	Telephone Meeting	<ul style="list-style-type: none"> Meeting with Cowichan Nation Alliance members to provide a proposed Project update and discuss scheduling.
November 6, 2020	Comments on FortisBC Tilbury Expansion Draft AIRs	Email	<ul style="list-style-type: none"> Stz'uminus First Nation notified FortisBC that they support and adopt the comments on the draft AIR provided by both Cowichan Tribes and Halalt First Nation.
January 8, 2021	Project Updates and Cowichan Tribes and Halalt First Nation's draft AIR Comments	Meeting	<ul style="list-style-type: none"> Meeting to provide Project updates and address Cowichan Tribes and Halalt First Nation's comments on the draft AIR.
January 22, 2021 to January 27, 2021	FortisBC's Responses to Cowichan Tribes and Halalt First Nation's draft AIR Comments and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC provided Stz'uminus First Nation with further responses to Cowichan Tribes and Halalt First Nation's draft AIR comments that reflect the January 8, 2021 meeting discussion with Cowichan Nation Alliance members. FortisBC explained the proposed Project Schedule changes. FortisBC invited Stz'uminus First Nation to meet since Stz'uminus First Nation missed the January 8, 2021 meeting with Cowichan Nation Alliance. Email attachments included: <ul style="list-style-type: none"> FortisBC responses to Cowichan Tribes and Halalt First Nation's comments on the draft AIR January 8, 2021 meeting minutes Look Ahead Schedule
February 3, 2021	Barrier to Harvesting Report	Email	<ul style="list-style-type: none"> FortisBC provided Stz'uminus First Nation with the Barriers to Harvesting report that Cowichan Tribes mentioned at the January 8, 2021 meeting. Email attachments included: <ul style="list-style-type: none"> Barriers to Harvesting Report

Table I-24. Summary of Engagement with Stz'uminus First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Stz'uminus First Nation with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
February 12, 2021	Annotated Bibliography and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC explained the proposed Project Schedule changes and asked Stz'uminus First Nation to review and provide feedback on FortisBC's proposed secondary source list. Email attachments included: <ul style="list-style-type: none"> Cowichan Tribes, Penelakut First Nation, Stz'uminus First Nation, Lyackson First Nation, and Halalt First Nation's Annotated Bibliographies Updated Look Ahead Schedule Updated January 8, 2021 meeting minutes
February 19, 2021	Indigenous-Led Assessment	Email	<ul style="list-style-type: none"> FortisBC provided Stz'uminus First Nation with B.C. EAO's responses regarding funding for an Indigenous-led assessment. Email attachments included: <ul style="list-style-type: none"> Response from B.C. EAO on the Indigenous-led Assessment
March 3, 2021	Declaration for Reconciliation	Email	<ul style="list-style-type: none"> Cowichan Nation Alliance provided FortisBC with the Cowichan Nation Alliance's Declaration for Reconciliation for Tl'uqtnus, on behalf of Stz'uminus First Nation Email attachments included: <ul style="list-style-type: none"> Declaration for Reconciliation
March 3, 2021	Project Update Meeting	Meeting	<ul style="list-style-type: none"> Meeting to discuss Project updates, draft DPD comments, list of secondary sources and EA methodology.
March 12, 2021	Copy of the DPD Part 1 Presentation	Email	<ul style="list-style-type: none"> FortisBC provided Stz'uminus First Nation a copy of the DPD Part 1 Presentation. Email attachments included: <ul style="list-style-type: none"> Copy of the DPD Part 1 Presentation
March 15, 2021	Meeting Minutes and DPD Part 1 Presentation	Email	<ul style="list-style-type: none"> FortisBC provided Stz'uminus First Nation with the March 3, 2021 meeting minutes and the DPD Part 1 presentation slides. Email attachments included: <ul style="list-style-type: none"> March 3, 2021 meeting minutes DPD Part 1 presentation slides
March 26, 2021	Archaeological Impact Assessment	Email	<ul style="list-style-type: none"> Notice that Golder would be conducting an archaeological impact assessment on behalf of FortisBC for the proposed Project.

Table I-24. Summary of Engagement with Stz'uminus First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
April 8, 2021	DPD Feedback	Email	<ul style="list-style-type: none"> FortisBC sent responses to Cowichan Tribes (on behalf of Cowichan Nation Alliance) DPD comments. Email attachments included: <ul style="list-style-type: none"> FortisBC's Responses to Cowichan Tribes Comments on draft DPD
April 12, 2021	Indigenous-Led Assessment	Email	<ul style="list-style-type: none"> FortisBC informing Stz'uminus First Nation via communication through Cowichan Nation Alliance that the due date for Indigenous-led assessments is mid-September.
April 12, 2021	DPD Feedback	Email	<ul style="list-style-type: none"> Cowichan Nation Alliance, on behalf of Stz'uminus First Nation, confirm that FortisBC has adequately responded to their comment on the draft DPD.
April 14, 2021	Meeting Minutes	Email	<ul style="list-style-type: none"> FortisBC sent the April 12, 2021 Cowichan Nation Alliance meeting minutes. Email attachments included: <ul style="list-style-type: none"> April 12, 2021 Meeting Minutes
April 16-20, 2021	Indigenous-Led Assessment Timeline	Email	<ul style="list-style-type: none"> Cowichan Tribes on behalf of Cowichan Nation Alliance informing FortisBC that the proposed deadline is too soon. FortisBC requested that Cowichan Nation Alliance provide any information they wish to be included in the application by mid-September and when the process is triggered a better timeframe can be identified.
April 22-23, 2021	Field program Participation	Email	<ul style="list-style-type: none"> FortisBC invited Stz'uminus First Nation to participate in field work studies and requested they notify FortisBC by April 30, 2021. Cowichan Tribes confirmed on behalf of Cowichan Nation Alliance members that they would participate remotely. Email attachments included: <ul style="list-style-type: none"> Proposed Spring VC Selection Field Study Schedule
May 4-6, 2021	Remote Monitoring Methods	Email	<ul style="list-style-type: none"> FortisBC informed Stz'uminus First Nation via Cowichan Nation Alliance that remote monitoring options were being explored for participation and suggested a combination of photos and summary meetings may be most effective.
May 13-14, 2021	Field Program Participation	Meeting	<ul style="list-style-type: none"> Cowichan Tribes, on behalf of Cowichan Nation Alliance, participated in remote field studies calls.
May 31, 2021	Look Ahead and Noise Monitoring	Email	<ul style="list-style-type: none"> FortisBC sent the updated Look Ahead Schedule and the proposed noise monitoring sites for Stz'uminus First Nation's review via Cowichan Nation Alliance. FortisBC proposed a second DPD workshop in the third week of June. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead Schedule May 2021 2021 Acoustic Monitoring Program

Table I-24. Summary of Engagement with Stz'uminus First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
May 31 - June 2, 2021	Cowichan Nation Alliance Indigenous-Led Assessment Timeline	Email	<ul style="list-style-type: none"> ▪ Cowichan Nation Alliance provided scope and budget for Indigenous-led assessment on behalf of all five Indigenous nations.
June 3, 2021	Draft DPD Comments	Email	<ul style="list-style-type: none"> ▪ Cowichan Tribes provided comments on draft DPD and noted that other Cowichan Nation Alliance Nations may wish to adopt them. ▪ Email attachments included: <ul style="list-style-type: none"> – Cowichan Nation Alliance draft DPD Comments
June 10-16, 2021	Indigenous-Led Assessment Timeline	Email	<ul style="list-style-type: none"> ▪ FortisBC inquired if the proposed assessment included existing Indigenous Knowledge/Traditional Ecological Knowledge. ▪ Cowichan Nation Alliance confirmed the assessment would include Indigenous Knowledge/Traditional Ecological Knowledge and suggested the assessment would be follow the same timeline as the EA. ▪ Cowichan Nation Alliance suggested the assessment serve as the main document informing leadership decisions on the proposed Project moving forward.
June 16, 2021	DPD	Email	<ul style="list-style-type: none"> ▪ FortisBC requested a meeting with Cowichan Nation Alliance to review the most recent draft DPD. ▪ FortisBC requested feedback on the Acoustic Monitoring study. ▪ Email attachments included: <ul style="list-style-type: none"> – Tilbury Look Ahead Schedule June 2021 – Tilbury Phase 2 Project – Acoustic Monitoring
June 29-30, 2021	DPD Comments	Email	<ul style="list-style-type: none"> ▪ FortisBC addressing Cowichan Tribes' (on behalf of Cowichan Nation Alliance) most recent comments on the DPD. ▪ FortisBC noted draft VC Selection and draft AIR will be updated based on Cowichan Nation Alliance's feedback. ▪ Email attachments included: <ul style="list-style-type: none"> – Cowichan Tribes DPD Full Comment Response
July 5, 2021	Phase 2 Field Studies	Email	<ul style="list-style-type: none"> ▪ FortisBC invited Cowichan Nation Alliance's participation in the upcoming Vegetation and Wetlands Field Program. ▪ Email attachments included: <ul style="list-style-type: none"> – Vegetation Field Program Overview

I.25 Tsawwassen First Nation

Tsawwassen First Nation has communicated with FortisBC via email, telephone calls, and telephone and in-person meetings. FortisBC has inquired as to Tsawwassen First Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. FortisBC will continue to provide milestone updates via email and participate in meetings.

Tsawwassen First Nation has submitted their notice to engage as a participating Indigenous nation to the B.C. EAO on May 26, 2020. In their notice, Tsawwassen First Nation cited their Aboriginal Treaty Rights, stewardship over their lands, interests in fish and fish habitat, harvesting and fishing rights, culturally important species such as Southern Resident Killer Whales and their habitats and “associated cultural and spiritual impacts”, rights to access traditional territory and resources, health effects, and effects to “the ability to share knowledge and culture with young and future generation” (JFK Law Corporation 2020).

FortisBC initiated engagement with Tsawwassen First Nation on July 2, 2019 with an introductory email. During an October 15, 2020 meeting, Tsawwassen First Nation raised issues about the use of baseline data in the EA, cumulative effects of multiple projects developed simultaneously in the same area, and Indigenous Knowledge Studies. Tsawwassen First Nation asked that Indigenous Knowledge be assessed equally with western science and noted that an Indigenous Knowledge discussion would have to occur before Tsawwassen First Nation could comment on the draft AIR. For a summary of key issues raised by Tsawwassen First Nation, see Appendix G of the DPD. FortisBC sent a draft Capacity Funding Agreement to Tsawwassen on March 9, 2021, noting it as a base agreement. Tsawwassen provided FortisBC with an overview of Tsawwassen First Nation's Rights Assessment Approach and an updated version of the Draft Capacity Funding Agreement on March 26, 2021. FortisBC will work with Tsawwassen First Nation to appropriately integrate Tsawwassen First Nation's Rights Assessment Approach into Application. A detailed summary of engagement activities with Tsawwassen First Nation is provided in Table I-25.

Table I-25. Summary of Engagement with Tsawwassen First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to February 14, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none"> ▪ Introductory email sent notifying of the proposed Project and requesting a meeting to review the Draft IPD. ▪ Draft IPD was shared. ▪ FortisBC provided revised IPD by email. ▪ Notification to submit IPD to B.C. EAO.
July 19, 2019	IPD	Meeting	<ul style="list-style-type: none"> ▪ Meeting at Tsawwassen First Nation to discuss IPD and address initial questions or concerns.
July 25, 2019	Event invitation	Email	<ul style="list-style-type: none"> ▪ FortisBC sent follow-up email to provide additional information and extend invitation to upcoming LNG event in the City of Delta.
October 2, 2019	Early Engagement Capacity	Email	<ul style="list-style-type: none"> ▪ Tsawwassen First Nation is interested in providing comments on the proposed Project; however, there are capacity constraints for internal review. Request FortisBC address forthcoming comments at a later date.
April 24, 2020 to June 1, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none"> ▪ Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase. ▪ Provided a letter providing a proposed Project update, extension request and public comment period commencement.

Table I-25. Summary of Engagement with Tsawwassen First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
August 25, 2020	Project Update; Draft VC Selection; Draft AIR	Email	<ul style="list-style-type: none"> Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> Review of the draft VCs Review of the draft AIR Review of the draft DPD The proposed process for identifying and including Indigenous Knowledge Capacity funding information Email attachments included an update letter, draft VCs, draft AIR, and estimated timelines. FortisBC offered to meet with Tsawwassen First Nation to discuss further.
August 28, 2020	Project Schedule	Meeting/Call	<ul style="list-style-type: none"> Reviewed looked ahead schedule and discussed feasibility. Tsawwassen First Nation to provide comments.
September 23, 2020	Draft VC and AIR Meeting	Email	<ul style="list-style-type: none"> Scheduling a meeting to discuss the proposed Project. Input on the draft VC and draft AIR document.
October 15, 2020	Draft VC and AIR Process and Methods	Telephone Meeting	<ul style="list-style-type: none"> Tsawwassen First Nation provided input on their priority issues, baseline data, draft VCs, integration of Indigenous Knowledge in the EA, and conducting an Indigenous-led assessment.
October 21, 2020	FortisBC Tilbury Phase 2 Follow-Up	Email	<ul style="list-style-type: none"> Email to schedule a meeting and provide Project timeline. FortisBC wants to start developing a Capacity Funding Agreement as Tsawwassen First Nation indicated interest in initiating the IKS. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead October 2020 Document
January 21, 2021	Rights Assessment Framework, Studies and Comments on Draft AIR and DPD	Meeting	<ul style="list-style-type: none"> Meeting to discuss Tsawwassen First Nation meeting with B.C. EAO, Rights Assessment Framework, IKS and biophysical studies, capacity funding, and comments on draft AIR and draft DPD.
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Tsawwassen First Nation with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
February 12, 2021	Annotated Bibliography and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC explained the proposed Project Schedule changes and asked Tsawwassen First Nation to review and provide feedback on FortisBC's proposed secondary source list. Email attachments included: <ul style="list-style-type: none"> Tsawwassen First Nation Annotated Bibliography Updated Look Ahead Schedule

Table I-25. Summary of Engagement with Tsawwassen First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
March 9, 2021	Draft Capacity Funding and Meeting Minutes	Email	<ul style="list-style-type: none"> FortisBC explained that the Capacity Funding Agreement is a base Agreement and further discussion is needed to include the Rights Assessment Framework and IKS into the workplan. Email attachments included: <ul style="list-style-type: none"> Draft Capacity Funding Agreement January 21, 2021 meeting minutes
March 26, 2021	Tsawwassen First Nation's Rights Assessment Approach and Draft Capacity Funding Agreement	Email	<ul style="list-style-type: none"> Tsawwassen First Nation provided FortisBC with an overview of their Rights Assessment Approach and updates to the Capacity Funding Agreement. Email attachments included: <ul style="list-style-type: none"> Tsawwassen First Nation's Rights Assessment Approach Draft Capacity Funding Agreement
April 16, 2021	Responses to draft AIR/VC Selection Comments	Email	<ul style="list-style-type: none"> FortisBC sent Tsawwassen First Nation responses to their draft AIR and draft VC Selection Comments, noting that FortisBC will update the draft DPD, draft AIR, and draft VC Selection based on their comments. Email attachments included: <ul style="list-style-type: none"> FortisBC Responses to Tsawwassen First Nation's Comments on the draft AIR and draft VC Selection
April 22, 2021	Field Program Invitation	Email	<ul style="list-style-type: none"> FortisBC invited Tsawwassen First Nation to participate in field work studies and requested they notify FortisBC by April 30, 2021. Email attachments included: <ul style="list-style-type: none"> Proposed Spring VC Selection Field Schedule
May 4, 2021	Meeting Request and DPD/Draft AIR Release Update	Email	<ul style="list-style-type: none"> FortisBC proposed meeting times between May 10 to 12 and May 28 to 30, 2021 to discuss the draft DPD, draft AIR, and draft VC Selection FortisBC stated the draft DPD and updated draft AIR/draft VC Selection will be released in the near future.
May 31, 2021	Look Ahead Schedule and Noise Monitoring	Email	<ul style="list-style-type: none"> FortisBC sent Tsawwassen First Nation the updated Look Ahead Schedule and the proposed noise monitoring sites for their review. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead May 2021 2021 Acoustic Field Program
July 5, 2021	Vegetation and Wetlands Field Program Invitation	Email	<ul style="list-style-type: none"> FortisBC invited Tsawwassen First Nation to participate in the vegetation and wetlands field program on August 4-5, 2021, and requested Tsawwassen First Nation notify FortisBC of their interest to participate by July 19, 2021. Email attachments included: <ul style="list-style-type: none"> Vegetation Field Program Overview

I.26 Tsleil-Waututh First Nation

Tsleil-Waututh Nation has communicated with FortisBC via email, telephone calls, and virtual meetings and in-person meetings. FortisBC has inquired as to Tsleil-Waututh First Nation's engagement method preferences. Should those preferences be indicated in the future, FortisBC will use the preferred methods going forward. Tsleil-Waututh Nation has indicated a minimum of 45-day review period time for materials. FortisBC will continue to provide milestone updates via email and participate in meetings.

Tsleil-Waututh Nation submitted their notice to engage as a participating Indigenous nation to the B.C. EAO on July 10, 2020. In their notice, Tsleil-Waututh Nation cited the proposed Project's location within the Nation's consultation area which is therefore "subject to the conditions of the Tsleil-Waututh Nation's [sic] Stewardship Policy, which outlines Tsleil-Waututh Nation's stewardship laws and requirements for meaningful consultation with Tsleil-Waututh Nation on projects taking place in the Nation's traditional territory." Tsleil-Waututh Nation cites their Aboriginal Right to fish, practice and preserve traditional culture, right to self-governance, effects to marine mammals and aquatic species, air quality and climate change, harvesting rights, effects to heritage resources and practicing Tsleil-Waututh Nation culture, rights to health, and cumulative effects (Tsleil-Waututh Nation 2020).

FortisBC initiated engagement with Tsleil-Waututh Nation on July 2, 2019 with an introductory email. Tsleil-Waututh Nation informed FortisBC on September 29, 2020 it that they would work to complete a TUS for the proposed Project by mid-December. Following several discussions, FortisBC sent Tsleil-Waututh Nation an updated Capacity Funding Agreement on March 12, 2021. Tsleil-Waututh Nation shared the Tsleil-Waututh Nation Fee Schedule and the Tsleil-Waututh Nation Stewardship Policy, suggesting FortisBC focus on the Resourcing Requirement section of the Policy on March 4, 2020. A detailed summary of engagement activities with Tsleil-Waututh Nation is provided in Table I-26.

Table I-26. Summary of Engagement with Tsleil-Waututh Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 2, 2019 to February 18, 2020	Early Engagement; IPD	Email	<ul style="list-style-type: none"> ▪ Introductory email sent notifying of the proposed Project and requesting a meeting to review the Draft IPD. ▪ Draft IPD was shared. ▪ FortisBC provided revised IPD by email. ▪ Notification of IPD and Engagement Plan submission to B.C. EAO and IAAC.
August 14, 2019	Early Engagement Process	Letter	<ul style="list-style-type: none"> ▪ Tsleil-Waututh Nation provided a letter outlining expectations of consultation.
October 15, 2019	Meeting invitation	Email	<ul style="list-style-type: none"> ▪ Tsleil-Waututh Nation extended an invite for an initial proposed Project meeting with their Treaty Lands and Resources team.
October 17, 2020 to February 14, 2020	Project updates	Email / Call	<ul style="list-style-type: none"> ▪ Notification of AOA and permit application ▪ Project update and discussion about new EA process and DPD.
November 28, 2019	Project Overview	Meeting	<ul style="list-style-type: none"> ▪ Initial meeting with Tsleil-Waututh Nation's Land and Resources team for proposed Project update, overview, and next steps.

Table I-26. Summary of Engagement with Tsleil-Waututh Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
January 27 to February 7, 2020	IPD	Emails; Letter	<ul style="list-style-type: none"> Discussion about IPD filing and review period.
May 8 to Ongoing, 2021	Project updates	Calls; Emails	<ul style="list-style-type: none"> Bi-weekly touch-base with Tsleil-Waututh Nation regarding proposed Project updates and proposed Project timeline extension requests.
June 1, 2020	Project update and extension	Email / Letter	<ul style="list-style-type: none"> Provided a letter regarding proposed Project update, extension request, and public comment period commencement.
July 31, 2020	Project updates	Meeting/ Call	<ul style="list-style-type: none"> FortisBC to provide Look Ahead Schedule.
August 14, 2020	Project Schedule and IPD	Meeting/Call	<ul style="list-style-type: none"> FortisBC to provide a Look Ahead Schedule. Reviewing IPD comments.
August 25, 2020	Project Update; Draft VC Selection; Draft AIR	Email	<ul style="list-style-type: none"> Project update email to seek input on the proposed Project next steps: <ul style="list-style-type: none"> Review of the draft VCs Review of the draft AIR Review of the draft DPD The proposed process for identifying and including Indigenous Knowledge Capacity funding information Email attachments included an update letter, draft VCs, AIR, and estimated timelines. FortisBC offered to meet with Tsleil-Waututh Nation to discuss further.
September 23, 2020	IPD	Email; Letter	<ul style="list-style-type: none"> Tsleil-Waututh Nation provided comments on IPD. FortisBC is in the process of the responding to these comments.
September 29 and October 9, 2020	Bi-weekly meetings	Telephone Meetings	<ul style="list-style-type: none"> FortisBC meets with Tsleil-Waututh Nation via telephone on a bi-weekly basis and discusses several Project-related subjects. Discussions at these bi-weekly meetings included: <ul style="list-style-type: none"> timeline suspensions DPD, draft AIR, and draft VC documents Traditional Land Use and Occupancy Studies the Look Ahead Schedule the DPD workshop with the B.C. EAO scheduled for October 27

Table I-26. Summary of Engagement with Tsleil-Waututh Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
October 28, 2020 and October 29	Comment Tracker and Tsleil-Waututh Nation Meeting Minutes (IPD comments, DPD approach, Draft AIR, Draft VCs)	Email / Meeting	<ul style="list-style-type: none"> Tsleil-Waututh Nation email attachments included Tsleil-Waututh Nation Early Engagement Comments. Meeting topics included proposed Project updates such as the DPD approach, Indigenous Knowledge, draft AIR, draft VCs and capacity funding; IPD comments and updates made to the DPD from the IPD.
November 20, 2020	Tsleil-Waututh Nation Bi-Weekly Phone Call	Meeting/Call	<ul style="list-style-type: none"> Meeting discussion included Tsleil-Waututh Nation continuous review on the draft AIR, draft VCs, and the Capacity Funding Budget.
December 4, 2020	Tsleil-Waututh Nation Bi-Weekly Phone Call	Meeting/Call	<ul style="list-style-type: none"> Meeting discussion included draft Capacity Funding Agreement, availability of Part 2 of the DPD.
December 8, 2020 to December 11, 2020	January meeting, Capacity Funding Agreement and Look Ahead Document	Email/ Meeting	<ul style="list-style-type: none"> Meeting discussion included the draft VCs and draft AIR. FortisBC requested that Tsleil-Waututh Nation review the Capacity Funding Agreement. Email attachments included: <ul style="list-style-type: none"> Look Ahead and Draft Capacity Funding Agreement
December 17, 2020	FortisBC Tilbury Meeting Follow-up	Email	<ul style="list-style-type: none"> Tsleil-Waututh Nation submitted their comments on the draft AIR and draft VCs to B.C. EAO. Tsleil-Waututh Nation email attachment included: <ul style="list-style-type: none"> Woodfibre LNG – Downstream Emissions Information
January 15, 2021	Updated Capacity Funding Agreement	Email	<ul style="list-style-type: none"> Tsleil-Waututh Nation provided cost estimates and edits to the draft Capacity Funding Agreement. Email attachments included: <ul style="list-style-type: none"> Updated Capacity Funding Agreement
January 22, 2021	Meeting Minutes and Updates Look Ahead Document	Email	<ul style="list-style-type: none"> FortisBC is in the process of reviewing the cost estimates Tsleil-Waututh Nation provided. Email attachments included: <ul style="list-style-type: none"> December 8, 2020 meeting minutes Updated Look Ahead Schedule
January 29, 2021	Draft AIR Comments, Annotated Bibliography, Capacity Funding Agreement and Studies	Email / Meeting	<ul style="list-style-type: none"> Meeting to discuss draft AIR comments, secondary source list, Capacity Funding Agreement and Eulachon and TUS. Email attachments included: <ul style="list-style-type: none"> Tsleil-Waututh Nation Annotated Bibliography

Table I-26. Summary of Engagement with Tsleil-Waututh Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Tsleil-Waututh Nation with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
February 12, 2021	Project Updates and CPCN Process	Email / Meeting	<ul style="list-style-type: none"> Meeting to discuss Project updates, secondary source follow-up, Capacity Funding Agreement, and the contaminated sites investigation. FortisBC provided an overview of the CPCN process.
February 26, 2021	Capacity Funding Agreement	Meeting	<ul style="list-style-type: none"> Meeting to provide team introductions and discuss the proposed electrical transmission line and the Capacity Funding Agreement.
March 4, 2021	Tsleil-Waututh Nation Stewardship Policy	Email	<ul style="list-style-type: none"> Tsleil-Waututh Nation suggested that FortisBC revisit the Resourcing Requirement section in Tsleil-Waututh Nation's Stewardship Policy. Email attachments included: <ul style="list-style-type: none"> Tsleil-Waututh Nation Fee Schedule Tsleil-Waututh Nation Stewardship Policy
March 12, 2021	Part 2 of the DPD and Capacity Funding Agreement	Meeting / Email	<ul style="list-style-type: none"> Meeting to discuss Part 2 of the DPD, Capacity Funding Agreement and BCUC. FortisBC added the Band Council Resolution to the Agreement. Email attachments included: <ul style="list-style-type: none"> Updated Capacity Funding Agreement
March 25, 2021	Capacity Funding Agreement Concerns	Email	<ul style="list-style-type: none"> Tsleil-Waututh Nation and FortisBC discussed concerns with the draft Capacity Funding Agreement.
April 22, 2021	Field Program Invitation	Email	<ul style="list-style-type: none"> FortisBC invited Tsleil-Waututh Nation to participate in field work studies and requested they notify FortisBC by April 30, 2021. Email attachments included: <ul style="list-style-type: none"> Proposed Spring VC Selection Field Schedule
April 30, 2021	May Field Studies and Draft AIR Comment Responses	Email	<ul style="list-style-type: none"> FortisBC sent Tsleil-Waututh a summary of May field studies and FortisBC's responses to Tsleil-Waututh Nation's draft AIR comments. Email Attachments included: <ul style="list-style-type: none"> May Field Studies Summary FortisBC Responses to draft AIR Comments

Table I-26. Summary of Engagement with Tsleil-Waututh Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
May 13-14, 2021	Field Program Participation	Meeting	<ul style="list-style-type: none"> Tsleil-Waututh Nation, participated in remote field studies calls.
May 18, 2021	Wildlife Field Studies Summary	Email	<ul style="list-style-type: none"> FortisBC sent Tsleil-Waututh Nation the wildlife field studies summary from May 14, 2021. Email attachments included: <ul style="list-style-type: none"> Tilbury Facilities Expansion Wildlife Summary
May 31, 2021	Look Ahead Schedule and Noise Monitoring	Email	<ul style="list-style-type: none"> FortisBC sent Tsleil-Waututh Nation the updated Look Ahead Schedule and the proposed noise monitoring sites for their review. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead May 2021 2021 Acoustic Field Program
June 4, 2021	Baseline Noise Monitoring Summary	Email	<ul style="list-style-type: none"> FortisBC sent Tsleil-Waututh Nation the RWDI Baseline Noise Monitoring Summary, and stated no ground disturbance would occur. Email attachments included: <ul style="list-style-type: none"> RWDI Baseline Noise Monitoring One Page Summary
June 17, 2021	Project Updates, Capacity Funding, and Upcoming Studies	Meeting	<ul style="list-style-type: none"> FortisBC met with Tsleil-Waututh Nation to discuss proposed Project updates, capacity funding, upcoming studies, and addressing outstanding concerns for the DPD and draft AIR.
June 28, 2021	Capacity Funding Agreement	Email	<ul style="list-style-type: none"> FortisBC sent Tsleil-Waututh Nation an updated Capacity Funding Agreement and Workplan, and noted the changes made to the Capacity Funding Agreement to address their concerns. Email attachments included: <ul style="list-style-type: none"> Workplan Draft Capacity Funding Agreement
July 13, 2021	Field Studies Participation	Email	<ul style="list-style-type: none"> Tsleil-Waututh Nation notified FortisBC of their interest in participating in the Wetlands and Vegetation survey on August 4 to 5, 2021, and requested to review FortisBC's COVID-19 Safety Plan to assess risk level. Email attachments included: <ul style="list-style-type: none"> Field Program Summary

I.27 Ts'uubaa-asatx Nation (Lake Cowichan First Nation)

Ts'uubaa-asatx Nation (Lake Cowichan First Nation) has communicated with FortisBC via email and virtual meetings. FortisBC has inquired as to the Ts'uubaa-asatx Nations' (Lake Cowichan First Nation) engagement method preferences. Ts'uubaa-asatx Nation (Lake Cowichan First Nation) have indicated that they prefer to meet in person during weekly meetings. FortisBC will continue to provide milestone updates via email and participate in meetings.

Ts'uubaa-asatx Nation (Lake Cowichan First Nation) submitted their notice to engage as a participating Indigenous nation to the B.C. EAO on August 10, 2020. In their notice, Ts'uubaa-asatx Nation (Lake Cowichan First Nation) cited their interests in harvest locations including resource camps, as well as the harvesting of fish and seals. Ts'uubaa-asatx Nation (Lake Cowichan First Nation) also indicated their interest in intercommunity relations including the use of traditional trade areas and gathering sites along the South Arm of the Fraser River (Ts'uubaa-asatx Nation 2020).

FortisBC acknowledged Ts'uubaa-asatx Nation (Lake Cowichan First Nation) as a participating Indigenous nation on September 18, 2020 and met with Ts'uubaa-asatx Nation (Lake Cowichan First Nation) on October 7, 2020. On October 1, 2020, Ts'uubaa-asatx Nation (Lake Cowichan First Nation) shared draft versions of their Lower Mainland Policies Lake Cowichan First Nation: Archaeology Permit Requirement Checklist (2018), Lake Cowichan First Nation Policy: South Arm of the Fraser River and Approaches (2018), and Lake Cowichan First Nation: Vision, Goals and Objectives for the South Arm of the Fraser River and its Approaches (2018). These policies were shared for FortisBC's review, with Ts'uubaa-asatx Nation (Lake Cowichan Nation) asking FortisBC to demonstrate how the proposed Project will meet the advisory points of the policies. Since then, Fortis and Ts'uubaa-asatx Nation (Lake Cowichan First Nation) have met several times to discuss how the various policies align with the EA. FortisBC provided Ts'uubaa-asatx Nation (Lake Cowichan First Nation) a draft Capacity Funding Agreement on January 27, 2021. A detailed summary of engagement activities with Ts'uubaa-asatx Nation (Lake Cowichan First Nation) is provided in Table I-27.

Table I-27. Summary of Engagement with Ts'uubaa-asatx Nation (Lake Cowichan First Nation)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
July 3, 2019 to February 14, 2020	IPD	Email	<ul style="list-style-type: none"> ▪ Introductory email sent notifying of the proposed Project. ▪ Draft IPD was shared. ▪ Notification to submit the IPD to B.C. EAO.
April 24, 2020 to June 1, 2020	Project update and Extension	Email / Letter	<ul style="list-style-type: none"> ▪ Notification of request to B.C. EAO for second 30-day extension on Early Engagement Phase. ▪ Provided a letter providing a proposed Project update, extension request and public comment period commencement.

Table I-27. Summary of Engagement with Ts'uubaa-asatx Nation (Lake Cowichan First Nation)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
August 25, 2020	Project Update; Draft VC Selection; Draft AIR	Email	<ul style="list-style-type: none"> Project update email to seek input on the proposed projects next steps: <ul style="list-style-type: none"> Review of the draft VCs Review of the draft AIR Review of the draft DPD The proposed process for identifying and including Indigenous Knowledge Capacity funding information Email attachments included an update letter, draft VCs, draft AIR, and estimated timelines. FortisBC offered to meet with Ts'uubaa-asatx Nation (Lake Cowichan First Nation) to discuss further.
September 18 and September 23, 2020	Meeting request to review draft VC Selection, draft AIR and IKS	Email	<ul style="list-style-type: none"> FortisBC emailed Ts'uubaa-asatx Nation (Lake Cowichan First Nation) requesting a phone call meeting on either October 1 or 2 regarding the proposed Project and the EA process. FortisBC emailed Ts'uubaa-asatx Nation (Lake Cowichan First Nation) acknowledging that the Nation is a participating Indigenous nation under the new EA process and requesting a meeting to discuss the next steps of the EA processes including the draft VC, draft AIR, and IKS. Ts'uubaa-asatx Nation (Lake Cowichan First Nation) replied and confirmed contact information and availability to meet. Ts'uubaa-asatx Nation (Lake Cowichan First Nation) emailed FortisBC with their availability to discuss the draft AIR, draft VCs and Ts'uubaa-asatx Nation (Lake Cowichan First Nation) documents.
October 1, 2020	Ts'uubaa-asatx Engagement Preferences and Draft Lower Mainland Policies	Email	<ul style="list-style-type: none"> Ts'uubaa-asatx Nation (Lake Cowichan First Nation) confirmed for FortisBC their engagement method preferences. Ts'uubaa-asatx Nation (Lake Cowichan First Nation) shared their draft Lower Mainland Policies for FortisBC's review and consideration: <ul style="list-style-type: none"> Lake Cowichan First Nation: Archaeology Permit Requirement Checklist (2018) Lake Cowichan First Nation Policy: South Arm of the Fraser River and Approaches (2018) Lake Cowichan First Nation: Vision, Goals and Objectives for the South Arm of the Fraser River and its Approaches (2018)

Table I-27. Summary of Engagement with Ts'uubaa-asatx Nation (Lake Cowichan First Nation)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
October 7, 2020	Project overview Issues Funding/Studies	Telephone Meeting / Email	<ul style="list-style-type: none"> Meeting topics included proposed Project overview, Ts'uubaa-asatx Nation (Lake Cowichan First Nation) issues, TUS, and capacity funding. Ts'uubaa-asatx Nation (Lake Cowichan First Nation) will be requesting funding to conduct a Project-specific TUS. FortisBC requested Ts'uubaa-asatx Nation (Lake Cowichan First Nation) provide feedback on the DPD before their submission to the B.C. EAO. Ts'uubaa-asatx Nation (Lake Cowichan First Nation) currently unwilling to work with other Hul'qumi'num Treaty Group member nations for the TUS. Email attachments included: <ul style="list-style-type: none"> Draft Meeting Agenda Ts'uubaa-asatx Nation (Lake Cowichan First Nation) October 7, 2020 Meeting Minutes
January 27, 2021	Draft Capacity Funding Agreement and Scheduling	Email	<ul style="list-style-type: none"> FortisBC explained the schedule changes and Capacity Funding Agreement Emailed attachments included: <ul style="list-style-type: none"> Draft Capacity Funding Agreement Look Ahead Schedule
February 11, 2021	Project Update Letter	Email	<ul style="list-style-type: none"> FortisBC provided Ts'uubaa-asatx Nation (Lake Cowichan First Nation) with a letter providing proposed Project updates specifically related to the regulated utility review process. Email attachments included: <ul style="list-style-type: none"> BCUC CPCN Letter
February 12, 2021	Annotated Bibliography and Look Ahead Schedule	Email	<ul style="list-style-type: none"> FortisBC explained the proposed Project Schedule changes and asked, Ts'uubaa-asatx Nation (Lake Cowichan First Nation) to review and provide feedback on FortisBC's proposed secondary source list. Email attachments included: <ul style="list-style-type: none"> Ts'uubaa-asatx Nation (Lake Cowichan First Nation) Annotated Bibliography Updated Look Ahead Schedule
April 14, 2021	Capacity Funding Agreement Comments	Email	<ul style="list-style-type: none"> Ts'uubaa-asatx Nation (Lake Cowichan First Nation) provided comments on the draft Capacity Funding Agreement.
April 21, 2021	Ts'uubaa-asatx Nation Policy and Concordance Table Overview	Meeting	<ul style="list-style-type: none"> Meeting with Ts'uubaa-asatx Nation (Lake Cowichan First Nation) to discuss the Ts'uubaa-asatx Nation (Lake Cowichan First Nation) Policy, proposed Project updates, and review the Concordance Table.

Table I-27. Summary of Engagement with Ts'uubaa-asatx Nation (Lake Cowichan First Nation)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
April 22, 2021	Field Program Invitation	Email	<ul style="list-style-type: none"> FortisBC invited Ts'uubaa-asatx Nation (Lake Cowichan First Nation) to participate in field work studies and requested they notify FortisBC by April 30, 2021. Email attachments included: <ul style="list-style-type: none"> Proposed Spring VC Selection Field Schedule
May 5, 2021	VC Selection and Draft AIR Meeting	Meeting	<ul style="list-style-type: none"> Meeting with Ts'uubaa-asatx Nation (Lake Cowichan First Nation) to discuss the VC candidates and subcomponent table, draft VC Selection, the Ts'uubaa-asatx Nation (Lake Cowichan First Nation) section in the draft AIR, wetland function, and the Earth Jetty.
May 19, 2021	Phase 2 Project Meeting	Meeting	<ul style="list-style-type: none"> Meeting with Ts'uubaa-asatx Nation (Lake Cowichan First Nation) to provide Project updates and continue VC and Indigenous interest discussion from previous meeting.
May 20, 2021	VC Interests Table	Email	<ul style="list-style-type: none"> FortisBC sent Ts'uubaa-asatx Nation (Lake Cowichan First Nation) their VC Interests table. Email attachments included: <ul style="list-style-type: none"> Ts'uubaa-asatx Nation (Lake Cowichan First Nation) VCs Interests Table
May 31, 2021	Look Ahead Schedule and Noise Monitoring	Email	<ul style="list-style-type: none"> FortisBC sent Ts'uubaa-asatx Nation (Lake Cowichan First Nation) the updated Look Ahead Schedule and the proposed noise monitoring sites for their review. Email attachments included: <ul style="list-style-type: none"> Tilbury Look Ahead Schedule May 2021 2021 Acoustic Field Program
June 16, 2021	Acoustic Monitoring, VCs, and Ts'uubaa-asatx First Nation Interests	Meeting	<ul style="list-style-type: none"> Meeting with Ts'uubaa-asatx Nation (Lake Cowichan First Nation) to discuss draft VC Selection. Discussion topics included acoustic monitoring, the Look Ahead Schedule, the Lower Mainland Advocacy Policy, and how Ts'uubaa-asatx Nation (Lake Cowichan First Nation) interests will be carried forward into the draft VC Selection Document.
June 30, 2021	Tilbury Phase 2 Project	Meeting	<ul style="list-style-type: none"> Meeting to discuss Phase 2 of the Project. Topics discussed included distinctions between Phase 1 and 2 of the proposed Project, the Tilbury Marine Jetty, and B.C. EAO/IAAC engagement.
June 29, 2021	Vegetation Field Program	Email	<ul style="list-style-type: none"> FortisBC sent Ts'uubaa-asatx Nation (Lake Cowichan First Nation) an overview of the second vegetation and wetlands field program taking place August 4 to 5, 2021, and requested they notify FortisBC of their interest in participating by July 19, 2021.
July 5, 2021	VC Policy Gaps	Email	<ul style="list-style-type: none"> FortisBC sent Ts'uubaa-asatx Nation (Lake Cowichan First Nation) the policy gaps relating to the VCs and requested a meeting for July 14, 2021 to discuss the additions.

I.28 References

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Appendix I. Summary of Engagment with Indigenous Nations

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