



Tilbury Phase 2 LNG Expansion Project

Environmental Assessment Certificate Application

Assessment Summary

Revision 1

February 2026

FortisBC Energy Inc.

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Acronyms and Abbreviations

%HA	percent highly annoyed
AAQO	Ambient Air Quality Objective
AIA	Archaeological Impact Assessment
AIR	Application Information Requirements
Application	Application for an Environmental Assessment Certificate
ARD	acid rock drainage
B.C.	British Columbia
B.C. EAO	British Columbia Environmental Assessment Office
BAT	Best Available Technologies
BCER	British Columbia Energy Regulator
BCUC	British Columbia Utilities Commission
BEP	Best Environmental Practice
BMP	best management practice
CAAQS	Canadian Ambient Air Quality Standards
CAC	criteria air contaminant
CCME	Canadian Council of Ministers of the Environment
CCRA	Climate Change Resilience Assessment
CEA	Cumulative Effects Assessment
CEMP	Construction Environmental Management Plan
CO	carbon monoxide
CPCN	Certificate of Public Convenience and Necessity
CSA	CSA Group
dB	decibel(s)
dBA	A-weighted decibel(s)
Delta	City of Delta
DPD	Detailed Project Description
EA	environmental assessment
<i>EAA</i>	<i>Environmental Assessment Act</i>
EAC	Environmental Assessment Certificate
EMS	Environmental Management System
ERP	Emergency Response Plan
ESD	emergency shutdown

FEI	FortisBC Energy Inc.
FSC	food, social, and ceremonial
FTE	full-time equivalent
GDP	gross domestic product
GHG	greenhouse gas
HAZMAT	hazardous material
HHRA	Human Health Risk Assessment
IAA	<i>Impact Assessment Act</i>
IAAC	Impact Assessment Agency of Canada
ID	identification
km	kilometre(s)
LAA	Local Assessment Area
LFN	low-frequency noise
LNG	liquefied natural gas
m	metre(s)
MOF	Material Offloading Facility
NO ₂	nitrogen dioxide
NO _x	oxides of nitrogen
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PM	particulate matter
PM ₁₀	respirable particulates of less than 10 microns
PM _{2.5}	fine particulates smaller than 2.5 microns
PSL	permissible sound level
QP	Qualified Professional
RAA	Regional Assessment Area
SACC	Strategic Assessment of Climate Change
SO ₂	sulphur dioxide
SO _x	oxides of sulphur
SRKW	Southern Resident killer whale
T1B	Tilbury Phase 1B
TAC	Technical Advisory Committee
TDR	Technical Data Report
TEGF	totally enclosed ground flare

TLSE	Tilbury LNG Storage Expansion
VC	Valued Component
VOC	volatile organic compound
ZEV	zero-emission vehicle

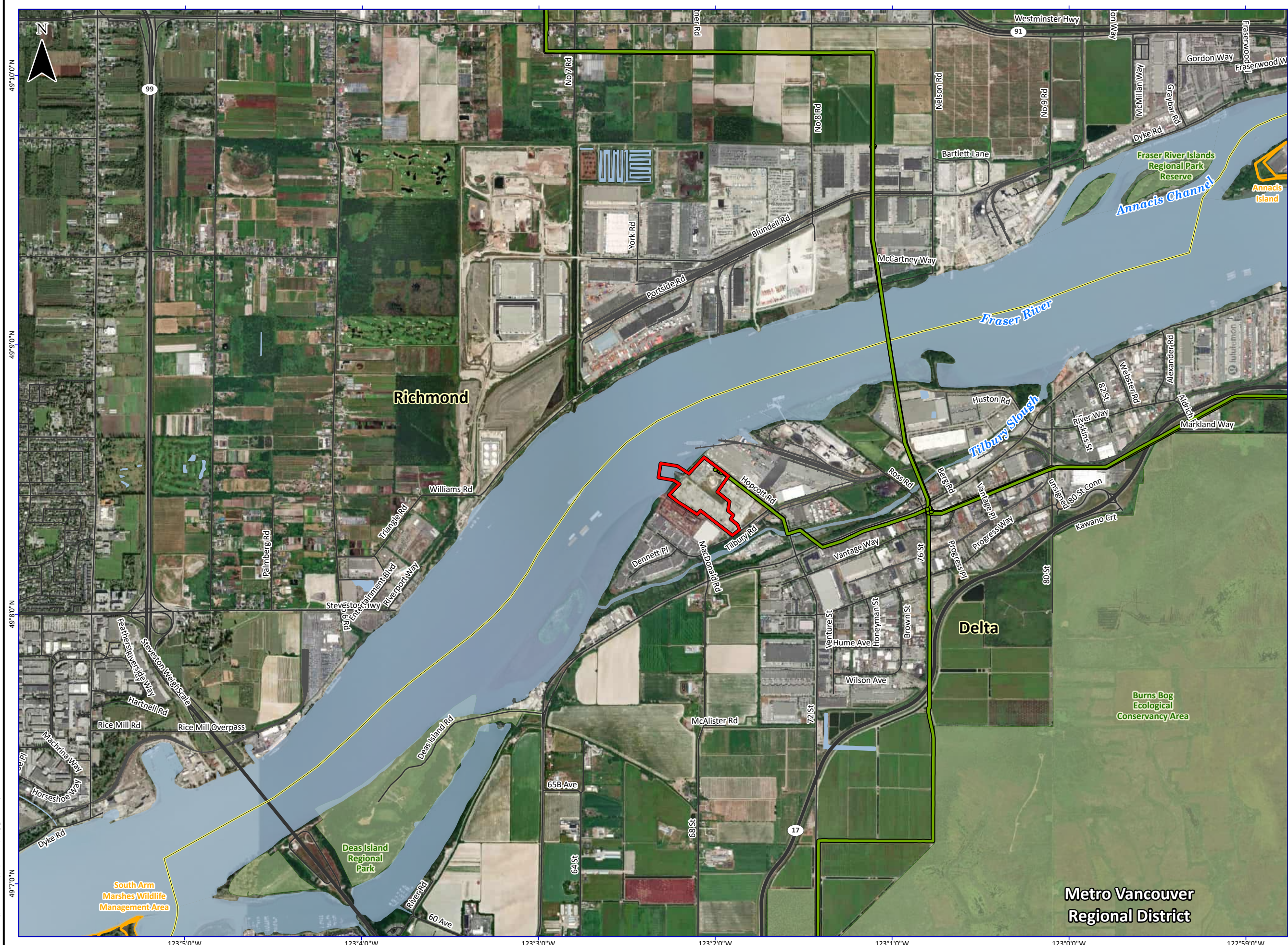
1 Introduction

2 FortisBC Holdings Inc. with its regulated natural gas subsidiary FortisBC Energy Inc. (collectively referred
3 to as FortisBC) is proposing the Tilbury Phase 2 LNG Expansion Project (proposed Project) that includes
4 construction of a new Liquefied Natural Gas (LNG) Storage Tank with a working volume of 142,400 cubic
5 metres (approximately 3.5 petajoules), new liquefaction facilities with capacity of up to 7,700 tonnes per
6 day of LNG production, natural gas receiving facilities, and supporting infrastructure. The existing Tilbury
7 site includes the original LNG production and storage facility in operation since 1971.

8 This document includes a high-level summary of the Application for an Environmental Assessment
9 Certificate (Application) prepared for the proposed Project and submitted to the British Columbia (B.C.)
10 Environmental Assessment Office (EAO) according to the *Environmental Assessment Act (EAA)* and the
11 *Impact Assessment Act (IAA, 2019)*.

1 Proposed Project Information

- 2 The proposed Project is located on the existing Tilbury LNG facility on Tilbury Island within the Tilbury
- 3 Industrial Park, adjacent to the Fraser River in Delta, B.C. The proposed Project is located at
- 4 7651 Hopcott Road, on Tilbury Island in Delta, B.C. (proposed Project Site) and is shown on Figures AS-1
- 5 and AS-2.



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

- ▭ Proposed Project Footprint
- ▬ Existing FortisBC Pipeline
- ▬ Highway
- ▬ Road
- + Railway
- ▭ Municipality
- ▭ Provincial Wildlife Management Area and Conservation Land
- ▭ Park/Protected Area
- ▭ Waterbody

49° 8' 27.4" N 123° 2' 4.8" W
NTS Grid: 092G03

Scale: 1:25,000
0 250 500 750 1,000 m
(All Locations Approximate)



Project Number CE778100

NAD1983 UTM Zone 10 North.
Project Area: Jacobs 2025; Existing FortisBC Pipeline: FortisBC 2012; Roads: NRCan 2015; Hydrography: BC Forests, Lands and Natural Resource Operations 2011, NR Can 2007; Municipal Boundaries, Regional District: BC MFLNRO 2016; Railway: BC Forests, Lands Natural Resource Operations and Rural Department 2015; Parks: NRCan 2017; MetroVancouver 2020; BC MFLNRO 2008; Conservation Land: BC MFLNRO 2013; Service Layer Credits: World Imagery; Vantor.

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FIGURE AS-2
PROPOSED PROJECT SITE
TILBURY PHASE 2
LNG EXPANSION PROJECT

- Proposed Project Footprint
- Existing FortisBC Pipeline
- Highway
- Road
- Railway
- Watercourse
- Municipality
- Waterbody

49° 8' 27.4" N 123° 2' 4.8" W
 NTS Grid: 092G03

Scale: 1:10,000

 (All Locations Approximate)

Jacobs

Project Number CE778100

NAD1983 UTM Zone 10 North.
 Project Area: Jacobs 2025; Existing FortisBC Pipeline: FortisBC 2012; Roads: NRCan 2015; Hydrography: BC Forests, Lands and Natural Resource Operations 2011; NR Can 2007; Municipal Boundaries, Regional District: BC MFLNRO 2015; Railway: BC Forests, Lands Natural Resource Operations and Rural Department 2015; Parks: NRCan 2017; MetroVancouver 2020; BC MFLNRO 2008; Conservation Land: BC MFLNRO 2013.
 Service Layer Credits: World Imagery: Vantor.

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Mapped By: DJN Checked By: SD



49°5'0"N

49°5'0"N

123°3'0"W

123°2'0"W

123°1'0"W

\\victor01\GIS\Proj\Tilbury\Mapfiles\2025\IA\fig_1_Overview.aprx

1 Proposed Project Purpose

2 The proposed Project purpose is to increase LNG storage for energy resilience in the Lower Mainland
3 and increase LNG production to meet the need for LNG as a transportable and storable
4 lower-carbon-intensity fuel. The proposed Project will also provide lower-carbon fuel to support local
5 and global energy transition goals. The Tilbury facility has provided backup energy supply to British
6 Columbians since 1971.

7 The proposed Project's increased LNG storage capacity creates benefit through adding resilience to
8 FortisBC's gas system (that is, increasing its ability to withstand, manage through, and recover from
9 supply emergencies), which will improve the security of supply to FortisBC's approximately 1.1 million
10 natural gas customers in B.C.

11 Proposed Project Benefits

12 The proposed Project has many benefits, including the following:

- 13 ▪ Reliable energy supply: The proposed Project will enhance the gas system's capability to withstand
14 unforeseen events and maintain reliable service to B.C. homes and businesses as the population
15 grows, particularly during times of peak demand.
- 16 ▪ Greenhouse gas (GHG) emissions reductions: If 100 percent of the LNG fuel produced by the
17 proposed Project were used to replace marine fuel, the resulting GHG reductions could be
18 equivalent to removing approximately more than 730,000 passenger vehicles¹ from the road.
- 19 ▪ Air pollution reductions: LNG as a fuel can reduce emissions such as particulate matter (PM) by
20 90 percent, oxides of sulphur (SO_x) by 98 percent, and oxides of nitrogen (NO_x) by 76 percent
21 compared to petroleum-based fuel (Affinity 2022).
- 22 ▪ Economic opportunities: The proposed Project could add approximately \$1.7 billion to B.C.'s gross
23 domestic product (GDP) during construction and \$500 million GDP during operation.
- 24 ▪ Job opportunities: The proposed Project could create more than 6,200 full-time equivalent (FTE)
25 person-years of employment during construction and more than 100 FTE jobs during operation.
- 26 ▪ Tax revenue: The proposed Project could generate approximately \$300 million in tax revenues
27 for the B.C. government during construction and \$200 million for Federal and B.C. governments
28 during operation.

29 Summary of Changes from Detailed Project Description

30 The core proposed Project components listed in the Detailed Project Description (DPD) have not
31 changed since the submission of the DPD on January 4, 2022 (FortisBC 2022). Updates to proposed
32 Project components described in the DPD are summarized as follows:

- 33 ▪ The Preliminary Project Schedule has been refined.

¹ Displacing marine fuel with 2.5 million tonnes of Tilbury LNG could reduce lifecycle GHG emissions by over 2.4 million tonnes of CO₂e annually (Affinity 2022). The car equivalency is calculated using the average base vehicle travelling 15,021 km per year, based on [Natural Resources Canada's GHG Equivalency Calculator \(2016\)](#).

- 1 ▪ FortisBC has conducted a screening assessment on the Best Available Technologies (BAT) to reduce
2 proposed Project GHG emissions as described in the BAT Report (Appendix P of the Application).
- 3 ▪ FortisBC has also committed to installing air emissions control technologies (such as scrubbers) with
4 the technology selection process being determined post-Environmental Assessment Certificate
5 (EAC) and during the detailed proposed Project design phase.

6 The DPD (FortisBC 2022) describes the need for six to eight proposed Project cargo vessels and the use
7 of barges to deliver modular components to a Material Offloading Facility (MOF) during the construction
8 phase. The DPD includes the construction of a MOF for delivery of these prefabricated modules. The
9 DPD also outlines that existing roadways would be used to deliver bulk construction materials to the
10 proposed Project. During Application Development, guided by the Application Information
11 Requirements (AIR) (B.C. EAO 2022), FortisBC conducted an analysis of the transportation methods
12 available to bring materials to the proposed Project Site during construction. FortisBC reported the
13 findings in the Construction Logistics Update and Alternative Means Memo submitted to the B.C. EAO
14 March 2023 (FortisBC 2023). In this memorandum, FortisBC clarified the number of barges with
15 prefabricated modules and construction materials that would be brought to the proposed Project Site.

16 During FortisBC’s engagement and an additional round of B.C. EAO-led consensus seeking with
17 Indigenous nations during the Application Development phase to discuss the Construction Logistics
18 Update and Alternative Means Memo (FortisBC 2023), concerns were raised about potential negative
19 effects to Indigenous rights to fish, as well as negative cumulative effects on the Fraser River resulting
20 from the proposed barge traffic.

21 FortisBC has considered feedback from all participants and decided not to utilize the waterborne
22 delivery of modules or bulk construction materials described in the DPD (FortisBC 2022). To address
23 concerns about potential effects to the Fraser River, FortisBC has committed to removing construction
24 of the MOF and barge deliveries to the proposed Project Site during construction as an avoidance
25 mitigation measure. Construction materials, equipment, and any other deliveries to the proposed
26 Project Site during construction will be by road freight on existing roads and highways. Because
27 waterborne activities during construction will be avoided, the MOF and associated barge deliveries will
28 no longer be required for the proposed Project. FortisBC has therefore rescinded the Construction
29 Logistics Update and Alternative Means Memo (FortisBC 2023).

30 FortisBC completed the Application consistent with the AIR (B.C. EAO 2022), which the B.C. EAO sought
31 consensus on and published on June 13, 2022. In accordance with the AIR, potential effects from
32 construction of the MOF and barge delivery vessels to the MOF are assessed in each Valued Component
33 (VC) assessment subsection. In the assessment, avoidance mitigation measures (that is, no waterborne
34 deliveries and no MOF construction) are presented and considered in the determination of potential
35 residual effects.

36 Proposed Project Components

37 The proposed Project’s components are divided into two categories:

- 38 1) Temporary construction components, such as laydowns, staging areas, and construction offices
- 39 2) Operation components, consisting of an LNG storage tank, a natural gas receiving area, natural gas
40 processing and liquefaction, and supporting infrastructure

1 The proposed Project concept described in the DPD (FortisBC 2022) considers modular construction of
 2 the liquefaction trains, which would be delivered via the MOF. Potential effects of using the MOF are
 3 assessed in the Application to comply with the AIR (B.C. EAO 2022). However, as stated previously, as a
 4 result of concerns received from engagement activities during the Application Development phase, the
 5 proposed Project will no longer involve any waterborne delivery of modular components and bulk
 6 construction materials to the proposed Project Site as an avoidance mitigation measure (refer to
 7 subsection 1.5.5). The storage tank, processing area, and supporting infrastructure are shown in the
 8 artistic rendering on Figure AS-3.

9 Following a public hearing, the British Columbia Utilities Commission (BCUC) provided approval to
 10 construct and operate the LNG storage tank component of the proposed Project and that it was in the
 11 public interest (Order C-6-25 and accompanying decision dated October 27, 2025), granting a Certificate
 12 of Public Convenience and Necessity (CPCN) to FortisBC Energy Inc. (FEI) for the Tilbury LNG Storage
 13 Expansion (TLSE) Project. In its decision accompanying Order C-6-25, the BCUC determined that the
 14 construction and operation of a 3-billion cubic feet (BCF) LNG tank and 800 million cubic feet per day
 15 (MMcf/d) of regasification capacity were in the public interest. The granting of a CPCN for the TLSE
 16 Project approves FEI to construct and operate the TLSE Project under the *Utilities Commission Act* and
 17 indicates that it is in the public interest for FEI to construct and operate the LNG storage tank.



18
 19 Figure AS-3. Tilbury Phase 2 Proposed Project Facilities Artistic Rendering

1 Assessment Methodology

2 This section provides information on how potential environmental, economic, social, cultural, and health
3 effects from construction, operation, and decommissioning of the proposed Project have been assessed
4 for this Application. This section also describes the methods used to identify and assess potential effects
5 of the proposed Project on Indigenous interests.

6 Valued Component Assessment Methodology

7 VCs are aspects of the environmental, health, social, and economic conditions that may be important or
8 considered of value to Indigenous nations, government agencies, and stakeholders. VCs and potential
9 issues for the proposed Project were selected based on the B.C. EAO's AIR (B.C. EAO 2022) and the
10 Impact Assessment Agency of Canada's (IAAC's) Tailored Impact Statement Guidelines Template for
11 Designated Projects Subject to the IAA (IAAC 2022). These elements were also chosen to reflect
12 FortisBC's understanding of the proposed Project and what is most important to Indigenous nations and
13 B.C. EAO Technical Advisors.

14 The Application considered the potential effects of the proposed Project on VCs in the context of
15 defined spatial and temporal assessment boundaries. Spatial boundaries were determined by the
16 distribution, movement patterns, and potential geographic area wherein an anticipated interaction
17 between a VC and proposed Project activities are anticipated. The spatial boundary of a VC may be
18 limited to the area directly disturbed by proposed Project activities (proposed Project Footprint), or it
19 may extend beyond the physical boundaries of the general area within and adjacent to the proposed
20 Project Footprint to capture the spatial extent of the potential proposed Project's effects and
21 cumulative effects to the VC. The boundaries chosen include the proposed Project Site, the proposed
22 Project Footprint, the Local Assessment Area (LAA), and the Regional Assessment Area (RAA). The
23 temporal boundaries defined for the assessment encompass the periods when the proposed Project is
24 expected to interact with VCs via effects pathways.

25 Existing conditions describe the current conditions of each VC and consider the effects of past and
26 existing projects and activities that have been carried out to date. The Historical Context section
27 provides information on past projects and activities that have resulted in existing conditions, and
28 existing conditions can also be referred to as the cumulative effects to date due to past project and
29 activities. How the incremental contribution of the proposed Project changes existing conditions (or
30 expected conditions before proposed Project construction) is the potential effect to be assessed. After
31 implementing mitigation measures to avoid or minimize the potential effect, any remaining effects are
32 referred to as the residual effects of the proposed Project. The Cumulative Effects Assessment (CEA) was
33 completed in respective RAAs for all residual effects and considers the overlap in space and time of
34 residual effects of the proposed Project and the effects of certain and reasonably foreseeable projects
35 and activities that will be carried out (that is, other projects and activities are already considered in the
36 existing and expected conditions cases described previously).

37 The assessment team completed a desktop review and field studies to characterize the existing
38 conditions of the VCs in their respective LAAs and RAAs. The potential effects of the proposed Project on
39 VCs were identified through engagement with Indigenous nations, the B.C. EAO Technical Advisory
40 Committee (TAC), the public, and government and regulatory agencies; experience gained by FortisBC
41 during operation of the existing FortisBC facilities; and the assessment team's professional judgment.

1 Proposed Project-VC interactions with the potential to result in measurable adverse effects before the
2 implementation of mitigation measures became the focus of the effects assessment.

3 The following technical reports (Appendices A through U) inform existing and future conditions:

- 4 ▪ Appendix A, Mitigation Tables
- 5 ▪ Appendix B, Air Quality Technical Data Report
- 6 ▪ Appendix C, Noise and Vibration Technical Data Report
- 7 ▪ Appendix D, Terrestrial Biophysical Technical Data Report
- 8 ▪ Appendix E, Aquatic Biophysical Technical Data Report
- 9 ▪ Appendix F, Visual Quality Assessment Technical Data Report
- 10 ▪ Appendix G, Climate Change Resilience Assessment
- 11 ▪ Appendix H, Nitrogen and Acid Deposition Receiving Environment Report
- 12 ▪ Appendix I, Socio-economic Baseline Technical Data Report
- 13 ▪ Appendix J, Human Health Risk Assessment
- 14 ▪ Appendix K, Seismic Hazard Assessment
- 15 ▪ Appendix L, Desktop Assessment of Acid Rock Drainage and Metal Leaching Potential of Bedrock
- 16 ▪ Appendix M, Upstream Greenhouse Gas Assessment
- 17 ▪ Appendix N, Greenhouse Gas Emissions Technical Data Report
- 18 ▪ Appendix O, Greenhouse Gas Net-zero Plan Technical Data Report
- 19 ▪ Appendix P, Tilbury Phase 2 LNG Expansion Project BAT Study in Accordance with Strategic
20 Assessment of Climate Change Requirements
- 21 ▪ Appendix Q, Regulatory Hydrostatic Test Water Study Memorandum
- 22 ▪ Appendix R, Transportation Desktop Analysis, Tilbury Island
- 23 ▪ Appendix S, Chance Find Protocol
- 24 ▪ Appendix T, Market Research

25 The VC assessment methods (Section 7) include the following:

- 26 ▪ Identification of the potential proposed Project interactions with VCs
- 27 ▪ Identification and description of the potential positive and negative (adverse) direct and indirect
28 effects² resulting from each proposed Project phase (construction, operation, and decommissioning)
- 29 ▪ Identification of feasible mitigation measures that avoid, minimize, or otherwise address potential
30 adverse effects using the tiered approach described in the B.C. Ministry of Environment's
31 Environmental Mitigation Procedures (B.C. MOE 2014)
- 32 ▪ Determination of anticipated residual effects (that is, effects after the implementation of proposed
33 mitigation)

² As defined in the B.C. EAO User Guide (B.C. EAO 2021), direct and indirect effects are defined as follows:

- A direct effect is the result of a cause-effect relationship between a project and a component of the biophysical or human environment (A→B).
- An indirect effect is the result of a change a project may cause that is often one step removed (secondary) from a project's activities due to complex relationships among components (A→B→C).

- 1 ▪ Characterization of the anticipated residual adverse effects based on the B.C. EAO's Effects
- 2 Assessment Policy (B.C. EAO 2020a) for their temporal and spatial extent, context, magnitude, level
- 3 of confidence or uncertainty, and probability or likelihood of occurrence
- 4 ▪ Evaluation of the potential for residual adverse effects associated with the proposed Project to
- 5 interact with similar effects of other past or reasonably foreseeable projects or activities
- 6 ▪ Identification of any potential cumulative effects
- 7 ▪ Identification of mitigation measures that avoid, minimize, restore, or otherwise address potential
- 8 proposed Project cumulative effects (if any)
- 9 ▪ Identification of residual cumulative adverse effects
- 10 ▪ Incorporation of feedback from Indigenous nations, the public, stakeholders, and government
- 11 agencies, as appropriate

12 FortisBC will develop detailed mitigation measures in the Construction Environmental Management Plan
 13 (CEMP) before construction and in the Environmental Management System (EMS) before operation,
 14 through engagement with applicable regulators and Indigenous nations. Monitoring will occur as
 15 required by EAC conditions to confirm that mitigation measures are effective at reducing predicted
 16 residual effects. If a mitigation measure is found to be ineffective at reducing potential effects,
 17 corrective measures will be taken through adaptive management, as specified in the management plans
 18 and as appropriate, through engagement with applicable regulators and Indigenous nations.

19 Section 25 of the 2018 B.C. *EAA* defines matters that must be considered in the assessment. The
 20 Application addresses these assessment matters to the extent that these matters apply to the proposed
 21 Project, including the following:

- 22 ▪ The Proposed Project's GHG emissions and the potential effects of those emissions on the Government
- 23 of B.C.'s ability to meet its legislated emission reduction targets under the former *Greenhouse Gas*
- 24 *Reduction Targets Act*, which is now the *Climate Change Accountability Act* (Section 8)
- 25 ▪ The risk of malfunctions and accidents (Section 9)
- 26 ▪ The potential disproportionate effects on distinct human populations (Section 13)
- 27 ▪ The potential effects on biophysical factors that support ecosystem function (Section 12)
- 28 ▪ The potential effects to current and future generations (Section 14)

29 Under the IAA, the assessment must consider, among other factors, any relevant regional or strategic
 30 assessments, any changes to the designated project that may be caused by the environment, and the
 31 extent to which the effects of the designated project hinder or contribute to the Government of
 32 Canada's ability to meet its commitments regarding climate change. The Strategic Assessment of
 33 Climate Change (SACC) is a required strategic assessment under Section 95 of the IAA for projects
 34 designated under the *Physical Activities Regulations*. The Application addresses the requirements of
 35 SACC, including the following:

- 36 ▪ Section 8, Climate Change and Greenhouse Gas Emissions
- 37 ▪ Appendix G, Climate Change Resilience Assessment
- 38 ▪ Appendix M, Upstream Greenhouse Gas Assessment
- 39 ▪ Appendix N, Greenhouse Gas Emissions Technical Data Report
- 40 ▪ Appendix O, Greenhouse Gas Net-zero Plan Technical Data Report

- 1 ▪ Appendix P, Tilbury LNG Phase 2 Expansion BAT Study in Accordance with Strategic Assessment of
2 Climate Change Requirements

3 Indigenous Interests Assessment Methodology

4 Indigenous interests are matters of importance to an Indigenous nation that have the potential to be
5 affected by the proposed Project. These interests include Aboriginal and Treaty Rights recognized and
6 affirmed by Section 35 of the *Constitution Act, 1982*. Indigenous interests in the proposed Project may
7 include the following:

- 8 ▪ Biophysical
- 9 ▪ Environmental
- 10 ▪ Social
- 11 ▪ Economic
- 12 ▪ Cultural
- 13 ▪ Spiritual
- 14 ▪ Governance

15 In accordance with the AIR (B.C. EAO 2022), FortisBC included these interests in the following six broad
16 categories for the purposes of assessing Indigenous interests related to the proposed Project
17 (subsections 11.2 through 11.18):

- 18 ▪ Harvesting and Subsistence Activities
- 19 ▪ Cultural Use Sites and Areas
- 20 ▪ Social and Economic conditions
- 21 ▪ Indigenous Health and Well-being
- 22 ▪ Cultural Continuation
- 23 ▪ Indigenous Governance Systems

24 Two of the Indigenous interests, Cultural Continuation and Indigenous Governance Systems, are only
25 assessed in subsections 11.2 through 11.18 when Indigenous Knowledge relating to those topics was
26 provided by the Indigenous nations or when feedback was received from an Indigenous nation regarding
27 the proposed information sources and preliminary potential effects identified in Table 6 of the AIR
28 (B.C. EAO 2022).

29 The Indigenous interests assessment incorporates the residual effects conclusions of linked VCs and
30 other assessed matters that are relevant to Indigenous interests. These interests are assessed for each
31 Indigenous nation separately in Section 11. Section 11 serves as an important component of informing
32 decision makers of the potential effects of the proposed Project on Indigenous interests.

33 Indigenous nations were initially identified as potentially affected by the proposed Project via a review
34 of the Consultative Areas Database, which indicated the Indigenous nations whose Treaty Lands,
35 traditional territories, or other areas of use or management overlap with the proposed Project Area.
36 Potentially affected Indigenous nations were also identified through FortisBC's engagement activities.
37 Further identification of potentially affected Indigenous nations then occurred via the Joint Summary of
38 Issues and Engagement. In accordance with the B.C. *EAA*, Indigenous nations can notify the B.C. EAO of
39 their interest in the proposed Project if they believe it may affect their interests and can self-identify as
40 a participating Indigenous nation for the proposed Project assessment. Indigenous nations listed in
41 Table AS-1 are potentially affected by the proposed Project and further identified as participating or
42 nonparticipating under the B.C. *EAA*.

Table AS-1. Potentially Affected Indigenous Nations

Potentially Affected Indigenous Nations	Formally Identified as a Participating Indigenous Nation	Not Formally Identified as a Participating Indigenous Nation
Chawathil First Nation	✓	—
Cheam First Nation	✓	—
Kwantlen First Nation	✓	—
Kwikwetlem (kʷikʷəłəm) First Nation	✓	—
Tsawwassen First Nation	✓	—
Tsleil-Waututh First Nation	✓	—
Snuneymuxw First Nation	✓	—
Quw'utsun Nation, ³ including the following: <ul style="list-style-type: none"> ▪ Lyackson First Nation ▪ Stz'uminus First Nation ▪ Penelakut Tribe ▪ Cowichan Tribes ▪ Halalt First Nation 	✓	—
Ts'uubaa-asatx	✓	—
Musqueam Indian Band	✓	—
S'ólh Téméxw Stewardship Alliance, including the following: <ul style="list-style-type: none"> ▪ Aitchelitz First Nation ▪ Kwaw-kwaw-a-pilt First Nation ▪ Seabird Island Band ▪ Semá:th (Sumas) First Nation ▪ Shxw'ōwhámél First Nation ▪ Shxwhá:y Village ▪ Skowkale First Nation ▪ Skwah 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 ▪ Yale First Nation 	✓	—
Katzie First Nation	—	✓

³ In *Cowichan Tribes v. Canada (Attorney General)*, 2025 BCSC 1490, the B.C. Supreme Court declared that Quw'utsun Nation holds Aboriginal Title to a part of their claimed area on Lulu Island, where the traditional village site Tl'uqtinus is located, as well as an Aboriginal Right to fish for food in the south arm of the Fraser River. Subject to an 18-month suspension, the court declared that the Canada and Richmond fee simple titles and interests in Quw'utsun Nation's title area (except for an area referred to as the YVR Fuel Project Lands) are invalid. All parties have appealed the decision.

Table AS-1. Potentially Affected Indigenous Nations

Potentially Affected Indigenous Nations	Formally Identified as a Participating Indigenous Nation	Not Formally Identified as a Participating Indigenous Nation
Semiahmoo First Nation	—	✓
Squamish Nation	—	✓
Stó:lō Nations, ^a including the following: <ul style="list-style-type: none"> ▪ Leq'á:mel First Nation ▪ Popkum First Nation ▪ Matsqui First Nation 	—	✓
W̱SÁNEĆ Nations, including the following: <ul style="list-style-type: none"> ▪ Malahat First Nation ▪ Pauquachin First Nation ▪ Tsartlip First Nation ▪ Tsawout First Nation ▪ Tseycum First Nation 	—	✓

^a 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 S'ólh Téméxw Stewardship Alliance.

Notes:

✓ = applicable

— = not applicable

1 On January 12, 2022, the B.C. EAO issued a notice of the Readiness Decision for the proposed Project to
 2 proceed to an environmental assessment (EA) under the B.C. *EAA*. On January 20, 2022, the proposed
 3 Project Federal impact assessment under the IAA, 2019 was substituted to the Government of B.C.
 4 Subsection 7.9 of the Impact Assessment Cooperation Agreement Between Canada and B.C. states that
 5 any consultation conducted by B.C. with Métis or organizations representing Métis within B.C. under a
 6 substituted impact assessment is understood to be conducted on behalf of the Government of Canada
 7 and should not be construed in any way as an acknowledgement by B.C. that it owes a duty of
 8 consultation or accommodation to Métis within B.C. under Section 35 of the *Constitution Act*, 1982.

9 The Readiness Decision initiated the legislated 120-day process planning phase of the EA for the
 10 proposed Project. On June 13, 2022, the B.C. EAO issued the Process Order for the proposed Project EA,
 11 including the Assessment Plan and AIR. The Assessment Plan of the Issued Process Order set out its
 12 notification approach for the proposed Project, consistent with opportunities provided to Indigenous
 13 nations listed in subsection 2.3, requiring FortisBC to undertake specific engagement activities with
 14 Métis Nation British Columbia to meet the Federal requirements of the IAA under the substituted
 15 Provincial process, and should not be construed in any way as a recognition of rights, title, or interests in
 16 the proposed Project.

17 FortisBC values the concerns and feedback provided by Indigenous nations, recognizing that the
 18 information shared contributes to the proposed Project siting, design, mitigation development, and,
 19 ultimately, a more successful project. The Application includes a summary of the engagement activities
 20 with each Indigenous nation, including engagement regarding potential effects of the proposed Project
 21 on Indigenous interests, input received from Indigenous nations, issues raised by Indigenous nations,

1 and Indigenous nations’ views on the engagement approach. The summary of engagement activities
 2 describes how FortisBC has and will continue to engage with Indigenous nations, including any
 3 collaboration with Indigenous nations. The summary of engagement activities also describes how the
 4 Indigenous nations’ perspectives are integrated into the assessment of potential effects on Indigenous
 5 interests. When made available, the views of Indigenous nations are clearly identified as they relate to
 6 potential effects, the approach to effects management, potential residual and cumulative effects, and
 7 conclusions. FortisBC has had and continues to have discussions with each Indigenous nation regarding
 8 how they prefer to be engaged, including policies, protocols, and traditional approaches to inform the
 9 development of the engagement process.

10 Table AS-2 describes the information in the Application used to assess the potential effects of the
 11 proposed Project on Indigenous interests. The assessment team conducted a desktop review of publicly
 12 available information relevant to Indigenous interests. To the extent that Indigenous Knowledge was
 13 available, the individual effects assessments in subsections 11.2 through 11.18 are informed by
 14 Indigenous Knowledge in accordance with the B.C. EAO Guide to Indigenous Knowledge in
 15 Environmental Assessments (B.C. EAO 2020b), the Government of Canada’s Practitioner’s Guide to the
 16 IAA (IAAC n.d.), and the First Nations Major Projects Coalition’s Guidance Appendices to the Major
 17 Projects Assessment Standard (First Nations Major Projects Coalition 2021).

18 The Application considers the potential effects of the proposed Project on Indigenous interests in the
 19 context of defined assessment boundaries, including spatial, temporal, administrative, and technical
 20 boundaries, when applicable. The LAAs and RAAs are based on the potential of the proposed Project to
 21 interact with the Indigenous nations’ exercise of their Indigenous interests within their traditional
 22 territories, regardless of the location of their reserves or community locations. Lack of input from
 23 Indigenous nations on the characterization of residual effects on their Indigenous interests may
 24 represent an additional technical limitation in the Application. The technical boundaries subsections in
 25 each individual assessment section of the Application note when no input was received from Indigenous
 26 nations. If Indigenous nations provide input on the Application during the Application Review phase, it
 27 will be incorporated into the Revised Application.

Table AS-2. Indigenous Interests in the Application

Process	Details
Existing conditions	Existing conditions are described to enable the identification, understanding, and assessment of interactions between the proposed Project and existing Indigenous interests. Existing conditions reflect the effects of past projects and activities.
Potential effects to Indigenous interests	Potential effects are changes to the existing environment or to existing health, social, or economic conditions and the positive and negative consequences of these changes. An analysis of VCs that may affect Indigenous interests is conducted to determine how residual effects to the VCs may interact with and affect Indigenous interests. Additional direct or indirect positive or negative effects that are specific to Indigenous nations are also considered when identifying and assessing potential effects.
Mitigation measures	Enhancement measures and mitigation measures proposed by FortisBC to avoid, restore, reduce, or offset potential effects to Indigenous interests are identified (including proposed mitigation measures for linked VCs).

Table AS-2. Indigenous Interests in the Application

Process	Details
Residual effects	Residual effects are potential effects that are predicted to remain after mitigation measures are implemented and enhancements are applied. After being identified, these residual effects were rated, or “characterized,” based on the B.C. EAO Effects Assessment Policy (B.C. EAO 2020a) and IAAC Practitioner’s Guide to Federal Impact Assessment for their temporal and spatial extent, context, magnitude, level of confidence or uncertainty, and probability or likelihood of occurrence.
Cumulative effects	Cumulative effects are effects that are predicted to occur when adverse residual effects of the proposed Project overlap in space and time with effects from other future projects.

1 Cumulative Effects Assessment Methodology

2 Cumulative effects are changes to the environment that are caused by an action in combination with
 3 other past, present, and reasonably foreseeable human actions (Hegmann et al. 1999). The CEA was
 4 conducted in accordance with the AIR for the proposed Project (B.C. EAO 2022) and both B.C. EAO and
 5 IAAC guidance (Hegmann et al. 1999; IAAC n.d.; B.C. EAO 2020a).

6 FortisBC conducted a CEA in their respective RAAs where adverse residual proposed Project effects were
 7 identified. The RAA is the area where the proposed Project’s predicted residual effects may act in
 8 combination with effects from past and future projects and activities, resulting in cumulative effects.
 9 The future projects and activities within the RAA that could contribute to cumulative effects are shown
 10 on Figure AS-4. The CEA characterizes the total cumulative residual effects (past, existing, and future
 11 conditions), as well as the incremental contribution of the proposed Project to the total cumulative
 12 effects (after the implementation of mitigation measures). Existing conditions include the effects of
 13 projects and activities that have affected or are affecting the existing conditions and, therefore, reflects
 14 cumulative effects to date. The context for each potential cumulative effect was informed by past and
 15 existing conditions, predictions of future conditions with and without the proposed Project, and
 16 regulatory policies, guidelines, standards, and thresholds or targets.

17 The CEA was conducted as follows:

- 18 ▪ Determination of spatial and temporal boundaries for each VC or Indigenous interests when
 19 potential adverse residual proposed Project effects have been identified.
- 20 ▪ Identification of potential adverse residual effects of the proposed Project that may interact with
 21 effects of other future projects or activities. In some cases, potential residual effects of the
 22 proposed Project were determined to be negligible (not detectable or measurable) and were
 23 therefore not carried forward in the assessment of future cumulative effects. If an adverse residual
 24 effect is excluded from consideration in the CEA, the rationale for this exclusion is provided in the
 25 respective VC assessment section. Unlikely adverse proposed Project residual effects are not carried
 26 forward into the CEA.
- 27 ▪ Identification of other future projects and activities with potential adverse residual effects that may
 28 act in combination (in space and time) with the potential adverse proposed Project residual effects.
- 29 ▪ Identification of potential adverse cumulative effects.

- 1 ▪ Development, if warranted and feasible, of additional technically and economically feasible
- 2 mitigation measures to address the incremental contribution of the proposed Project to residual
- 3 adverse cumulative effects.
- 4 ▪ Identification and characterization of any potential residual adverse cumulative effects.

5 Incorporating Indigenous Knowledge and Interests into the Environmental Assessment

6 FortisBC conducted a detailed and collaborative engagement process to identify and incorporate
7 Indigenous Knowledge, information from policy documents and stewardship plans, and Indigenous
8 interests into the Application (Section 7 and Section 11). The engagement process included the
9 following:

- 10 ▪ Sharing multiple versions of lists of potential secondary sources for input and approval with
- 11 Indigenous nations
- 12 ▪ Requesting the use of Indigenous Knowledge in a process as approved by each nation
- 13 ▪ Identifying how Indigenous Knowledge will be used in Section 11 by sharing early drafts of
- 14 Section 11 with Indigenous nations
- 15 ▪ Using an Indigenous Knowledge Information Database for disciplines to use to incorporate into each
- 16 VC in the Application

**CUMULATIVE EFFECTS ASSESSMENT
REASONABLY FORESEEABLE FUTURE PROJECTS**

TILBURY PHASE 2 LNG EXPANSION PROJECT

- Proposed Project Footprint
- ▲ National Historic Site
- Highway
- Road
- Railway
- National Border
- Regional District
- First Nations Treaty Lands
- First Nations Reserve
- Municipality
- Migratory Bird Sanctuary
- National Wildlife Area
- Provincial Conservation Land and Wildlife Management Areas
- Park/Protected Area
- Waterbody

49° 8' 27.4" N 123° 2' 4.8" W
NTS Grid: 092G03

Scale: 1:175,000
0 2 4 6 Kilometers
(All Locations Approximate)

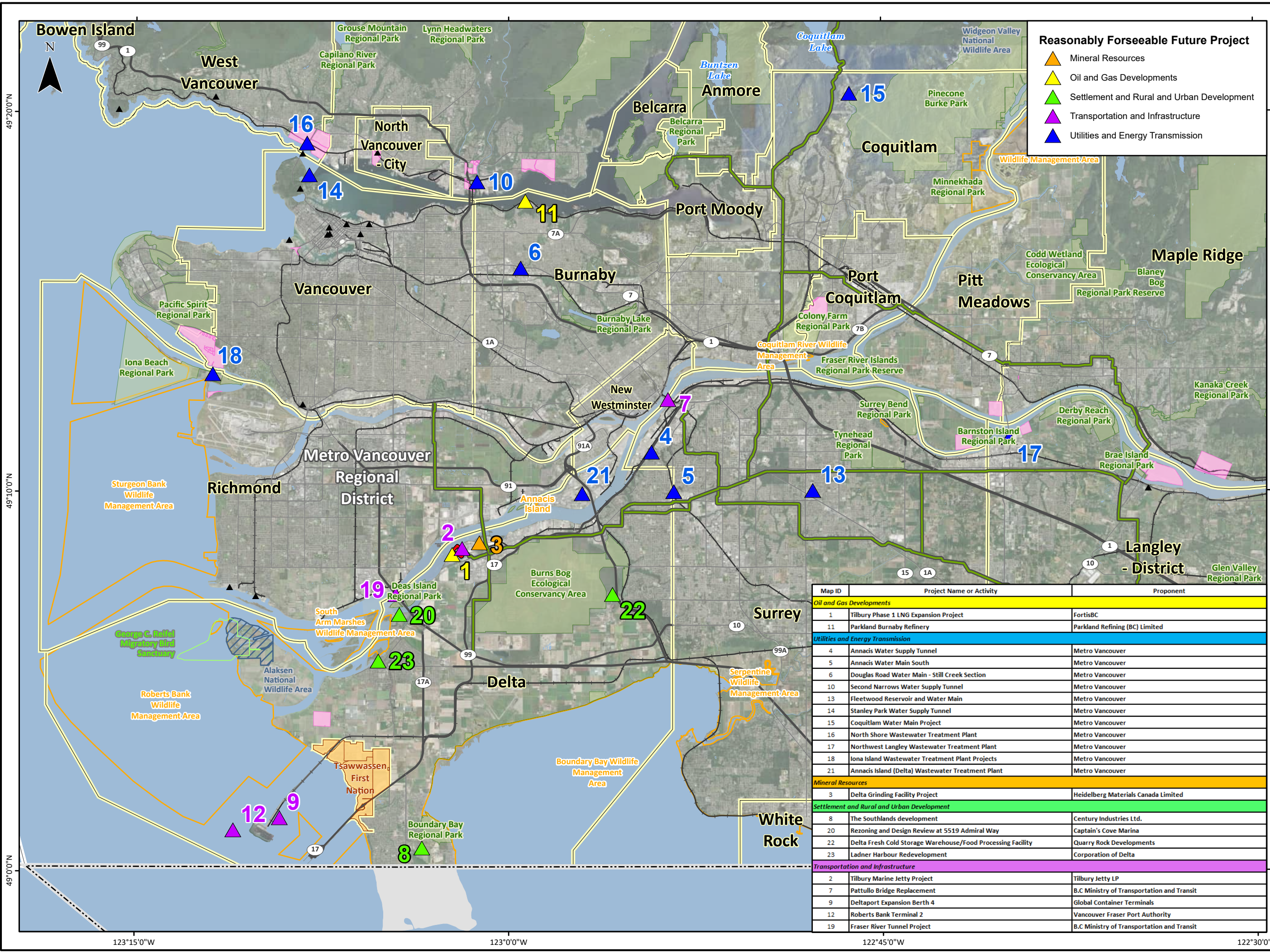


Project Number CE778100

NAD1983 UTM Zone 10 North.
Reasonably Foreseeable Future Projects: Jacobs 2024; Proposed Project: Jacobs 2022; Existing FortisBC Pipeline: FortisBC 2012; Roads: NRCan 2015; Hydrography: BC Forests, Lands and Natural Resource Operations 2011; NR Can 2007; Municipal Boundaries: Regional District BC MFLNRO 2016; Railways: BC Forests, Lands, Natural Resource Operations and Rural Development 2015; Parks: NRCan 2017; Metro Vancouver 2020; BC MFLNRO 2008; Conservation Land: BC MFLNRO 2015; Wildlife Habitat Areas: BC MFLNRO 2021; Migratory Bird Sanctuaries and National Wildlife Areas: Canadian Wildlife Service 2020; Wildlife Management Areas: BC MFLNRO 2015; Service Layer Credits: World Imagery; Earthstar; Geographics.

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: DJN Checked By: SD



Map ID	Project Name or Activity	Proponent
Oil and Gas Developments		
1	Tilbury Phase 1 LNG Expansion Project	FortisBC
11	Parkland Burnaby Refinery	Parkland Refining (BC) Limited
Utilities and Energy Transmission		
4	Annacis Water Supply Tunnel	Metro Vancouver
5	Annacis Water Main South	Metro Vancouver
6	Douglas Road Water Main - Still Creek Section	Metro Vancouver
10	Second Narrows Water Supply Tunnel	Metro Vancouver
13	Fleetwood Reservoir and Water Main	Metro Vancouver
14	Stanley Park Water Supply Tunnel	Metro Vancouver
15	Coquitlam Water Main Project	Metro Vancouver
16	North Shore Wastewater Treatment Plant	Metro Vancouver
17	Northwest Langley Wastewater Treatment Plant	Metro Vancouver
18	Iona Island Wastewater Treatment Plant Projects	Metro Vancouver
21	Annacis Island (Delta) Wastewater Treatment Plant	Metro Vancouver
Mineral Resources		
3	Delta Grinding Facility Project	Heidelberg Materials Canada Limited
Settlement and Rural and Urban Development		
8	The Southlands development	Century Industries Ltd.
20	Rezoning and Design Review at 5519 Admiral Way	Captain's Cove Marina
22	Delta Fresh Cold Storage Warehouse/Food Processing Facility	Quarry Rock Developments
23	Ladner Harbour Redevelopment	Corporation of Delta
Transportation and Infrastructure		
2	Tilbury Marine Jetty Project	Tilbury Jetty LP
7	Pattullo Bridge Replacement	B.C. Ministry of Transportation and Transit
9	Deltaport Expansion Berth 4	Global Container Terminals
12	Roberts Bank Terminal 2	Vancouver Fraser Port Authority
19	Fraser River Tunnel Project	B.C. Ministry of Transportation and Transit

1 Engagement Activities

2 FortisBC has engaged with Indigenous nations, the public, local government, Provincial and Federal
3 government agencies, and stakeholders throughout the EA process. FortisBC will continue to engage
4 throughout the remainder of the assessment process, including during post-EAC permitting and
5 construction activities.

6 Early engagement with the public and other parties began in February 2020 and included notifying the
7 public, posting the Initial Project Description to the B.C. EAO's Project Information Centre website, and
8 conducting market research to determine the public's preferred engagement channels. A public
9 comment period (June to July 2020 and March to April 2022) and virtual open houses (June 2020 and
10 March 2022) followed. FortisBC maintains an email and phone information outlet, as well as a
11 newsletter. Through engagement, the following key issues were raised by the public and other parties:

- 12 ▪ Why the new tank is needed
- 13 ▪ How LNG will be used domestically
- 14 ▪ The amount of LNG for export
- 15 ▪ Customer rate increases
- 16 ▪ FortisBC's decarbonization strategy
- 17 ▪ How GHG emissions will be assessed in the Application
- 18 ▪ Certainty around displacing higher-carbon fuels internationally
- 19 ▪ Source of FortisBC's LNG
- 20 ▪ How the proposed Project will support FortisBC in meeting Provincial targets to reduce emissions for
21 the industrial sector
- 22 ▪ Questions regarding shipping regulations
- 23 ▪ Concerns about tanker traffic in the Fraser River estuary
- 24 ▪ Concerns regarding upstream effects of fracking
- 25 ▪ Concerns regarding nighttime visual effects of flaring
- 26 ▪ Inquiries regarding potential employment and contracting opportunities
- 27 ▪ Questions regarding the number of personnel for the proposed Project, duration of the construction
28 period, and whether permanent staff would be onsite on a 24-hour basis

29 Indigenous nations have had multiple opportunities to review the information included in the
30 Application, such as Indigenous Knowledge included in Section 11 subsections, through review of early
31 drafts. The following summarizes key issues raised by Indigenous nations. Specific issues raised by each
32 Indigenous nation are provided in subsections 11.2 through 11.18. Note that key issues related to
33 waterborne activities are not included in the list as these activities were omitted from the proposed
34 Project scope based on concerns raised by Indigenous nations:

- 35 ▪ Potential effects of the proposed Project on fish and fish habitat
- 36 ▪ Potential effects on cultural continuation and identity related to proposed Project effects on fish and
37 fish habitat, especially salmon

- 1 ▪ Changes in air quality and the potential effects to human health, wildlife, cultural continuation, and
2 subsistence and cultural use of the proposed Project Area
- 3 ▪ Concerns with increases in noise and the potential effects to human health, wildlife, including
4 marine mammals, cultural continuation, and subsistence and cultural use of the proposed Project
5 Area
- 6 ▪ Disturbance of or damage to archaeological or historical sites, features, and objects
- 7 ▪ Proposed Project's GHG emissions, including cumulative contributions to provincial, national, and
8 sector GHG emissions
- 9 ▪ Use of present-day conditions, rather than historical or precontact conditions, to characterize
10 baseline conditions
- 11 ▪ Disagreement with FortisBC's conclusions regarding residual effects and requirements for
12 cumulative effects assessments

13 Since late 2019, FortisBC has maintained regular engagement with government representatives and
14 agencies to keep them informed of the proposed Project, provide updates, answer questions, and seek
15 feedback on the proposed Project. Engagement occurred during the early engagement phase, through
16 process planning, and during Application Development. Government representatives and agencies were
17 contacted by email and through in-person meetings and weekly phone calls, workshops, site tours, and
18 draft documents and technical studies. The following summarizes the key issues raised by government
19 representatives and agencies:

- 20 ▪ Engagement Program: Timelines, potential extensions, and engaging diverse populations and
21 Indigenous nations
- 22 ▪ VC Assessment Areas: Technical Data Report (TDR) data collection and consideration of data outside
23 of the LAA and RAA boundaries
- 24 ▪ Malfunctions and Accidents: Incorporating wildlife overhead flight paths and potential
25 transboundary effects; modelling contaminants released to air or water in the assessment of
26 malfunctions and accidents
- 27 ▪ Acoustic: Guidelines and methods for collecting baseline acoustic data, community engagement to
28 inform baseline acoustic conditions and concerns, and the use of Federal (Health Canada) guidelines
29 for noise and comparison of baseline data
- 30 ▪ Air Quality: Consideration of linking air quality with other VCs, the use of air quality modelling
31 methodology and alignment with air quality guidelines, and dust and noise monitoring throughout
32 construction and operation
- 33 ▪ Fish and Fish Habitat:⁴ Transient killer whale (*Orcinus orca*) and SRKW Critical Habitat; cumulative
34 effects to Southern Resident killer whales (SRKWs) (*Orcinus orca*); the acoustic environment as a
35 measurable parameter for fish and fish habitat; a proposed Project least-risk fish work window; a
36 plan for offsetting fish habitat; indicators and measurable parameters for marine mammals, marine
37 fish and fish habitat, and freshwater fish and fish habitat; potential effects related to the MOF
38 (including pile driving, fill, riprap, and vessel strikes); legacy flood control infrastructure (such as

⁴ To address concerns about potential effects to the Fraser River, FortisBC has committed to removing construction of the MOF and barge deliveries to the proposed Project Site during construction as an avoidance mitigation measure.

- 1 Tilbury Slough); inclusion of specific chemicals in sampling efforts; and the presence of salmonids in
 2 Tilbury Slough
- 3 ▪ GHG and Climate Change: Air quality modelling, fugitive methane, challenges to meet Provincial
 4 GHG targets, Net-zero Plan and offsetting, refrigerants, risk and consequence analytical framework,
 5 extreme climate events, adequate emergency response notification and training for facility staff,
 6 infrastructure’s ability to withstand potential effects from extreme weather events, and leak
 7 detection measures
 - 8 ▪ Soil: Acid-generating potential, historical contamination, soil excavation, and fill and placement of
 9 rock
 - 10 ▪ Surface Water, Groundwater, and Water Quality: Hydraulic studies for riverbed densification,
 11 shoreline armour, and scour protection; surface water for hydrotesting, acid deposition, and
 12 emerging contaminants of potential concern or pharmaceuticals; water quality data for the Tilbury
 13 Slough RAA outside the LAA; hydrotesting effluent, water, and sediment quality data for all
 14 contaminants of potential concern in the context of protecting SRKWs; and seasonal and interannual
 15 variation in groundwater quality data
 - 16 ▪ Vegetation: Spatial boundary adjustments to align with air quality and treating invasive plant species
 17 on stored soil
 - 18 ▪ Wildlife and Wildlife Habitat: Mitigation measures for nesting and breeding migratory birds, spatial
 19 boundary adjustments for wildlife related to marine and road traffic, and conservation measures for
 20 species noted or absent in field or desktop studies
 - 21 ▪ Noise and Vibration: Construction noise and vibration comparison to local bylaws, baseline noise
 22 conditions for various construction phases, and earthquake ground motion emergency response
 - 23 ▪ Visual Quality: Sky glow and light trespass, and residential units in proximity to the proposed Project
 - 24 ▪ Employment and Economy: Cost benefit analysis; benefits and equal opportunity to potentially
 25 underrepresented groups; potential effects to vulnerable groups, workforce, and community
 26 well-being; use of Gender-based Analysis Plus; Indigenous Knowledge; upstream employment; and
 27 potential effects of operation reduction or suspension on employment
 - 28 ▪ Human Health: Safety regarding the proposed Project’s location (in an urban setting); carcinogenic
 29 and noncarcinogenic effects associated with chronic or acute exposure to diesel PM; and data
 30 disaggregation by identity factor, such as gender and age
 - 31 ▪ Infrastructure and Services: Demand for potable water; community infrastructure, such as roads
 32 (and traffic volumes) and water mains; childcare services information; and potential effects of
 33 flooding on infrastructure
 - 34 ▪ Land and Resources: Monitoring or research activities underway with Indigenous nations and the
 35 Government of Canada, and vessel traffic during construction and operation
 - 36 ▪ Alternate Scenario Barge Scope: Potential effects to air quality, emissions modelling, logistics
 37 considerations, alternative options, barge characteristics, supply chain details, potential effects on
 38 the Fraser River, spills and accidents, and potential LAA and RAA expansion
- 39 As stated previously, as a result of concerns received from engagement activities during the Application
 40 Development phase, which occurred after the development of the AIR (B.C. EAO 2022), the proposed
 41 Project will no longer involve any waterborne delivery of modular components and bulk construction
 42 materials to the proposed Project Site during construction. As a result, no MOF is required to be

1 constructed or used for the proposed Project to accommodate waterborne deliveries. Key issues raised
2 by government representatives and agencies reflect engagement on the DPD (FortisBC 2022) before the
3 Application Development phase engagement and FortisBC's commitment to not use waterborne
4 deliveries during construction.

5 During the Application Review Phase, the TAC raised additional issues that FortisBC has addressed in the
6 Revised Application, including the following key issues:

- 7 ▪ Concerns related to 6PPD-quinone from increased truck traffic and potential effects on fish: As an
8 emerging contaminant, it is currently technically unfeasible for FortisBC to measure or assess the
9 incremental contribution of 6PPD-q from trucks associated with the proposed Project on local water
10 quality and fish and fish habitat in the Revised Application. However, FortisBC has committed to a
11 street sweeping study to contribute to the body of knowledge on 6PPD-q and will continue to track
12 the development of information related to this emerging contaminant and best management
13 practices.
- 14 ▪ Over-reliance on future technologies to address potential air quality impacts, and potential
15 exceedances of air quality standards and guidelines: FortisBC developed a Conceptual Mitigated
16 Scenario to assess air quality impacts during normal operations of the proposed Project. The Revised
17 Application includes the results of the dispersion modelling conducted for this scenario. This
18 scenario serves to demonstrate the potential effectiveness of mitigation based on present-day
19 design assumptions, with the understand that further refinements and advancements may be
20 incorporated during final design development. In addition, the Human Health Risk Assessment
21 (HHRA) (Appendix J) was updated to reflect the revised air quality data and assess potential health
22 risks associated with the proposed Project.

1 Valued Components Assessment Overview

2 The Application has been prepared in accordance with the AIR (B.C. EAO 2022), in which potential
3 effects were identified from waterborne delivery associated with the proposed Project. However, as
4 described in subsection 1.5.5, as a result of concerns received during the Application Development
5 phase engagement activities, which occurred after the development of the AIR, the proposed Project
6 will no longer involve any waterborne delivery of modular components and bulk construction materials
7 to the proposed Project Site during construction. Avoidance of waterborne deliveries are included in the
8 assessment as an avoidance mitigation measure, and implementation of this avoidance mitigation
9 measure has been incorporated into the determination of potential residual effects to VCs from the
10 proposed Project in Section 7.

11 The following subsections discuss the assessment of potential effects of the proposed Project on VCs
12 and assessment matters as required under Section 25 of the 2018 B.C. *EAA*.

13 Air Quality

14 The Air Quality VC is divided into two subcomponents: (1) air quality and (2) acid deposition.

15 The proposed Project is in a heavily developed, urban, coastal, industrial environment with nearby
16 industrial, commercial, and residential zones. Data about existing ambient air quality conditions of
17 criteria air contaminants (CACs) at the proposed Project Site before construction were obtained from
18 the Metro Vancouver ambient air monitoring network. CACs include nitrogen dioxide (NO₂), NO_x,
19 sulphur dioxide (SO₂), carbon monoxide (CO), particulate matter of a diameter less than 10 microns
20 (PM₁₀), particulate matter of a diameter less than 2.5 microns (PM_{2.5}), ozone, and volatile organic
21 compounds (VOCs). Trends in the Metro Vancouver area show that most air pollutant levels have been
22 improving over the last decade, even while the region's population has grown. Although the AirCare
23 program has ended, Metro Vancouver introduced the Clean Air Plan in 2021 (Metro Vancouver 2021),
24 which is a management plan focused on air quality and GHG reduction efforts to be implemented
25 through 2030 and a commitment to becoming a carbon neutral region by 2050. The CleanBC Roadmap
26 to 2030 (Government of B.C. n.d.) sets targets for the adoption of zero-emission vehicles (ZEVs) in an
27 effort to further reduce emissions from the transportation sector. The plan requires that 26 percent of
28 all new light-duty vehicles sold be ZEVs, with the target increasing to 90 percent by 2030 and reaching
29 100 percent by 2035 (Government of B.C. n.d.). The marine sector is also taking action to reduce
30 emissions, with a ship assist operator in B.C. deploying its first electric tugboat and expecting the
31 delivery of an additional two electric and two LNG-powered tugboats.

32 Like most of the Metro Vancouver airshed, the area near the proposed Project experiences elevated
33 ambient levels of NO₂, with ambient background concentrations over half of existing Metro Vancouver
34 short- and long- term ambient air quality objectives (AAQOs). Current levels are approximately
35 70 percent of the 1-hour and over 75 percent of the annual threshold set by the Metro Vancouver AAQO
36 and the 2025 Canadian Ambient Air Quality Standards (CAAQS). Contributors to background
37 concentrations of NO₂ include the Heidelberg Materials cement facility, motor vehicle emissions, and
38 vessel traffic on the Fraser River. Existing background levels of PM_{2.5} and PM₁₀ are nearly half of the
39 short- and long-term Metro Vancouver AAQOs, whereas other CACs (CO and SO₂) are below the Metro
40 Vancouver objectives near the proposed Project.

1 Air dispersion modelling and meteorological modelling were used to predict ambient baseline
2 concentrations of CACs and proposed Project emissions during unmitigated operation. Calculation of the
3 ambient background concentrations adhered to the methodology outlined in the approved Metro
4 Vancouver Dispersion Modelling Plan, which was developed in consultation with Metro Vancouver
5 specifically for the proposed Project (Appendix B of the Application) and was generally consistent with
6 B.C. Air Quality Dispersion Modelling Guideline (B.C. ENV 2022). Existing levels of CACs were compared
7 to the ambient air quality criteria, including the Metro Vancouver AAQOs (Metro Vancouver 2024),
8 B.C. AAQOs (B.C. ENV 2021), and CAAQS (CCME 2021) for CACs developed by the Canadian Council of
9 Ministers of the Environment (CCME). On an annual basis, existing NO₂ background levels reach
10 75 percent of the current Metro Vancouver AAQO and CAAQS-2025 in the Air Quality RAA; existing
11 PM_{2.5} levels reach about 60 percent of the Metro Vancouver annual AAQO; and other CAC background
12 levels (CO and SO₂) are low (less than 1 percent and 5 percent of their annual Metro Vancouver AAQOs,
13 respectively).

14 Since completing the modelling of an unmitigated conceptual design during operation, FortisBC has
15 committed to installing air emissions control technologies (the specific technology will be determined
16 during detailed design post EAC); as such, the modelled air quality effects overstate the anticipated
17 effects. Final engineering design will incorporate air emissions control technologies selected based on
18 the specific final design elements, proven efficacy and effectiveness, and reliability.

19 FortisBC considered the following key factors when assessing the potential effect of the proposed
20 Project on air quality:

- 21 ▪ Based on feedback received during the Application Review phase, the updated air quality
22 assessment (subsection 7.2) considered potential changes to air quality due to the proposed Project
23 under two scenarios: unmitigated and conceptually mitigated. The updated air quality assessment
24 examined impacts to CACs (including NO₂, SO₂, CO, PM, and VOCs). The analysis of CO, PM, and
25 VOCs was unchanged, however NO₂ and SO₂ were assessed under the mitigated scenario, reflecting
26 their identification as pollutants of greatest concern. Because of their elevated scale, background
27 ambient air quality conditions for NO₂ and SO₂ were examined in greater detail in the revised air
28 quality assessment. A Conceptual Mitigated Scenario was developed to assess air quality impacts
29 associated with NO₂ and SO₂ emissions during normal operations of the proposed Project. The
30 mitigation measures considered in this scenario reflect currently available technological
31 opportunities and are not intended to represent final design commitments or regulatory conditions.
- 32 – In the Base Case, maximum NO₂ concentrations already exceed the Metro Vancouver AAQO and
33 CAAQS 2025 when assessed using the 98th percentile of existing air monitoring data. As a result,
34 residual effects in the Application Case are also expected to exceed these standards. However,
35 some level of abatement is anticipated by the time the proposed Project becomes operational.
36 Combined with the ongoing trend of declining background NO₂ levels, FortisBC does not expect
37 the proposed Project itself to cause exceedances of NO₂ air quality standards.
- 38 – While SO₂ levels during operation are expected to increase, conceptual mitigation measures are
39 predicted to reduce maximum SO₂ concentrations from Project-only sources by more than
40 70 percent across all averaging periods compared to the unmitigated scenario. These reductions
41 are achieved through emission control technologies, resulting in a low-magnitude impact that
42 remains confined to the immediate proposed Project footprint.
- 43 – With emission controls in place under the mitigation scenario, NO₂ concentrations from the
44 proposed Project are expected to be negligible—less than 5 percent of applicable air quality
45 standards across the LAA, except at a few receptors within 50 m of the southwest fenceline.

- 1 – For SO₂, concentrations are anticipated to remain below 10 percent of ambient air quality
2 standards, except at a few receptors located on or within 100 m of the southwest fenceline,
3 where annual concentrations may exceed 10 percent of the Metro Vancouver AAQO and CAAQS
4 2025.

5 The mitigated scenario highlights the potential reduction in air pollutant concentrations that can be
6 achieved through the implementation of emission control technologies. These scenarios help illustrate a
7 range of possible outcomes and support the assessment of both residual and cumulative effects. The
8 final engineering design of the proposed Project will incorporate air emissions control technologies
9 selected based on the specific design features, demonstrated effectiveness, and operational reliability.

10 Proposed mitigation measures are anticipated to reduce changes in Air Quality resulting from air
11 emissions during construction and operation of the proposed Project and will be incorporated into the
12 CEMP and EMS. As stated previously, FortisBC has committed to installing air emissions control
13 technologies during operation. Proposed mitigation measures are generally considered by FortisBC as
14 having high effectiveness with best management practices (BMPs) and technologies that are widely and
15 successfully used in various industries in B.C. and worldwide.

16 Table AS-3 summarizes the potential effects, proposed mitigation measures, potential residual effects,
17 and potential cumulative effects from changes in air quality from the proposed Project. No potential
18 residual effects from the proposed Project were characterized as having greater than a low-magnitude
19 effect during the assessment of the Air Quality VC.

20 Acoustic

21 The Acoustic VC is divided into the subcomponents: (1) noise and (2) vibration. The activities associated
22 with construction (excavation, ground improvements, installation of stone columns, installation of sheet
23 pile wall), operation (LNG liquefaction), and decommissioning of the proposed Project have the
24 potential to increase in-air noise.

25 Desktop reviews and field studies were completed to characterize the existing conditions of noise and
26 vibration within the Acoustic LAA and RAA. Ambient levels of noise during the construction and
27 operation phases of the proposed Project were predicted using a combination of measured and
28 modelled noise levels at five specific locations (two nearest residential receptors, two receptor points
29 related to recreational land use, and the historic Indigenous village site across from Tilbury Island).
30 Predicted ambient noise levels and noise levels from the proposed Project (ambient plus proposed
31 Project) were evaluated against permissible sound levels (PSLs) by the British Columbia Energy Regulator
32 (BCER) and Health Canada guidance. Due to the industrial nature of the LAA, existing ambient noise
33 levels are already relatively high (between 46.6 and 57.1 decibels [dB]). The existing ambient sound level
34 at the receptors was measured and found to be dominated by industrial, road, rail, river, and air
35 transportation activities.

36 Noise effects are defined as annoyance, speech intelligibility, sleep disturbance, and ground-borne
37 vibration. Health Canada uses a risk-based “percent highly annoyed” (%HA) approach.

1 FortisBC considered the following key factors when assessing the potential effects of the proposed
2 Project on noise and vibration levels:

- 3 ▪ The potential increase in noise and vibration resulting from the proposed Project construction and
4 operation are not anticipated to affect speech intelligibility at four out of five receptors (R1 to R4).
5 Noise levels at Receptor R5 (informal public pathway) are predicted to exceed the %HA and speech
6 intelligibility thresholds during construction and operation. Prior to construction and operation of
7 the proposed Project, mitigation and contingency measures will be developed through engagement
8 with a QP to manage potential acoustic disturbance at Receptor R5. Noise levels are predicted to
9 exceed the threshold for nighttime disturbance at the historic Indigenous village site, and noise
10 levels currently exceed the Health Canada sleep disturbance threshold at two residential sites. The
11 cumulative noise levels during construction and operation (that is, existing conditions, TMJ project,
12 and the proposed Project) are predicted to be approximately 1 dB and 2 dB greater than existing
13 noise levels, respectively. FortisBC has committed to no waterborne deliveries (barges and tugs) to
14 reduce potential effects on traditional use activities from noise during construction.
- 15 ▪ Proposed mitigation measures identified in subsection 7.3, Acoustic, are anticipated to reduce the
16 noise levels within the LAA during the proposed Project construction and operation and will be
17 incorporated into the CEMP and EMS. Proposed mitigation measures are generally considered by
18 FortisBC as having high effectiveness with BMPs and technologies that are widely and successfully
19 used in various industries in B.C. and worldwide.
- 20 ▪ An increase in noise levels during construction is predicted to be of negligible magnitude, as the
21 increase complies with the Health Canada annoyance criterion at receptors R1 to R4. Prior to
22 construction and operation of the proposed Project, mitigation and contingency measures will be
23 developed through engagement with a QP to manage potential acoustic disturbance at Receptor R5.
24 The predicted nighttime change at all assessed receptors is less than 3 A-weighted decibels (dBA)
25 and not expected to be audible to the human ear. Vibration during construction is predicted to be of
26 negligible to low magnitude, as it may be perceptible.
- 27 ▪ The predicted change at all applicable receptors compared to the operation expected future
28 condition and existing ambient condition will be less than 3 dBA, and it is not expected to be
29 discernable from existing conditions by the human ear. The magnitude rating for the increase in
30 noise during operation is therefore considered negligible to low.
- 31 ▪ Characterization of future cumulative effects on noise levels is considered comparable to that of
32 residual effects from the proposed Project (that is, they will be the same with or without the
33 proposed Project).

34 Table AS-3 summarizes the potential effects, mitigation measures, potential residual effects, and
35 potential cumulative effects (if applicable) for the Acoustic VC. No potential residual effects were
36 characterized greater than a low magnitude during the assessment of the Acoustic VC.

37 Surface Water

38 The Surface Water VC includes the subcomponents surface water quality, surface water quantity, and
39 sediment quality within the Fraser River and Tilbury Slough. Facility construction, operation, and
40 decommissioning activities have the potential to affect surface water through instream construction
41 activities, infrastructure installation, and barge deliveries. Desktop reviews and site investigations were
42 completed to characterize the existing conditions of surface water within the Surface Water LAA and
43 RAA.

1 The south arm of the Fraser River, where the proposed Project Site is located, is influenced by tidal
2 currents and freshet flows. The proposed Project Footprint, Surface Water LAA, and Surface Water RAA
3 are in the lower Fraser River. The Tilbury Slough is approximately 4.5 kilometres (km) in length,
4 connecting with the lower Fraser River at each end, and is crossed by multiple roads with culverts.
5 Tilbury Slough is a stagnant, poorly flushed channel with high turbidity. Flow through Tilbury Slough is
6 controlled by a pump station and flood box. Surface water samples taken within the LAA near Tilbury
7 Slough contain several metals in concentrations exceeding the B.C. freshwater, estuarine, or marine
8 guidelines for protection of aquatic life, irrigation, or wildlife.

9 Available water quality monitoring data in the Fraser River within the LAA show several metals
10 exceeding the B.C. or CCME freshwater, estuarine, or marine guidelines for the protection of aquatic life,
11 irrigation, or wildlife. Substance concentrations of sediment samples that exceeded the B.C. water
12 sediment guidelines included arsenic, chromium, copper, iron, manganese, and nickel. These
13 concentrations were within range of the Fraser River Ambient Monitoring Program sediment
14 concentrations measured in the south arm and are therefore considered to be representative of existing
15 conditions within the Surface Water LAA. Concentrations of polychlorinated biphenyls (PCBs), VOCs,
16 phenols, or polycyclic aromatic hydrocarbons (PAHs) were mostly less than detection limits or less than
17 the B.C. sediment quality guidelines and the Fraser River Objectives. Water samples from the adjacent
18 drainage ditch on Tilbury Road show exceedances of several PAHs. Site runoff discharges to the City of
19 Delta (Delta) storm sewer, which conveys flow to two outfalls located at Tilbury Slough.

20 With the implementation of proposed mitigation measures, potential changes to the Fraser River due to
21 the proposed Project were determined to be negligible and not further assessed, including changes to
22 river currents and tidal patterns; water quality and sediment load; sedimentation, resuspension of
23 sediments, and sediment quality; and acidification and eutrophication.

24 FortisBC considered the following key factors when assessing the potential effects of the proposed
25 Project on Surface Water in the Fraser River:

- 26 ▪ Mitigation measures will be implemented to avoid or minimize potential effects of proposed Project
27 construction and operation on surface water quality and quantity and will be incorporated into the
28 CEMP. As described in subsection 1.5.5, as a result of concerns received during the Application
29 Development phase engagement activities, which occurred after the development of the AIR
30 (B.C. EAO 2022), the proposed Project will no longer involve any waterborne delivery of modular
31 components and bulk construction materials to the proposed Project Site during construction.
32 Avoidance of waterborne deliveries are included in the assessment as an avoidance mitigation
33 measure, and implementation of this avoidance mitigation measure has been incorporated into the
34 determination of potential residual effects to Surface Water.
- 35 ▪ Proposed mitigation measures described in subsection 7.6, Soil, (that is, erosion and sediment
36 control) are anticipated to result in no residual effects on Surface Water quality due to construction
37 activities on land.
- 38 ▪ Indirect potential effects during proposed Project operation include changes to water quality within
39 the Fraser River through acid and nitrogen deposition from air emissions. Subsection 7.4 considered
40 the potential effects of proposed Project-related changes in Air Quality on Surface Water and
41 concluded there are no interactions between Air Quality and Surface Water.

- 1 ▪ Proposed mitigation measures are generally considered by FortisBC as having high effectiveness
2 with BMPs and technologies that are widely and successfully used in various industries in B.C. and
3 worldwide. With the implementation of proposed mitigation measures, no residual effects on the
4 Surface Water VC are anticipated; therefore, a characterization of residual and cumulative effects is
5 not warranted.

6 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects, and
7 cumulative effects, if applicable, for the Surface Water VC. No adverse residual effects were predicted
8 for Surface Water.

9 Groundwater

10 The Groundwater VC includes the subcomponents groundwater quantity and groundwater quality.
11 Changes to groundwater quantity and quality have the potential to occur through construction
12 excavations during facility construction, operation, and decommissioning activities within the proposed
13 Project Footprint.

14 Existing groundwater conditions, including quality and quantity, were characterized for the proposed
15 Project Site. Tilbury Island is located within a provincially mapped aquifer (Aquifer 42), which is an
16 unconfined sand and gravel aquifer comprising Fraser River sediments. The aquifer classification is
17 moderate due to light demand (withdrawing through wells) with respect to productivity (the aquifer's
18 ability to supply groundwater for use). Aquifer 42 aquifer classification notes a high vulnerability (with
19 respect to potential contamination from surface stores). Groundwater samples collected as part of the
20 Tilbury LNG Facility Stage 2 Preliminary Site Assessment indicated that groundwater at the proposed
21 Project Site is not considered to be contaminated (Jacobs 2022).

22 With the implementation of proposed mitigation measures, no residual effects on Groundwater are
23 anticipated. FortisBC considered the following key factors when assessing the potential effects of the
24 proposed Project on Groundwater:

- 25 ▪ Subsection 7.5, Groundwater, identified Indigenous interests in groundwater levels as it relates to
26 drinking water supply and water availability for fish and wildlife habitat within the Fraser River and
27 Tilbury Slough. Changes in groundwater levels have the potential to affect an Indigenous nation's
28 ability to practise traditional harvesting. A change in groundwater level due to proposed Project
29 construction is anticipated to be temporary and confined to the excavation area; therefore, effects
30 to drinking water supply and fish and wildlife habitat are not anticipated.
- 31 ▪ No change to infiltration rate within the proposed Project Area due to a change in land cover is
32 anticipated, as the surfaces within the area will remain gravelled or paved. Local drawdown of the
33 aquifer during construction will return to preconstruction water levels shortly after ceasing
34 dewatering activities, if required.
- 35 ▪ Surface water within the proposed Project RAA has the potential to infiltrate into groundwater.
36 Subsection 7.4, Surface Water, discusses the proposed mitigation measures to contain and control
37 surface water runoff. FortisBC will collect contact water (that is, water that has contacted process
38 equipment and has the potential to be contaminated) using containments and impoundments.
39 Contact water captured in sumps will be monitored before being released to the onsite drainage
40 ditches that flow into the Delta storm sewer. Noncontact water (that is, water that has not
41 contacted process equipment and is not assumed to be contaminated) will be conveyed into the
42 Delta stormwater ditches, where it will infiltrate into the aquifer.

- 1 ▪ Removal and disposal of approximately 32 square metres of arsenic-contaminated soil before
2 proposed Project construction.
- 3 ▪ Subsection 7.5, Groundwater, considers the effects of proposed Project-related changes in Air
4 Quality and concludes there are no interactions with Air Quality and Groundwater.
- 5 ▪ Implementation of the proposed mitigation measures is described in subsection 7.5, Groundwater.
6 The mitigation measures seek to avoid or reduce proposed Project effects and are anticipated to
7 result in no residual effect on Groundwater. Proposed mitigation measures are generally considered
8 by FortisBC as having high effectiveness with BMPs and technologies that are widely and
9 successfully used in various industries in B.C. and worldwide.

10 Table AS-3 summarizes the potential effects, mitigation measures, potential residual effects, and
11 potential cumulative effects for the environment VCs. No potential adverse residual effects were
12 identified for the Groundwater VC.

13 Soil

14 The Soil VC includes the subcomponents terrain, soil quality (including acid rock drainage [ARD] and
15 metal leaching, contamination, metals concentration, soil capability, and acid deposition), and soil
16 quantity. The LNG facility construction, operation, and decommissioning activities have the potential to
17 affect soil through alteration of topography, terrain instabilities, potential contamination, and erosion.

18 Zoning in the area is primarily industrial and agricultural and is generally developed. Little to no topsoil
19 remains on the proposed Project Footprint. The proposed Project Footprint is currently estimated to
20 consist of coarse textured fill material overlaid by approximately 40 percent pavement and 60 percent
21 gravel.

22 FortisBC considered the following key factors when assessing the potential effects of the proposed
23 Project on Soil:

- 24 ▪ Mitigation measures will be implemented to avoid or minimize potential effects of proposed Project
25 construction and operation on soil and will be incorporated into the CEMP. As described in
26 subsection 1.5.5, as a result of concerns received during the Application Development phase
27 engagement activities, which occurred after the development of the AIR (B.C. EAO 2022), the
28 proposed Project will no longer involve any waterborne delivery of modular components and bulk
29 construction materials to the proposed Project Site during construction. Avoidance of waterborne
30 deliveries and the need for a MOF are included in the assessment as an avoidance mitigation
31 measure, and implementation of this avoidance mitigation measure has been incorporated into the
32 determination of potential residual effects to Soil.
- 33 ▪ Subsection 7.8, Surface Water, and subsection 7.4, Groundwater, determined that the risk of
34 mobilizing legacy contaminants or causing ARD and metal leaching due to the proposed Project
35 construction is negligible to low. Sediment and erosion control measures, along with engineering
36 and design of the proposed Project, are anticipated to reduce the risk of sedimentation from surface
37 water to the Tilbury Slough and Fraser River. The acid-generating potential of materials encountered
38 in the proposed Project Area is low.
- 39 ▪ The potential for acidification and nitrogen deposition on soil is discussed in subsection 7.2,
40 Air Quality. The mitigation measures proposed to alleviate the effects of air contaminants from the
41 proposed Project operation are anticipated to result in no adverse effects to soil.

- 1 ▪ An area of soil contaminated with arsenic will be removed before construction.
- 2 ▪ The mitigation measures identified in subsection 7.6, Soils, are based on the principles of avoidance,
- 3 minimization, and offsetting. The measures, which will be incorporated into the CEMP, are generally
- 4 considered by FortisBC as having high effectiveness with BMPs and technologies that are widely and
- 5 successfully used in various industries in B.C. and worldwide.

6 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects
7 (and cumulative effects, if applicable) for the environment VCs. No potential residual effects were
8 identified during the assessment of the Soil VC.

9 Vegetation

10 The Vegetation VC is divided into three subcomponents:

- 11 1) Plant species of interest (including plant species of conservation concern, invasive plant species, and
- 12 culturally important plant species)
- 13 2) Ecological communities of interest (including ecological communities of conservation concern and
- 14 the presence, distribution, and function of wetland ecosystems)
- 15 3) Ecosystems (including riparian ecosystems)

16 Desktop reviews and field studies were completed to characterize the existing vegetation conditions
17 within the Vegetation LAA and RAA. The proposed Project Footprint was previously cleared of natural
18 forest and has been heavily disturbed, with the majority of the proposed Project Footprint being used
19 for industrial purposes. The proposed Project Footprint is predominantly covered by anthropogenic
20 surfaces, including paved areas and built-up fill and gravel, and approximately 98 percent of the
21 proposed Project Footprint consists of unvegetated industrial land uses. The vegetation within the
22 proposed Project Footprint is mostly limited to riparian and wetland (marsh and swamp) ecosystems
23 along the Fraser River foreshore, and outside of the proposed Project Footprint in the Vegetation LAA,
24 the Tilbury Slough. Wetlands comprise approximately 0.5 percent of the proposed Project Footprint.
25 Riparian ecosystems comprise approximately 2.2 percent of the total area within the proposed Project
26 Footprint. Limited vegetation is also present within the existing facility on private property, in ditch
27 lines, and is dominated by nonnative and invasive plant species.

28 No records of plant species listed on Schedule 1 of the Federal *Species at Risk Act* are within the proposed
29 Project Footprint. Suitable areas of the Vegetation LAA were surveyed for rare plants, rare ecological
30 communities, invasive plant species, and culturally important plant species during field assessments.

31 Before the commencement of construction of the proposed Project, vegetation within the existing
32 facility site will be removed by construction activities associated with the existing Tilbury facility and the
33 Tilbury Phase 1B (T1B) project. Maintenance of existing landscaping and vegetation along existing fence
34 lines are part of the existing facility and not part of the scope of the proposed Project.

35 FortisBC considered the following key factors when assessing the potential effects of the proposed
36 Project on Vegetation:

- 37 ▪ Mitigation measures will be implemented to avoid or minimize potential effects of proposed Project
- 38 construction and operation on vegetation and will be incorporated into the CEMP. As described in
- 39 subsection 1.5.5, as a result of concerns received during the Application Development phase
- 40 engagement activities, which occurred after the development of the AIR (B.C. EAO 2022), the

1 proposed Project will no longer involve any waterborne delivery of modular components and bulk
2 construction materials to the proposed Project Site during construction. Avoidance of waterborne
3 deliveries and the need for a MOF are included in the assessment as an avoidance mitigation
4 measure, and implementation of this avoidance mitigation measure has been incorporated into the
5 determination of potential residual effects to Vegetation. No MOF will be constructed or used for
6 the proposed Project and no vegetation will be cleared.

- 7 ■ Wetland or riparian disturbance from the proposed Project is not anticipated because a MOF is not
8 required by the proposed Project during any phase.
- 9 ■ Subsection 7.4, Surface Water, and subsection 7.7, Vegetation, determine that there are no changes
10 in hydrological or drainage patterns affecting Vegetation as a result of the proposed Project.
- 11 ■ As assessed in subsection 7.6, Soil, the proposed Project Footprint has been previously disturbed
12 and has little to no topsoil remaining. Soil capacity at the location of the proposed MOF is reduced
13 due to past and present project activities, but it is capable of supporting existing vegetation growth.
14 The proposed Project is not anticipated to result in a residual effect to soil quality or quantity that
15 could negatively affect Vegetation.
- 16 ■ Subsection 7.7, Vegetation, considers potential effects of proposed Project changes in Air Quality
17 and Surface Water on Vegetation. Based on the results of subsection 7.2, Air Quality, the Vegetation
18 assessment concluded that there are no proposed Project-related Air Quality interactions with
19 Vegetation.
- 20 ■ As assessed in subsection 7.7, Vegetation, following the implementation of proposed mitigation
21 measures, no residual effects to plant species of conservation concern, culturally important
22 traditional use species, or ecological communities of concern (including wetland ecosystems of
23 conservation concern) are anticipated. The introduction or spread of invasive plant species may
24 occur during all phases of the proposed Project. The magnitude of the effect is anticipated to be
25 reduced to negligible to low magnitude with the implementation of measures developed as part of
26 the CEMP and EMS.
- 27 ■ The mitigation measures identified in subsection 7.7, Vegetation, are based on the principles of
28 avoidance and minimization. The measures, which are incorporated into the CEMP and EMS, are
29 generally considered by FortisBC as having high effectiveness with BMPs and technologies that are
30 widely and successfully used in various industries in B.C. and worldwide.

31 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects (and
32 cumulative effects, if applicable) for the Vegetation VC. No potential residual effects were characterized
33 greater than a low magnitude during the assessment of the Vegetation VC.

34 Wildlife and Wildlife Habitat

35 The Wildlife and Wildlife Habitat VC is divided into three subcomponents:

- 36 1) Birds (resident and migratory forest birds, waterbirds, wading birds and shorebirds, and species
37 adapted to human infrastructure)
- 38 2) Mammals (terrestrial)
- 39 3) Amphibians and reptiles

40 Within these subcomponents, various wildlife species with potential to interact with the proposed
41 Project are assessed, including species at risk and culturally important species.

- 1 The proposed Project construction, operation, and decommissioning activities have the potential to
2 affect Wildlife and Wildlife Habitat through loss or alteration of habitat, change in wildlife movement,
3 and increased risk to wildlife health and mortality. Potential interactions with wildlife habitat may occur
4 during ground disturbance activities; alteration of property ditches; demolition of infrastructure;
5 sensory disturbance from noise, light, and activity; and introduction or spread of invasive plant species.
- 6 Little to no suitable wildlife habitat occurs within the proposed Project Footprint, as it consists of gravel
7 and paved areas, existing infrastructure, and equipment laydown areas. No natural watercourses or
8 drainages occur, but one artificial drainage has potential to support amphibians and small birds;
9 however, this drainage ditch will be modified during construction of the T1B project before construction
10 of the proposed Project. The Wildlife LAA consists of industrialized areas, disturbed habitat with no
11 connectivity, and a number of paved roadways with regular traffic and noise. The Fraser River has
12 frequent and regular shipping and vessel traffic. The proposed Project Footprint is located within Critical
13 Habitat for barn owl; however, no barn owls were observed during multiple field surveys in 2021.
14 Wildlife use in the LAA is limited to small, fragmented, previously disturbed riparian areas; the banks of
15 and within Tilbury Slough; and the foreshore and mudflats of the Fraser River. The slough has beaver
16 activity, which has created a ponded habitat. Invasive wildlife species are prevalent in the slough.
17 Wildlife that occur in the Wildlife and Wildlife Habitat LAA are adapted to or tolerant of human activity
18 and noise or utilize anthropogenic features.
- 19 There is little to no wildlife habitat within the proposed Project Footprint. The available potentially
20 suitable wildlife habitat within the Wildlife and Wildlife Habitat LAA is limited and has been substantially
21 degraded by past and existing disturbances. The total area of potentially suitable wildlife habitat within
22 the proposed Project Footprint consists of young forest habitat, shrub habitat, marsh habitat, mud flat
23 habitat, and open water in the Fraser River. Riparian habitat may provide cover and forage for small
24 mammals associated with urban environments, such as rats, raccoons, rabbits, minks, and bats.
- 25 Potential direct adverse effects from proposed Project construction and operation include changes in
26 wildlife habitat availability (quantity) and effectiveness (quality), wildlife movement, and wildlife health
27 and mortality risk. Potential indirect effects from changes in Surface Water (subsection 7.4) to Wildlife
28 and Wildlife Habitat during proposed Project operation were assessed. The potential for acidification
29 and eutrophication of wildlife habitat during proposed Project operation due to changes in air quality
30 from SO_x and NO_x emissions was also assessed (subsection 7.2).
- 31 After the implementation of proposed mitigation measures, FortisBC predicts a negligible (nonlisted
32 wildlife) to low-magnitude (species at risk) localized residual effect to wildlife habitat and to wildlife
33 health and mortality risk due to the proposed Project that is not anticipated to result in measurable
34 effects to wildlife populations, including species at risk. Wildlife that remains in the proposed Project
35 Footprint is assumed to be habituated to an urbanized, industrial environment with existing light, noise,
36 and vibration.
- 37 FortisBC considered the following key factors when assessing the potential effect of the proposed
38 Project on Wildlife and Wildlife Habitat:
- 39 ■ As assessed in subsection 7.4, Surface Water, potential sedimentation to the Fraser River would be
40 prevented by avoiding the construction and use of a MOF. There will be no waterborne deliveries of
41 modular components or construction materials to the proposed Project Site, and a MOF will not be
42 required for the proposed Project during any phase. No residual effects to water quality and
43 sediment load from the proposed Project are anticipated following the implementation of
44 mitigation measures to control erosion and sediment. There are no anticipated interactions of

1 sedimentation or legacy contaminants with wildlife health or mortality risk as a result of the
2 proposed Project, and this effect pathway was not carried through to the residual effects
3 assessment in subsection 7.8.4.

- 4 ■ Subsection 7.8, Wildlife and Wildlife Habitat, considers Indigenous nations' concerns with the effects
5 of proposed Project-related changes in Air Quality on Wildlife and Wildlife Habitat. Based on the
6 results of subsection 7.2, Air Quality, the Wildlife and Wildlife Habitat assessment concluded there
7 are no anticipated proposed Project-related Air Quality interactions with Wildlife and Wildlife
8 Habitat. The results of the Air Quality assessment show that nearby receiving aquatic and terrestrial
9 environments for both surface water and soil within the Air Quality VC RAA are not susceptible to
10 acidification, nitrogen loading, or eutrophication from the proposed Project emissions. As such,
11 there are no anticipated interactions with wildlife health risk from emissions generated by the
12 proposed Project, and this effect pathway was not carried through to the residual effects
13 assessment in subsection 7.8.4.
- 14 ■ Subsection 7.8, Wildlife and Wildlife Habitat, identifies a combination of avoidance and minimization
15 measures that, along with monitoring, will be incorporated into the CEMP and EMS. With the
16 implementation of proposed mitigation measures, potential changes to wildlife movement are not
17 anticipated. Proposed mitigation measures are generally considered by FortisBC as having high
18 effectiveness with BMPs and technologies that are widely and successfully used in various industries
19 in B.C. and worldwide.
- 20 ■ As assessed in subsection 7.8, Wildlife and Wildlife Habitat, some residual adverse effects are
21 anticipated after the implementation of proposed mitigation measures, including loss or alteration
22 of wildlife habitat and increased wildlife health and mortality risk. Wildlife habitat within a zone of
23 influence from the proposed Project Footprint may be altered by noise, vibration, light, and activity
24 associated with the proposed Project construction, operation, and decommissioning activities.
25 Sensory disturbance has potential to temporarily displace resident and migratory birds and other
26 wildlife species from the proposed Project Footprint. Given the minor incremental contribution of
27 the proposed Project within an existing disturbance with limited wildlife habitat value, the
28 magnitude of these residual effects to Wildlife and Wildlife Habitat is negligible for most wildlife
29 species; however, species at risk is conservatively determined to be low magnitude. No measurable
30 effects to wildlife populations, including species at risk, are anticipated.

31 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects (and
32 cumulative effects, if applicable) for Wildlife and Wildlife Habitat. No potential residual effects were
33 characterized greater than a low magnitude during the assessment of the Wildlife VC.

34 Fish and Fish Habitat

35 The Fish and Fish Habitat VC includes the following subcomponents: (1) freshwater/estuarine fish and
36 marine mammals and (2) fish habitat. The potential for the proposed Project to adversely affect fish and
37 fish habitat was scoped to assess potential adverse effects related to change in fish habitat, fish
38 movement, and fish mortality risk, including both direct and indirect pathways arising from construction,
39 operation, and decommissioning. The Fish and Fish Habitat LAA is divided into two subareas due to the
40 anticipated spatial extent of potential adverse effects to each: (1) a Fish LAA and (2) a Fish Habitat LAA.

41 As stated previously, during FortisBC's engagement and an additional round of B.C. EAO-led consensus
42 seeking with Indigenous nations during the Application Development phase to discuss the Construction
43 Logistics Update and Alternative Means Memo (FortisBC 2023), concerns were raised about potential
44 negative effects to Indigenous rights to fish, as well as negative cumulative effects on the Fraser River

1 resulting from the proposed barge traffic. FortisBC has considered feedback from all participants and
2 decided not to utilize the waterborne delivery of modules or bulk construction materials described in
3 the DPD (FortisBC 2022). To address concerns about potential effects to the Fraser River, FortisBC has
4 committed to removing construction of the MOF and barge deliveries to the proposed Project Site
5 during construction as an avoidance mitigation measure. Construction materials, equipment, and any
6 other deliveries to the proposed Project Site during construction will be by road freight on existing roads
7 and highways. As a result of the avoidance of waterborne activities during construction, the MOF and
8 associated barge deliveries will no longer be required for the proposed Project.

9 The lower Fraser River intertidal zone extends approximately 30 m from the end of the existing dock at
10 the proposed Project Footprint and provides shallower and lower velocity conditions that are suitable
11 for a variety of fish species. Marsh areas, mudflats, and coarse woody debris from riparian areas and log
12 storage activities within the intertidal zone contribute to the quality of fish habitat within the proposed
13 Project Footprint and Fish and Fish Habitat LAA. These habitat features provide areas of low velocity,
14 abundant emergent and submergent vegetative cover and likely provide rearing habitat for salmonids.
15 The shoreline of the Tilbury Slough and most of the shoreline of the lower Fraser River adjacent to the
16 proposed Project Site within the Fish Habitat LAA have been classified as highly productive (red coded)
17 habitat for fish and wildlife. The lower Fraser River shoreline within the Fish and Fish Habitat LAA and
18 RAA includes areas of lower productivity (yellow or green coded) due to historical and existing
19 developments, such as riprap, industrial facilities, and several jetties.

20 The lower Fraser River and estuary has been identified as being globally important for biodiversity and is
21 known to support 78 different species of fish, including 15 Provincially Red- and Blue-listed species or
22 federally listed species that have been documented within the RAA, including salmonids, eulachon, and
23 white sturgeon. The Fraser River estuary provides habitat for over 2 billion juvenile salmon that reside in
24 the estuary for weeks or months before migrating to the ocean. Intertidal marsh and mudflat areas
25 within the Fish and Fish Habitat LAA and RAA include lower velocity areas with cover and food production
26 (such as benthic invertebrates), providing important rearing and feeding habitat for salmonids.

27 Important habitat for large marine mammals (such as pinnipeds or cetaceans) in the proposed Project
28 Footprint and Fish Habitat LAA is not anticipated. Seals (harbour seals) and sea lions (Steller and
29 California sea lions) may occur in the Fraser River within the Fish Habitat LAA and RAA; however, they
30 are unlikely to be present in large numbers. Marine mammals that could occur in the Fish LAA include
31 Pacific harbour seals, Steller sea lions, and California sea lions.

32 The lower reach of the Tilbury Slough, below the tide gate, experiences saltwater intrusion, resulting in
33 minor saltwater influence above the tidal gate. The reach above the tidal gate generally consists of
34 freshwater and is fringed with similar riparian vegetation communities (FREMP and BIEAP n.d.). There is
35 limited habitat potential for salmonids and other fish species of management interest due to low
36 dissolved oxygen, high turbidity, poor access, and migration. Fish habitat is suitable for forage fish
37 species, such as threespine stickleback (*Gasterosteus aculeatus*) (observed in the slough at the time of
38 field surveys), that can tolerate low dissolved oxygen, low water velocities, abundant algae, and
39 instream vegetation.

40 Existing conditions within the proposed Project Footprint along the foreshore of the Fraser River will
41 likely be altered before the commencement of construction of the proposed Project by works occurring
42 outside of the scope of the proposed Project. Before the commencement of construction of the
43 proposed Project, existing conditions along the foreshore of the Fraser River will likely be altered by
44 construction activities associated with the Tilbury Marine Jetty project, which is planned at the same
45 location as the MOF.

1 FortisBC considered the following key factors when assessing the potential effect of the proposed
2 Project on Fish and Fish Habitat:

- 3 ▪ Subsection 7.9, Fish and Fish Habitat, considers input from Indigenous nations on the potential for
4 changes in fish and fish habitat. To address concerns about potential effects to the Fraser River,
5 FortisBC has committed to removing construction of the MOF and barge deliveries to the proposed
6 Project Site during construction as an avoidance mitigation measure. There will be no waterborne
7 deliveries of modular components or construction materials to the proposed Project Site, and a
8 MOF will not be used by the proposed Project during any phase.
- 9 ▪ As assessed in subsection 7.4, Surface Water, potential effects from the proposed Project are not
10 anticipated to result in a residual effect to fish habitat availability; fish habitat quality; fish health,
11 injury, and mortality; or fish distribution and abundance. The Surface Water assessment also
12 concluded that potential sedimentation during construction is not anticipated following the
13 implementation of measures for erosion and sediment control. Drainage design on the facility site
14 will direct surface water into the Delta stormwater system, and the water from paved areas will be
15 treated, where required, before discharge.
- 16 ▪ Based on the results of subsection 7.2, Air Quality, the Fish and Fish Habitat assessment concluded
17 there are no proposed Project-related Air Quality interactions with Fish and Fish Habitat. The results
18 of the Air Quality assessment show that the lower Fraser River within the RAA at Tilbury Island is not
19 sensitive to acid deposition, and deposition from the proposed Project sources during operation are
20 not predicted to result in acid exceedances in the RAA. In addition, eutrophication in the lower
21 Fraser River is not nutrient limited, and other physical constraints limit the growth of algae;
22 therefore, the trophic status of the river is not anticipated to change as a result of the nitrogen
23 deposition from proposed Project emissions during operation.
- 24 ▪ Subsection 7.9, Fish and Fish Habitat, identifies a combination of avoidance and minimization
25 measures that, along with monitoring, will be incorporated into the CEMP (also summarized in
26 Appendix A). With the implementation of proposed mitigation measures (including the avoidance of
27 waterborne deliveries during construction), potential changes to fish health, injury, and mortality
28 risk, and distribution and abundance are not anticipated. Proposed mitigation measures relate to
29 proposed Project design features, erosion and sediment control BMPs, spill contingency measures,
30 and stormwater and surface water management. Proposed mitigation measures are generally
31 considered by FortisBC as having high effectiveness with BMPs and technologies that are widely and
32 successfully used in various industries in B.C. and worldwide.

33 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects
34 (and cumulative effects, if applicable) for Fish and Fish Habitat. No adverse residual effects were
35 predicted for Fish Habitat with the implementation of proposed mitigation measures.

36 Employment and Economy

37 The Employment and Economy VC describes existing economic conditions and the proposed Project's
38 potential effects on two subcomponents: (1) employment and (2) economy. The LAA and RAA include
39 the boundaries of Metro Vancouver, with a specific focus on Delta and Richmond, B.C. The scope of the
40 assessment of the effects on employment includes employment income and labour force indicators such
41 as unemployment rate, education and skills, access to economic opportunities, and income distribution.
42 The economy subcomponent considers potential proposed Project interactions with Municipal and
43 Regional government revenues, contributions to GDP, cost of living, and business revenue, as indicated

1 by consumer expenditures. Potential proposed Project-related effects to these subcomponents may
2 occur during construction, operation, and decommissioning.

3 The need for a large construction labour force is anticipated during the construction phase, a small
4 permanent workforce will be required for the 40-plus-year operation phase, and a small workforce for
5 decommissioning of the proposed Project is anticipated. Employment opportunities related to
6 construction, operation, and decommissioning of the proposed Project will include direct, indirect, and
7 induced employment. A range of positions will be needed for construction, including trades and skilled
8 labour positions, technical and professional positions, and entry-level positions (such as site security and
9 clerical staff).

10 FortisBC considered the following key factors when assessing the potential effects of the proposed
11 Project on Economy and Employment:

- 12 ■ FortisBC included available Indigenous and local knowledge when considering the potential residual
13 effects of proposed Project construction, operation, and decommissioning. Concerns associated
14 with potential effects of the proposed Project on Indigenous harvesting activities were noted to
15 FortisBC by Kwantlen First Nation, Katzie First Nation, Musqueam Indian Band, Quw'utsun Nation,
16 Tsawwassen First Nation, and Tsleil-Waututh Nation. To address concerns about potential effects to
17 the Fraser River, FortisBC has committed to removing construction of the MOF and barge deliveries
18 to the proposed Project Site during construction as an avoidance mitigation measure. There will be
19 no waterborne deliveries of modular components or construction materials to the proposed Project
20 Site, and a MOF will not be used by the proposed Project during any phase.
- 21 ■ Subsection 7.11, Land and Resource Use, considers the potential for an increase in population
22 growth resulting from an increase in workforce needed to support proposed Project activities.
23 An increase in population has the potential to affect the ability of Indigenous Peoples to practice
24 traditional economic activities, such as subsistence activities on public land and waters near the
25 proposed Project Footprint.
- 26 ■ As assessed in subsection 7.10, the effects to employment as a result of the proposed Project are
27 anticipated to be positive. FortisBC considered the following key indicators when determining the
28 potential effects to the Employment and Economy VC:
 - 29 – Employment income
 - 30 – Education and skills for Indigenous and non-Indigenous Peoples
 - 31 – Access to economic opportunities (including nonwage opportunities for Indigenous Peoples)
 - 32 – Income distribution and equity
 - 33 – Interactions with Municipal and Regional government revenues
 - 34 – Contributions to GDP
 - 35 – Business revenue (indicated by consumer expenditures)
 - 36 – The cost of living
- 37 ■ FortisBC has engaged with affected stakeholders (including local businesses) to mitigate the
38 potential residual effects of the proposed Project. Subsection 7.10, Employment and Economy,
39 identifies a combination of avoidance and minimization measures that will be incorporated into the
40 CEMP. Implementation of the proposed mitigation measures has resulted in the determination of
41 no negative residual effects to the Employment and Economy VC. Enhancement measures are
42 anticipated to maximize the positive outcomes of the proposed Project.

1 Potential adverse effects expected to be negligible or undetectable in the LAA, or avoided through
2 the implementation of proposed mitigation measures include the following:

- 3 – Effects on the labour market
- 4 – Changes to opportunities for Indigenous traditional economic activities
- 5 – Changes to business revenues
- 6 – Change to cost of living

7 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects for
8 Employment and Economy. No potential adverse residual effects were identified for employment and
9 economy. Potential positive effects included increased employment, government and business revenue,
10 and contracting opportunities.

11 Land and Resource Use

12 The Land and Resource Use VC includes the following subcomponents:

- 13 ▪ Private property
- 14 ▪ Tenured land and resource use
- 15 ▪ Public land and resource use
- 16 ▪ Parks and protected areas
- 17 ▪ Visual quality
- 18 ▪ Navigation

19 The proposed Project has potential to affect land and water resource use during construction,
20 operation, and decommissioning.

21 Tilbury Island is an industrial park consisting of gravel and paved areas, existing infrastructure, and
22 equipment laydown areas. Properties on Tilbury Island are used primarily for industrial uses, including
23 warehouse operations, manufacturing, cement production, marine terminal and ferry vessel facilities,
24 aerospace, and other industries and services. The existing Tilbury facility is located on private
25 industrial-zoned land owned by FortisBC (refer to Figure AS-5), except for a portion of the proposed
26 Project Footprint within Provincial Crown land (water lot lease) at the location of the MOF. Predominant
27 land uses nearby include industrial and commercial, agricultural, conservation, and residential land
28 governed by land use plans and policies from multiple levels of government.

29 Commercial marine transportation is a key industrial marine use activity in the RAA and LAA, with
30 several of the Port of Vancouver's key marine terminals located within the south arm of the Fraser River
31 upstream of the proposed Project Footprint. The south arm of the Fraser River includes a main
32 navigational channel used by deep-sea cargo vessels, tugs towing barges and log booms, passenger
33 vessels, government vessels, service vessels, commercial fishing vessels, and recreational and tourism
34 vessels. The Fraser River is used for harvesting and subsistence activities, fishing, recreational activities,
35 and travel by Indigenous and non-Indigenous users. Fisheries activities within the south arm of the
36 Fraser River occur from the Port Mann Bridge downstream to the mouth of the river. In 2022, a total of
37 383 commercial salmon licences were held in Fisheries and Oceans Canada Gillnet Management Area E,
38 which consists of a geographic area that extends beyond the LAA into the Salish Sea. Indigenous nations
39 are also able to fish for food, social, and ceremonial (FSC) purposes through communal licences or may
40 transfer portions of their FSC allocation to an Economic Opportunity licence, allowing for the sale of fish.



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- 2 Figure AS-5. Existing Tilbury Liquefied Natural Gas Infrastructure
- 3 FortisBC considered the following key factors when assessing the potential effect of the proposed
- 4 Project on Land and Resource Use:
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- FortisBC considered Indigenous land and resource plans when assessing the potential residual effects of the proposed Project construction, operation, and decommissioning, including but not limited to the Tsawwassen First Nation Final Agreement, the Musqueam Indian Band Land Use Plan, the Quw'utsun Nation stewardship agreement, the Chawathil First Nation Forest and Range Consultation and Revenue Sharing Agreement, the Cowichan Tribes Draft Land Use Framework, and Ts'uubaa-asatx Nation's policies and documents relating to land use in the Lower Mainland.
 - Subsection 7.11, Land and Resources Use, considers the concerns of Indigenous nations when assessing the potential for effects within the LAA as a result of the proposed Project construction, operation, and decommissioning. It considers the patterns of current use of the land and water surrounding the proposed Project for practising traditional activities. The subsection also considers concerns expressed by Indigenous nations about the ability to use the Fraser River for travel and fishing and about incremental changes to air, noise, views, and their relationship to cultural knowledge. In response to the concerns received during the Application Development phase engagement activities, the proposed Project will no longer involve any waterborne delivery of modular components and bulk construction materials to the proposed Project Site during construction. As a result, no MOF is required to be constructed or used for the proposed Project to accommodate waterborne deliveries.
 - Subsection 7.3, Acoustic, assesses the potential effects of current and future noise conditions within the LAA and RAA. An increase in noise and vibration levels during construction is attributed to activities such as pile driving and vehicle operation. During the permitting process, detailed engineering noise controls will be considered by a QP to manage the potential effect of noise on receptors, if warranted. The potential for noise effects on receptors during construction and operation of the proposed Project was considered negligible to low. The effects assessment determined that decommissioning activities would produce a similar sound level as predicted to occur during construction activities.

- 1 ▪ Commercial, recreational, and subsistence fishing are important activities for Indigenous nations
2 and stakeholders in the LAA and RAA. Subsection 7.4, Surface Water, and subsection 7.9, Fish and
3 Fish Habitat, consider concerns expressed by Indigenous nations; public land and resource users;
4 tenure holders; and federal, provincial, regional, and municipal land managers regarding the
5 potential for changes in water quality or quantity in the Fraser River and Tilbury Slough, which could
6 result in effects on fish habitat or fish health. With the avoidance of waterborne deliveries, no
7 changes in water quality or fish health are anticipated due to the proposed Project.
- 8 ▪ Proposed Project effects to Vegetation (in particular, culturally important plant species used for
9 gathering) have the potential to change the use and enjoyment of public lands where proposed
10 Project activities remove or disturb vegetation. Subsection 7.7, Vegetation, considers the potential
11 effect to Vegetation and concluded no residual effects from the proposed Project were anticipated
12 because vegetation management within the existing facility is managed by the existing facility,
13 existing vegetation within the proposed Project Site will be removed by the T1B project, and access
14 to the proposed Project Footprint is restricted. No MOF is required to be constructed for the
15 proposed Project to accommodate waterborne deliveries; therefore, vegetation along the foreshore
16 will not be disturbed as part of the proposed Project.
- 17 ▪ Bird watching and wildlife viewing were identified as important recreational activities within the
18 proposed Project LAA and RAA. Subsection 7.8, Wildlife and Wildlife Habitat, assessed the potential
19 for the proposed Project activities to effect wildlife habitat, movement, and health and mortality.
20 The negligible (nonlisted wildlife) to low-magnitude (species at risk) residual effects to wildlife
21 habitat and wildlife health and mortality are anticipated to occur within the proposed Project
22 Footprint where little to no suitable wildlife habitat is found.
- 23 ▪ As assessed in subsection 7.4, Surface Water, residual effects as a result of the proposed Project are
24 not anticipated in relation to navigation or to public, tenure holder, and Indigenous nation use of
25 the Fraser River. With the avoidance of waterborne deliveries, there are no potential effects to the
26 navigation of marine users.
- 27 ▪ Subsection 7.2, Air Quality, considers private property owners; tenure holders; members of the
28 public; federal, provincial, regional, and municipal land managers, as well as Indigenous nations'
29 concerns with the potential effects of changes in Air Quality from the proposed Project.
30 Subsection 7.2, Air Quality, identifies mitigation measures to lessen the effects on Air Quality
31 resulting from air emissions during construction and operation of the proposed Project. With the
32 implementation of mitigation measures, the magnitude of residual effects to air quality during
33 construction and operation range from negligible to low.
- 34 ▪ As assessed in subsection 7.11, Land and Resource Use, after the implementation of proposed
35 mitigation measures, low-magnitude residual adverse effects are predicted to include the use of
36 provincial tenures as a result of nighttime lighting and changes to the visual quality of the landscape.
37 These effects may be experienced by Indigenous Peoples while engaged in cultural activities at the
38 historic Indigenous village site or on the Fraser River, or by recreational users in viewing proximity to
39 the proposed Project.
- 40 ▪ As discussed in subsection 7.12, Infrastructure and Services, the potential effects to flood protection
41 infrastructure were not carried through to assessment because a MOF will not be used by the
42 proposed Project during any phase.

43 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects (and
44 cumulative effects, if applicable) for Land and Resource Use. No potential residual effects were
45 characterized greater than a low magnitude during the assessment of the Land and Resource Use VC.

1 Infrastructure and Services

2 The Infrastructure and Services VC includes the following subcomponents:

- 3 ▪ Housing and accommodation
- 4 ▪ Community recreation, facilities, and services
- 5 ▪ Health care and social services and facilities
- 6 ▪ Educational and childcare services
- 7 ▪ Emergency response
- 8 ▪ Domestic water supply
- 9 ▪ Sewage and wastewater treatment
- 10 ▪ Solid waste management
- 11 ▪ Landfills and recycling facilities
- 12 ▪ Local and regional transportation infrastructure

13 Indigenous Peoples have long occupied or used the Fraser River and surrounding lands for harvesting,
14 transportation, trading, and other economic and traditional purposes and continue to rely on the Fraser
15 River as an essential travel way, for harvesting, and for other cultural activities. Community and regional
16 infrastructure in the LAA and RAA, including transportation infrastructure (roads, bridges, tunnels, and
17 ferry terminals), water supply and waste management infrastructure, utilities, and housing, were
18 constructed and improved for communities in the LAA and RAA as communities grew. At the same time,
19 community and regional services for health care, emergency services, education, recreation, and other
20 social services were created and continually expanded and diversified to serve the growing population.
21 Because of population growth and a restricted land base for expansion in the RAA, there are existing
22 pressures on housing, health care, social services, education, emergency response services, and
23 childcare. Housing vulnerability and homelessness have been a persistent problem within Metro
24 Vancouver, with Indigenous Peoples representing approximately one third of the 2020 homeless count
25 (British Columbia Non-Profit Housing Association 2020).

26 The transportation infrastructure in Metro Vancouver includes a network of federal roads (those within
27 Vancouver Airport Authority), provincial highways, and regionally important roads connecting
28 destinations throughout Metro Vancouver, such as city and municipal centres, industrial areas, regional
29 parks, and transportation hubs (that is, airports, ferry terminals, and border crossings). Metro
30 Vancouver also plays a major role in the regional, national, and international movement of goods and is
31 part of the Asia-Pacific Gateway. Current data on traffic volumes on River Road indicate that this route is
32 most active during weekdays. Traffic count data logged along River Road near the entrances to Tilbury
33 Island (MacDonald St. and Hopcott Road) recorded an average of nearly 16,040 vehicles per day on
34 weekdays, approximately 200 percent more per day than during weekends. Traffic volume is greatest
35 during the day and generally declines in the evening and on weekends.

36 FortisBC considered the following key factors when assessing the potential effects of the proposed
37 Project on Infrastructure and Services:

- 38 ▪ FortisBC considered Indigenous community services and vulnerability when assessing the potential
39 effects of the proposed Project construction, operation, and decommissioning, including health care
40 services specific to Indigenous Peoples, Indigenous nation-operated community-based daycare and
41 school programs, and socio-economic vulnerabilities related to housing, education, and health care.
- 42 ▪ Subsection 7.11, Land and Resource Use, considered private property owners; tenure holders;
43 members of the public; and federal, provincial, regional, and municipal land managers, as well as

1 Indigenous nations' concerns with proposed Project-related effects to the availability of recreational
2 facilities and parks and other public or private infrastructure (including increased motorized and
3 nonmotorized use on public lands, parking at recreational facilities and parks, and wear and tear of
4 trails, roads, rail lines, and rights of way). Subsection 7.11, Land and Resource Use, identifies
5 mitigation measures to be implemented before construction to lessen potential effects from the
6 proposed Project.

- 7 ■ Subsection 7.15, Human Health, identified two potential residual effects to health and well-being. A
8 low-magnitude effect was identified associated with increased CAC concentrations during proposed
9 Project operation. Although mitigated emissions are expected to be below toxicity reference values
10 for the protection of human health, sensitive subgroups (such as individuals with pre-existing health
11 conditions) may have an elevated health risk associated with exposure. Populations living further
12 from the proposed Project Footprint will experience negligible residual effects. A negligible to
13 low-magnitude effect on health and well-being was also identified, associated with shift work
14 (subsection 7.15, Human Health VC assessment). Adverse effects to health may be experienced by
15 all shift workers; however, female shift workers, Indigenous shift workers, and workers with lower
16 education levels are expected to be disproportionately affected due to increased socio-economic
17 vulnerability as a population subgroup.
- 18 ■ FortisBC has engaged with local government and land managers, tenure holders, private
19 landowners, recreational groups, and the tourism industry to mitigate the potential effects of the
20 proposed Project. Subsection 7.12, Infrastructure and Services, identifies a combination of
21 avoidance and minimization measures that will be incorporated into the CEMP. Proposed mitigation
22 measures are generally considered by FortisBC as having high effectiveness with BMPs and
23 technologies that are widely and successfully used in various industries in B.C. and worldwide.
- 24 ■ Subsection 7.10, Employment and Economy, assessed potential effects of the proposed Project
25 construction, operation, and decommissioning on the labour market, including the potential for
26 labour shortages and effects on opportunities for Indigenous traditional economic activities. A
27 positive residual effect is anticipated for employment through each of the proposed Project phases.

28 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects
29 (and cumulative effects, if applicable) for Infrastructure and Services. No potential adverse residual
30 effects were identified for the Infrastructure and Services VC.

31 Archaeological and Heritage Resources

32 The Archaeological and Heritage Resources VC includes sites of historical and archaeological importance,
33 as well as paleontological resources.

34 Areas within the proposed Project Footprint are considered to have moderate to high archaeological
35 potential and have been the subject of desktop and in-field Archaeological Impact Assessments (AIAs).
36 During the desktop review, one previously recorded archaeological site (DgRs-17) was identified within
37 the RAA. DgRs-17 is located within 1 km of the proposed Project Footprint and contains precontact
38 heritage resources consisting of surface fire-broken rock, subsurface lithics, and a fishing weir. No
39 archaeological or heritage resources were identified during the AIAs completed within the proposed
40 Project Footprint or LAA.

1 FortisBC considered the following key factors when assessing the potential effect of the proposed
2 Project on Archaeological and Heritage Resources:

- 3 ▪ FortisBC integrated Indigenous and local knowledge when considering the potential effects of the
4 proposed Project construction and decommissioning on Archaeological and Heritage Resources.
5 First Nation use of the area includes historic and current fishing, hunting, harvesting of culturally
6 important plant species, and use for ceremonial purposes. An historic Indigenous village site was
7 located on the south arm of the Fraser River across from Tilbury Island and remains an important
8 site for Indigenous nations. Historic land use developments in the proposed Project Area have likely
9 disturbed or altered the integrity of previously unidentified archaeological and heritage resources.
- 10 ▪ Avoidance of archaeological and heritage resources is the primary mitigation strategy of protection.
11 Subsection 7.13, Archaeological and Heritage Resources, identifies a combination of mitigation
12 measures if avoidance of archaeological and heritage resources is not practical. These measures will
13 be implemented before the commencement of construction and decommissioning or during
14 construction and decommissioning. The mitigation measures will be incorporated into the CEMP
15 (refer to Appendix A). Proposed mitigation measures are generally considered by FortisBC as having
16 high effectiveness with BMPs and technologies that are widely and successfully used in various
17 industries in B.C. and worldwide.
- 18 ▪ As assessed in subsection 7.13, residual effects to Archaeological and Heritage Resources as a result
19 of the proposed Project are not anticipated. This conclusion was made after no archaeological or
20 heritage resources were discovered during two AIAs in the proposed Project Footprint. The
21 likelihood of encountering archaeological and heritage resources during proposed Project activities
22 is considered low.
- 23 ▪ If archaeological or heritage resources are discovered during construction or decommissioning, the
24 Archaeological Chance Find Management Guide (Golder 2022) will be implemented.

25 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects (and
26 cumulative effects, if applicable) for Archaeological and Heritage Resources. No potential adverse
27 residual effects were identified for the Archaeological and Heritage Resources VC.

28 Culture

29 The Culture VC includes systems, customs, beliefs, languages, and practices that a group of people may
30 share. Within B.C., this may include the culture of Indigenous nations or other cultural groups within a
31 region. The focus of the Culture VC assessment is on the Indigenous cultural communities who have
32 established historical and current cultural uses along the Fraser River, integrating aspects of other
33 cultural groups when relevant. Culture subcomponents are as follows:

- 34 ▪ Governance and stewardship systems
- 35 ▪ Customs, beliefs, and values
- 36 ▪ Language and intergenerational knowledge transfer
- 37 ▪ Community, cultural cohesion, and continuity

38 The Fraser River and surrounding lands are important to the cultures of Indigenous nations with kinship
39 ties to the local nations. Since time immemorial, these Indigenous nations have occupied and used the
40 Fraser River for harvesting, transportation, trading, and other traditional purposes, establishing fishing
41 camps, settlements, hunting grounds, and spiritual sites on the banks of the Fraser River and in the
42 upland areas in Tsawwassen and North Delta, B.C. Transmission of culture depends on access to

1 resources and cultural use sites, as well as the intergenerational transfer of knowledge through language
2 and oral traditions and traditional activities. Kinship ties, travel, and gatherings are important for
3 Indigenous nations' cultural cohesion.

4 FortisBC considered the following key factors when assessing the potential effects of the proposed
5 Project on Culture:

- 6 ■ FortisBC considered Indigenous governance and stewardship systems when assessing the potential
7 residual effects of the proposed Project construction, operation, and decommissioning, including
8 but not limited to the Tsawwassen First Nation Final Agreement, the Musqueam Indian Band Land
9 Use Plan, the Quw'utsun Nation stewardship agreement, the Chawathil First Nation Forest and
10 Range Consultation and Revenue Sharing Agreement, and Ts'uubaa-asatx Nation's policies and
11 documents relating to land use in the Lower Mainland.
- 12 ■ Subsection 7.11, Land and Resources Use, considers the concerns of Indigenous nations when
13 assessing the potential for effects within the LAA as a result of the proposed Project construction,
14 operation, and decommissioning. It considers the patterns of current use of the land and water
15 surrounding the proposed Project for practising traditional activities. The subsection also considers
16 concerns expressed by Indigenous nations about the ability to use the Fraser River for travel and
17 fishing and about incremental changes to air, noise, views, and their relationship to cultural
18 knowledge. Recreational and subsistence fishing are important activities for Indigenous nations and
19 stakeholders in the LAA and RAA. Subsection 7.4, Surface Water, and subsection 7.9, Fish and Fish
20 Habitat, consider concerns expressed by Indigenous nations; public land and resource users; tenure
21 holders; and federal, provincial, regional, and municipal land managers regarding the potential for
22 changes in water quality or quantity in the Fraser River and the Tilbury Slough, which could result in
23 effects on fish habitat or fish health.
- 24 ■ As a result of concerns received during the Application Development phase engagement, the
25 proposed Project will no longer involve any waterborne delivery of modular components and bulk
26 construction materials to the proposed Project Site during construction. As a result, no MOF is
27 required to be constructed or used for the proposed Project to accommodate waterborne
28 deliveries, and no residual effects to Land and Resource Use are anticipated. Following the
29 implementation of mitigation measures (described in subsection 7.4, Surface Water), no
30 introduction of contamination and no changes in water quality or fish health are anticipated within
31 Tilbury Slough due to the proposed Project. Measures include erosion and sediment control and site
32 drainage design and water treatment.
- 33 ■ Subsection 7.3, Acoustic, assesses the potential effects of current and future noise conditions within
34 the LAA and RAA. A predicted increase in noise levels during construction is attributed to activities
35 such as pile driving and vehicle operation. During the permitting process, detailed engineering noise
36 controls will be considered by a QP to manage the effects of noise on the affected receptors, if
37 warranted. The potential for effects on residential receptors from LFN during proposed Project
38 operation was considered low. The effects assessment determined that decommissioning activities
39 would produce a similar sound level as predicted to occur during construction activities.
- 40 ■ The proposed Project will not result in changes to culturally important plant species used for
41 gathering, and no changes to the use and enjoyment of public lands are anticipated (subsection 7.7,
42 Vegetation). A MOF is not required by the proposed Project during any phase, and vegetation along
43 the Fraser River foreshore will not be disturbed. Vegetation within the existing facility footprint is
44 restricted to the public and periodically cleared as part of the existing Tilbury facility and will be
45 modified during construction of the T1B project.

- 1 ▪ As assessed in subsection 7.8, Wildlife and Wildlife Habitat, some residual adverse effects are
2 anticipated after the implementation of proposed mitigation measures, including loss or alteration
3 of wildlife habitat and increased wildlife health and mortality risk for species at risk (such as barn
4 owl) but are not anticipated to affect Culture compared to existing conditions.
- 5 ▪ As assessed in subsection 7.4, Surface Water, residual effects as a result of the proposed Project are
6 not anticipated in relation to Indigenous nations' use of the Fraser River, as a MOF will not be used
7 for the proposed Project.
- 8 ▪ Section 8, Climate Change, identifies an annual increase in GHG emissions due to the proposed
9 Project construction and operation. However, with the implementation of proposed mitigation
10 measures, the proposed Project will be carbon neutral (that is, net zero) by 2030 (Appendix O, GHG
11 Net-zero Plan TDR).
- 12 ▪ Table AS-3 summarizes the potential effects and proposed mitigation measures for Culture. No
13 potential adverse residual effects were identified for the Culture VC.

14 Human Health

15 The Human Health VC evaluates environmental determinants of health (including air and water quality
16 and noise pollution) and social determinants of health (including socio-economic status, population
17 health status, and health practices). Environmental determinants of health are physical, biological, and
18 chemical aspects of the environment that may affect health and are external to the individual, such as
19 air, water, soil, country foods, and noise. Social determinants of health are the social, economic,
20 political, and cultural conditions into which people are born, play, grow, live, work, and age. Social
21 determinants of health inform the assessment of the proposed Project on population health. The
22 Human Health VC integrates the importance of country foods to Indigenous health and well-being and
23 identifies potential environmental pathways effects on country foods and human health.

24 The LAA and RAA for population health is Metro Vancouver. For environmental determinants of health,
25 the LAA and RAA encompasses the boundaries of the biophysical VCs (Air Quality, Noise, Soil and
26 Sediment Quality, Surface Water, and Groundwater Quality) and thus uses the same LAA and RAA study
27 areas as the respective VC assessments.

28 An HHRA is included in the Application (Appendix J). An HHRA is a quantitative and qualitative
29 assessment of the potential health effects on individuals exposed to biophysical stressors and, more
30 specifically, to increased levels of chemicals in the environment associated with various phases of a
31 proposed project.

32 FortisBC considered the following key factors when assessing the potential effects of the proposed
33 Project on Human Health:

- 34 ▪ As assessed in subsection 7.7, Vegetation; subsection 7.8, Wildlife and Wildlife Habitat; and
35 subsection 7.9, Fish and Fish Habitat, changes to the quality, quantity, and availability of harvested
36 country foods (that is, plants, wildlife, and fish) are not anticipated as a result of the proposed
37 Project. Predicted residual effects to Vegetation and Wildlife and Wildlife Habitat due to the
38 proposed Project are anticipated to occur within the proposed Project Footprint, and the residual
39 effects are negligible to low magnitude after the implementation of mitigation measures and are not
40 anticipated to adversely affect the harvesting of country foods compared to existing conditions.
41 There will be no waterborne deliveries of modular components or construction materials to the

1 proposed Project Site, and no MOF will be required; therefore, no residual effects to Fish and Fish
2 Habitat are anticipated.

- 3 ■ As assessed in subsection 7.2, Air Quality, the increase in ambient concentrations during
4 construction and operation are considered to have a negligible (NO₂) to low (SO₂) residual effect.
5 Other CACs increase from the Base Case during construction and operation but are unlikely to be
6 discernible from existing air quality conditions. FortisBC has committed to electrifying the
7 liquification process and incorporating emissions reduction or control technology in the plant to
8 meet air emission performance standards and ambient air concentrations standards and objectives
9 during steady-state operation in a safe and efficient manner.
- 10 ■ The HHRA for the proposed Project considered exposure pathways for humans from air and water
11 contaminants, and noise due to the proposed Project that exceed Canadian health guidelines.
12 Surface water and groundwater quality are not anticipated to be affected by contaminants of
13 concern as a result of proposed Project activities. With respect to noise, the HHRA concluded that
14 users of the recreational trail (R5) would experience noise levels exceeding health guidelines during
15 construction. During the permitting process, detailed engineering noise controls will be considered
16 by a QP to manage the effects of noise on the affected receptors, if warranted. Indigenous Peoples
17 are not anticipated to experience a measurable change in the quality of their experiences fishing,
18 hunting, or gathering that indirectly affects their health and well-being due to changes in air quality
19 or noise levels.
- 20 ■ FortisBC predicts that there are no potential proposed Project effects on the quality of country
21 foods due to contamination. The HHRA examined the potential for the proposed Project to
22 contaminate country foods (such as berries, fish, and game) via potential changes in Soil, Air Quality,
23 Groundwater, and Surface Water. The HHRA concluded that contamination of country foods,
24 including berries and wildlife, as a result of proposed Project activities is highly unlikely. There will
25 be no waterborne deliveries of modular components or construction materials to the proposed
26 Project Site, and no MOF will be required; therefore, no residual effects to Fish and Fish Habitat are
27 anticipated. In addition, acid or nitrogen deposition from air emissions during construction and
28 operation on country foods was considered, and no effects are predicted in the receiving
29 environments from predicted acid or nitrogen deposition from air emissions.
- 30 ■ As assessed in subsection 7.10, Economy and Employment, the proposed Project's positive effects
31 on socio-economic determinants of health, such as employment, education, income,
32 socio-economic status, and other indicators, may directly and indirectly contribute to positive
33 effects on Human Health. Subsection 7.15, Human Health, determined that although individuals and
34 families benefiting from employment associated with the proposed Project may experience higher
35 incomes and an increased quality of life, potential direct adverse effects associated with
36 socio-economic determinants of health could occur. For instance, shift work could lead to increased
37 family stress, unhealthy practices, or substance use, potentially affecting health.

38 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects (and
39 cumulative effects, where applicable) for Human Health. There were no potential residual effects that
40 were characterized greater than a low magnitude during the assessment of the Human Health VC.

41 Climate Change and Greenhouse Gas Emissions

42 The Application includes an assessment of climate change and GHG emissions as a result of the
43 proposed Project. Section 8, Climate Change and Greenhouse Gas Emissions, describes the
44 meteorological environment and evaluates the proposed Project's climate change resilience, quantifies

1 GHG emissions, and potential carbon sinks for the proposed Project. The assessment also assesses the
2 potential effects of the proposed Project on federal emissions reduction efforts and global GHG
3 emissions, outlines GHG mitigation measures, and presents the proposed Project's plan to achieve
4 net-zero emissions.

5 The Climate Change Resilience Assessment (CCRA) completed for the proposed Project predicts
6 increased future climate scenarios, including short-duration, high-intensity rainfall; extreme heat events;
7 and heat waves (Appendix G of the Application). The potential cumulative effects on the local
8 environment caused by climate change and the proposed Project are considered to be limited based on
9 design considerations, planning, and regulatory requirements. The proposed Project workshops
10 provided an initial list of design considerations for moderate and high-risk events. Section 8, Climate
11 Change and Greenhouse Gas Emissions, presents potential adaptation measures to address major
12 climate risks. These measures serve as a starting point to enhance climate resiliency by leveraging
13 currently available technologies, industry standards and practices for design and construction, and
14 FortisBC operation and maintenance practices. FortisBC will consider these strategies to increase the
15 resilience of its infrastructure and address climate change vulnerabilities.

16 The Base Case GHG TDR (Appendix N of the Application) quantifies the baseline proposed Project GHG
17 emissions and describes the methodology and data used in the quantification. GHG emissions from
18 upstream sources are quantified in the Upstream GHG Assessment TDR (Appendix M of the Application).
19 The operation phase of the proposed Project will include direct GHG emissions from combustion in
20 industrial processes, flaring, fugitive losses, and indirect emissions from acquired energy (in the form of
21 electricity). The proposed Project will also be the final emission point for the formation (entrained) CO₂,
22 which is naturally present within upstream gas reserves and follows the feed natural gas to the facility,
23 where CO₂ must be removed before liquefaction. Emissions from acquired energy vary over the
24 proposed Project life due to variation in the assumed future electricity intensity. Since the expected
25 lifetime of the proposed Project is beyond 2050, the proposed Project needs to present a credible path
26 toward net-zero GHG emissions by 2030 under the proposed requirements of the Government of B.C.
27 and 2050 based on Federal requirements.

28 The Net-zero Plan (Appendix O of the Application) outlines a technically and economically feasible
29 approach to achieve net-zero GHG emissions by 2030 as required by the Government of B.C. As FortisBC
30 advances the proposed Project design, a GHG Management Plan will be developed that will build on the
31 current BAT and Best Environmental Practice (BEP) and by using best industry practice to manage the
32 proposed Project direct GHG emissions. The adoption of additional mitigation measures over the life of
33 the proposed Project will confirm that the proposed Project remains best-in class by meeting net-zero
34 emissions by 2030 and beyond. To meet net zero by 2030 requirements of the Provincial government's
35 Net Zero New Industry Policy, the proposed Project will use renewable fuels for combustion and use of
36 offset measures for the remaining residual facility specific emission sources. The Net-zero Plan
37 prioritizes reducing direct GHG emissions, as indirect GHG emissions from the use of electricity are
38 expected to decrease as the grid becomes net zero.

39 FortisBC emphasizes that the Application is based on a proposed Project design with highly conservative
40 emissions estimates, representing a "high case" scenario. FortisBC continues to explore opportunities
41 for further emissions reduction throughout the proposed Project development.

42 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects (and
43 cumulative effects, where applicable) for Climate Change and GHG Emissions.

1 Summary of Biophysical Factors that Support Ecosystem Function

2 The Application includes an assessment of the effects on biophysical factors that support ecosystem
3 function. The Ecosystem Function Scoping Tool was used to identify topics that may be relevant to
4 effectively assess 10 biophysical factors that support ecosystem function in accordance with the
5 guidance from Appendix 1 of the B.C. EAO Effects Assessment Policy (B.C. EAO 2020a). As presented in
6 Table 12.2-1 of Section 12, effect indicators, existing conditions, and potential residual and cumulative
7 effects of applicable biophysical VCs (Section 7) were reviewed to inform a summary of biophysical
8 factors that support ecosystem function. A combination of VCs, effect indicators, and residual and
9 cumulative effects were chosen to best inform each of the biophysical factors that support ecosystem
10 function outlined in the B.C. EAO Effects Assessment Policy (B.C. EAO 2020a).

11 The proposed Project Site is located in a predominantly industrial area where air contaminants are
12 relatively high due to nearby industrial activities and marine traffic emissions. Soils in the proposed
13 Project Area have been heavily disturbed due to agricultural use in the early part of the 20th century
14 and industrial land use activities. Remnants of previously disturbed vegetated areas can be found in the
15 Soil LAA consisting of portions of the riparian area along the northern boundary of the proposed Project
16 Footprint and the Tilbury Slough. The existing environmental conditions, characterized by compromised
17 air quality, disturbed soils, and fragmented vegetation, reflect the industrial nature of the surroundings
18 and the historical land use patterns in the area.

19 The lower Fraser River and Tilbury Slough have the potential to support fish and wildlife species that rely
20 on adequate levels of surface water for habitat. The riparian vegetation along the Fraser River is
21 deciduous-dominated young forest with an understorey dominated by plant species that are common
22 on disturbed and riparian sites. Intertidal marsh and mudflats within the proposed Project Footprint
23 provide rearing habitats for several fish species, such as salmonids (specifically, chum [*Oncorhynchus*
24 *keta*] and Chinook salmon [*Oncorhynchus tshawytscha*]) and species such as northern pikeminnow and
25 starry flounder. Benthic invertebrates provide foraging value for several fish, including salmonid species.

26 Riparian areas within the Vegetation LAA include the riparian area on the banks of Tilbury Slough along
27 the southeastern perimeter of the proposed Project Footprint, as well as a small area of previously
28 disturbed riparian vegetation on the bank of the Fraser River. These vegetated areas are dominated by
29 nonnative and invasive and noxious plant species; culturally important plant species are also present
30 (refer to Appendix D of the Application). The foreshore of the Fraser River within the Vegetation LAA has
31 been affected by past industrial activities, including log transportation and storage, and regular
32 disturbance from shipping and other boat activity associated with the adjacent Seaspan Corporation
33 ferry terminal.

34 The majority of wildlife habitat within the LAA has been altered by industrial and agricultural
35 development, and little suitable wildlife habitat exists within the proposed Project Site. From an
36 ecosystem function perspective, the Wildlife and Wildlife Habitat LAA lacks habitat connectivity
37 between the Fraser River and Tilbury Slough. This disconnection is due to the presence of the existing
38 Tilbury LNG facility and paved roadways with regular traffic from industrial trucks and workers accessing
39 sites on Tilbury Island.

1 FortisBC considered the following key factors when assessing the proposed Project's effects on
2 biophysical factors that support ecosystem function:

- 3 ▪ The Application has been prepared in accordance with the AIR (B.C. EAO 2022), in which potential
4 effects were identified from waterborne delivery associated with the proposed Project and
5 construction of the MOF. However, as described in subsection 1.5.5, as a result of concerns received
6 during the Application Development phase engagement activities, which occurred after the
7 development of the AIR, the proposed Project will no longer involve any waterborne delivery of
8 modular components and bulk construction materials to the proposed Project Site during
9 construction. As a result, no MOF is required to be constructed or used for the proposed Project to
10 accommodate waterborne deliveries. Avoidance of waterborne deliveries is included in the
11 assessment for biophysical VCs as an avoidance mitigation measure and is incorporated into the
12 determination of potential residual effects to VCs (Section 7).
- 13 ▪ The proposed Project Footprint and surrounding areas have been previously cleared of natural
14 forest and are heavily disturbed, with the majority of the proposed Project Area currently used for
15 industrial purposes. Existing habitats supporting ecosystem function on the proposed Project Site
16 are limited to wetlands and patchy, previously disturbed riparian areas on the banks of Tilbury
17 Slough and the Fraser River.
- 18 ▪ As assessed in subsection 7.8, Wildlife and Wildlife Habitat, previously disturbed habitat within the
19 Wildlife and Wildlife Habitat RAA is already limited to small, fragmented patches and is subject to
20 regular sensory disturbance from current, ongoing industrial activity. No key ecological corridors or
21 migration routes are affected by the proposed Project.
- 22 ▪ Subsection 7.7, Vegetation, determines that limited vegetation that is dominated by nonnative and
23 invasive plant species occurs within the existing facility in ditch lines. Implementation of weed and
24 pest management procedures during construction and operation of the proposed Project can
25 reduce the spread of invasive noxious species to existing conditions. In addition, very little structural
26 complexity currently exists at the proposed Project Site, as it is on a previously cleared and highly
27 disturbed industrial site. With the implementation of proposed mitigation measures, negligible
28 ecosystem-level effects to structural complexity are anticipated as a result of the proposed Project.
- 29 ▪ Subsection 7.9 determines that the intertidal zone within the proposed Project Footprint offers
30 some structural complexity for fish, particularly within intertidal marsh and mudflats within the
31 proposed Project Footprint, potentially providing rearing and foraging habitats for several species of
32 fish. However, with the implementation of proposed mitigation measures, and given that the
33 proposed Project will no longer involve any waterborne delivery of modular components and bulk
34 construction materials to the proposed Project Site during construction, the proposed Project will
35 not result in residual effects to fish and fish habitat.
- 36 ▪ Subsection 7.2, Air Quality, determines that proposed Project operation is anticipated to result in
37 negligible-magnitude effects from NO₂ and a low-magnitude residual effect from an increase of SO₂
38 during operation. However, no air quality exceedances of the current established air quality limits
39 from the proposed Project itself are expected during steady-state operations. Combined with no
40 residual effects to surface water quality as a result of the proposed Project (subsection 7.4, Surface
41 Water), both surface water and soil within the Air Quality VC RAA are not susceptible to
42 acidification, nitrogen loading, or eutrophication from proposed Project emissions.

43 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects, and
44 cumulative effects, if applicable for the Air Quality, Surface Water, Groundwater, Vegetation, Wildlife
45 and Wildlife Habitat, and the Fish and Fish Habitat VCs. Where potential interactions were identified, the

1 proposed Project is expected to have negligible adverse effects on biophysical factors that support
2 ecosystem function.

3 Human and Community Well-being

4 The Application assesses potential effects from the proposed Project identified in the assessment of
5 socio-economic VCs⁵ and Indigenous interests to identify ways that the proposed Project may affect
6 Human and Community Well-being. Human and Community Well-being is determined by a range of
7 factors that influence the conditions in which people live, work, and play. At the community level,
8 economic opportunities, adequate public services and infrastructure, access to nature, and social
9 connections are examples of factors that make up the conditions in which people can thrive. At an
10 individual level, demographic factors, such as age, sex, gender, or ethnicity, influence how people
11 experience these factors differently.

12 FortisBC considered the following key factors when assessing the potential effects of the proposed
13 Project on Human and Community Well-being:

- 14 ▪ Potential effects identified for the Economy VC are primarily positive. Subsection 7.10, Employment
15 and Economy, determines that the proposed Project is anticipated to result in increased
16 employment opportunities, contracting and procurement opportunities, income from employment,
17 and workforce enhancement. Economic opportunities from the proposed Project may positively
18 affect workers, their families, and the communities where they live. Improved income security
19 relates to the ability of families and individuals to provide for their needs and thrive in their
20 communities.
- 21 ▪ As assessed in subsection 7.11, Land and Resource Use, use of tenured areas, particularly the
22 Cultural Significance tenure site across the Fraser River from the proposed Project Footprint, that is,
23 the historic Indigenous village site, may be adversely affected by changes to the sensory conditions
24 associated with proposed Project construction and operation. The proposed Project is also expected
25 to have an adverse residual effect on the visual quality of landscape for residential, recreational, and
26 Indigenous cultural use areas where it provides a setting for land use activities. The proposed
27 Project is anticipated to result in a minor alteration to the visual quality of daytime views and is
28 considered characteristic of the existing, predominately industrial landscape of the Tilbury Industrial
29 Area. Indigenous Peoples and viewers in proximity to the proposed Project, such as on Tilbury
30 Island, would be disproportionately affected.
- 31 ▪ Subsection 7.2, Air Quality, determines that the proposed Project will incrementally contribute NO₂
32 emissions to existing ambient NO₂ levels, which currently approach both the 1-hour and annual
33 Metro Vancouver AAQOS and CAAQS-2025; however, the region has been experiencing an ongoing
34 decreasing trend of background levels of CACs. The mitigated proposed Project is anticipated to
35 have a negligible (NO₂) to low-magnitude (SO₂) effect on air quality compared to existing conditions.
36 Sensitive subgroups that may have an elevated risk include nearby users of the area with pre-
37 existing health conditions, onsite workers, and local businesses within or directly adjacent to the
38 proposed Project Footprint. The risk of health effects from cumulative poor air quality increases as
39 the frequency and duration of exposure increases, such that those close to emissions sources (onsite
40 workers, adjacent commercial workers, and visitors) will have greater risk.

⁵ Socio-economic VCs include Employment and Economy, Land and Resource Use, Infrastructure and Services, Culture, and Human Health.

- 1 ▪ Negative potential health effects associated with those employed in shift work for the proposed
2 Project exist. Shift work causes disruptions in sleep and mood and negatively affects gastrointestinal
3 and mental health. Shift work is also associated with increased risk of substance use and an
4 increased incidence of motor vehicle accidents. These negative health outcomes can be transferred
5 to the family unit or household, and female shift workers, Indigenous shift workers, and workers
6 with lower education levels are expected to be disproportionately affected. The proposed mitigation
7 measures are expected to reduce the potential residual health effects to negligible magnitude and
8 are not expected to be discernable from health effects occurring under existing conditions for the
9 majority of the workforce but may be detectable at a low magnitude for some workers, such as
10 more vulnerable population subgroups. Cumulative effects on the population health in the RAA due
11 to the high shift work demand for multiple projects are predicted. The relative contribution of shift
12 work to the negative health endpoints associated with shift work within the RAA population (such as
13 substance use and mental health concerns) are considered to be low magnitude with confounding
14 factors.
- 15 ▪ Indigenous community members and families benefiting from employment associated with the
16 proposed Project may experience higher incomes, contributing to an increased quality of life.
17 However, increased participation in the wage economy may reduce participation in traditional
18 nonwage economies. Employment income, education and skills training, procurement
19 opportunities, and Indigenous Governments revenue are anticipated as positive effects. Indigenous
20 nation members with a trades certificate and experience in the construction sector would be most
21 likely to benefit from direct employment with the proposed Project.

22 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects (and
23 cumulative effects, if applicable) for the socio-economic VCs used to assess the potential effects of the
24 proposed Project on human and community well-being. Potential effects on human and community
25 well-being as a result of the proposed Project include both positive and negative effects. Many effects
26 are interrelated between and across VCs and Indigenous interests.

27 Effects on Current and Future Generations

28 The proposed Project has an important role in the well-being of current and future generations. FortisBC
29 has designed the proposed Project to not only reduce potential environmental effects but also to add
30 resilience to FortisBC's gas system to serve the needs of local residents in B.C., both now and for future
31 generations. From an economic perspective, the proposed Project will incorporate sustainable and
32 resilient resource use into its design to minimize waste and inefficiency, reliably delivering increasingly
33 lower-carbon energy to its customers in the Lower Mainland. FortisBC will also encourage the use of
34 local and regional human resources in design, planning, construction, restoration, and operation to the
35 extent practical. From a social and cultural perspective, the proposed Project will support community
36 safety and health, through the implementation of FortisBC's Corporate Safety and Environmental Policy.
37 From an environmental perspective, the proposed Project will support the natural environment and its
38 ecosystems through mitigation and the proposed Project's management plans.

39 The Application reviewed the potential positive and negative effects for environmental, economic,
40 social, cultural, and health VCs and Indigenous interests on current and future generations as they relate
41 to the proposed Project. Potential residual effects are described as having immediate-, short-, medium-,
42 long-, or extended-term durations. Three VCs (that is, Air Quality, Acoustic, and Vegetation) had residual
43 effects that were assessed to have immediate- to medium-term durations and therefore determined to
44 affect the current generation, whereas five VCs (that is, Acoustic, Air Quality, Wildlife and Wildlife

1 Habitat, Land and Resource Use, and Human Health) had residual effects with long- or extended-term
 2 durations that could impact future generations.

3 FortisBC considered the following key factors when assessing the potential effects of the proposed
 4 Project on Current and Future Generations:

- 5 ■ The proposed Project will play a crucial role in enhancing the energy resilience of the Lower
 6 Mainland. By providing a lower-carbon fuel source, it will support the local and global transition
 7 toward a lower-carbon energy supply, contributing to a more sustainable and reliable energy future.
 8 The Lower Mainland's reliance on various forms of energy continues to grow over time, it is
 9 essential to ensure the region's energy system is resilient and capable of meeting increasing
 10 demand. The proposed Project addresses this need, strengthening the region's energy security and
 11 supporting its long-term sustainability goals.
- 12 ■ As assessed in subsection 7.10, Employment and Economy, the planning, construction, and
 13 operation of the proposed Project will provide benefits through employment, government revenue,
 14 and economic development and diversification for the region, Indigenous nations, and local
 15 communities. The proposed Project will have positive economic effects on the current and future
 16 generations in the proposed Project Area by creating direct, indirect, and induced employment for
 17 both Indigenous and non-Indigenous residents.
- 18 ■ Potential residual effects during construction that were assessed to have immediate- to medium-
 19 term durations affecting the current generation include the following:
 - 20 – Elevated ambient CAC concentrations during construction
 - 21 – Increased noise and vibration levels during construction
 - 22 – Introduction or spread of invasive plant species
- 23 ■ Potential residual effects with long- or extended-term durations anticipated to potentially affect
 24 future generations include the following:
 - 25 – Increased noise levels during construction and operation
 - 26 – Increased ambient concentrations of NO₂ and SO₂ during operation⁶
 - 27 – Loss or alteration of wildlife habitat for species at risk
 - 28 – Increased wildlife health and mortality risk for species at risk
 - 29 – Change to use of tenures and licensed resource uses
 - 30 – Change to visual quality of the landscape
 - 31 – Effects from shift work

32 Adverse effects on current and future generations of Indigenous Peoples are not anticipated due to the
 33 scope of the proposed Project and implementation of proposed mitigation measures
 34 (subsection 14.3.4.3):

- 35 ■ The Application has been prepared in accordance with the AIR (B.C. EAO 2022), in which potential
 36 effects were identified from waterborne delivery (that is, barge deliveries) and the use of the MOF
 37 associated with the proposed Project. However, as stated previously, as a result of concerns
 38 received from engagement activities during the Application Development phase, the proposed
 39 Project will no longer involve any waterborne delivery of modular components and bulk

⁶ CO, PM₁₀, PM_{2.5}, H₂S and VOCs were not predicted to exceed health guidelines and were determined to be negligible under all cases in the Air Quality assessment (subsection 7.2) and were not carried forward into the residual effects assessment. NO₂ and SO₂ were carried through as nonthreshold CACs in relation to human health.

- 1 construction materials to the proposed Project Site as an avoidance mitigation measure (refer to
2 subsection 1.5.5) to address concerns about effects to the Fraser River, the Salish Sea, and the SRKW
3 population. A MOF will not be required by the proposed Project.
- 4 ▪ Potential adverse effects on harvesting and subsistence activities for current and future generations
5 of Indigenous nations that currently use areas within and surrounding the proposed Project (such as
6 fishing within the lower Fraser River) are not anticipated, as the proposed Project has no in-river
7 work or activities.
 - 8 ▪ Access to traditional lands and resources will not be affected during construction, and no effects to
9 current generations are anticipated.
 - 10 ▪ A change in access to cultural sites or change in the experience of using cultural sites due to noise,
11 air quality, or changing visual landscapes is not anticipated. Changes in air quality, noise, and the
12 visual landscape from existing conditions are not anticipated to impact intergenerational cultural
13 transmission (future generations).
 - 14 ▪ Positive effects from training and employment opportunities and benefits-sharing agreements are
15 anticipated.
 - 16 ▪ The proposed Project is not anticipated to affect Indigenous nation members' ability to meet future
17 aspirations or opportunities from harvesting resources for subsistence or income and are
18 anticipated to remain comparable to existing conditions. The proposed Project location is within a
19 current brownfield and industrialized area, and potential effects are not expected to be discernable
20 from existing conditions.
 - 21 ▪ Reduced opportunities to transmit cultural information as a result of the proposed Project are not
22 anticipated to be measurable compared to existing conditions and are not anticipated to affect
23 future Indigenous generations.
 - 24 ▪ Proposed Project construction activities are not anticipated to limit access to traditionally used
25 areas or affect Indigenous nations' abilities to participate in decision making and determine and
26 develop strategies for use of land and water within their traditional territories (both current and
27 future Indigenous generations).

28 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects (and
29 cumulative effects, if applicable) for the environmental and socio-economic VCs that were used to
30 assess the potential effects of the proposed Project on current and future generations.

31 Contribution to Sustainability

32 In accordance with the AIR (B.C. EAO 2022), the Application characterizes the proposed Project's
33 contribution to sustainability and provides a qualitative assessment of how sustainability principles have
34 been applied throughout the planning, design, implementation, and monitoring phases of the proposed
35 Project. The Application applies four sustainability principles and analyzes how the proposed Project
36 accomplishes the following:

- 37 ▪ Considers the interconnectedness and interdependence of human-ecological systems
- 38 ▪ Considers the well-being of present and future generations
- 39 ▪ Maximizes overall positive benefits and reduces adverse effects of the proposed Project
- 40 ▪ Applies the precautionary principle by considering uncertainty and risks of irreversible harm

1 The assessment of the proposed Project's contribution to sustainability incorporates the key topics and
 2 VCs from Sections 11 through 14, including the following:

- 3 ▪ Indigenous nations (Section 11)
- 4 ▪ Biotic and abiotic factors that support ecosystem function (Section 12)
- 5 ▪ Human and community well-being (Section 13)
- 6 ▪ Current and future generations (Section 14)

7 FortisBC considered the following key factors when assessing the potential effects of the proposed
 8 Project's contribution to sustainability:

- 9 ▪ The primary objectives of the proposed Project are to enhance energy system resilience for the
 10 Lower Mainland B.C. population and support global efforts to transition to lower-carbon energy
 11 sources. Switching to an LNG fuel has added benefits in GHG reductions and air quality reductions
 12 within the local and global airsheds.
- 13 ▪ Although there are negative residual effects to the well-being of current and future generations, the
 14 magnitude of these effects is considered low in most cases. However, the substantial positive
 15 residual effects overshadow these adverse effects, showcasing the proposed Project's potential to
 16 contribute substantially to the well-being of both current and future generations.
- 17 ▪ The proposed Project will apply proposed mitigation measures, best practices, and innovative
 18 technologies to reduce potential adverse effects on the environment and local communities. The
 19 objectives of the proposed Project are directly influenced by the values of FortisBC, stakeholders,
 20 and Indigenous nations with the objective to reduce adverse effects on the local environment and
 21 maximize socio-economic benefits for the region. Through the application of mitigation and
 22 enhancement measures, the proposed Project aims to contribute to sustainability.
- 23 ▪ The socio-economic and community benefits of the proposed Project include increased employment
 24 income, skills training, contracting, and procurement. The benefits are anticipated to extend to the
 25 entire region, including local Indigenous nations.
- 26 ▪ The proposed Project demonstrates a commitment to sustainability, aligning with the precautionary
 27 principle and incorporating adaptive management practices to effectively address uncertainties and
 28 potential risks. The proposed Project's adherence to the precautionary principle, comprehensive
 29 impact assessment, and the proactive approach to design and mitigation measures demonstrate a
 30 high level of commitment to sustainability. The robust engagement with stakeholders and
 31 Indigenous nations, consideration of climate change uncertainties, and the respectful integration of
 32 Indigenous Knowledge further strengthen the proposed Project's sustainability rating. By
 33 incorporating adaptive management practices, FortisBC demonstrates the ability to respond
 34 effectively to new information, reinforcing its dedication to responsible and sustainable
 35 development.

36 Table AS-3 summarizes the potential effects, proposed mitigation measures, residual effects
 37 (and cumulative effects, if applicable) for the environmental and socio-economic VCs. By integrating
 38 sustainability into every aspect of the proposed Project, FortisBC aims to serve as a model for
 39 sustainable development and contribute positively to the well-being of present and future generations.
 40 Results of the analysis indicated a high sustainability rating for each of the sustainability principles,
 41 which suggests the proposed Project has an overall positive contribution to sustainability.

1 Malfunctions and Accidents

2 Section 9, Malfunctions and Accidents, describes the process for identifying potential malfunctions and
3 accidents, FortisBC's approach to preventing a malfunction or accident from occurring, and the
4 proposed mitigation measures to avoid or minimize the consequences of malfunctions and accidents.
5 The proposed Project will be designed, constructed, and operated to reduce the risk of malfunctions and
6 accidents from occurring by adhering to all regulations and industry BMPs. To minimize the risk of a
7 malfunction or accident, the proposed Project will implement existing safety measures that have
8 contributed to the ongoing safe operation of the existing Tilbury LNG facility. The proposed Project is
9 also an opportunity to upgrade the aging Base Plant facility (that is nearing the end of its design life)
10 with a new facility designed to current standards.

11 As stated previously, the Application has been prepared in accordance with the AIR (B.C. EAO 2022), in
12 which malfunctions and accident scenarios were identified from waterborne delivery associated with
13 the proposed Project. As a result of concerns received from engagement activities during the B.C. EAO
14 Application Development phase, which occurred after the development of the AIR, the proposed Project
15 will no longer involve any waterborne delivery of modular components and bulk construction materials
16 to the proposed Project Site as an avoidance mitigation measure. Implementation of this avoidance
17 mitigation measure means there are no interactions with VCs and Indigenous interests as a result of
18 vessel collision during construction. With the commitment to not having any waterborne delivery of
19 materials to the proposed Project Site during construction, a credible malfunction or accident scenario is
20 no longer associated with vessel traffic.

21 Section 9, Malfunctions and Accidents, provides a risk-based approach for the assessment of malfunctions
22 or accidents that could affect Indigenous interests identified for the proposed Project and assesses the
23 potential interactions between malfunctions and accidents from the proposed Project and VCs.

24 Malfunction and accident scenarios that were considered the most credible and that were therefore
25 assessed for the proposed Project include the following:

- 26 ▪ Loss of containment of LNG resulting in release of cryogenic liquid
- 27 ▪ Loss of containment of flammable material resulting in a fire or explosion
- 28 ▪ Loss of containment of hazardous material (HAZMATs) (not including LNG) resulting in a fire and or
29 environmental contamination
- 30 ▪ Terrestrial vehicle collision resulting in loss of human life, a fire or explosion, or a HAZMAT release
- 31 ▪ Vessel collision during construction resulting in loss of cargo, release of HAZMAT into the Fraser
32 River, or a human fatality
- 33 ▪ A malfunction or accident resulting in emergency shutdown (ESD) and flaring of natural gas (an ESD
34 is the activation of engineered safety systems, such as a totally enclosed ground flare [TEGF], which
35 is designed to safely shut down the facility; an ESD is a response to a malfunction or accident).

36 FortisBC considered the following key factors when assessing the potential effects of the proposed
37 Project on malfunctions and accidents:

- 38 ▪ In the event of an emergency, the proposed Project will activate emergency response procedures in
39 the Emergency Response Plan (ERP) with the objectives of protecting and saving people, followed by
40 protecting the environment, and finally maintaining the operability of the facility. Determining
41 emergency procedures is a requirement of CSA Group (CSA) Z276.

- 1 ▪ In the event of a loss of LNG containment, the primary goal will be protecting the safety of the
2 public and individuals onsite, then spill response to prevent the loss of any additional volumes and
3 to prevent the lost LNG from moving offsite. FortisBC would implement their Spill Response and
4 Emergency Response measures, which are compliant with all applicable legislated requirements.
5 These plans include a notification list, communication protocol (for internal and external
6 notifications), reporting requirements, and cleanup procedures, as appropriate.
- 7 ▪ Advanced safety systems and instrumentation will be used to monitor the conditions within LNG
8 storage tanks, pipelines, and other containment systems. These systems will provide early warning
9 alerts and trigger appropriate responses in case of abnormal operating conditions or leaks. The fire
10 and gas detection system for Phase 2 will include flame detectors, gas detectors, manual call points,
11 audible alarms and beacons, and low-temperature alarms. These systems will be monitored
12 24 hours per day by LNG plant operators in the control room.
- 13 ▪ If a HAZMAT release occurs, post-release remediation would be required in accordance with the
14 B.C. *Contaminated Sites Regulation* of the *Environmental Management Act* and would involve the
15 removal of contaminated soil to be disposed of at an appropriate facility before restoration or
16 revegetation, as required. Response measures may also include long-term monitoring to establish
17 the behaviour (location, movement, and attenuation) of the contaminants; the long-term effects on
18 the receiving environment, including human health; and the contingency management measures
19 conducted if the objective or goals of remediation measures are not achieved.
- 20 ▪ Traffic management mitigation measures will be developed and incorporated into the CEMP and
21 EMS. Contractor personnel will comply with the road-use and safety requirements outlined in the
22 CEMP and EMS, as well as applicable Municipal and Provincial traffic regulations, including heavy
23 truck routes and approved access routes.

24 Table AS-3 summarizes the potential effects and proposed mitigation measures for Malfunctions and
25 Accidents. Residual and cumulative effects are not characterized for Malfunctions and Accidents.

26 Effects of the Environment

27 Section 10, *Effects of the Environment on the Proposed Project*, describes existing and future conditions,
28 provides an assessment of potential effects of the environment on the proposed Project by evaluating
29 environmental factors that pose a potential risk to the proposed Project, and describes the resulting
30 potential effects (negative and positive) on environmental, economic, social, culture, and health VCs.
31 The section also details how mitigation measures, when required, will be implemented to promote
32 resilience in the proposed Project infrastructure, including engineering design solutions.

33 Natural hazards and conditions that have the potential to affect the proposed Project's execution are
34 identified as follows:

- 35 ▪ Extreme weather, including the following:
 - 36 – Extreme temperatures events
 - 37 – Extreme precipitation events
 - 38 – Extreme wind events
- 39 ▪ Fluvial and tsunami flooding
- 40 ▪ Seismic and tsunami events

41 The potential influence of climate change was considered, including how climate change may alter the
42 likelihood or severity of a factor's influence on the proposed Project.

1 The assessment of potential effects of the environment on the proposed Project used the following
2 procedures:

- 3 ■ Qualitative analysis of the mechanism (or pathway) of the interaction between the environmental
4 factor and proposed Project's infrastructure and operation
- 5 ■ Identification of mitigation measures to support the proposed Project's resilience to an
6 environmental factor
- 7 ■ Risk classification of the factor on the proposed Project and the subsequent potential residual effect
8 on environmental, economic, social, culture, and health VCs

9 FortisBC considered the following key factors when assessing the potential effects of the environment
10 on the proposed Project:

- 11 ■ Extreme temperature events have the potential to create challenging working conditions for
12 proposed Project Site personnel conducting activities outdoors. Specifically, extreme heat has the
13 potential to cause heatstroke, whereas extreme cold can cause frostbite. Extreme temperatures
14 may also result in damage to the proposed Project's infrastructure or processes, causing structural
15 or equipment failure that can subsequently pose a risk to human and environmental VCs.
- 16 ■ Fluvial flooding⁷ caused by the Fraser River has the potential to cause an adverse effect to the
17 proposed Project Site. A flooding event because of a dike failure or overtopping of the dike could
18 damage infrastructure, halt operation activities, and overwhelm the existing onsite and proposed
19 stormwater management system, causing further flooding on the proposed Project Site and posing a
20 risk to workers. The collection of studies completed on fluvial flooding caused by the Fraser River
21 found that the dike system protected the infrastructure of the existing site during a flood event of
22 greater than 3 m; based on these studies, it is anticipated that future water levels are not expected
23 to affect the proposed Project.
- 24 ■ The Pacific coast of Canada is home to active faults and tectonic plate movement and interactions,
25 and it has long been identified as an area susceptible to earthquakes and tsunamis (long surface
26 gravity waves). The Metro Vancouver coastline is sheltered from the effects of a tsunami by
27 Vancouver Island, and it is expected that by the time a tsunami wave reaches the Metro Vancouver
28 coastline, the energy and subsequent wave height will have dissipated to between 0.5 m and 1 m in
29 height. No potential effects on the proposed Project are predicted at this wave height or as a result
30 of submarine landslides.
- 31 ■ Climate change was considered and incorporated into the proposed Project design following
32 guidance from the CCRA. FortisBC's design philosophy for the proposed Project includes designing a
33 facility and associated infrastructure to mitigate and, when feasible, avoid the predicted effects of
34 climate change in the region. Examples of design mitigation measures include hard measures, such
35 as control systems, or soft measures, such as risk assessment frameworks, strategies, and
36 management plans. The mitigation measures are intended to decrease the likelihood and
37 consequence of the negative effects of the environment on the proposed Project.

38 Table AS-3 summarizes the potential effects and proposed mitigation measures for effects of the
39 environment on the proposed Project. Residual and cumulative effects are not characterized for effects
40 of the environment on the proposed Project.

⁷ Fluvial flooding is defined as flooding that occurs when water breaches a river's banks.

1 Potential Effects, Mitigation, and Residual and Cumulative Effects

- 2 Table AS-3 summarizes the potential effects, mitigation measures, residual effects, and cumulative
3 effects for the environment and socio-economic VCs.

Table AS-3. Summary of Potential Effects, Mitigation and Design Considerations, and Residual Effects

VC	Potential Effect(s)	Proposed Mitigation or Enhancement Measures	Residual Effects/Cumulative Effects
<i>Biophysical VCs</i>			
Air Quality	<ul style="list-style-type: none"> ▪ Increase in ambient CAC concentrations ▪ Increase in NO₂ concentrations ▪ Increase in SO₂ concentrations ▪ Increase in other CAC (CO, PM, and VOC) ambient concentrations ▪ Elevated nitrogen and acid deposition fluxes 	<ul style="list-style-type: none"> ▪ Electrify the project refrigeration and feed gas compression processes to reduce project CAC and GHG emissions. ▪ Receive, record, investigate, and follow-up on odour complaints from Indigenous nations, the public, and adjacent businesses. ▪ Implement a documented, regular inspection and maintenance program to ensure all equipment are in proper working order. ▪ Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP. ▪ Develop dust-control measures to be described in the CEMP to limit PM emission during the construction phase. ▪ Develop and implement a vehicle idle reduction policy that focuses on reducing noise and vibration emissions from construction vehicles. These measures are to be incorporated into the CEMP. ▪ Implement the construction-related air emission mitigations listed in the CEMP. ▪ Incorporate emissions reduction and control technologies in the project design to ensure compliance with regulatory air quality requirements and industry best practices. 	<p>Adverse residual/cumulative effects:</p> <ul style="list-style-type: none"> ▪ Increase in ambient CAC concentrations during construction ▪ Increase in ambient NO₂ concentrations during operation ▪ Increase in ambient SO₂ concentrations during operation ▪ Increase in ambient concentrations of CO, PM, and VOCs during operation
Acoustic	<ul style="list-style-type: none"> ▪ Increase in noise and vibration levels 	<ul style="list-style-type: none"> ▪ Use of TEGF technology to reduce noise and light from flaring. ▪ Conceptual engineered noise mitigation measures for project equipment are based on preliminary project design and are outlined in the Noise and Vibration TDR (Appendix C of the Application). Final noise mitigation measures for project equipment will be engineered based on detailed noise specifications and incorporated into the project. ▪ During construction and operation of the project, develop mitigation and contingency measures through engagement with a Qualified Professional to manage acoustic disturbance to human and wildlife receptors and incorporate these measures into the CEMP and EMS. ▪ Develop and implement a vehicle idle reduction policy that focuses on reducing noise and vibration emissions from construction vehicles. These measures are to be incorporated into the CEMP. ▪ All compressors will be enclosed to attenuate noise to a level consistent with the BCER noise regulations. ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. ▪ Receive, record, investigate, and follow-up on odour and noise complaints from Indigenous nations, the public, and adjacent businesses. 	<p>Adverse residual/cumulative effects:</p> <ul style="list-style-type: none"> ▪ Increase in noise levels during construction ▪ Increase in vibration levels during construction ▪ Increase in noise levels during operation
Surface Water	<ul style="list-style-type: none"> ▪ Change in Tilbury Slough and Fraser River water quality due to sediment being conveyed into the Delta storm sewer with the project site runoff ▪ Change in Tilbury Slough water quality due to sediment and/or potentially contaminated project site runoff (contact water) entering the Delta storm sewer ▪ Change in Tilbury Slough water quality due to discharge of hydrostatic test water ▪ Erosion at stormwater outlets to Tilbury Slough ▪ Change to Fraser River water quality and sediment quality load due to sediment mobilization 	<ul style="list-style-type: none"> ▪ Collect contact water with the use of containments and impoundments. Contact water captured in sumps will be measured for field parameters prior to being released to the onsite drainage ditches that flow into the Delta storm sewer. ▪ Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a Qualified Professional and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers. ▪ Design site to promote drainage toward the Delta storm sewer system. Stormwater draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer. ▪ Conduct testing and treatment of hydrostatic test water prior to discharge to the Delta storm sewer, if required. Discharge procedure requirements of hydrostatic test water will be described in the CEMP. ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. ▪ Manage runoff rate to the Delta storm sewer through project engineering controls. 	None

Table AS-3. Summary of Potential Effects, Mitigation and Design Considerations, and Residual Effects

VC	Potential Effect(s)	Proposed Mitigation or Enhancement Measures	Residual Effects/Cumulative Effects
Groundwater	<ul style="list-style-type: none"> ▪ Change in groundwater quality because of contaminated runoff on the project site infiltrating and recharging the alluvium aquifer below the project site within the LAA 	<ul style="list-style-type: none"> ▪ Incorporate BMPs into the CEMP to manage groundwater. ▪ Collect contact water with the use of containments and impoundments. Contact water captured in sumps will be measured for field parameters prior to being released to the onsite drainage ditches that flow into the Delta storm sewer. ▪ Design site to promote drainage toward the Delta storm sewer system. Stormwater draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer. ▪ Conduct testing and treatment of hydrostatic test water prior to discharge to the Delta storm sewer, if required. Discharge procedure requirements of hydrostatic test water will be described in the CEMP. 	None
Soil	<ul style="list-style-type: none"> ▪ Changes in terrain due to terrain instability ▪ Reduced soil capability due to contamination 	<ul style="list-style-type: none"> ▪ Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP. ▪ Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a Qualified Professional and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers. ▪ Avoid or manage known areas of contaminated soil by implementing contingency measures outlined in the CEMP in the event that contaminated sediments are discovered during construction. ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. 	None
Vegetation	<ul style="list-style-type: none"> ▪ Loss of plant species of conservation concern ▪ Introduction or spread of invasive plant species ▪ Loss of culturally important traditional use species ▪ Alteration or loss of riparian ecosystems 	<ul style="list-style-type: none"> ▪ Develop and implement feasible soil-management and soil-handling practices that are effective at managing the introduction and spread of invasive Noxious plant species, as required under Provincial regulations and Municipal bylaws. These measures will be incorporated into the CEMP. ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. 	Adverse residual/cumulative effects: <ul style="list-style-type: none"> ▪ Introduction or spread of invasive plant species
Wildlife and Wildlife Habitat	<ul style="list-style-type: none"> ▪ Loss or alteration of wildlife habitat ▪ Increased wildlife health and mortality risk 	<ul style="list-style-type: none"> ▪ Where practical, plan construction activities within wildlife habitat or buffers of identified wildlife habitat features during the least-risk timing windows for applicable species. For any work within the buffer zone during a sensitive timing window, consult with Indigenous nations and a Wildlife QP and the appropriate regulatory agencies to determine whether additional feature-specific mitigation is required to be incorporated into the CEMP. ▪ Lighting for the project will be designed in a manner that is consistent with the BCER's Light Control Best Practices Guideline. ▪ If rodent population control is needed at the project site, employ best practices to manage rodent populations onsite during construction and operation and these measures will be included in the CEMP. ▪ Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP. ▪ Develop dust-control measures to be described in the CEMP to limit PM emission during the construction phase. ▪ During construction and operation of the project, develop mitigation and contingency measures through engagement with a Qualified Professional to reduce acoustic disturbance to human and wildlife receptors and incorporate these measures into the CEMP and EMS. ▪ Develop mitigation and contingency measures in consultation with Indigenous nations and a Qualified Professional to reduce the potential for adverse interactions with wildlife and wildlife habitat (such as human wildlife conflict, vehicle collisions, and sensory disturbance), and incorporate these measures into the CEMP. ▪ Develop and implement feasible soil-management and soil-handling practices that are effective at managing the introduction and spread of invasive Noxious plant species, as required under Provincial regulations and Municipal bylaws. These measures will be incorporated into the CEMP. ▪ Complete wildlife surveys prior to construction to identify habitat features that warrant site-specific mitigation measures to reduce potential project effects to wildlife and wildlife habitat. ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. 	Adverse residual/cumulative effects: <ul style="list-style-type: none"> ▪ Loss or alteration of wildlife habitat ▪ Increased wildlife health and mortality risk

Table AS-3. Summary of Potential Effects, Mitigation and Design Considerations, and Residual Effects

VC	Potential Effect(s)	Proposed Mitigation or Enhancement Measures	Residual Effects/Cumulative Effects
Fish and Fish Habitat	<ul style="list-style-type: none"> ▪ Reduced fish habitat availability ▪ Reduced fish habitat quality ▪ Increased risk to fish health, injury, and mortality ▪ Changes in fish distribution and abundance 	<ul style="list-style-type: none"> ▪ Collect contact water with the use of containments and impoundments. Contact water captured in sumps will be measured for field parameters prior to being released to the onsite drainage ditches that flow into the Delta storm sewer. ▪ Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP. ▪ Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a Qualified Professional and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers. ▪ Design site to promote drainage toward the Delta storm sewer system. Stormwater draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer. ▪ Conduct testing and treatment of hydrostatic test water prior to discharge to the Delta storm sewer, if required. Discharge procedure requirements of hydrostatic test water will be described in the CEMP. ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. ▪ Lighting for the project will be designed in a manner that is consistent with the BCER's Light Control Best Practices Guideline. 	None
<i>Socio-economic VCs</i>			
Employment and Economy	<ul style="list-style-type: none"> ▪ Increased direct, indirect, and induced employment ▪ Increased income resulting from employment opportunities ▪ Effects on the labour market ▪ Enhancement of workforce ▪ Increased contracting and procurement opportunities ▪ Increased government revenues ▪ Economic benefits to the B.C. economy ▪ Changes to business revenues ▪ Changes to property values ▪ Changes to the cost of living 	<ul style="list-style-type: none"> ▪ Traffic management mitigation measures will be developed and incorporated into the CEMP and EMS. Contractor personnel will comply with road-use and safety requirements outlined in the CEMP and EMS, applicable Municipal and Provincial traffic regulations, including heavy truck routes and approved access routes. ▪ Promote awareness of local and regional business opportunities through the timely dissemination of information regarding project service and supply requirements. Continue communications with community stakeholders. ▪ Implement FortisBC's Human Resource Policy to recruit workers for the project, targeting groups that are traditionally underrepresented in the construction labour force, including women, Indigenous workers, and new immigrants. The Human Resource Policy guides FortisBC in meeting its commitment to identifying and removing discriminatory barriers that could limit qualified people from participating in the workplace. ▪ Implement cultural awareness programs, which may include training, to acknowledge, respect and understand that Indigenous nations, employees, consultants, and contractors have unique histories, cultures, protocols, values, beliefs, and governments. ▪ Hiring policies for construction and operation will aim to promote diversity in hiring consistent with FortisBC's Statement of Indigenous Principles, and where applicable, specific commitments in confidential agreements with individual Indigenous nations. Develop fair, accessible employment practices that ensure Indigenous Peoples are considered fairly for employment opportunities during construction and operation. ▪ Engage with potentially affected Indigenous nations for the purpose of outlining work packages that are available for Indigenous-affiliated companies to undertake, as well as the skills necessary for the work. These discussions will take place well in advance of when the work needs to be done, to provide Indigenous nations with opportunities to qualify and bid for the work. Encourage Indigenous businesses to prequalify for medium- and high-risk work when businesses can gain experience working on construction or operation of components of the project, or on other contracting opportunities in advance of the project. Specific commitments in confidential agreements with individual Indigenous nations may also include information for nation owned or affiliated companies wishing to participate in contracting for the project. ▪ Encourage the use of local and regional human resources in design, planning, construction, restoration, and operation, to the extent practical. ▪ Continue to work with Indigenous nations to identify economic opportunities, to identify current capacity, and to identify how Indigenous groups and nations may be included in project construction, operation, and decommissioning. Efforts will be made with advanced notice to allow for the Indigenous nations to address these needs and opportunities. ▪ Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums. 	<p>Positive residual effects:</p> <ul style="list-style-type: none"> ▪ Increased direct, indirect, and induced employment ▪ Increased income resulting from employment opportunities ▪ Enhancement of workforce ▪ Increased contracting and procurement opportunities ▪ Changes to opportunities for traditional economic activities ▪ Increase in government revenues ▪ Economic benefits to the B.C. economy ▪ Positive change to business revenue <p>Adverse effects:</p> <ul style="list-style-type: none"> ▪ Effects on labour market ▪ Decrease in business revenue ▪ Change to property values ▪ Change to cost of living

Table AS-3. Summary of Potential Effects, Mitigation and Design Considerations, and Residual Effects

VC	Potential Effect(s)	Proposed Mitigation or Enhancement Measures	Residual Effects/Cumulative Effects
Employment and Economy (continued)	Refer to previous page	<ul style="list-style-type: none"> ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. ▪ Support local training initiatives and opportunities to support development of project-relevant skills. ▪ Use of TEGF technology to reduce noise and light from flaring. ▪ Receive, record, investigate, and follow-up on odour and noise complaints from Indigenous nations, the public, and adjacent businesses. ▪ Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP. ▪ Develop dust-control measures to be described in the CEMP to limit particulate matter emission during the construction phase. ▪ During construction and operation of the project, develop mitigation and contingency measures through engagement with a QP to manage acoustic disturbance to human and wildlife receptors, and incorporate these measures into the CEMP and EMS. ▪ Develop and implement a vehicle idle reduction policy that focuses on reducing noise and vibration emissions from construction vehicles. These measures are to be incorporated into the CEMP. ▪ Develop and implement a communications process with adjacent businesses. 	Refer to previous page
Land and Resource Use	<ul style="list-style-type: none"> ▪ Change to use and enjoyment of private property ▪ Change to use of tenures and licensed resource uses ▪ Change to use and enjoyment of public lands and waters ▪ Change to agricultural use ▪ Change to access to parks and protected areas ▪ Change to visual quality of the landscape ▪ Change to navigation for marine users 	<ul style="list-style-type: none"> ▪ Use of TEGF technology to reduce noise and light from flaring. ▪ Traffic management mitigation measures will be developed and incorporated into the CEMP and EMS. Contractor personnel will comply with road-use and safety requirements outlined in the CEMP and EMS, applicable Municipal and Provincial traffic regulations, including heavy truck routes and approved access routes. ▪ Receive, record, investigate, and follow-up on odour complaints from Indigenous nations, the public, and adjacent businesses. ▪ Notify Indigenous nations whose traditional territories overlap with the project before commencement of construction, as well as stakeholders within the project area. ▪ Lighting for the project will be designed in a manner that is consistent with the BCER's Light Control Best Practices Guideline. ▪ Implement a documented, regular inspection and maintenance program to ensure all equipment are in proper working order. ▪ Develop dust-control measures to be described in the CEMP to limit PM emission during the construction phase. ▪ During operation, refer to the existing EMS, environmental standards, and guidance documents that will be updated, where required, as a result of the project. ▪ During construction, FortisBC will implement a CEMP to verify environmental compliance requirements are clearly communicated to Contractors and Subcontractors. ▪ Develop and implement a communications process with adjacent businesses. ▪ Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums. ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. ▪ Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP. ▪ During construction and operation of the project, develop mitigation and contingency measures through engagement with a QP to manage acoustic disturbance to human and wildlife receptors, and incorporate these measures into the CEMP and EMS. ▪ Develop and implement a vehicle idle reduction policy that focuses on reducing noise and vibration emissions from construction vehicles. These measures are to be incorporated into the CEMP. ▪ All compressors will be enclosed to attenuate noise to a level consistent with the BCER noise regulations. ▪ Implement the construction-related air emission mitigations listed in the CEMP. 	<p>Residual/cumulative effects:</p> <ul style="list-style-type: none"> ▪ Change to use of tenure and licensed resource uses ▪ Change to visual quality of the landscape

Table AS-3. Summary of Potential Effects, Mitigation and Design Considerations, and Residual Effects

VC	Potential Effect(s)	Proposed Mitigation or Enhancement Measures	Residual Effects/Cumulative Effects
Land and Resource Use (continued)	Refer to previous page	<ul style="list-style-type: none"> ▪ Develop and implement feasible soil-management and soil-handling practices that are effective at managing the introduction and spread of invasive Noxious plant species, as required under Provincial regulations and Municipal bylaws. These measures will be incorporated into the CEMP. ▪ Develop erosion- and sediment- control measures to manage surface water in consultation with Indigenous nations and a QP, and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers. 	Refer to previous page
Infrastructure and Services	<ul style="list-style-type: none"> ▪ Potential incremental increase in demand for housing and accommodation, proportional to number of workers relocating for the project ▪ Potential increase in demand for primary health care services, proportional to number of workers relocating for the project ▪ Potential incremental increase in demand for recreation facilities, proportional to number of workers relocating for the project ▪ Potential incremental increase in demand for childcare services space, proportional to number of workers relocating for the project ▪ Potential increase in demand for emergency services as a result of safety incidents ▪ Potential for increased demand for domestic water for hydrostatic testing of the LNG tank ▪ Potential increase in demand for space to dispose of construction/decommission material and operational waste ▪ Potential increase in traffic due to mobilization of materials, equipment, and workers by road ▪ Potential increase in wear and tear on existing road infrastructure due to increased number and nature of vehicle movements ▪ Potential increase in wake and/or prop wash as a result of barge movements during construction phase, affecting flood protection infrastructure 	<ul style="list-style-type: none"> ▪ Waste management mitigation measures will be developed and implemented as part of the CEMP. The CEMP will identify appropriate local waste management, recycling, compost, and segregation measures. Waste management will minimize use of municipal waste facilities, if practical. To the extent that use of local landfills is part of that plan, the project team will engage with them during development of the plan. Nonhazardous solid wastes will be recycled, re-used, or collected in a central secure area onsite and then disposed of in a licensed waste receiver facility. Hazardous liquid and solid waste will be collected and stored and transported in accordance with applicable regulations or requirements. ▪ Measures to encourage the use of multipassenger vehicles will be developed with the contractors and included in the CEMP, when applicable and appropriate, given the scope of work taking place and construction activities underway. ▪ Traffic management mitigation measures will be developed and incorporated into the CEMP and EMS. Contractor personnel will comply with road-use and safety requirements outlined in the CEMP and EMS, applicable Municipal and Provincial traffic regulations, including heavy truck routes and approved access routes. ▪ Provide onsite emergency health services to meet or exceed WorkSafeBC requirements. ▪ Implement worker health (including mental well-being) and safety educational approaches described in the CEMP to avoid incidents. ▪ Collect contact water with the use of containments and impoundments. Contact water captured in sumps will be measured for field parameters prior to being released to the onsite drainage ditches that flow into the Delta storm sewer. ▪ Encourage the use of local and regional human resources in design, planning, construction, restoration, and operation, to the extent practical. ▪ Contribute to the maintenance of roads, as required by applicable permits (Delta Development Permit). ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. ▪ Develop emergency response measures to prevent and manage emergencies, including complete onsite fire control and response systems independent of Delta's Fire and Emergency Services. Additionally, FortisBC will maintain an ERP with procedures, training and response plans developed alongside the local, fire, police, medical services, and BCER. The ERP will be tested annually as per the requirements of the BCER. These emergency response measures will be incorporated into the CEMP. ▪ Contribute to the maintenance of roads, as required by applicable permits (Delta Development Permit). ▪ Conduct testing and treatment of hydrostatic test water prior to discharge to the Delta storm sewer, if required. Discharge procedure requirements of hydrostatic test water will be described in the CEMP. ▪ Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums. ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. ▪ Support local training initiatives and opportunities to support development of project-relevant skills. 	None

Table AS-3. Summary of Potential Effects, Mitigation and Design Considerations, and Residual Effects

VC	Potential Effect(s)	Proposed Mitigation or Enhancement Measures	Residual Effects/Cumulative Effects
Archaeological and Heritage Resources	<ul style="list-style-type: none"> ▪ Disturbance of previously unidentified archaeological and or heritage resources during construction or decommissioning 	<ul style="list-style-type: none"> ▪ Prohibit the collection of heritage resources by project personnel on the project site. ▪ If archaeological and/or heritage resources are identified during construction and decommissioning activities, then the Project Archaeologist will develop and implement appropriate mitigation measures through engagement with regulators and participating Indigenous nations, and in accordance with the site-specific Archaeological Chance Find Management Guide (Appendix S of the Application). ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. ▪ Notify Indigenous nations whose traditional territories overlap with the project before commencement of construction, as well as other stakeholders within the project area. 	None
Culture	<ul style="list-style-type: none"> ▪ Change to the ability of municipalities and/or Indigenous nations to continue to plan and meet planning objectives for GHG emissions ▪ Change to land- and water-based cultural practices ▪ Changes to the diversity and use of Indigenous and non-Indigenous languages ▪ Changes to intergenerational knowledge transfer ▪ Changes to cultural cohesion and community continuity 	<ul style="list-style-type: none"> ▪ Receive, record, investigate, and follow-up on odour complaints from Indigenous nations, the public, and adjacent businesses. ▪ Notify Indigenous nations whose traditional territories overlap with the project before commencement of construction, as well as other stakeholders within the project area. ▪ Develop and implement a vehicle idle reduction policy that focuses on reducing noise and vibration emissions from construction vehicles. These measures are to be incorporated into the CEMP. ▪ Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums. ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. ▪ FortisBC will develop and implement a Net-Zero Plan that will use inputs like the BAT and BEP to ensure the project’s direct operational GHG emissions follow government policies and regulations upon commencement of commercial operation. ▪ Where practical, plan construction activities within wildlife habitat or buffers of identified wildlife habitat features during the least-risk timing windows for applicable species. For any work within the buffer zone during a sensitive timing window, consult with Indigenous nations and a Wildlife QP and the appropriate regulatory agencies to determine whether additional feature-specific mitigation is required to be incorporated into the CEMP. ▪ Use of TEGF technology to reduce noise and light from flaring. ▪ Traffic management mitigation measures will be developed and incorporated into the CEMP and EMS. Contractor personnel will comply with road-use and safety requirements outlined in the CEMP and EMS, applicable Municipal and Provincial traffic regulations, including truck routes and approved access routes. ▪ Prohibit the collection of heritage resources by project personnel on the project site. ▪ If archaeological and/or heritage resources are identified during construction and decommissioning activities, then the Project Archaeologist will develop and implement appropriate mitigation measures through engagement with regulators and participating Indigenous nations, and in accordance with the site-specific Archaeological Chance Find Management Guide (Appendix S of the Application). ▪ Lighting for the project will be designed in a manner that is consistent with the BCER’s Light Control Best Practices Guideline. ▪ Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP. ▪ Develop dust-control measures to be described in the CEMP to limit PM emissions during the construction phase. ▪ During construction and operation of the project, develop mitigation and contingency measures through engagement with a QP to manage acoustic disturbance to human and wildlife receptors and incorporate these measures into the CEMP and EMS. ▪ Develop mitigation and contingency measures in consultation with Indigenous nations and a QP to reduce the potential for adverse interactions with wildlife and wildlife habitat (such as human wildlife conflict, vehicle collisions, and sensory disturbance), and incorporate these measures into the CEMP. 	None

Table AS-3. Summary of Potential Effects, Mitigation and Design Considerations, and Residual Effects

VC	Potential Effect(s)	Proposed Mitigation or Enhancement Measures	Residual Effects/Cumulative Effects
Culture (continued)	Refer to previous page	<ul style="list-style-type: none"> ▪ Develop and implement feasible soil-management and soil-handling practices that are effective at managing the introduction and spread of invasive Noxious plant species, as required under Provincial regulations and Municipal bylaws. These measures will be incorporated into the CEMP. ▪ Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a QP and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers. ▪ Develop emergency response measures to prevent and manage emergencies, including complete onsite fire control and response systems independent of Delta Fire and Emergency Services. Additionally, FortisBC will maintain an ERP with procedures, training and response plans developed alongside the local fire, police, and medical services and the BCER. The ERP will be tested annually as per the requirements of the BCER. These emergency response measures will be incorporated into the CEMP. ▪ Design site to promote drainage toward the Delta storm sewer system. Stormwater draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer. ▪ Conduct testing and treatment of hydrostatic test water prior to discharge to the Delta storm sewer, if required. Discharge procedure requirements of hydrostatic test water will be described in the CEMP. ▪ Complete wildlife surveys prior to construction to identify habitat features that warrant site-specific mitigation measures to reduce potential project effects to wildlife and wildlife habitat. ▪ All compressors will be enclosed to attenuate noise to a level consistent with the BCER noise regulations. ▪ Implement the construction-related air emission mitigations listed in the CEMP. ▪ Incorporate emissions reduction and control technologies in the project design to ensure compliance with regulatory air quality requirements and industry best practices. 	Refer to previous page
Human Health	<ul style="list-style-type: none"> ▪ Increased risk of potential effects on human health and well-being related to reductions in air quality and elevations in dust ▪ Increased risk of effects to health and well-being related to elevated ambient CAC concentrations ▪ Increased risk of effects to health and well-being related to CAC emissions (NO₂ and SO₂) ▪ Increased risk of effects to health and well-being related to reductions in the quality and quantity of country foods due to nitrogen and acid deposition fluxes over water and soil affecting Wildlife and Wildlife Habitat, Fish and Fish Habitat, and Vegetation ▪ Increased risk of effects to health and well-being related to changes in ambient noise, vibration, or odour levels ▪ Health effects from reduced quality or quantity of country foods ▪ Improved health and well-being from increased direct, indirect, and induced employment, and elevated household income, particularly for those subgroups more vulnerable to employment and income inequalities 	<ul style="list-style-type: none"> ▪ Waste management mitigation measures will be developed and implemented as part of the CEMP. The CEMP will identify appropriate local waste management, recycling, compost, and segregation measures. Waste management will minimize use of municipal waste facilities, if practical. To the extent that use of local landfills is part of that plan, the project team will engage with them during development of the plan. Nonhazardous solid wastes will be recycled, re-used, or collected in a central secure area onsite and then disposed of in a licensed waste receiver facility. Hazardous liquid and solid waste will be collected and stored and transported in accordance with applicable regulations or requirements. ▪ Measures to encourage the use of multipassenger vehicles will be developed with the contractors and included in the CEMP, where applicable and appropriate, given the scope of work taking place and construction activities underway. ▪ Electrify the project refrigeration and feed gas compression processes to reduce project CAC and GHG emissions. ▪ Restrict locations where smoking is permitted and prohibit smoking in company vehicles. ▪ Require contractors and subcontractors to implement a fit for duty policy consistent with FortisBC's corporate guidelines. ▪ Receive, record, investigate, and follow-up on odour complaints from Indigenous nations, the public, and adjacent businesses. ▪ Conceptual engineered noise mitigation measures for project equipment are based on preliminary project design and are outlined in the Noise and Vibration TDR (Appendix C of the Application). Final noise mitigation measures for project equipment will be engineered based on detailed noise specifications and incorporated into the project. ▪ Promote awareness of local and regional business opportunities through the timely dissemination of information regarding project service and supply requirements. Continue communications with community stakeholders. ▪ Offer support for FortisBC employees suffering from substance use. ▪ Implement shift schedules that take into consideration the health and safety implications of shift work and provide educational resources for the workforce to understand the health and safety implications. 	<p>Residual/cumulative effects:</p> <ul style="list-style-type: none"> ▪ Health and well-being residual effects from elevated ambient CAC concentrations during operation ▪ Health and well-being effects from shift work

Table AS-3. Summary of Potential Effects, Mitigation and Design Considerations, and Residual Effects

VC	Potential Effect(s)	Proposed Mitigation or Enhancement Measures	Residual Effects/Cumulative Effects
Human Health (continued)	<ul style="list-style-type: none"> ▪ Negative health effects from employment type ▪ Negative health effects from public safety concerns and/or disruption to land use and enjoyment 	<ul style="list-style-type: none"> ▪ Implement FortisBC’s Human Resource Policy to recruit workers for the project, targeting groups that are traditionally underrepresented in the construction labour force, including women, Indigenous workers, and new immigrants. The Human Resource Policy guides FortisBC in meeting its commitment to identifying and removing discriminatory barriers that could limit qualified people from participating in the workplace. ▪ Implement a documented, regular inspection and maintenance program to ensure all equipment are in proper working order. ▪ Develop dust-control measures to be described in the CEMP to limit PM emission during the construction phase. ▪ During construction and operation of the project, develop mitigation and contingency measures through engagement with a Qualified Professional to reduce acoustic disturbance to human and wildlife receptors and incorporate these measures into the CEMP and EMS. ▪ Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a Qualified Professional and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers. ▪ Develop emergency response measures to prevent and manage emergencies, including complete onsite fire control and response systems independent of Delta’s Fire and Emergency Services. Additionally, FortisBC will maintain an ERP with procedures, training and response plans developed alongside the local, fire, police, medical services, and BCER. The ERP will be tested annually as per the requirements of the BCER. These emergency response measures will be incorporated into the CEMP. ▪ Develop and implement a vehicle idle reduction policy that focuses on reducing noise and vibration emissions from construction vehicles. These measures are to be incorporated into the CEMP. ▪ Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums. ▪ All compressors will be enclosed to attenuate noise to a level consistent with the BCER noise regulations. ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. ▪ Incorporate emissions reduction and control technologies in the project design to ensure compliance with regulatory air quality requirements and industry best practices. 	Refer to previous page
Climate Change and GHG Emissions	<ul style="list-style-type: none"> ▪ Potential effects of the proposed Project on emissions reduction efforts and on global GHG emissions 	<ul style="list-style-type: none"> ▪ Electrify the project refrigeration and feed gas compression processes to reduce project CAC and GHG emissions. ▪ Carbon emission offsets through technological or market acquired offsets once regulatory and technical clarity are achieved. ▪ Implement fugitive emissions management through design and engineering control considerations and effective operational controls. ▪ FortisBC will develop and implement a Net-Zero Plan that will utilize inputs like the BAT and BEP to ensure the project’s direct operational GHG emissions follow government policies and regulations upon commencement of commercial operation. ▪ The project will use renewable, lower-carbon “drop-in” fuels and other technology solutions. The other technology solutions may include waste heat recovery, carbon removal and utilization, developing technologies, and other offset measures. 	Residual and cumulative effects are not characterized for Climate Change and GHG Emissions as part of the SACC

Table AS-3. Summary of Potential Effects, Mitigation and Design Considerations, and Residual Effects

VC	Potential Effect(s)	Proposed Mitigation or Enhancement Measures	Residual Effects/Cumulative Effects
Malfunctions and Accidents	<ul style="list-style-type: none"> ▪ Loss of containment of LNG without ignition ▪ Hazardous material release ▪ Fire or explosion ▪ Terrestrial vehicle collision ▪ Emergency facility shutdown 	<ul style="list-style-type: none"> ▪ Use of TEGF technology to reduce noise and light from flaring. ▪ Coordinate with first responders to verify response plans are effective and ready throughout the life of the project. The project will make the opportunity available for emergency responders to participate in emergency exercises throughout the life of the project. ▪ Traffic management mitigation measures will be developed and incorporated into the CEMP and EMS. Contractor personnel will comply with road-use and safety requirements outlined in the CEMP and EMS, applicable Municipal and Provincial traffic regulations, including heavy truck routes and approved access routes. ▪ The Quantitative Risk Assessment for the project will be updated to meet BCER permitting requirements once detailed engineering has been completed. ▪ The project will select appropriately licensed transportation providers in good standing, appropriately maintained equipment, and licensed operators. ▪ The project will be designed with containments that halt potential HAZMAT spills from leaving the project site and will have an emergency generator to provide electric supply for critical loads in the event of a site-wide power failure. ▪ The project will follow comprehensive equipment maintenance schedules consistent with the Provincial regulation for testing the LNG tank and piping. LNG facility operators will be trained in operational procedures and environmental emergency response and compliant with industry standards. ▪ The project will be designed to the Provincial regulations and applicable standards for LNG production, storage, and handling. ▪ The project will be designed in a manner that reduces the potential for a vehicle to collide with key infrastructure. ▪ The project site will have onsite emergency fire control and suppression systems independent of the Municipal fire department. ▪ The project stormwater management will be connected to the Delta storm water sewer system. ▪ The project will be designed to meet the applicable seismic design standards in CSA Z276. ▪ Mitigation measures described in the CEMP during loss of containment of LNG will be implemented. ▪ The ERP will include prescribed responses during loss of containment of LNG. ▪ Collect contact water with the use of containments and impoundments. Contact water captured in sumps will be measured for field parameters prior to being released to the onsite drainage ditches that flow into the Delta storm sewer. ▪ The project will be designed and built in compliance with applicable fire prevention codes and standards. ▪ Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP. ▪ Develop emergency response measures to prevent and manage emergencies, including complete onsite fire control and response systems independent of Delta's Fire and Emergency Services. Additionally, FortisBC will maintain an ERP with procedures, training and response plans developed alongside the local, fire, police, medical services, and the BCER. The ERP will be tested annually as per the requirements of the BCER. These emergency response measures will be incorporated into the CEMP. ▪ Design site to promote drainage toward the Delta storm sewer system. Stormwater draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer. ▪ There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required. 	Residual and cumulative effects are not characterized for Malfunctions and Accidents

Table AS-3. Summary of Potential Effects, Mitigation and Design Considerations, and Residual Effects

VC	Potential Effect(s)	Proposed Mitigation or Enhancement Measures	Residual Effects/Cumulative Effects
Effects of the Environment on the Proposed Project	<ul style="list-style-type: none"> ▪ Extreme weather events, including the following: <ul style="list-style-type: none"> – Extreme temperatures events – Extreme precipitation events – Extreme wind events ▪ Fluvial and tsunami flooding ▪ Seismic events 	<ul style="list-style-type: none"> ▪ Utilize programmable logic controllers with an appropriate design standard to withstand higher temperatures (that is, up to 70°C). ▪ The project will be equipped with an automated safety system to facilitate safe shutdown and isolation of hydrocarbon-containing equipment during extreme adverse conditions. ▪ The project will be designed to meet the applicable seismic design standards in CSA Z276. ▪ All critical infrastructure will be located above the 1:100-year flood level, including allowances for sea level rise and freeboard, consistent with the City of Delta’s Flood Construction Level bylaw, to avoid flooding. ▪ Implement the existing FortisBC work safety policy which will be modified or updated to account for the anticipated increase in frequency of extreme weather events as a result of climate change. ▪ Develop standard health and safety measures at the project site (for example, halt working at height during extreme wind events). ▪ Engineering controls will be put in place to maintain operation of the emergency generator during extreme weather events. ▪ Ditches or culverts will be sized for the peak flow of a 1 in 25 year return period storm event. ▪ Design weather conditions (for example, wind and precipitation) for onshore structures considering a 1 in 50-year return period in accordance with the B.C. Building Code. ▪ Design the project to meet CSA Z276; the standard outlines two design levels: <ul style="list-style-type: none"> – OBE with a mean return interval of 475 years – Safe Shutdown Earthquake with a mean return interval of 2,475 years 	Residual and cumulative effects are not characterized for effects of the environment on the proposed Project

Note:

QP = Qualified Professional

1 Indigenous Interests

2 Section 11 of the Application assesses potential effects of the proposed Project on Indigenous interests.

3 The Indigenous nations and organizations identified as potentially being affected by the proposed
4 Project and engaged with as part of the Application include the following:

- 5 ▪ Chawathil First Nation
- 6 ▪ Cheam First Nation
- 7 ▪ Katzie First Nation
- 8 ▪ Kwantlen First Nation
- 9 ▪ kʷikʷəłəm (Kwkwetlem First Nation)
- 10 ▪ Musqueam Indian Band
- 11 ▪ Quw'utsun Nation: Semiahmoo First Nation
- 12 ▪ S'ólh Téméxw Stewardship Alliance: Snuneymuxw First Nation
- 13 ▪ Skwxwú7mesh Úxwumixw (Squamish Nation)
- 14 ▪ Stó:lō Nations:
 - 15 – Leq'á:mel First Nation
 - 16 – Popkum First Nation
 - 17 – Matsqui First Nation
- 18 ▪ Ts'uubaa-asatx
- 19 ▪ Tsawwassen First Nation
- 20 ▪ Tseil-Waututh Nation
- 21 ▪ W̱SÁNEĆ Nations:
 - 22 – Malahat First Nation
 - 23 – Pauquachin First Nation
 - 24 – Tsartlip First Nation
 - 25 – Tsawout First Nation
 - 26 – Tseycum First Nation

27 Refer to the previous Indigenous Interests Assessment Methodology subsection for a description of the
28 inclusion of Métis Nation British Columbia.

29 FortisBC assessed the proposed Project effects on Indigenous interests for the Indigenous nations listed.
30 FortisBC will continue to engage with Indigenous nations through the Application phase to understand
31 and manage proposed Project effects.

32 The following is a summary of the Indigenous interests assessed by FortisBC, as outlined in Table 6 of the
33 AIR (B.C. EAO 2022). Some Indigenous nations may have additional or alternate interests, as provided in
34 each of the Indigenous nation sections.

35 Harvesting and Subsistence Activities

36 Potential proposed Project-related effects include the following:

- 37 ▪ Effects on Indigenous rights to fish, harvest, and hunt for FSC purposes:
 - 38 – Changes to harvesting methods and practices (such as timing and seasonality)

- 1 – Changes to the current use of lands and resources for traditional purposes
- 2 – Alteration of harvesting-based livelihoods
- 3 ▪ Changes to the experience and preferences around the practice of harvesting rights and effects on
- 4 the quality, quantity, and availability of resources:
- 5 – Loss or alteration of habitat supporting harvested wildlife, fish, bird, or plant species, including
- 6 species of cultural and medicinal importance
- 7 – Change in surface water quality or quantity (turbidity and hydraulic changes)
- 8 – Change in sensory disturbances (such as noise, odour, dust, and visual landscape)
- 9 ▪ Effects to the accessibility and availability of traditional lands and resources:
- 10 – Changes in the ability to travel to or through current use areas

11 Cultural Use Sites and Areas

12 Potential proposed Project-related effects include the following:

- 13 ▪ Effects on cultural heritage and structures, sites, or things of historical, archaeological,
- 14 paleontological, or architectural significance:
- 15 – Effects to cultural sites, including storied places, habitation sites, place names, and
- 16 archaeological sites along the south arm of the Fraser River, Tilbury Island, and Lulu Island
- 17 – Effects of proposed Project activities on cultural or archaeological resources
- 18 – Changes to the experience of using cultural sites and areas
- 19 ▪ Loss of access to and disenfranchisement from cultural sites:
- 20 – Changes to physical and cultural or spiritual sites or areas
- 21 – Disruption or alteration of trails, travelways, navigable waterways, and water bodies
- 22 – Change in sensory disturbance (such as noise, odour, dust, and visual landscape)
- 23 ▪ Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and
- 24 areas

25 Social and Economic Conditions

26 Potential proposed Project-related effects include the following:

- 27 ▪ Changes to employment opportunities, Indigenous businesses, procurement opportunities, and
- 28 Indigenous Government revenue
- 29 ▪ Effects on Indigenous nations' future aspirations for sites or area surrounding the proposed Project
- 30 ▪ Effects on Indigenous nations' ability to improve social and economic conditions
- 31 ▪ Effects on commercial and noncommercial fishing, hunting, trapping, and gathering and cultural or
- 32 ceremonial activities and practices
- 33 ▪ Effects on intercommunity relations and trade
- 34 ▪ Effects on infrastructure and services

1 Indigenous Health and Well-being

2 Potential proposed Project-related effects include the following:

- 3 ▪ Effects on the quality, quantity, and availability of harvested country foods
- 4 ▪ Effects on the value and perceived quality of country foods
- 5 ▪ Effects on air quality, noise, and water quality
- 6 ▪ Effects on health and well-being from the effects to traditional ways of life and to cultural sites

7 Cultural Continuation

8 Potential proposed Project-related effects include the following:

- 9 ▪ Effects on the ability to revitalize, develop, and participate in intergenerational cultural transmission
10 due to experiences of being on the land (such as changes in air quality, noise exposure, or effects of
11 vibrations from blasting or other activities)
- 12 ▪ Effects on the ability to revitalize, develop, and participate in intergenerational cultural transmission
13 due to current and future availability and quality of country foods (traditional foods)
- 14 ▪ Disconnection from cultural heritage due to changes to sense of place and identity due to changes in
15 accessibility and real and perceived disturbance of the environment
- 16 ▪ Disconnection from cultural heritage due to interruption of the use of travel ways, navigable
17 waterways, and water bodies

18 Indigenous Governance Systems

19 Potential proposed Project-related effects include the following:

- 20 ▪ Change to an Indigenous nation's cultural traditions, laws, and governance systems that inform how
21 they exercise their Aboriginal Rights
- 22 ▪ Effects on the ability to use, develop, and control traditional land, territories, and resources
- 23 ▪ Effects on the ability to implement Indigenous laws, customs, and protocols
- 24 ▪ Changes to participation in decision-making in matters that affect Indigenous rights in the proposed
25 Project Site
- 26 ▪ Changes to ongoing conservation efforts to restore important fish species and habitat
- 27 ▪ Changes in the ability to engage in stewardship of lands and resources.

28 Discussion

29 The Indigenous interests were identified through input from Indigenous nations, feedback from the
30 B.C. EAO, and other regulatory agencies and local governments. The indicators and potential effect
31 pathways are applied within each Indigenous nation's assessment when there is available information.
32 The spatial and temporal boundaries for each linked VC where potential adverse residual proposed
33 Project effects have been identified were analyzed to predict the potential overlap with known
34 Indigenous interests.

1 During FortisBC's engagement and an additional round of B.C. EAO-led consensus seeking with
2 Indigenous nations during the Application Development phase to discuss the Construction Logistics
3 Update and Alternative Means Memo (FortisBC 2023), concerns were raised about potential negative
4 effects to Indigenous rights to fish, as well as negative cumulative effects on the Fraser River resulting
5 from the proposed barge traffic. FortisBC has considered feedback from all participants and decided not
6 to have waterborne delivery of modules or bulk construction materials as described in the DPD
7 (FortisBC 2022). To address concerns about potential effects to the Fraser River, FortisBC has committed
8 to removing construction of the MOF and barge deliveries to the proposed Project Site during
9 construction as an avoidance mitigation measure. Construction materials, equipment, and any other
10 deliveries to the proposed Project Site during construction will be by road freight on existing roads and
11 highways. As a result of the avoidance of waterborne activities during construction, the MOF and
12 associated barge deliveries will no longer be required for the proposed Project.

13 Based on information shared by Indigenous nations related to current use of the proposed Project Area
14 and the residual effects of the proposed Project on related VCs, FortisBC anticipates that there will be
15 either no interactions or negligible interaction between the proposed Project activities and Indigenous
16 interests compared to existing conditions. As a result, a residual effects assessment was not conducted.

17 Specific measures have also been proposed by FortisBC to mitigate potential effects on Indigenous
18 interests. The identification of Indigenous interest-specific mitigation measures included measures
19 recommended by Indigenous nations for the proposed Project or for other projects where similar effects
20 were predicted.

21 The following potential positive residual effect is created through proposed enhancement measures in
22 order to maximize the positive outcomes of the proposed Project:

- 23 ▪ Social and Economic Conditions: Increased employment and economic opportunity
- 24 ▪ Indigenous Health and Well-being: Improvement of social conditions due to increased employment
25 and economic opportunity

26 A positive residual effect is predicted for Indigenous nations through enhanced opportunity,
27 employment and employment income, education and skills for Indigenous Peoples, access to economic
28 opportunities and economic equity, tax revenues, GDP contributions, business revenue, and cost of
29 living.

1 Follow-up and Monitoring

- 2 FortisBC will develop detailed mitigation and monitoring in the CEMP before construction through
- 3 engagement with applicable regulators and Indigenous nations. FortisBC will conduct monitoring during
- 4 and after construction to determine whether the mitigation measures are effective. If a mitigation
- 5 measure is found to be ineffective at reducing potential effects, FortisBC will take corrective measures
- 6 through adaptive management.

1 Conclusion

2 The assessment scope considered concerns and issues raised through FortisBC's engagement with
3 regulatory agencies, Indigenous nations, stakeholders, and the public. To address concerns about
4 potential effects to the Fraser River during engagement, FortisBC has committed to removing
5 construction of the MOF and barge deliveries to the proposed Project Site during construction as an
6 avoidance mitigation measure. FortisBC completed the Application consistent with the AIR (B.C.
7 EAO 2022), which the B.C. EAO sought consensus on and published on June 13, 2022. In accordance with
8 the AIR, potential effects from construction of the MOF and barge delivery vessels to the MOF are
9 assessed in each VC assessment subsection. In the assessment, avoidance mitigation measures (that is,
10 no waterborne deliveries or MOF construction) are presented and considered in the determination of
11 potential residual effects.

12 As a result of ongoing feedback during engagement, FortisBC has also committed to design measures to
13 reduce potential air and GHG emissions, including electrifying proposed Project refrigeration and feed
14 gas compression processes and incorporating emissions reduction or control technology in the plant to
15 meet air emissions performance standards and ambient air concentrations standards. FortisBC has
16 committed to the proposed Project being net zero by 2030, as required by the Government of B.C.'s Net
17 Zero New Industry Policy. This commitment is contributing to B.C.'s and Canada's GHG objectives and
18 sustainable development in the region and nationally.

19 The Application has assessed the effects of the proposed Project on VCs and the interests of Indigenous
20 nations. No potential residual effects were characterized greater than a low magnitude during the
21 assessment. The proposed Project is not anticipated to adversely affect ecosystem function, human and
22 community well-being, or current or future generations. Effects of the environment are also not
23 anticipated to result in adverse effects to the proposed Project. The risk of malfunctions and accidents
24 from the proposed Project is not considered greater than that of existing conditions.

25 Socio-economic and community benefits of the proposed Project include increased employment,
26 contracting, and other training programs. Local employment opportunities during the proposed Project
27 will have positive effects on health and well-being by increasing access to employment, improving
28 employment and income inequity, and elevating household income.

29 FortisBC has proposed mitigation measures for the proposed Project to reduce or avoid adverse residual
30 effects on the biophysical and socio-economic environment for each VC (Appendix A of the Application).
31 FortisBC will develop a CEMP and EMS after approval of the proposed Project to describe how
32 mitigation measures identified in the Application will be implemented during construction and
33 operation. By implementing the proposed mitigation measures (summarized in Appendix A), adverse
34 residual biophysical and socio-economic effects related to construction, operation, and
35 decommissioning are anticipated to result in negligible to low-magnitude effects for all VCs and no
36 residual negative effects to Indigenous interests.

References

- 1 Affinity Carbon Solutions (Affinity). 2022. *Study on the Air Quality Benefits to the Port of Vancouver by*
2 *Adopting LNG as a Marine Fuel*. October. <https://talkingenergy.ca/sites/default/files/2023-02/Affinity>
3 [%20Report%20%233%20-%20Rec%27d%20SN%2002.25.23%20Vancouver%20Air%20Quality%20Report](https://talkingenergy.ca/sites/default/files/2023-02/Affinity)
4 [%2012.10.2023.pdf](https://talkingenergy.ca/sites/default/files/2023-02/Affinity)
5
- 6 British Columbia Environmental Assessment Office (B.C. EAO). 2020a. *Effects Assessment Policy*.
7 Version 1.0. April. <https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/>
8 [environmental-assessments/guidance-documents/2018-act/effects_assessment_policy_v1_-](https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/)
9 [_april_2020.pdf](https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/).
- 10 British Columbia Environmental Assessment Office (B.C. EAO). 2020b. *Guide to Indigenous Knowledge in*
11 *Environmental Assessments*. Version 1.0. April. <https://www2.gov.bc.ca/assets/gov/environment/>
12 [natural-resource-stewardship/environmental-assessments/guidance-documents/2018-act/](https://www2.gov.bc.ca/assets/gov/environment/)
13 [guide_to_indigenous_knowledge_in_eas_v1_-_april_2020.pdf](https://www2.gov.bc.ca/assets/gov/environment/).
- 14 British Columbia Environmental Assessment Office (B.C. EAO). 2021. *EAO User Guide: Introduction to*
15 *Environmental Assessment Under the Provincial Environmental Assessment Act (2018)*. Version 1.02.
16 April 23. <https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/>
17 [environmental-assessments/guidance-documents/2018-act/eao_user_guide_v102_april_2021.pdf](https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/).
- 18 British Columbia Environmental Assessment Office (B.C. EAO). 2022. *Schedule C – Application*
19 *Information Requirements for the Tilbury Phase 2 LNG Expansion Project*. June 13. <https://www.projects>.
20 [eao.gov.bc.ca/api/public/document/62a7c1f6db8ee200224970f2/download/Tilbury%20LNG%20Phase%](https://www.projects)
21 [202%20-%20Application%20Information%20Requirements%20-%20June%2013%202022%20%28EPIC](https://www.projects)
22 [%20Posting%29.pdf](https://www.projects).
- 23 British Columbia Ministry of Environment (B.C. MOE). 2014. *Procedures for Mitigating Impacts on*
24 *Environmental Values (Environmental Mitigation Procedures)*. Version 1.0. May 27.
25 <https://www2.gov.bc.ca/assets/gov/environment/natural-resource-policy-legislation/environmental->
26 [mitigation-policy/em_procedures_may27_2014.pdf](https://www2.gov.bc.ca/assets/gov/environment/natural-resource-policy-legislation/environmental-).
- 27 British Columbia Ministry of Environment and Climate Change Strategy (B.C. ENV). 2021. *British*
28 *Columbia Ambient Air Quality Objectives*. Provincial Air Quality Objective Information Sheet. November.
29 https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/reports-pub/prov_air_qual
30 [objectives_fact_sheet.pdf](https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/reports-pub/prov_air_qual).
- 31 British Columbia Ministry of Environment and Climate Change Strategy (B.C. ENV). 2022. *British*
32 *Columbia Air Quality Dispersion Modelling Guideline*. July. <https://www2.gov.bc.ca/assets/gov/>
33 [environment/air-land-water/air/reports-pub/bc_dispersion_modelling_guideline.pdf](https://www2.gov.bc.ca/assets/gov/).
- 34 British Columbia Non-Profit Housing Association. 2020. *Homeless Count in Metro Vancouver: Preliminary*
35 *Data Report*. Vancity Community Foundation. Published 2020. Accessed November 1, 2021.
36 <https://www.vancitycommunityfoundation.ca/initiatives/2020-homeless-count>.
- 37 Canadian Council of Ministers of the Environment (CCME). 2021. "CAAQS."
38 <https://ccme.ca/en/air-quality-report#slide-7>.

-
- 1 First Nations Major Projects Coalition. 2021. FNMPC Guidance Document: Project Identification and
2 Support. https://fnmpc.ca/wp-content/uploads/2021/04/FNMPC_Guidance_Document_final.pdf.
- 3 FortisBC. 2022. *Tilbury Phase 2 LNG Expansion Project Detailed Project Description*. January.
- 4 FortisBC. 2023. FortisBC Construction Logistics Update and Alternative Means. March.
5 [https://www.projects.eao.gov.bc.ca/api/public/document/6407c48386e763002218224e/download/
6 FortisBC_Tilbury_Construction_Logistics_Barges_Rev1_2023_03_03.pdf](https://www.projects.eao.gov.bc.ca/api/public/document/6407c48386e763002218224e/download/FortisBC_Tilbury_Construction_Logistics_Barges_Rev1_2023_03_03.pdf).
- 7 Fraser River Estuary Management Program (FREMP) and Burrard Inlet Environmental Action Program
8 (BIEAP). n.d. *Habitat Atlas* [map]. Accessed December 2021. https://cmnmaps.ca/dfo_fremp/.
- 9 Golder Associates Ltd. (Golder). 2022. *Archaeological Chance Find Management Guidelines, Tilbury LNG
10 Facilities Expansion Projects*. Submitted to FortisBC Energy, Inc. March 28.
- 11 Government of British Columbia (B.C.). n.d. *CleanBC Roadmap to 2030*. Accessed June 2024.
12 https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_roadmap_2030.pdf.
13
- 14 Hegmann, G., C. Cocklin, R. Creasey, S. Dupuis, A. Kennedy, L. Kingsley, W. Ross, H. Spaling, D. Stalker,
15 and AXYS Environmental Consulting Ltd. 1999. *Cumulative Effects Assessment Practitioners Guide*.
16 Prepared by the Cumulative Effects Assessment Working Group. Prepared for the Canadian
17 Environmental Assessment Agency. February.
18 <https://publications.gc.ca/collections/Collection/En106-44-1999E.pdf>.
- 19 Impact Assessment Agency of Canada (IAAC). n.d. *Practitioner's Guide to Federal Impact Assessments*.
20 Last updated October 26, 2023. [https://www.canada.ca/en/impact-assessment-agency/services/policy-
21 guidance/practitioners-guide-impact-assessment-act.html](https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act.html).
- 22 Impact Assessment Agency of Canada (IAAC). 2022. Tailored Impact Statement Guidelines Template
23 (generic version). Draft. December. [https://www.canada.ca/en/impact-assessment-agency/services/
24 policy-guidance/practitioners-guide-impact-assessment-act.html](https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act.html).
- 25 Jacobs Consultancy Canada Inc. (Jacobs). 2022. *Stage 2 Preliminary Site Investigation and Limited
26 Detailed Site Investigation: Tilbury LNG Facility*.
- 27 Metro Vancouver. 2021. *Clean Air Plan*. [https://metrovancover.org/services/air-quality-climate-action/
28 Documents/clean-air-plan-2021.pdf](https://metrovancover.org/services/air-quality-climate-action/Documents/clean-air-plan-2021.pdf).